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221

W-99-24 # 076

U.S. EPA 2000

ESTIMATED PER CAPITA FISH CONSUMPTION IN THE UNITED STATES

March 2000

Based on Data Collected by the United States Department of Agriculture's
1994-1996 Continuing Survey of Food Intake by Individuals

Office of Water
Office of Science and Technology
U.S. Environmental Protection Agency
Washington, D.C.

Support provided under

EPA Contract: # 68-C-99-233

2747

PREFACE

This report presents per capita estimates of daily average fish consumption. The primary population of interest is the United States population in the 50 states and the District of Columbia. However, estimates of capita fish consumption for various population subsets are also provided. These population subsets include (1) children 14 years of age and younger, (2) women in their childbearing years, and (3) low–income individuals. Quantities of consumed food reported by participants in the combined USDA 1994, 1995, and 1996 Continuing Survey of Food Intakes by Individuals (CSFII) serve as the basis for the estimates. Estimates are empirical daily averages across two survey days as opposed to usual intake estimates.

Empirical daily averages in this report are estimated by two methods: "as consumed" fish and "uncooked" fish. Estimates in this report that reflect only the amount of fish consumed from fish–containing prepared foods are labeled "as consumed." In the process of generating "as consumed" estimates, each reported consumption of a fish–containing food in the CSFII was adjusted to yield only the amount of consumed fish. "Uncooked" fish estimates project the portion of consumed fish to the amount of uncooked fish tissue which entered the fish–containing consumed food. This projection to an "uncooked" tissue basis is made using preprocessing and yield information.

These current estimates of daily average per capita consumption of freshwater and estuarine finfish and shellfish assist EPA in evaluating risk to human health from the consumption of contaminated species. The report, whose organization and content are summarized below, contains an executive summary, five sections, and two appendices. The fourth and fifth sections contain tabulated estimates and selected graphical presentations of daily average per capita consumption for "as consumed" and "uncooked" fish, respectively.

- **Executive Summary** summarizes the most pertinent information contained in this report, including the main features of the CSFII data collection and results from the analysis.

- **Section 1, Survey Description and Methodology,** describes the surveys; summarizes the sample designs, data collection, and survey weights for the general CSFII survey structure; and discusses the advantages and disadvantages of the CSFII for estimating per capita fish consumption in the United States.

- **Section 2, Data Conventions,** presents the CSFII fish–related food codes and their corresponding descriptions for each of the fish–by–habitat type combinations, describes the conventions used to generate daily average fish consumption estimates per

individual, defines "consumers only," and identifies how the data were subset to estimate fish consumption for "consumers only."

- **Section 3, Summary of Statistical Methods,** summarizes the statistical methods used to generate the mean estimate, the estimate of the confidence interval about the mean, the percentile estimates, and the 90–percent bootstrap intervals about the percentile estimates. Appendix B records statistical estimation formulae.

- **Section 4, "As Consumed" Daily Average Per Capita Fish Consumption Estimates,** presents estimates for the U.S. population and "consumers only" in six subsections.

  - **Finfish and Shellfish (grams/person/day and milligrams/kilogram of body weight/day),** includes tabulated presentations of daily average per capita consumption by age category for each gender, across gender, across age groups, and across age and gender. Age by gender estimates separately report consumption of freshwater and estuarine, marine, and all fish. In addition, age by gender consumption estimates across the fish habitat types and consumption estimates for individuals 18 years of age and older by fish habitat type are included. Cumulative distributions and histograms of selected subpopulation consumption distributions are also provided.

  - **Finfish (grams/person/day),** includes tabulated and graphical presentations of daily average per capita consumption by the fish habitat types of freshwater and estuarine, marine, and across fish habitat types. This subsection also presents estimates of daily average per capita consumption of finfish by individuals of age 18 and older.

  - **Shellfish (grams/person/day),** includes tabulated and graphical presentations of daily average per capita consumption by the fish habitat types of freshwater and estuarine, marine, and across fish habitat types.

  - **Low–income Population (grams/person/day),** includes tabulated and graphical presentations of daily average per capita consumption by the fish habitat types of freshwater and estuarine, marine, and across fish habitat types. Low–income is defined by the CSFII as individuals from households with gross incomes at or below 130 percent of the federal poverty threshold.

  - **Alternate Habitat (grams/person/day),** presents daily average per capita consumption estimates of finfish and shellfish, finfish only, and shellfish only, by habitats of freshwater, estuarine and marine, and all fish.

- **Mean Consumption by Species within Habitat (grams/person/day),** presents mean daily average per capita estimates by species for the following subpopulations: (1) age by gender and (2) 18 years of age and older. Tables list species estimates by fish habitat type.

- **Section 5, "Uncooked" Daily Average Per Capita Fish Consumption Estimates,** presents estimates for the U.S. population and "consumers only" in six subsections.

  - **Finfish and Shellfish (grams/person/day and milligrams/kilogram of body weight/day),** includes tabulated presentations of daily average per capita consumption by age category for each gender, across gender, across age groups, and across age and gender. Age by gender estimates separately report consumption of freshwater and estuarine, marine, and all fish. In addition, age by gender consumption estimates across the fish habitat types and consumption estimates for individuals 18 years of age and older by fish habitat type are included. Cumulative distributions and histograms of selected subpopulation consumption distributions are also provided.

  - **Finfish (grams/person/day),** includes tabulated and graphical presentations of daily average per capita consumption by the fish habitat types of freshwater and estuarine, marine, and across fish habitat types. This subsection also presents estimates of daily average per capita consumption of finfish by individuals of age 18 and older.

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  - **Low–income Population (grams/person/day),** includes tabulated and graphical presentations of daily average per capita consumption by the fish habitat types of freshwater and estuarine, marine, and across fish habitat types. Low–income is defined by the CSFII as individuals from households with gross incomes at or below 130 percent of the federal poverty threshold.

  - **Alternate Habitat (grams/person/day),** presents daily average per capita consumption estimates of finfish and shellfish, finfish only, and shellfish only, by habitats of freshwater, estuarine and marine, and all fish.

- **Mean Consumption by Species within Habitat (grams/person/day),** presents mean daily average per capita estimates by species for the following subpopulations: (1) age by gender and (2) 18 years of age and older. Tables list species estimates by fish habitat type.

- **Appendix A, CSFII Food Codes**, contains a tabulated presentation of the CSFII fish–containing food codes. These codes are listed according to fish species. Along with the food and fish component name, the table lists information extracted from the USDA's CSFII companion recipe database. Appendix A presents the total weight of the recipe components for the food code, the weight of the fish component in the recipe, the percentage of fish in the recipe, and the habitat assignment of fish. The percentage of fish in the recipe was used to adjust reported consumptions of the food code to reflect the amount of "as consumed" and "uncooked" fish.

- **Appendix B, Statistical Methods**, provides the statistical formulae for generating point and interval estimates about the mean and upper percentiles of the distribution of two-day average per capita fish consumption. This appendix also demonstrates that the variance of the mean, calculated from ultimate–cluster estimates using a synthetic variable, is equivalent to the estimator of the variance of the combined ratio estimator for a stratified, multistage ultimate–cluster sample with replacement.

EXECUTIVE SUMMARY

This report displays daily average per capita fish consumption estimates. The objective of the report is to provide estimates of fish consumption that may be used in estimating risk to human health from the consumption of contaminated freshwater and estuarine finfish and shellfish species. The reported estimates were calculated using data from the combined 1994, 1995, and 1996 Continuing Survey of Food Intakes by Individuals (CSFII), conducted annually by the United States Department of Agriculture (USDA). Estimates in this report are of "as consumed" and "uncooked" fish. The "as consumed" designation indicates that consumptions of prepared foods containing fish which were reported by the CSFII participants were adjusted to reflect the amount of consumed prepared fish. "Uncooked" fish estimates project the portion of consumed fish to the amount of uncooked fish tissue which entered the fish–containing consumed food. Thus, the estimates in this report are not biased high due to other ingredients in fish–containing prepared foods.

The estimated mean daily average per capita consumption of "as consumed" freshwater and estuarine finfish and shellfish is 4.99 ± 0.28 grams/person/day. When consumption is estimated per kilogram of the consumer's body weight, the mean daily average of "as consumed" freshwater and estuarine finfish and shellfish consumption is 78.21 ± 4.50 milligrams/kilogram of body weight/day. These estimates project "as consumed" fish consumption data from a combined sample of 15,303 individuals to the population of 261,897,260 individuals in the 50 states and District of Columbia. A 90–percent confidence interval about the estimated national mean consumption of "as consumed" freshwater and estuarine finfish and shellfish is 4.52 to 5.46 grams/person/day, which indicates that there is a 90–percent statistical confidence that the true mean consumption is contained in this interval. Section 4 lists additional "as consumed" fish consumption estimates from the combined 1994, 1995, and 1996 CSFII surveys. Included in these sections are point and interval estimates for upper percentiles from the empirical distribution of daily average per capita consumption of freshwater and estuarine species; mean and upper percentile estimates of marine species and all species; and estimates of finfish and shellfish consumption, both separately and together.

Section 4 also presents per capita fish consumption estimates for selected subpopulations in the United States. Some estimates extracted from this section include consumption estimates for women and low–income individuals. Women aged 15 to 44 years, the childbearing years, consume a mean daily average of 4.62 grams of "as consumed" freshwater and estuarine finfish and shellfish. This same group consumed, on average, 6.93 ± 0.53 grams/person/day of "as consumed" marine finfish and shellfish. Individuals in the low–income group, defined in the CSFII as individuals from households with gross incomes at or below 130 percent of the federal poverty threshold, consume a mean daily average of 12.30 ± 1.13 grams/person/day of "as

consumed" finfish and shellfish. The estimated mean daily average consumption of "as consumed" freshwater and estuarine finfish and shellfish by low–income individuals is 4.99 ± 0.65 grams/person/day.

The estimated mean daily average per capita consumption of "uncooked" freshwater and estuarine finfish and shellfish is 6.33 ± 0.37 grams/person/day. When consumption is estimated per kilogram of the consumer's body weight, the mean daily average of "uncooked" freshwater and estuarine finfish and shellfish consumption is 99.25 ± 5.82 milligrams/kilogram of body weight/day. A 90–percent confidence interval about the estimated national mean consumption of "uncooked" freshwater and estuarine finfish and shellfish is 5.73 to 6.94 grams/person/day, which indicates that there is a 90–percent statistical confidence that the true population mean is contained in this interval. Similar to Section 4, Section 5 lists additional fish consumption estimates from the combined 1994, 1995, and 1996 CSFII surveys.

Section 5 also presents per capita fish consumption estimates for selected subpopulations, such as women and low-income individuals, in the United States. Women aged 15 to 44 years, the childbearing years, consume a mean daily average of 5.81 grams of "uncooked" freshwater and estuarine finfish and shellfish. This same group consumed, on average, 8.98 ± 0.68 grams/person/day of "uncooked" marine finfish and shellfish. Individuals in the low–income group, defined in the CSFII as individuals from households with gross incomes at or below 130 percent of the federal poverty threshold, consume a mean daily average of 15.70 ± 1.39 grams/person/day of "uncooked" finfish and shellfish. The estimated mean daily average consumption of "uncooked" freshwater and estuarine finfish and shellfish by low–income individuals is 6.29 ± 0.81 grams/person/day.

The USDA's CSFII, from which the estimates were generated, collected two non–consecutive days of dietary recall data from participants. Data include meals consumed at and away from home. Dietary recall information was supplied by the survey participants to an in–home interviewer. The Day 2 interview occurred three to ten days after the Day 1 interview but not on the same day of the week. Approximately 25 percent of the interviews were conducted in a calendar quarter.

Each year of the survey consisted of one sample with oversampling for low–income households. Eligibility for the low–income sample was limited to households with gross income at or below 130 percent of the federal poverty guidelines (DHHS 1996).

The primary sampling stage of this CSFII divided the 50 states and Washington, D.C. into 1,404 primary sampling units (PSUs). Sixty–two PSUs were selected for the CSFII sample. The 24 largest of the 1,404 PSUs were included in the CSFII with certainty. The remaining 1,380

PSUs were assigned to one of 38 strata based on their 1990 population, percentage of black and Hispanic populations, and per capita income. One PSU was then selected from each of the 38 strata with selection probability proportional to the 1990 population.

The CSFII surveys have advantages and limitations for estimating per capita fish consumption. The primary advantage of the CSFII surveys is that they were designed and conducted by the USDA to support unbiased estimation of food consumption across the population in the United States and the District of Columbia. One limitation of the CSFII surveys is that individual food consumption data were collected for only two days—a brief period which does not necessarily depict "usual intake." Usual dietary intake is defined as "the long–run average of daily intakes by an individual." Upper percentile estimates may differ for short–term and long–term data because short term food consumption data tend to be inherently more variable. It is important to note, however, that variability due to duration of the survey does not result in bias of estimates of overall mean consumption levels. Also, the multistage survey design does not support interval estimates for many of the subpopulations because of sparse representation in the sample. Subpopulations with sparse representation include Native Americans on reservations and certain ethnic groups. While these individuals are participants in the survey, they are not present in sufficient numbers to support fish consumption estimates. Therefore, only mean and percentile estimates are reported for all subpopulations considered here. The survey does support interval estimates for the U.S. population and some large subpopulations. Sections 4 and 5 present interval estimates about the mean, 90th, 95th, and 99th percentile estimates.

TABLE OF CONTENTS

Section **Page**

PREFACE iii
EXECUTIVE SUMMARY vii
TABLE OF CONTENTS x

1. USDA's CSFII SURVEY DESCRIPTION AND METHODOLOGY 1-1
   - 1.1 SURVEY DESCRIPTION 1-1
   - 1.2 SURVEY METHODOLOGY 1-1
     - 1.2.1 Sample Design 1-1
     - 1.2.2 Data Collection 1-2
     - 1.2.3 Sample Weights 1-3
   - 1.3 STRENGTHS AND LIMITATIONS OF THE CSFII FOR ESTIMATING PER CAPITA FOOD CONSUMPTION 1-3

2. DATA CONVENTIONS 2-1
   - 2.1 FOOD CODES AND CONVENTIONS 2-1
     - 2.1.1 Fish-by-Habitat Type Assignments for Food Codes 2-2
     - 2.1.2 Conventions for Determining "As Consumed" Fish 2-4
     - 2.1.3 Conventions for Determining "Uncooked" Fish 2-5
   - 2.2 INDIVIDUAL CONSUMPTION DATA FOR THE POPULATION AND CONSUMERS ONLY 2-6
     - 2.2.1 Average Daily Consumption Data 2-6
     - 2.2.2 Average Daily Consumption Data: Consumers Only 2-7

3. SUMMARY OF STATISTICAL METHODS 3-1
   - 3.1 ESTIMATING THE MEAN AND CONFIDENCE INTERVALS ABOUT THE MEAN 3-1
   - 3.2 PERCENTILE ESTIMATES AND CONFIDENCE INTERVALS ABOUT THE ESTIMATES 3-2

4. "AS CONSUMED" FISH CONSUMPTION ESTIMATES 4-1

5. "UNCOOKED" FISH CONSUMPTION ESTIMATES 5-1

APPENDIX A: FRESHWATER/ESTUARINE RATIO FOR UNKNOWN FISH COMPONENTS AND HABITAT ASSIGNMENTS BY FOOD CODE A-1
APPENDIX B: STATISTICAL METHODS B-1

REFERENCES

TABLES

Table		Page
Table 1.1	CSFII RESPONSE RATES	1-3
Table B.1	BIAS-CORRECTED AND UNCORRECTED ESTIMATES OF MEAN AS CONSUMED FISH CONSUMPTION	B-12
Table B.2	BIAS-CORRECTED AND UNCORRECTED ESTIMATES OF MEAN UNCOOKED FISH CONSUMPTION	B-13

10

TABLES and FIGURES

Section **Page**

4. "AS CONSUMED" FISH CONSUMPTION ESTIMATES
   4.1 U.S. Population
      4.1.1 Finfish and Shellfish
         4.1.1.1 Grams/person/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals . 4-3
2. Marine: Age by Gender and All Individuals 4-4
3. All Fish: Age by Gender and All Individuals 4-5
4. Individuals of Age 18 and Older 4-6

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 4-7
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 4-8
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-9
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-10

4.1.1.2 Milligrams/kilogram of body weight/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 4-11
2. Marine: Age by Gender and All Individuals 4-12
3. All Fish: Age by Gender and All Individuals 4-13
4. Individuals of Age 18 and Older 4-14

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 4-15
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 4-16
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-17
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-18

Section **Page**

4.1.2 Finfish (grams/person/day)

TABLES

1. All Individuals 4-19
2. Individuals of Age 18 and Older 4-20

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Finfish 4-21
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Finfish 4-22
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish 4-23
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish 4-24

4.1.3 Shellfish (grams/person/day)

TABLES

1. All Individuals 4-25
2. Individuals of Age 18 and Older 4-26

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Shellfish 4-27
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Shellfish 4-28
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish 4-29
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish 4-30

Section **Page**

4.1.4 Low-income Population (grams/person/day)

TABLES

1. Finfish 4-31
2. Shellfish 4-32
3. Finfish and Shellfish 4-33

FIGURES

1. Histograms of Total Finfish, Total Shellfish, and Total Finfish and Shellfish 4-34
2. Cumulative Distributions of Total Finfish, Total Shellfish, and Total Finfish and Shellfish 4-35

4.1.5 Alternate Habitat (grams/person/day)

TABLES

1. Finfish 4-36
2. Shellfish 4-37
3. Finfish and Shellfish 4-38

FIGURES

1. Histograms of Freshwater, Estuarine/Marine, and Total Finfish and Shellfish 4-39
2. Cumulative Distributions of Freshwater, Estuarine/Marine, and Total Finfish and Shellfish 4-40

4.1.6 Mean Consumption by Species within Habitat (grams/person/day)

TABLES

1. Females of Age 14 and Younger 4-41
2. Females of Age 15 to 44 4-42
3. Females of Age 45 and Older 4-43
4. All Females 4-44
5. Males of Age 14 and Younger 4-45
6. Males of Age 15 to 44 4-46
7. Males of Age 45 and Older 4-47
8. All Males 4-48
9. Individuals of Age 14 and Younger 4-49
10. Individuals of Age 15 to 44 4-50
11. Individuals of Age 45 and Older 4-51
12. Individuals of Age 18 and Older 4-52
13. All Individuals 4-53

Section **Page**

4.2 Consumers Only
4.2.1 Finfish and Shellfish
4.2.1.1 Grams/person/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 4-54
2. Marine: Age by Gender and All Individuals 4-55
3. All Fish: Age by Gender and All Individuals 4-56
4. Individuals of Age 18 and Older 4-57

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 4-58
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 4-59
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-60
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-61

4.2.1.2 Milligrams/kilogram of body weight/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 4-62
2. Marine: Age by Gender and All Individuals 4-63
3. All Fish: Age by Gender and All Individuals 4-64
4. Individuals of Age 18 and Older 4-65

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 4-66
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 4-67
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-68
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 4-69

4.2.2 Alternate Habitat (grams/person/day)

TABLES

1. Finfish and Shellfish 4-70

Section **Page**

5. "UNCOOKED" FISH CONSUMPTION ESTIMATES
5.1 U.S. Population
5.1.1 Finfish and Shellfish
5.1.1.1 Grams/person/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals . 5-3
2. Marine: Age by Gender and All Individuals 5-4
3. All Fish: Age by Gender and All Individuals 5-5
4. Individuals of Age 18 and Older 5-6

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 5-7
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 5-8
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-9
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-10

5.1.1.2 Milligrams/kilogram of body weight/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 5-11
2. Marine: Age by Gender and All Individuals 5-12
3. All Fish: Age by Gender and All Individuals 5-13
4. Individuals of Age 18 and Older 5-14

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 5-15
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 5-16
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-17
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-18

Section **Page**

5.1.2 Finfish (grams/person/day)

TABLES

1. All Individuals 5-19
2. Individuals of Age 18 and Older 5-20

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Finfish 5-21
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Finfish 5-22
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish 5-23
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish 5-24

5.1.3 Shellfish (grams/person/day)

TABLES

1. All Individuals 5-25
2. Individuals of Age 18 and Older 5-26

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Shellfish 5-27
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Shellfish 5-28
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish 5-29
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish 5-30

Section **Page**

5.1.4 Low-income Population (grams/person/day)

TABLES

1. Finfish 5-31
2. Shellfish 5-32
3. Finfish and Shellfish 5-33

FIGURES

1. Histograms of Total Finfish, Total Shellfish, and Total Finfish and Shellfish 5-34
2. Cumulative Distributions of Total Finfish, Total Shellfish, and Total Finfish and Shellfish 5-35

5.1.5 Alternate Habitat (grams/person/day)

TABLES

1. Finfish 5-36
2. Shellfish 5-37
3. Finfish and Shellfish 5-38

FIGURES

1. Histograms of Freshwater, Estuarine/Marine, and Total Finfish and Shellfish 5-39
2. Cumulative Distributions of Freshwater, Estuarine/Marine, and Total Finfish and Shellfish 5-40

5.1.6 Mean Consumption by Species within Habitat (grams/person/day)

TABLES

1. Females of Age 14 and Younger 5-41
2. Females of Age 15 to 44 5-42
3. Females of Age 45 and Older 5-43
4. All Females 5-44
5. Males of Age 14 and Younger 5-45
6. Males of Age 15 to 44 5-46
7. Males of Age 45 and Older 5-47
8. All Males 5-48
9. Individuals of Age 14 and Younger 5-49
10. Individuals of Age 15 to 44 5-50
11. Individuals of Age 45 and Older 5-51
12. Individuals of Age 18 and Older 5-52
13. All Individuals 5-53

Section **Page**

5.2 Consumers Only
5.2.1 Finfish and Shellfish
5.2.1.1 Grams/person/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 5-54
2. Marine: Age by Gender and All Individuals 5-55
3. All Fish: Age by Gender and All Individuals 5-56
4. Individuals of Age 18 and Older 5-57

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 5-58
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 5-59
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-60
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-61

5.2.1.2 Milligrams/kilogram of body weight/day

TABLES

1. Freshwater/Estuarine: Age by Gender and All Individuals 5-62
2. Marine: Age by Gender and All Individuals 5-63
3. All Fish: Age by Gender and All Individuals 5-64
4. Individuals of Age 18 and Older 5-65

FIGURES

1. Histograms of Freshwater/Estuarine, Marine, and Total Fish 5-66
2. Cumulative Distributions of Freshwater/Estuarine, Marine, and Total Fish 5-67
3. Histograms for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-68
4. Cumulative Distributions for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish 5-69

5.2.2 Alternate Habitat (grams/person/day)

TABLES

1. Finfish and Shellfish 5-70

1. USDA's CSFII SURVEY DESCRIPTION AND METHODOLOGY

A summary of the USDA's 1994, 1995, and 1996 series of the Continuing Survey of Food Intakes by Individuals (CSFII) is presented in this section. Section 1.1 provides a description of the surveys. Section 1.2 summarizes the sample designs, data collection, and survey weights for the general CSFII survey structure. Section 1.3 lists the strengths and limitations of the CSFII surveys with respect to estimating per capita consumption in the United States.

1.1 SURVEY DESCRIPTION

The CSFII, conducted by the United States Department of Agriculture (USDA), collects dietary intake information from nationally representative samples of non–institutionalized persons residing in United States households. Households in these national surveys are sampled from the 50 states and Washington, D.C. Each survey collects daily consumption records for approximately 10,000 food codes across nine food groups. These food groups are (1) milk and milk products; (2) meat, poultry, and fish; (3) eggs; (4) dry beans, peas, legumes, nuts, and seeds; (5) grain products; (6) fruit; (7) vegetables; (8) fats, oils, and salad dressings; and (9) sweets, sugars, and beverages. Data provide "up–to–date information on food intakes by Americans for use in policy formation, regulation, program planning and evaluation, education, and research." The survey is "the cornerstone of the National Nutritional Monitoring and Related Research Program, a set of related federal activities intended to provide regular information on the nutritional status of the United States population" (CSFII survey documentation, p. 2–3).

1.2 SURVEY METHODOLOGY

The samples for the 1994, 1995, and 1996 CSFII surveys were collected according to a specified statistical sampling plan, described in Section 1.2.1. Data collection procedures, summarized in Section 1.2.2, define the method and length of data collection activities. Section 1.2.2 also contains survey–specific response rates and the number of individuals in each survey reporting food consumption data. Survey weights—used to project estimates from the sample to the population—were adjusted for nonresponse. These adjustments are discussed in Section 1.2.3.

1.2.1 Sample Design

The 1994–1996 CSFII was conducted according to a stratified, multi–area probability sample organized using estimates of the 1990 United States population. Stratification accounted for geographic location, degree of urbanization, and socioeconomics. Each year of the survey consisted of one sample with oversampling for low–income households. Eligibility for the low–income sample was limited to households with gross incomes at or below 130 percent of the federal poverty guidelines (DHHS 1996). The sample design aimed at specified precision levels for estimates of mean one–day consumption of saturated fat and iron.

The primary sampling stage of this CSFII divided the 50 United States and the District of Columbia into 1,404 primary sampling units (PSUs). A Metropolitan Statistical Area (MSA), a fraction of an MSA, counties, or groups of counties comprised a PSU. The federal Office of Management and Budget defines an MSA as "a geographic area consisting of a large population nucleus together with adjacent communities that have a high degree of economic and social integration with the nucleus" (CSFII survey documentation, p. 14–4).

In general, an MSA constituted a single PSU for the 1994–1996 CSFII. There were three exceptions: New York, Los Angeles, and Chicago. The New York MSA was divided into three PSUs while the other two exceptions each comprised two PSUs. From the 1,404 PSUs constituting the United States, the primary stage CSFII sample selected 62 PSUs. The 24 largest of the 1,404 PSUs were included in the CSFII with certainty. The remaining 1,380 PSUs were assigned to one of 38 strata based on their 1990 population, percentage of black and Hispanic populations, and per capita income. One PSU was then selected from each of the 38 strata with selection probability proportional to the 1990 population. Of the 62 PSUs resulting from the first stage, 50 were MSAs and 12 were non–MSAs.

Then, each of the 62 samples PSUs was divided into 36 area segments consisting of blocks or groups of blocks. Twelve area segments were sampled each year of the survey with three segments sampled during each quarter of the given year. From a sampled area segment, households were drawn from dwelling unit listings, and individuals were then selected from the sampled household. Individual selection occurred to ensure specified estimation criteria for given sex-age categories based on screening questionnaire results.

1.2.2 Data Collection

Survey participants provided two non–consecutive, 24–hour days of dietary data. Both days' dietary recall information was collected by an in–home interviewer. Interviewers provided participants with an instructional booklet and standard measuring cups and spoons to assist them in adequately describing the type and amount of food ingested. If the respondent referred to a cup or bowl in their own home, a 2–cup measuring cup was provided to aid in the calculation of the amount consumed. The sample person could fill their own bowl or cup with water to represent the amount eaten or drunk, and the interviewer could then measure the amount consumed by pouring it into the 2–cup measure. The Day 2 interview occurred three to 10 days after the Day 1 interview, but not on the same day of the week. The interviews allowed participants "three passes" through the daily intake record to maximize recall (CSFII survey documentation, p. 3–6). Proxy interviews were conducted for children aged six and younger and sampled individuals unable to report due to mental or physical limitations. The average questionnaire administration time for Day 1 intake was 30 minutes, while Day 2 averaged 27 minutes.

Two days of dietary recall data were provided by 15,303 individuals across the three survey years. This constitutes an overall two–day response rate of 75.9 percent. Response rates for each survey year are provided in Table 1–1. Survey weights were corrected by the USDA for nonresponse.

TABLE 1–1. CSFII RESPONSE RATES

YEAR	TOTAL ELIGIBLE INDIVIDUALS SAMPLED	NUMBER WITH TWO–DAY RESPONSE	(TWO–DAY) RESPONSE RATE
1994	6,973	5,311	76.2%
1995	6,664	5,072	76.1%
1996	6,484	4,920	75.9%

1.2.3 Sample Weights

All three CSFII surveys are multistage, stratified–cluster samples. Sample weights, which project the data from a sampled individual to the population, are based on the probability of an individual being sampled at each stage of the sampling design. The sample weights associated with each individual reporting two days of consumption data were adjusted to correct for nonresponse bias. These adjusted sample weights, which are recorded in the CSFII data in the variable SAM_WT, record the number of individuals the sampled person represents in the population. For example, a sample weight valued as 22 projects the data from the individual with that sample weight to 22 individuals in the population of the 50 United States and the District of Columbia.

1.3 STRENGTHS AND LIMITATIONS OF THE CSFII FOR ESTIMATING PER CAPITA FOOD CONSUMPTION

The strengths of the USDA's 1994–96 CSFII survey for supporting estimates of per capita food consumption are twofold. First, the survey design is structured to obtain a statistically representative sample of the United States population. Second, the survey is designed to record daily intakes of foods and nutrients and support estimation of food consumption. These features are in direct alignment with the objective of producing current, per capita fish consumption estimates for the United States population and for population subsets sensitive to potential contaminants.

The 1994–96 CSFII survey design allows the combination of three years of data through a weighting scheme. This combination of three years provides a sample of over 15,000 respondents. With increased sample sizes, the precision and accuracy of estimates are improved and the support for subpopulation estimates is enhanced. This design structure, in conjunction with the implementation of a sampling protocol, increases the sample's representation of the United States population and minimizes seasonal and/or regional bias from respondents. Low–income individuals are oversampled to ensure their representation in the

survey. Finally, the survey weight associated with each respondent's information to project the response to the population has been adjusted for nonresponse bias. These adjustments were based on sociodemographic factors. Nonresponse adjustments were also significantly reduced for the current CSFII. The response rate for participants with multiple days of food intake information is 75.9 percent for the 1994–96 CSFII, as opposed to approximately 45 percent for the 1989–91 CSFII.

The method employed to collect dietary intake data also strengthened the CSFII design for supporting per capita consumption estimates. For example, the USDA's 1994–96 CSFII survey was administered by an interviewer on both days of data collection. This administration provided multiple passes through the day's intake to facilitate more complete responses. Previous surveys have relied on interviewer administration for the first day and self–administration on subsequent days. This change in administration method insures consistency with respect to the way responses are recorded across interview days.

Previous CSFII surveys have collected dietary intake information on consecutive days. This collection method raises issues about the contribution of within–individual variance to overall estimates. Because the 1994–96 CSFII collects data on two non–consecutive days, the within–individual variance component is diminished.

The third change in data collection methods that facilitates completion of the objective of this report is that previous surveys included all members of a household in the survey. The 1994–96 survey includes a subsample of household members with sampling rates varying to achieve more responses from children and the elderly.

The limitations of the CSFII survey for supporting per capita consumption estimates involve the length of time data were collected, the influence of extreme values on estimates, and the availability of information to support variance estimation. The CSFII survey collects only two non–consecutive days of data. Because daily averages are estimated from each respondent from only two days, the precision of an individual's daily average consumption is diminished. Therefore, the limited time period of dietary intake collection does not produce usual intake estimates. Usual intakes are defined as "the long run average of daily intakes of a dietary component by an individual." Rather, the estimates presented in this report characterize the empirical distribution of daily average per capita consumption.

Also, a majority of sampled individuals may not consume a given food or food group. Nonconsumption of a given food or food group by a majority of individuals, combined with consumption data from high–end consumers, can result in a wide range of observations. This can lead to a highly skewed distribution of consumption values.

Another limitation of the 1994–96 CSFII is a function of the way that survey data are reported. Data from two variance estimation units are required to generate an estimate of the variance within a variance estimation stratum. These variances are then summed across strata

to generate a variance estimate for the subpopulation. For many of the subpopulations evaluated in this report, numerous strata did not have information for two variance estimation units. Because there is insufficient information in the naming convention, combining data across like strata was not possible. Therefore, the survey did not support variance estimation for many of the reported subpopulations. Because of this, means differences cannot be formally tested and interval estimates about the mean and upper percentiles cannot be supplied, except for the larger subpopulation. All reported differences are empirical as opposed to statistical.

Despite these limitations, the CSFII is considered one of the best sources of current information on consumption of fish–containing foods. The objective of estimating per capita fish consumption by the United States population is compatible with the statistical design and scope of the CSFII survey.

2. DATA CONVENTIONS

The 1994, 1995, and 1996 CSFII surveys each record data in several files. These data are publicly available on CD-ROM (See References). Individual consumption records for the 2–day reporting period were extracted from record type 30 (RT30). These data were matched with information in the USDA's companion recipe database to adjust reported consumptions to reflect the amount of uncooked fish tissue in the recipe or to reflect only the quantity of fish consumed. Section 2 defines the conventions applied to the 1994, 1995, and 1996 CSFII surveys. These conventions were applied to prepare the data for estimating per capita fish consumption for the United States population.

This report presents per capita consumption estimates for three fish types. These types are finfish and shellfish, finfish only, and shellfish only. The finfish and shellfish type is tantamount to total fish consumption. Each of these fish types is further divided by habitat type. Habitat types are freshwater/estuarine, marine, and all fish. The "all fish" habitat type estimates consumption across the freshwater/estuarine and marine habitats. Section 2.1 presents the CSFII fish–related food codes and their corresponding habitat assignments. Adjustments of reported amounts of consumed fish–related food codes to reflect the amount of "as consumed" and "uncooked" fish are also explained in Section 2.1.

Section 2.2 describes the conventions used to generate daily average fish consumption estimates per individual. Adjusted individual daily average fish consumption is the actual data point that entered the estimation algorithms. The adjustment reports the component of fish consumed from fish–containing foods. Section 2.2 also defines "consumers only" and identifies how the data were subset to estimate fish consumption for "consumers only."

2.1 FOOD CODES AND CONVENTIONS

The 1994, 1995, and 1996 CSFII surveys categorized food consumption into 10,620 food codes. A companion recipe database provided amounts of individual ingredients for each of the CSFII food codes. A total of 788 of these food codes relate to fish or shellfish. Survey respondents with two days of dietary intake data reported consumption across 616 of these fish–related food codes.

Food codes preceded by the number 26 designate fish or shellfish. Sixty nine percent of the 616 fish–related food codes are in this category. Any food codes not preceded by a 26 are combination foods containing fish or shellfish. Extensive review of the food code index and the recipe database identified these combination foods. The recipe database was further extracted to determine the percentage of fish in each of the 616 fish–related food codes. Application of this percentage of fish, unique to each fish–related food code, facilitated the adjustment of reported consumptions to yield the amount of "as consumed" or "uncooked" fish.

Section 2.1.1 defines fish–by–habitat types. The 616 fish–related food codes in the CSFII surveys were assigned to these fish–by–habitat types. Sections 2.1.2 and 2.1.3 describe the conventions used to adjust reported amounts of consumed fish–related food codes to reflect "as consumed" and "uncooked" fish, respectively.

2.1.1 Fish–by–Habitat Type Assignments for Food Codes

Sections 4 and 5 present per capita consumption estimates for each of the following nine fish–by–habitat types:

- Finfish and Shellfish — Freshwater/Estuarine
- Finfish and Shellfish — Marine
- Finfish and Shellfish — All Fish
- Finfish — Freshwater/Estuarine
- Finfish — Marine
- Finfish — All Fish
- Shellfish — Freshwater/Estuarine
- Shellfish — Marine
- Shellfish — All Fish.

The "All Fish" habitat designation indicates that per capita consumption for a given fish type was estimated across the freshwater/estuarine and marine habitat types. Estimates designated "finfish and shellfish" report per capita consumption statistics across fish types for a given habitat. The fish–by–habitat type "Finfish and Shellfish—All Fish" incorporated fish consumption data from all of the 616 fish–related food codes—that is, estimates for this category represent fish consumption across fish and habitat type.

To determine which individual consumption amounts entered estimation algorithms for each fish–by–habitat type, the 616 fish–related food codes in the CSFII surveys were first assigned to one of two fish types—finfish or shellfish. Assignments were based on the food code description. The food code "Seafood" was assumed to be all shellfish. Otherwise, if a food code description did not clearly indicate shellfish, the food code was assigned to the finfish category. For example, the food code described as "Fish, NS of type" was categorized as finfish, with NS indicating "not specific."

Each fish component in the 616 food codes was then assigned a fish habitat classification. These classifications are freshwater, estuarine, or marine. Habitat assignments resulted from a two–step process. First, the species of fish contained in the food code was assigned based on the food component from the recipe. Then, the species was assigned a habitat type. Mr. Jeffery Bigler, an EPA Fisheries Biologist, created the habitat assignments. In most cases, the habitat assignments were straight–forward. However, there are a few instances where the fish component either represented a broad classification of fish, or the species listed as the fish component inhabit several habitats. For these special cases, the consumed fish component

was apportioned across multiple habitats. The following paragraphs define apportionment across multiple habitats for these special cases.

In the case of flatfish, if the food code specified flatfish, but the recipe component indicated that the flatfish was flounder or smelt, the fish habitat was defined as estuarine. If, however, the recipe food component indicated halibut, plaice, or sole, then the habitat designation of marine was assigned. If the food component only indicated flatfish, then 89.62 percent of the amount of consumed fish from the recipe was assigned to the estuarine habitat and the remaining 10.38 percent to the marine habitat. This apportionment across habitats is based on the percentage of 1994, 1995, and 1996 commercial flatfish landings reported by the National Marine Fisheries Service (data retrieved February 1998 from www.remora.ssp.nmfs.gov).

Additional species groups which contain both freshwater/estuarine and marine species are as follows: (1) clams, (2) crabs, (3) salmon, and (4) scallops. Most recipe food components containing clams did not list the specific type of clam, such as softshell, quahog, or surf. In these cases, the habitat for food components specified as clam was apportioned 1.93 percent to the estuarine habitat and the remainder (98.07 percent) to marine. These percentages were based on commercial landings reported to the United States Department of Commerce across the years of 1994, 1995, and 1996 (data retrieved February 1998 from www.remora.ssp.nmfs.gov). To determine these percentages, the landings data were first classified by habitat. For example, clam landings listed as softshell received the estuarine habitat designation. Atlantic surf, arctic surf, hard, and ocean quahog clams received a marine designation. Quahog and northern clam landings were apportioned equally across estuarine and marine habitats. Once the landing habitat determinations were complete, the percentage of estuarine clam landings was determined by summing the total of estuarine landings across the years and dividing this total by the total clam landings for the three years.

Food components designated as crab were apportioned 65.57 percent to the estuarine habitat and 34.43 percent to the marine habitat. These percentages were again determined from United States Department of Commerce commercial landings. If the commercial landing reported blue, hard, or dungeness crab, the habitat assignment was estuarine. All other crab landings were classified as marine. Similarly, a food component of scallops, with no further designation, was apportioned 0.58 percent to the estuarine habitat and 99.42 percent to the marine. Again, these percentages were based on commercial landings. For the purpose of determining percentages, commercial landings of bay scallops were classified as estuarine, all others, including calico and sea scallops, were classified as marine.

A unique situation occurred for salmon. In several instances, the food code name indicates "salmon, canned," but several food component numbers were assigned to the reported food code. Because it was not possible to determine which specific type of canned salmon was reported by the participant, and because salmon inhabit both marine and freshwaters during their life cycle, salmon was apportioned across the marine and freshwater habitats. This apportionment was again based upon commercial landings during the combined 1994–1996

period. All landings of Pacific salmon, including chum, coho, king, pink, or sockeye, were assigned to the marine habitat. All landlocked Great Lakes salmon received the classification of freshwater, and aquaculture salmon were assigned to the estuarine habitat. The resulting apportionment for salmon was 0.06 percent to the freshwater habitat, 3.02 percent to the estuarine habitat, and 96.92 percent to the marine habitat.

There were eleven more instances of multiple fish habitat–type assignments. These occurred for food codes containing fish of an unknown food type. The recipe database described the fish component for eleven fish–related food codes as fish cake, fish sticks, or fish sauce. In these cases, the amount of fish was apportioned across habitat types according to the observed percentages of consumption from known habitat types for the population. Appendix A lists these percentages.

2.1.2 Conventions for Determining "As Consumed" Fish

Once habitat classifications were made, the "as consumed" amount of fish was determined using the recipe database, which lists the amount of each ingredient in the food code. First, the total weight of the recipe was determined by summing the weights of the individual components in the recipe. The fraction of fish in the recipe was then estimated as a ratio of the weight of the fish ingredient to the total recipe weight. If a recipe contained several fish components, a ratio was determined for each component. For example, food code 26301110, "Abalone, cooked," lists ingredients totaling 971.9 grams. Of this total, 907.2 grams or 93.34 percent of the recipe was raw abalone. Therefore, every time a respondent recorded consumption of food code 26301110, the recorded consumption was multiplied by 0.9334 to adjust the reported amount of consumed food code to reflect the "as consumed" amount of abalone. If a food code contained multiple fish ingredients, then an adjustment factor was determined for each ingredient.

One additional adjustment was made. If a food component was listed as a fish–containing soup, but the amount of fish in the soup was not specified, then 7.5 percent of the soup was assumed to be fish. This applied to 10 food codes, such as Manhattan and New England clam chowder.

Appendix A contains a tabulated presentation of the 616 participant–reported CSFII fish–containing food codes, which are listed according to fish species. Along with the food and fish component name, the table lists information extracted from the USDA's CSFII companion recipe database. Appendix A presents the total weight of the recipe components for the food code, the weight of the fish component in the recipe, the percentage of fish in the recipe, and the habitat assignment of fish. The percentage of fish in the recipe was used to adjust reported consumptions of the food code to reflect the amount of "as consumed" fish.

2.1.3 Conventions for Determining "Uncooked" Fish

Once habitat classifications were made, the "uncooked" amount of fish was determined using the recipe database. Specifically, the amount of each ingredient in the food code and the yield for the food code's recipe were factors used in completing the adjustment to the reported consumption of each fish–containing food code. First, the reported consumption was adjusted to incorporate the recipe's yield. This was accomplished by dividing the reported consumption of a fish–containing food code by the recipe's yield fraction. That is, if the respondent recorded consumption of 100 grams of a fish–containing food code and the yield associated with the food code's recipe is 80 percent, the consumed amount of the food code, on an uncooked basis, is (100÷0.80) = 125 grams. Then the fish component of the food was determined using the food–code's recipe. First, the total weight of the recipe was obtained by summing the weights of the individual components in the recipe. The fraction of fish in the recipe was then estimated as a ratio of the weight of the fish ingredient to the total recipe weight. If a recipe contained several fish components, a ratio was determined for each component.

For example, food code 26301110, "Abalone, cooked," lists ingredients totaling 971.9 grams and has a yield of 80 percent. Of this total, 907.2 grams or 93.34 percent of the recipe was raw abalone. Therefore, every time a respondent recorded consumption of food code 26301110, the recorded consumption was first divided by the yield fraction. This adjusted uncooked amount of the consumed food code was then multiplied by 0.9334 to adjust the reported amount of consumed food code to reflect the "uncooked" amount of abalone. So, if a respondent recorded consumption of 100 grams of food code 26301110, then the amount of abalone, on an uncooked basis is (100 grams÷0.80 yield)*0.9334 percent fish = 116.675 grams. If a food code contained multiple fish ingredients, then an adjustment factor was determined for each ingredient.

In some instances, preprocessed fish components entered the recipe. Examples of preprocessing are canning and pickling. In these instances, corrections for preprocessing occurred prior to making yield and percentage of fish adjustments. If a canned fish entered into the recipe, it was assumed that the canning process induced a 25 percent moisture loss or resulted in a yield of 75 percent. Therefore, 100 grams of canned fish in a recipe was adjusted to 133.33 grams (100÷0.75). For example, the fish component in food code 26101180 is canned anchovy. In accordance with the convention that canning results in a 75 percent yield, 133.33 grams of anchovy resulted in 100 grams of canned anchovy. Tuna casserole, food code 27350080, has a total recipe weight of 1,139.675 grams. Of this, 184.275 grams are canned tuna. To correct the canned tuna for the 25 percent moisture loss, the 184.275 grams were divided by 0.75 (0.75 = 1-fraction of moisture loss) to yield 245.7 grams of tuna. Therefore, the fraction of uncooked tuna in the casserole is 245.7÷1139.675 = 0.2156. The yield of the casserole after preparation is 90 percent. Therefore, if a survey participant reported consumption of 100 grams of food code 27350080, then (100 grams÷0.9 yield)*0.2156 = 23.96 grams of uncooked tuna entered into the estimation algorithm.

Preprocessing adjustments were made for smoking, pickling, drying, and kippering. These percentages were supplied by Dr. Jacob Exler of the USDA.

One additional adjustment was made. If a food component was listed as a fish–containing soup, but the amount of fish in the soup was not specified, then 7.5 percent of the soup was assumed to be fish. This applied to 10 food codes, such as Manhattan and New England clam chowder.

Appendix A contains a tabulated presentation of the 616 participant–reported CSFII fish–containing food codes, which are listed according to fish species. Along with the food and fish component name, the table lists information extracted from the USDA's CSFII companion recipe database. Appendix A presents the total weight of the recipe components for the food code, the weight of the fish component in the recipe, the percentage of fish in the recipe, and the habitat assignment of fish. The percentage of fish in the recipe was used to adjust reported consumptions of the food code to reflect the amount of "uncooked" fish.

2.2 INDIVIDUAL CONSUMPTION DATA FOR THE POPULATION AND CONSUMERS ONLY

Estimates of daily per capita consumption by the United States population for each of the fish–by–habitat types and by species are presented in this document. Individual daily average "as consumed" (or "uncooked") amounts of fish for the given fish–by–habitat types are the data points that entered the algorithms for estimating fish consumption. Section 2.2.1 describes the conventions for estimating these individual daily average consumption values by species and across species within fish–by–habitat type. Section 2.2.2 defines "consumers only" and the data conventions associated with producing estimates for these consumers.

2.2.1 Average Daily Consumption Data

All three CSFII surveys recorded food consumption for two non–consecutive days. Therefore, for each respondent with two days of records in the CSFII databases, a daily average consumption value was determined for each of the fish–by–habitat types. For estimating consumption by species, the "as consumed" (or "uncooked") amount reported by an individual for the food code associated with a given species was summed across the two days. This sum was then divided by two to produce a daily average consumption of the particular species for each individual. If an individual did not report consumption of the given species then the individual's consumption of the species was recorded as zero. It is this average across two days which makes these empirical estimates as opposed to usual intake estimates.

For estimating fish–by–habitat consumption, a daily consumption was calculated for each individual for each of the fish–by–habitat types. This is accomplished by summing, within day, the "as consumed" (or "uncooked") amount. The amount was summed across the fish–related food codes comprising the given fish–by–habitat type. The amounts entering the summation for

combination foods, or for foods with unknown habitat, were adjusted according to the previously discussed conventions. Daily total consumption data for a given fish–by–habitat type were then summed for the two days and divided by two to produce individual daily average consumption. If an individual did not report consumption of a given fish–by–habitat type across any of the food codes, the value zero entered the estimation algorithm for that individual. Again, it is this average across two days that renders these estimates empirical rather than usual intake, which implies long–run averages.

The convention described in the preceding paragraph produces individual daily averages in grams/day. If estimates are required on the milligrams/kilogram of body weight/day basis, then "as consumed" (or "uncooked") grams for the individual are converted to milligrams with the multiplication factor of 1,000. This daily average for the individual is then divided by the individual's body weight in kilograms. The milligrams/kilogram daily average for each individual then enters the estimating algorithm described in Section 3, in the same manner as does the grams daily averages do.

2.2.2 Average Daily Consumption Data—Consumers Only

For the purpose of this report, "consumers only" were defined as individuals who ate fish at least once during the 2–day period. "Consumers only" were identified according to fish–by–habitat type. That is, for a given fish–by–habitat type, daily consumption totals (explained in Section 2.2.1) were screened. If one of the daily totals for the given fish–by–habitat type was greater than zero, that individual was included in the set of "consumers only;" otherwise, the individual was excluded.

If an individual was included in the set of "consumers only," the average daily consumption for that individual was determined using only data from those days when total consumption was greater than zero. For example, if fish was consumed on only one of the two days, the total consumption for the given fish–by–habitat type on that one day was considered the average daily consumption for that individual.

3. SUMMARY OF STATISTICAL METHODS

This section summarizes the statistical methods used to generate point and interval estimates of daily average per capita fish consumption. Point estimates include the mean, 90th, 95th, and 99th percentiles. Mean estimates were generated using ratio estimation techniques. The variance of the mean was estimated using a Taylor series approximation of the deviation of estimates from their expected values. The Taylor series approximations were applied to ultimate clusters, which resulted in an overall estimate of the variance instead of estimating variance components due to sample–design stages. Appendix B reports the statistical formulae for generating both the mean estimate and the estimate of the confidence interval about the mean. Methods for generating percentile estimates and 90–percent bootstrap intervals about the percentile estimates are also shown in Appendix B.

3.1 STATISTICAL METHODS FOR ESTIMATING THE MEAN AND CONFIDENCE INTERVALS ABOUT THE MEAN

Mean estimates presented in this report resulted from ratio estimation methods. The mean, daily average per capita fish consumption for a given habitat type was estimated as the ratio of total fish for given habitat type consumed by the population or subpopulation, divided by the estimate of the total number of individuals in the population or subpopulation. Variances of the mean were estimated using Taylor series approximations of the deviations of estimates from their expected values. Taylor series approximations were applied to ultimate–cluster estimates. With this ultimate–cluster method, cited by Hansen, Hurwitz, and Madow, an overall estimate of the variance was generated (Hansen 1953). Use of the ultimate–cluster method is necessary for the CSFII data for two reasons: (1) the nature of the survey design, and (2) the form of the survey weights available as part of the CSFII data. Appendix B provides formulae for these estimates. Finally, ratio estimates of the mean are unbiased if the higher–order terms in the Taylor series expansion are considered negligible. Methods and results of tests to assess potential bias in the estimation of the mean are discussed in Appendix B.

All three CSFII surveys are multistage, stratified–cluster samples with primary sampling units (PSUs) sampled with replacement. Sample weights, which project the data from a sampled individual to the population, are based on the probability of an individual being sampled at each stage of the sampling design. As mentioned in Section 1 of this report, the sample weights associated with each individual reporting two days of consumption data were adjusted to correct for nonresponse bias. These adjusted sample weights, which are recorded in the CSFII data in the variable SAM_WT, record the number of individuals the sampled person represents in the population. For example, a sample weight valued as 22 projects the data from the individual with that sample weight to 22 individuals in the U.S. population.

The ultimate cluster is considered the aggregate of the sampled individuals within a PSU. The ultimate cluster method is supported by the survey design. It is also necessary for estimating the variance–of–the–mean estimate. Because the sample design contains multiple

levels, such as stratum and PSU, specific information is necessary to partition the variance–of–the–mean estimate into components. That is, specification of the sample size and population size within each level of sampling is required. However, this information is not inherent in the CSFII data. Rather, CSFII surveys report an adjusted sample weight for each individual who reported two days of consumption data during the survey. As discussed in Section 1 of this report, these survey weights were adjusted to correct for nonresponse bias. Given that only the adjusted weight is available, and not the specific sample and population size in each phase, it was necessary to estimate the mean using ratio estimation techniques and the variance of the mean using the ultimate cluster methodology, which does not partition the variance into sample design components.

3.2 STATISTICAL METHODS FOR PERCENTILE ESTIMATES AND CONFIDENCE INTERVALS ABOUT THE ESTIMATES

This report presents point estimates of the median, 90th, 95th, and 99th percentiles of the average, daily per capita consumption of fish. Ninety–percent interval estimates for the percentiles were generated using bootstrapping techniques described by Efron (Efron 1982). Interval estimates for percentiles are bootstrap intervals. The reported bootstrap intervals do not result from direct estimates of the standard deviation of the point estimate. Rather, the bootstrap estimates result from the percentile method, which estimates the lower and upper bounds for the interval estimate by the 100α percentile and $100(1-\alpha)$ percentile estimates from the nonparametric distribution of the given point estimate. This distribution of the observed values of the given point estimate is determined from repeated resampling of the empirical data. Appendix B defines the point estimators and describes how these estimates were generated from the CSFII data. Appendix B also presents the statistical methods used for generating the nonparametric interval estimates.

4. "AS CONSUMED" FISH CONSUMPTION ESTIMATES

This section presents tabulated daily average "as consumed" fish consumption estimates and augments these estimates with selected graphical presentations of the data. Estimates and graphics are organized in subsections. This preface to the subsections delineates the organization of the section.

Tables and figures are first organized by estimates for the U.S. population (Section 4.1) or "consumers only" (Section 4.2). For the U.S. population, daily average "as consumed" fish consumption was estimated for:

- finfish and shellfish (grams/person/day),
- finfish and shellfish (milligrams/kilogram of body weight/day),
- finfish (grams/person/day),
- shellfish (grams/person/day),
- low-income individuals (grams/person/day),
- alternate habitat (grams/person/day), and
- mean consumption by species within habitat (grams/person/day).

For "consumers only," estimates were calculated for:

- finfish and shellfish (grams/person/day),
- finfish and shellfish (milligrams/kilogram of body weight/day), and
- alternate habitat (grams/person/day).

The tables list estimates of the mean, median, 90th percentile, 95th percentile, and 99th percentile empirical daily average per capita consumption and 90–percent intervals about each estimate. These estimates used survey weights to project data from the USDA's combined 1994, 1995, and 1996 CSFII to daily average per capita consumption by the U.S. population. Estimates project consumption from a combined sample of 15,303 individuals to a population of 261,897,260. Subpopulation sample sizes and the projected subpopulation sizes are included on tables, where appropriate.

When estimates are presented according to age and gender, the age categories are (1) 14 years of age and younger, (2) 15 to 44, and (3) 45 years of age and older. For women, 15 to 44 years approximates the childbearing years. Estimates for the subpopulation of individuals 18 and older describe fish consumption by adults. These estimates project consumption from a combined sample of 9,596 individuals 18 years of age and older to a population of 190,931,846.

Estimates for "consumers only" are based on CSFII respondents who reported consumption of fish on at least one of the two days. Daily average estimates for "consumers only," as described in Section 3, are determined across the number of days for which fish consumption was reported.

Low–income is defined in the CSFII as those individuals with gross household incomes at or below 130 percent of the federal poverty threshold. A combined sample of 3,977 individuals in the 1994, 1995, and 1996 CSFII projects to a low–income population of 50,234,917.

Subsections 4.1.5 and 4.2.2 provide estimates according to the alternate habitat assignments of freshwater, estuarine/marine, and all fish. The habitat aggregation in this subsection differs from the habitat categories of freshwater/estuarine and marine. The freshwater/estuarine combination applies to all subsections except Subsections 4.1.5 and 4.2.2. Notice that the "All Fish" estimates in Subsection 4.1.5 match the corresponding "All Fish" estimates in other subsections. For example, the "All Fish" Finfish consumption estimates listed in Table 4.1.5.1 are the same as those listed as "All Fish" in the Finfish subsection. In other words, "All Fish" estimates are calculated across fish habitat type.

Finally, Subsection 4.1.6 lists mean consumption by species for various subpopulations. Interval estimates are not provided. Estimates are listed by habitat in descending order. The five decimal places recorded do not imply significant digits, but rather are included to illustrate those species consumed by various subpopulations.

SECTION 4.1.1.1 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (grams/person/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	2,564	1.89 (1.44-2.33)	0.00 (0.00-0.11)	11.35 (7.93-12.68)	45.53 (39.49-57.01)
15 - 44	2,332	4.62 (3.71-5.53)	5.55 (3.73-9.90)	25.19 (23.80-32.03)	90.37 (76.71-119.64)
45 and Older	2,654	5.07 (4.25-5.90)	14.09 (7.02-17.69)	34.13 (28.22-42.50)	82.54 (75.52-98.62)
All Ages	7,550	4.18 (3.62-4.75)	6.06 (4.36-9.24)	25.64 (24.32-29.05)	79.38 (76.97-92.62)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	2,591	2.57 (1.95-3.19)	0.00 (0.00-0.08)	12.09 (10.26-15.62)	69.39 (62.49-95.29)
15 - 44	2,382	6.02 (5.05-6.98)	11.68 (10.29-13.79)	41.68 (36.03-48.98)	119.26 (95.36-145.24)
45 and Older	2,780	8.08 (6.82-9.34)	24.83 (23.13-31.45)	58.51 (54.67-62.94)	130.24 (109.91-151.05)
All Ages	7,753	5.83 (5.14-6.52)	11.64 (9.87-13.00)	40.90 (36.71-44.29)	116.10 (107.84-129.16)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	5,155	2.23 (1.84-2.62)	0.00 (0.00-0.09)	11.86 (8.93-14.88)	61.76 (51.71-72.73)
15 - 44	4,714	5.32 (4.67-5.97)	10.14 (6.89-12.32)	34.19 (30.80-38.31)	110.15 (89.31-130.65)
45 and Older	5,434	6.45 (5.62-7.28)	19.30 (15.44-22.91)	45.17 (39.60-53.96)	106.73 (100.50-121.35)
All Ages	15,303	4.99 (4.52-5.46)	9.33 (6.16-10.97)	32.28 (30.80-35.97)	97.24 (90.43-103.62)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.1.1 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (grams/person/day)
Marine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,564	4.00 (3.33-4.66)	14.08 (10.50-20.97)	29.06 (27.78-36.22)	56.85 (49.18-90.26)
15 - 44	2,332	6.93 (6.05-7.80)	28.13 (24.50-28.37)	47.38 (42.61-52.95)	95.35 (89.06-106.03)
45 and Older	2,654	10.51 (9.24-11.78)	39.93 (37.18-42.53)	60.21 (58.05-64.41)	123.98 (115.47-137.83)
All Ages	7,550	7.51 (6.87-8.15)	28.30 (28.13-28.83)	49.17 (47.56-51.82)	101.37 (96.00-108.97)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,591	4.27 (3.47-5.08)	12.18 (7.03-16.27)	28.12 (26.16-33.05)	85.25 (83.52-112.24)
15 - 44	2,382	9.43 (8.17-10.69)	36.35 (28.39-43.46)	73.42 (57.73-80.00)	121.82 (100.02-147.70)
45 and Older	2,780	11.55 (10.24-12.86)	46.84 (41.76-51.99)	68.76 (63.95-77.08)	134.46 (112.81-149.50)
All Ages	7,753	8.84 (8.01-9.68)	32.95 (28.35-37.85)	61.95 (56.78-72.33)	117.02 (110.15-131.11)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	5,155	4.14 (3.53-4.75)	13.37 (10.41-14.20)	28.39 (27.63-32.35)	85.00 (72.65-90.26)
15 - 44	4,714	8.18 (7.28-9.08)	28.38 (28.13-34.20)	56.78 (55.08-64.41)	109.19 (98.25-124.75)
45 and Older	5,434	10.98 (9.95-12.02)	42.50 (41.31-44.90)	64.18 (61.75-66.00)	130.10 (118.94-143.73)
All Ages	15,303	8.16 (7.55-8.77)	28.74 (28.27-31.95)	56.22 (54.91-56.78)	111.73 (102.62-119.68)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.1.1 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (grams/person/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,564	5.89 (5.01-6.76)	23.31 (19.83-28.17)	42.49 (38.80-47.32)	87.84 (72.73-93.94)
15 - 44	2,332	11.55 (10.16-12.94)	42.46 (37.83-47.65)	67.47 (61.98-71.78)	145.99 (128.12-151.05)
45 and Older	2,654	15.58 (13.96-17.21)	56.50 (52.15-60.73)	81.50 (75.05-85.22)	157.26 (148.09-175.65)
All Ages	7,550	11.69 (10.73-12.65)	42.61 (41.82-46.38)	68.88 (64.41-72.65)	143.86 (130.65-150.33)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,591	6.84 (5.78-7.90)	24.24 (16.58-28.34)	42.49 (36.32-56.27)	126.28 (111.89-145.24)
15 - 44	2,382	15.45 (13.96-16.93)	60.84 (54.65-72.91)	93.93 (89.36-98.11)	181.79 (170.10-185.87)
45 and Older	2,780	19.62 (17.93-21.32)	68.43 (65.61-72.56)	101.68 (95.98-105.46)	174.37 (162.38-213.49)
All Ages	7,753	14.67 (13.74-15.60)	56.81 (53.18-62.46)	90.85 (84.93-94.08)	166.56 (163.50-176.76)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	5,155	6.37 (5.58-7.16)	23.73 (20.64-26.89)	42.49 (38.13-43.38)	109.51 (92.08-130.50)
15 - 44	4,714	13.50 (12.43-14.57)	52.12 (47.50-56.80)	84.45 (78.06-94.08)	164.76 (147.08-177.02)
45 and Older	5,434	17.43 (16.10-18.77)	62.64 (57.38-65.84)	89.81 (85.88-96.38)	165.89 (159.16-175.65)
All Ages	15,303	13.15 (12.38-13.91)	49.45 (47.63-51.88)	79.85 (77.08-83.33)	154.67 (149.55-163.50)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

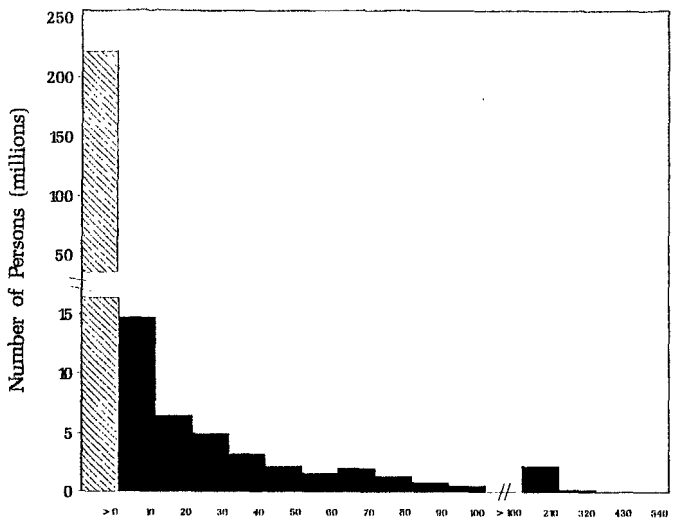
SECTION 4.1.1.1 TABLE 4. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	5.89	5.29	6.49
	50th %	0.00	0.00	0.00
	90th %	13.12	11.25	16.58
	95th %	40.88	37.19	45.67
	99th %	111.38	98.62	123.05
Marine	Mean	9.62	8.87	10.37
	50th %	0.00	0.00	0.00
	90th %	38.03	36.75	40.00
	95th %	61.24	58.43	64.41
	99th %	118.82	110.44	132.24
All Fish	Mean	15.51	14.57	16.46
	50th %	0.00	0.00	0.00
	90th %	57.01	56.39	60.01
	95th %	87.04	84.83	92.00
	99th %	165.84	155.46	173.75

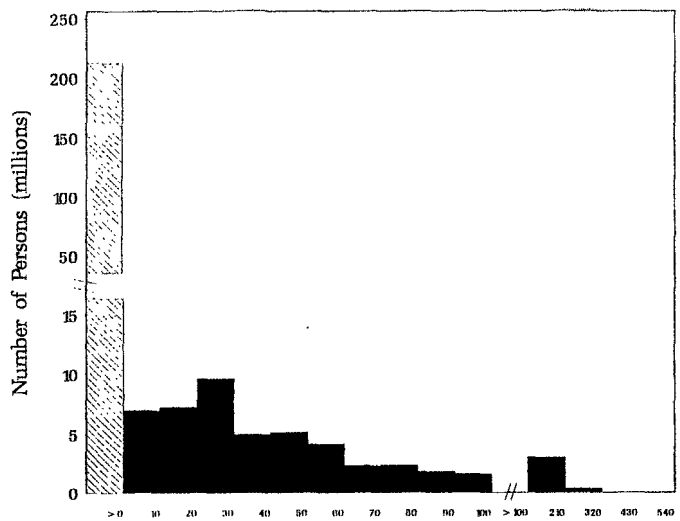
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

Section 4.1.1.1 Figure 1. Histograms of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

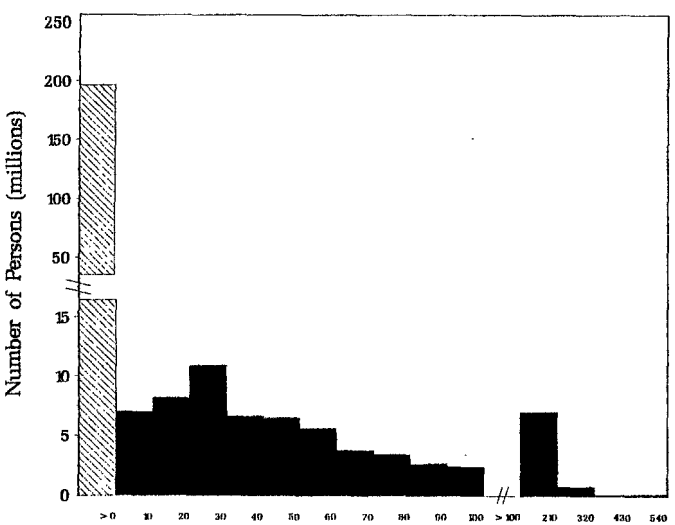
Freshwater/Estuarine Finfish and Shellfish

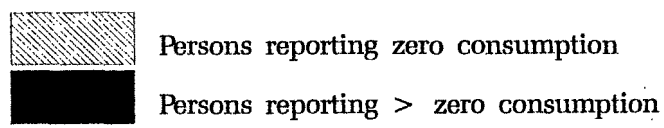


Marine Finfish and Shellfish



Total Finfish and Shellfish

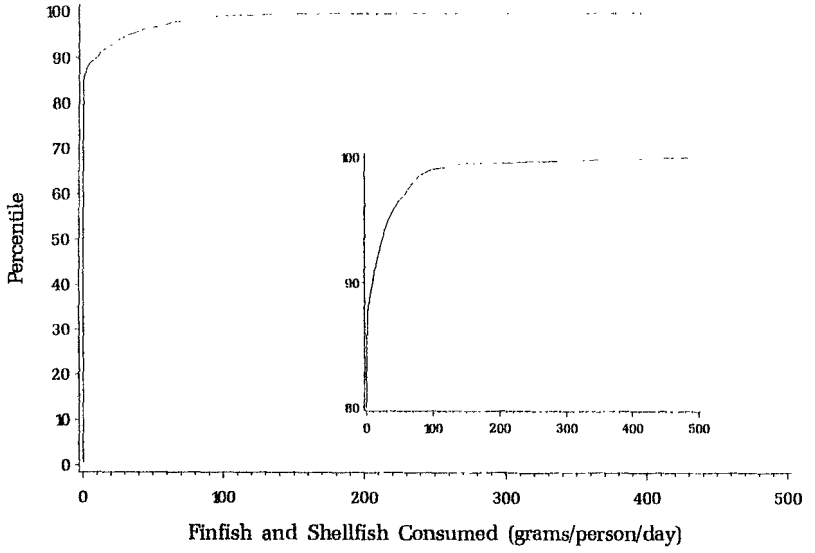




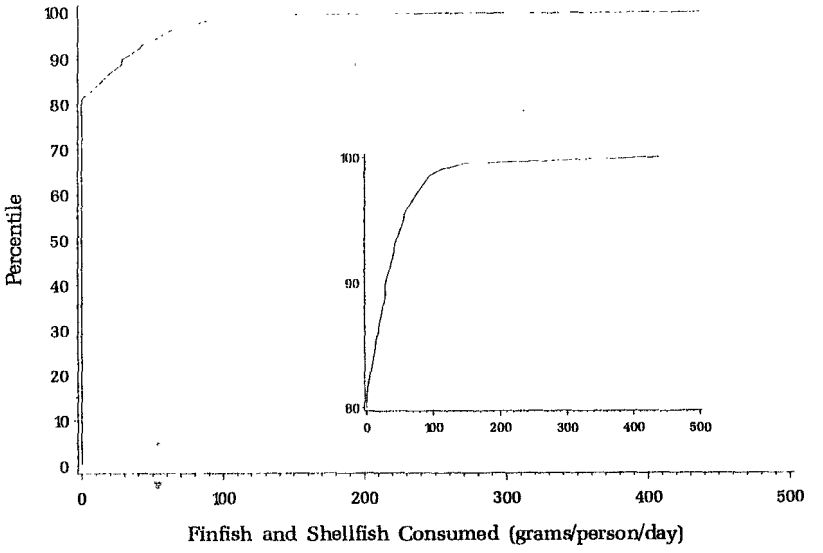
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.1.1 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

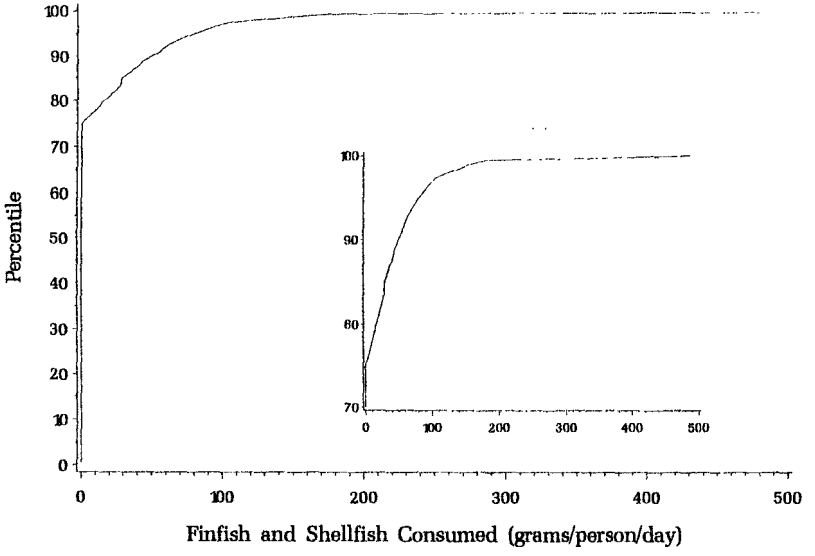
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



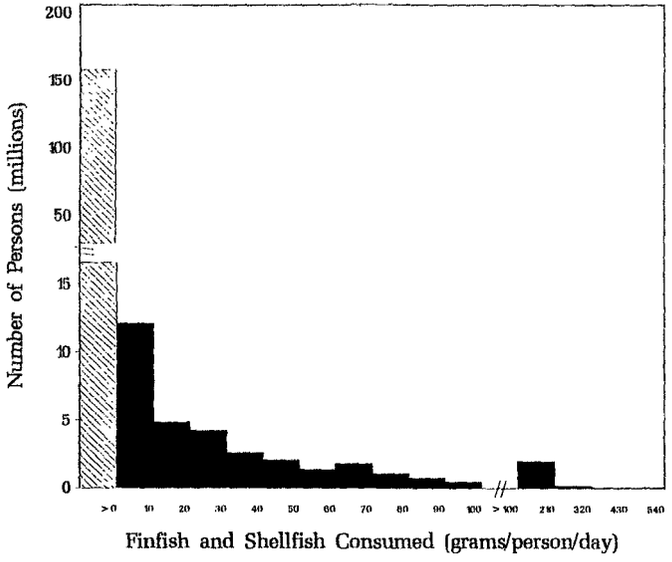
Total Finfish and Shellfish



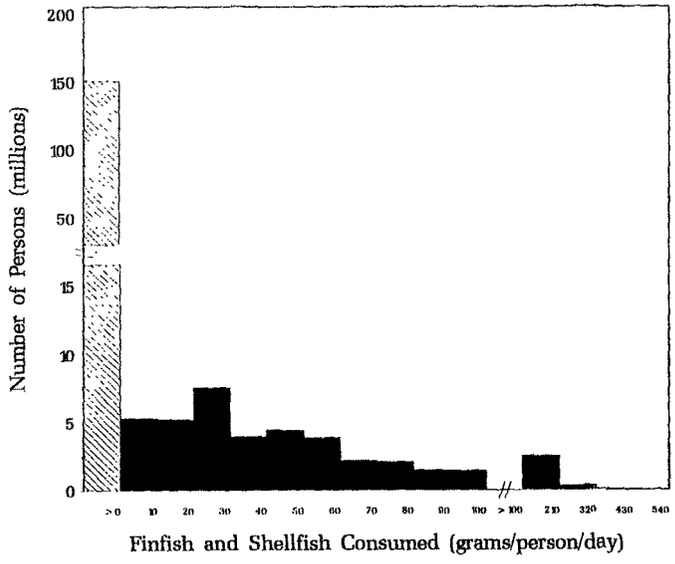
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.1.1 Figure 3. Histograms of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

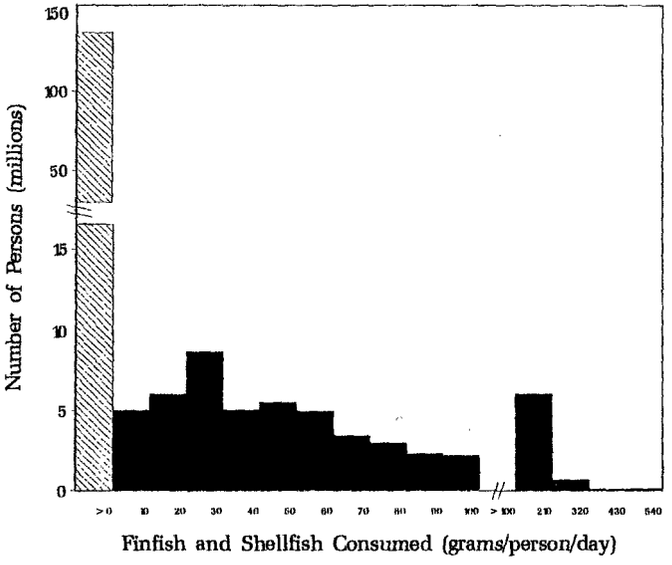
Freshwater/Estuarine Finfish and Shellfish

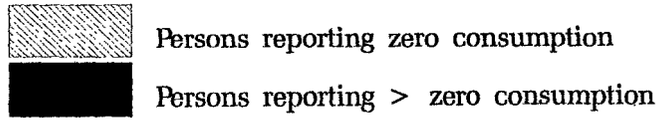


Marine Finfish and Shellfish



Total Finfish and Shellfish

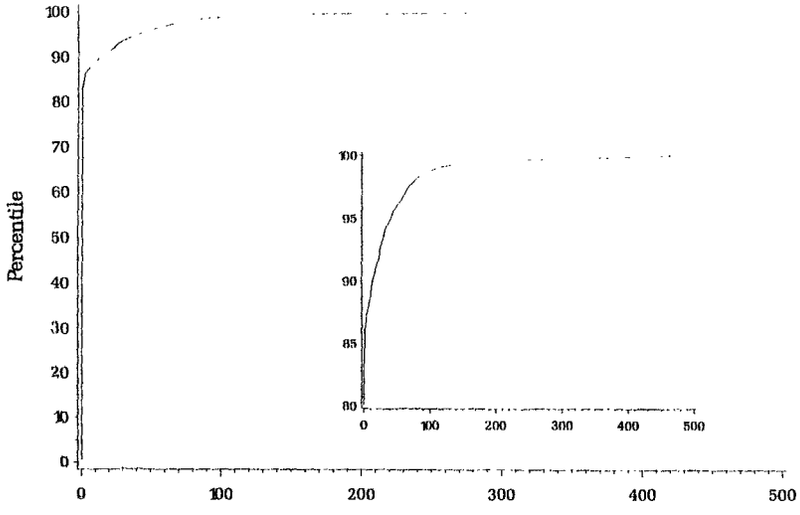




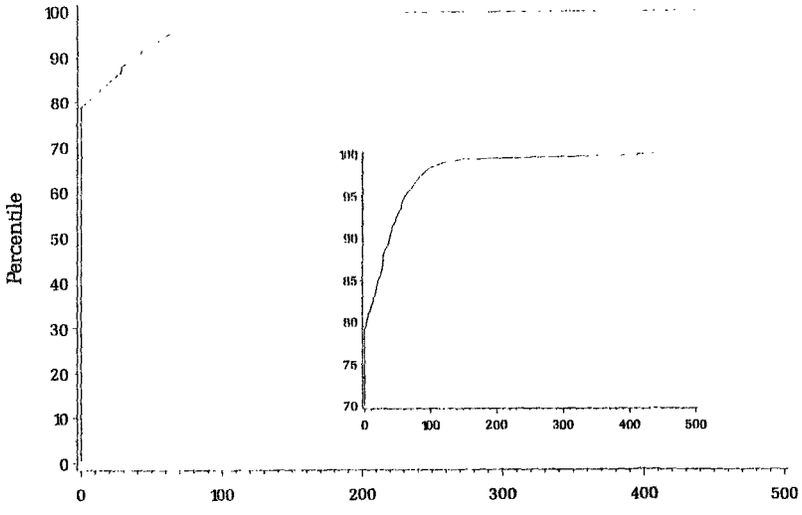
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.1.1 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

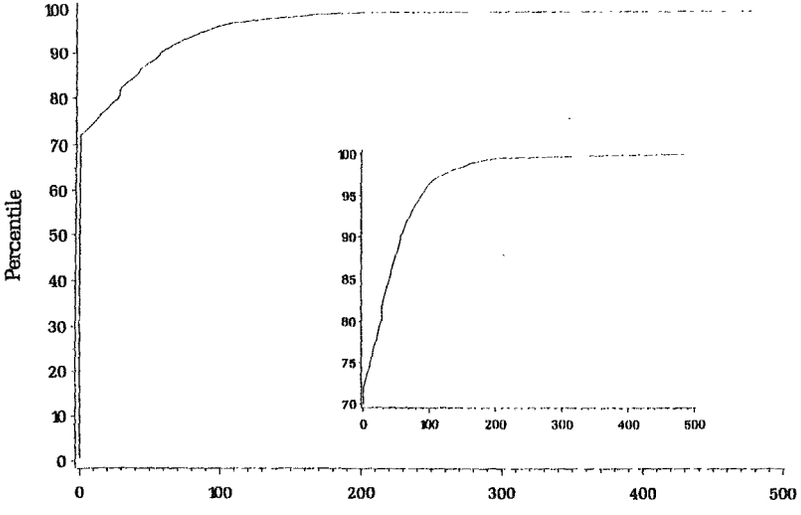
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 4.1.1.2 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	70.77 (54.76-86.78)	0.00 (0.00-0.00)	395.19 (251.47-482.43)	1,741.63 (1,265.40-1,973.42)
15 - 44	2,275	72.31 (56.92-87.70)	87.79 (63.24-141.65)	405.69 (338.06-443.89)	1,354.68 (1,241.08-1,815.96)
45 and Older	2,569	76.22 (62.69-89.76)	197.34 (158.86-243.47)	517.71 (453.92-579.44)	1,358.93 (1,191.88-1,570.79)
All Ages	7,259	73.43 (63.31-83.56)	97.46 (69.70-141.67)	443.91 (404.21-498.02)	1,489.46 (1,294.97-1,744.94)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	78.10 (60.13-96.07)	0.00 (0.00-2.03)	420.48 (357.54-533.18)	1,784.96 (1,616.86-2,041.17)
15 - 44	2,369	76.16 (63.59-88.72)	151.02 (110.58-215.99)	523.82 (466.90-598.08)	1,393.72 (1,274.31-1,946.79)
45 and Older	2,764	96.11 (81.01-111.20)	303.66 (270.04-335.92)	702.14 (627.57-740.16)	1,533.46 (1,373.03-1,599.53)
All Ages	7,596	82.96 (73.19-92.73)	158.63 (128.69-187.28)	568.67 (532.75-652.83)	1,612.58 (1,397.95-1,789.09)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	74.54 (61.10-87.98)	0.00 (0.00-0.68)	399.79 (280.42-468.06)	1,777.93 (1,709.81-1,919.07)
15 - 44	4,644	74.25 (64.81-83.69)	124.83 (96.38-156.57)	452.43 (424.17-499.61)	1,387.48 (1,274.31-1,839.41)
45 and Older	5,333	85.53 (74.49-96.57)	255.03 (199.00-297.67)	608.24 (526.07-681.63)	1,482.25 (1,263.52-1,543.87)
All Ages	14,855	78.21 (70.80-85.62)	127.76 (96.38-151.06)	517.22 (479.68-536.57)	1,538.57 (1,388.83-1,642.95)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.1.2 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Marine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	158.73 (131.61-185.85)	455.07 (342.34-764.15)	1,136.68 (991.19-1,310.57)	2,797.20 (2,497.80-3,029.31)
15 - 44	2,275	112.97 (97.65-128.28)	426.88 (386.10-473.89)	757.45 (707.24-789.99)	1,625.81 (1,511.19-1,798.83)
45 and Older	2,569	160.62 (142.10-179.14)	617.52 (567.68-645.60)	932.75 (866.60-1,011.43)	1,963.00 (1,754.60-2,248.05)
All Ages	7,259	138.88 (127.72-150.05)	509.65 (478.36-535.55)	883.66 (853.80-945.77)	2,088.19 (1,816.78-2,248.05)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	149.05 (125.20-172.89)	425.29 (353.25-534.20)	1,073.76 (991.93-1,340.01)	2,521.44 (2,386.91-3,049.51)
15 - 44	2,369	118.18 (103.12-133.24)	444.23 (373.30-574.84)	899.90 (770.51-972.51)	1,539.96 (1,420.21-1,707.31)
45 and Older	2,764	144.81 (128.57-161.05)	552.93 (520.37-614.07)	875.84 (827.09-899.00)	1,738.85 (1,571.46-1,995.66)
All Ages	7,596	133.05 (121.93-144.17)	495.57 (440.10-568.49)	907.76 (858.35-1,001.36)	1,886.34 (1,807.39-2,011.40)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	153.75 (133.64-173.87)	438.20 (367.85-517.86)	1,120.61 (1,015.87-1,233.96)	2,780.79 (2,430.48-3,027.54)
15 - 44	4,644	115.61 (103.13-128.09)	440.34 (390.84-490.37)	829.15 (786.75-907.80)	1,610.88 (1,511.19-1,716.71)
45 and Older	5,333	153.21 (139.22-167.20)	591.43 (545.49-642.44)	891.65 (854.33-921.46)	1,873.69 (1,754.60-2,011.40)
All Ages	14,855	135.93 (127.11-144.76)	500.85 (472.88-533.34)	905.07 (876.11-948.46)	1,970.73 (1,872.98-2,168.46)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.1.2 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	229.50 (197.16-261.84)	796.60 (550.66-999.98)	1,620.08 (1,365.18-1,766.27)	3,733.91 (3,095.55-4,205.06)
15 - 44	2,275	185.28 (161.40-209.15)	651.27 (597.95-697.71)	1,037.48 (987.30-1,165.76)	2,457.61 (2,057.66-2,683.64)
45 and Older	2,569	236.84 (211.84-261.84)	829.68 (751.02-901.93)	1,245.94 (1,199.48-1,322.75)	2,678.16 (2,129.88-2,986.99)
All Ages	7,259	212.32 (195.49-229.14)	748.97 (698.77-786.87)	1,237.36 (1,186.19-1,255.51)	2,801.71 (2,574.93-2,903.80)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	227.15 (197.64-256.66)	766.49 (664.30-907.07)	1,538.27 (1,418.18-1,789.09)	3,360.77 (3,098.38-3,887.02)
15 - 44	2,369	194.34 (175.84-212.84)	795.45 (733.04-917.77)	1,193.91 (1,081.44-1,285.02)	2,263.56 (1,990.65-2,587.92)
45 and Older	2,764	240.92 (220.16-261.68)	875.98 (792.22-923.58)	1,276.45 (1,179.40-1,369.54)	2,239.36 (2,113.78-2,435.49)
All Ages	7,596	216.01 (202.95-229.06)	832.68 (759.09-905.08)	1,276.68 (1,202.08-1,369.54)	2,591.32 (2,438.28-2,845.99)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	228.30 (203.17-253.42)	783.91 (692.52-892.07)	1,595.28 (1,439.43-1,665.25)	3,636.11 (3,196.52-3,850.90)
15 - 44	4,644	189.86 (174.32-205.41)	736.41 (668.66-810.66)	1,142.31 (1,062.72-1,219.68)	2,360.33 (2,176.33-2,587.92)
45 and Older	5,333	238.74 (220.16-257.32)	852.78 (780.11-898.73)	1,262.06 (1,199.56-1,335.95)	2,340.28 (2,162.65-2,691.78)
All Ages	14,855	214.14 (201.98-226.30)	785.94 (757.95-811.06)	1,244.62 (1,214.43-1,290.50)	2,694.86 (2,517.66-2,845.99)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

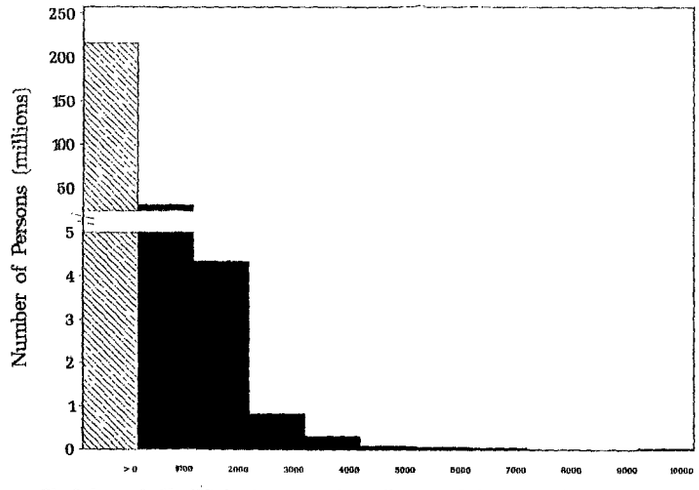
SECTION 4.1.1.2 TABLE 4. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish
Individuals of Age 18 and Older

		Milligrams/kilogram of body weight/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	80.13	72.22	88.04
	50th %	0.00	0.00	0.00
	90th %	184.52	147.41	221.22
	95th %	532.59	490.48	607.26
	99th %	1,447.23	1,294.97	1,622.94
Marine	Mean	134.38	124.12	144.64
	50th %	0.00	0.00	0.00
	90th %	522.23	503.62	559.31
	95th %	870.76	835.50	905.70
	99th %	1,685.46	1,612.46	1,929.91
All Fish	Mean	214.51	201.30	227.72
	50th %	0.00	0.00	0.00
	90th %	797.09	773.49	840.32
	95th %	1,193.13	1,162.00	1,241.84
	99th %	2,349.48	2,129.88	2,563.08

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,432 individuals of age 18 and older to the population of 187,535,835 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

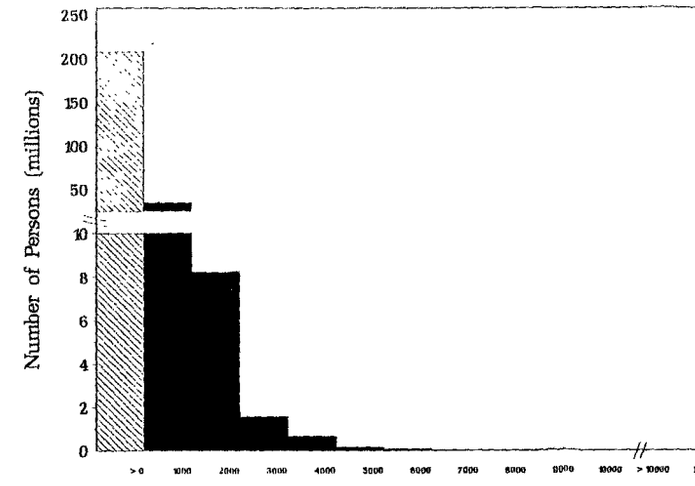
Section 4.1.1.2 Figure 1. Histograms of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



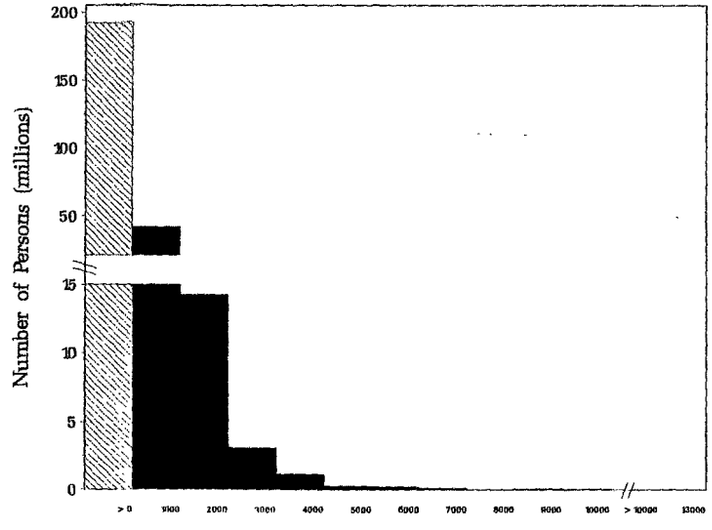
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish

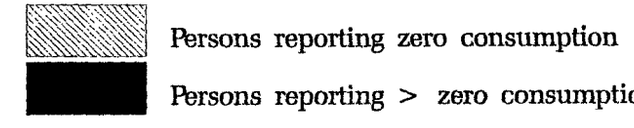


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish



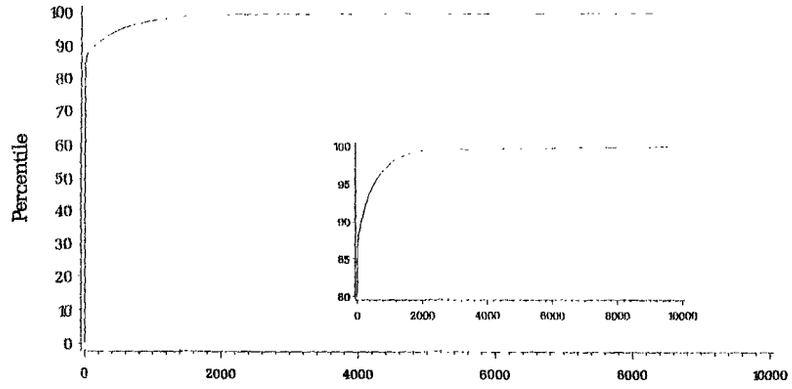
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)



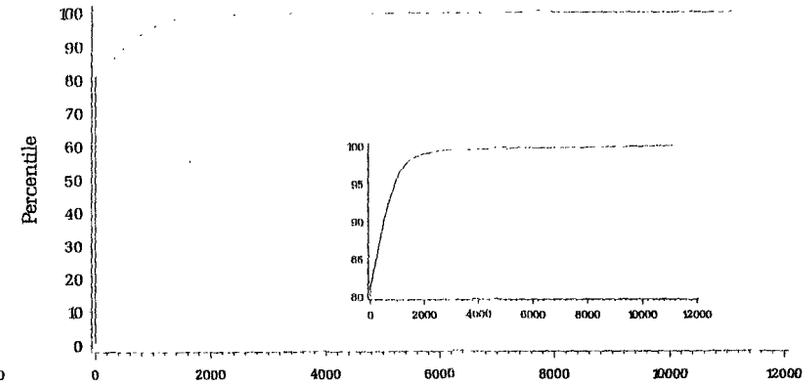
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.1.2 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

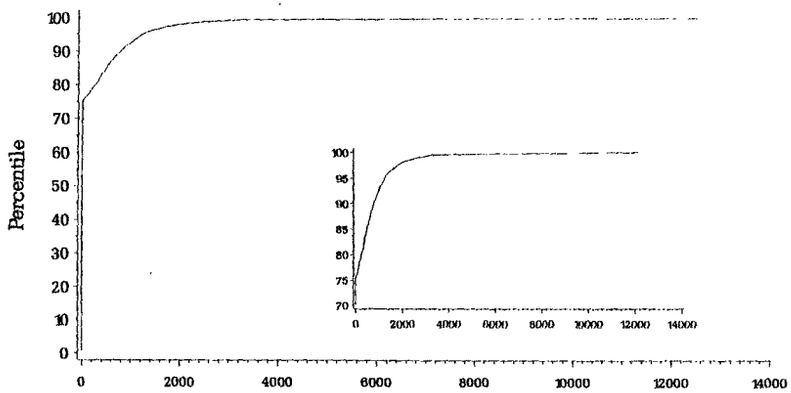
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



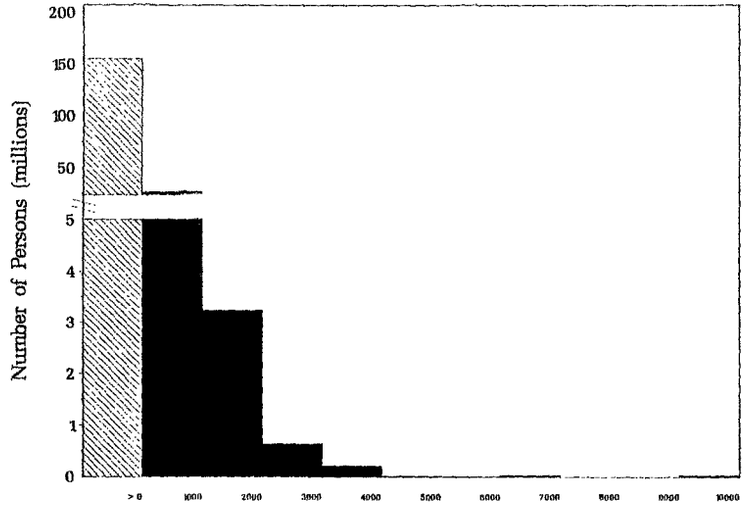
Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

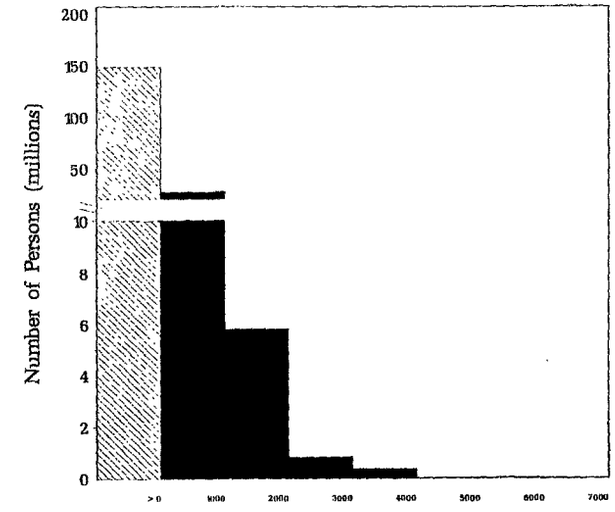
Section 4.1.1.2 Figure 3. Histograms of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



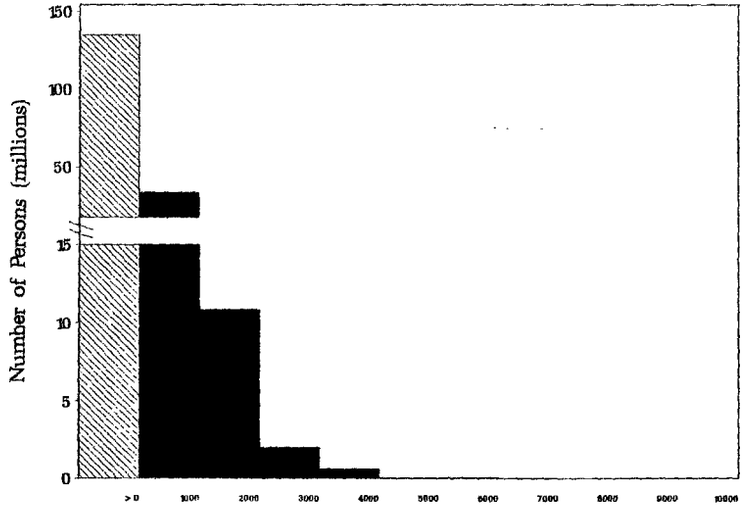
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish

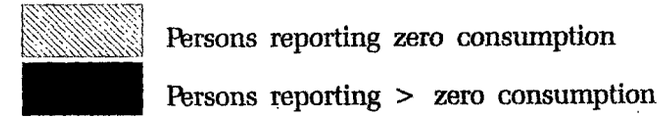


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish



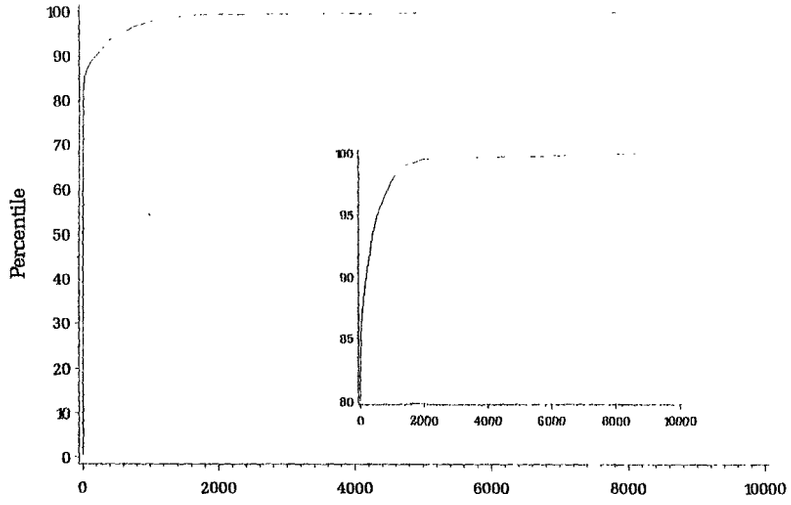
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

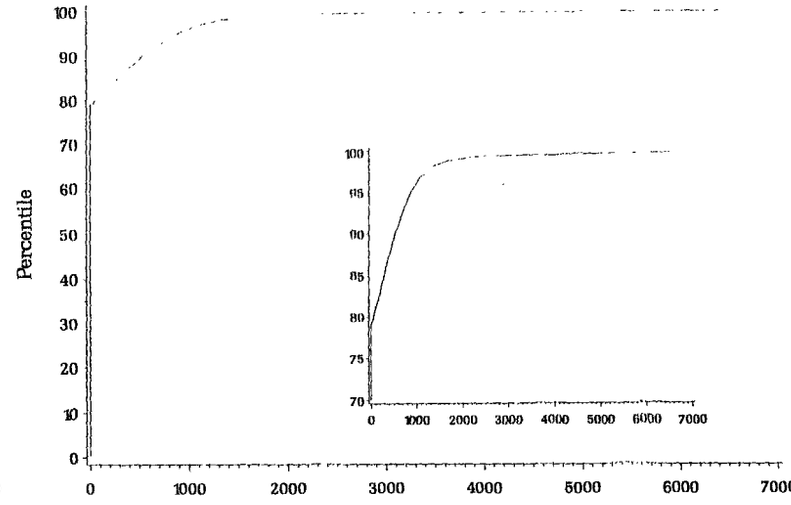
Section 4.1.1.2 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



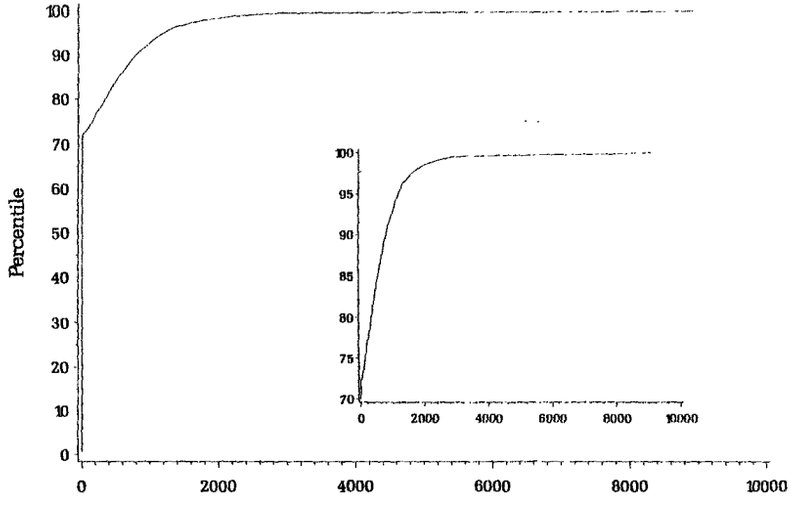
Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Total Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 4.1.2 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish
All Individuals

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	2.87	2.54	3.20
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	11.10	9.33	13.26
	99th %	75.21	67.41	79.01
Marine	Mean	6.90	6.45	7.35
	50th %	0.00	0.00	0.00
	90th %	27.87	25.56	28.13
	95th %	48.43	46.19	52.05
	99th %	99.29	90.51	106.93
All Fish	Mean	9.77	9.20	10.35
	50th %	0.00	0.00	0.00
	90th %	36.93	35.49	39.49
	95th %	63.92	60.67	66.08
	99th %	138.46	130.50	145.24

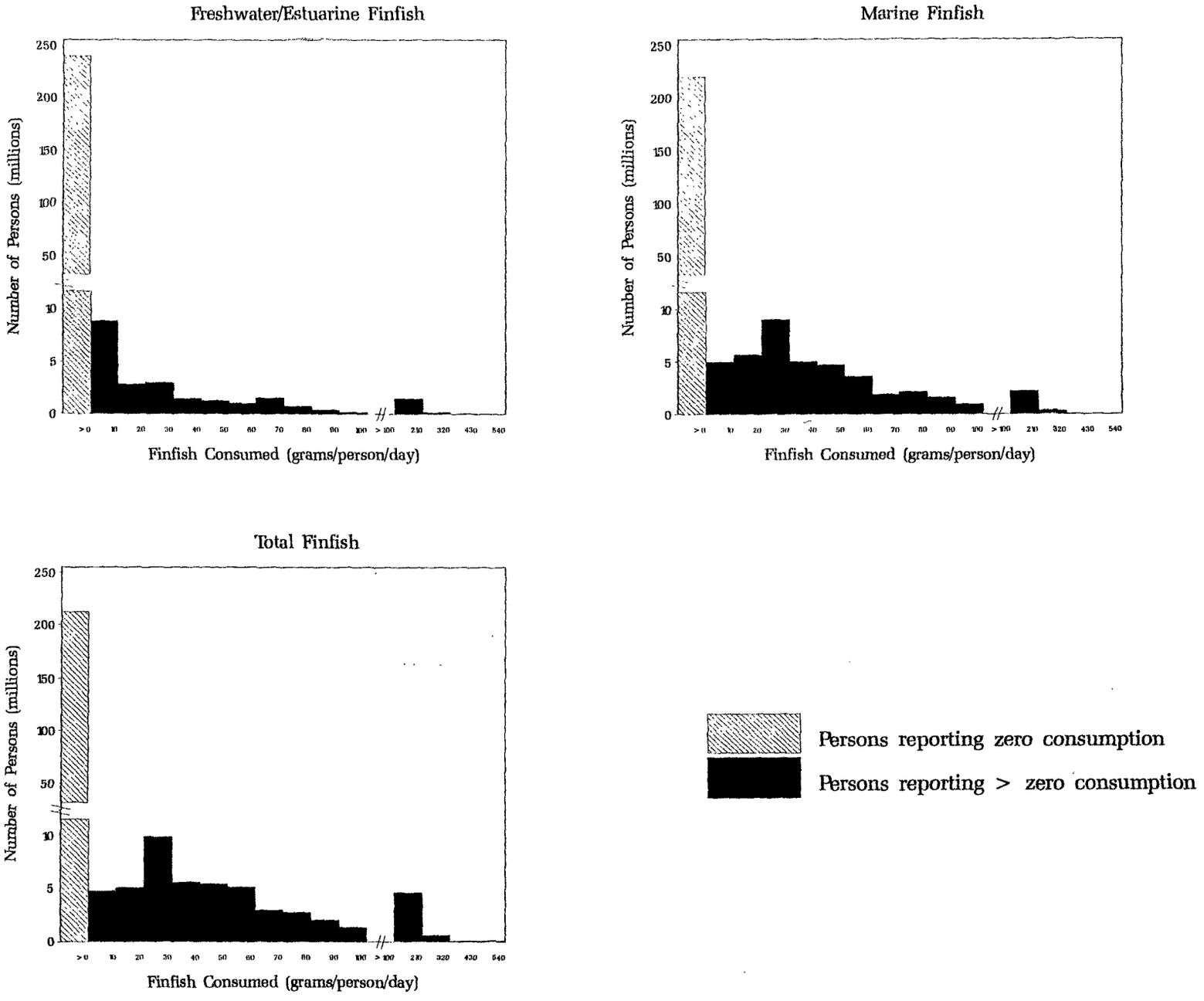
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.2 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	3.37	2.93	3.80
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.55
	95th %	17.27	13.26	21.96
	99th %	79.47	72.73	91.00
Marine	Mean	8.01	7.49	8.53
	50th %	0.00	0.00	0.00
	90th %	29.63	28.39	34.06
	95th %	55.19	53.76	56.37
	99th %	105.22	97.32	112.53
All Fish	Mean	11.37	10.70	12.05
	50th %	0.00	0.00	0.00
	90th %	43.16	42.60	46.38
	95th %	70.77	66.75	73.65
	99th %	149.50	138.76	151.13

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

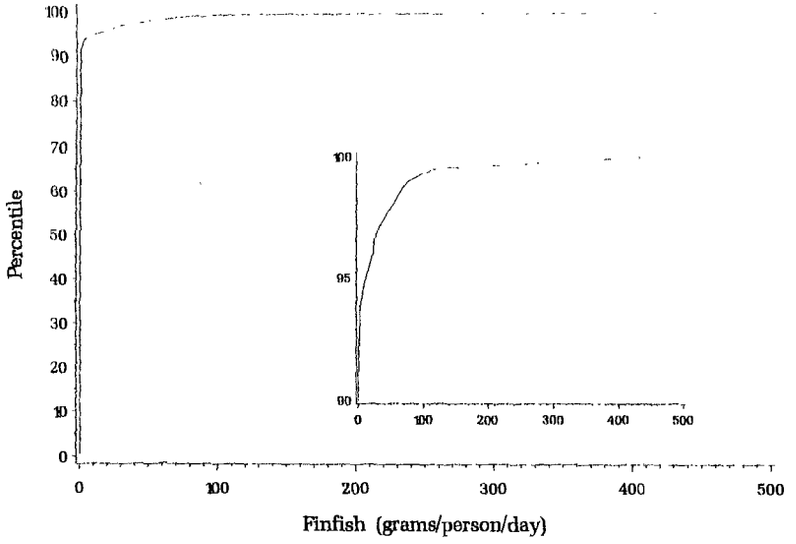
Section 4.1.2 Figure 1. Histograms of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Finfish



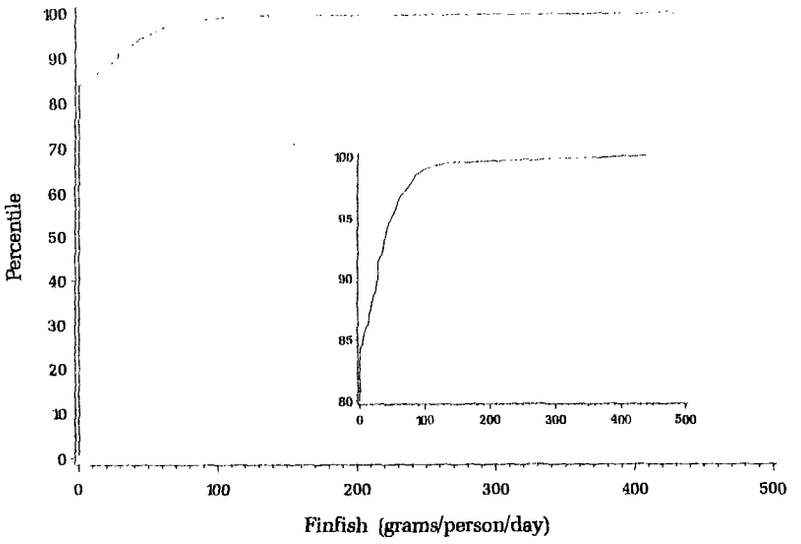
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.2 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Finfish

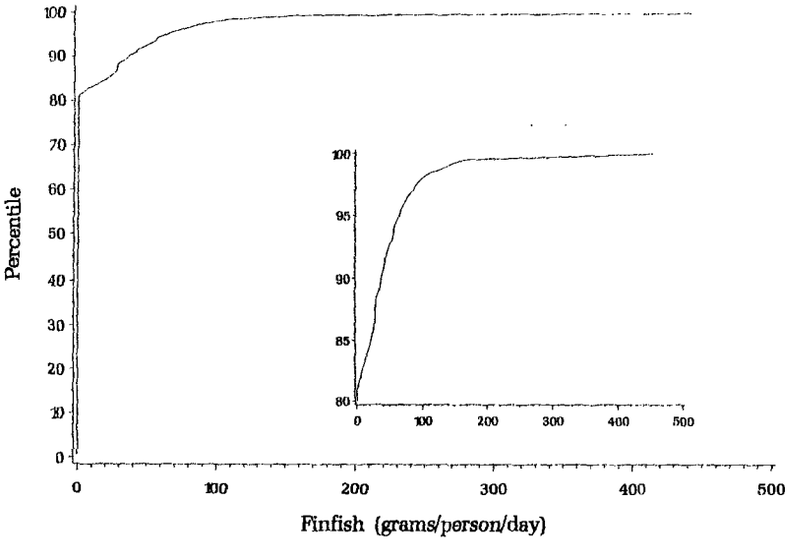
Freshwater/Estuarine Finfish



Marine Finfish

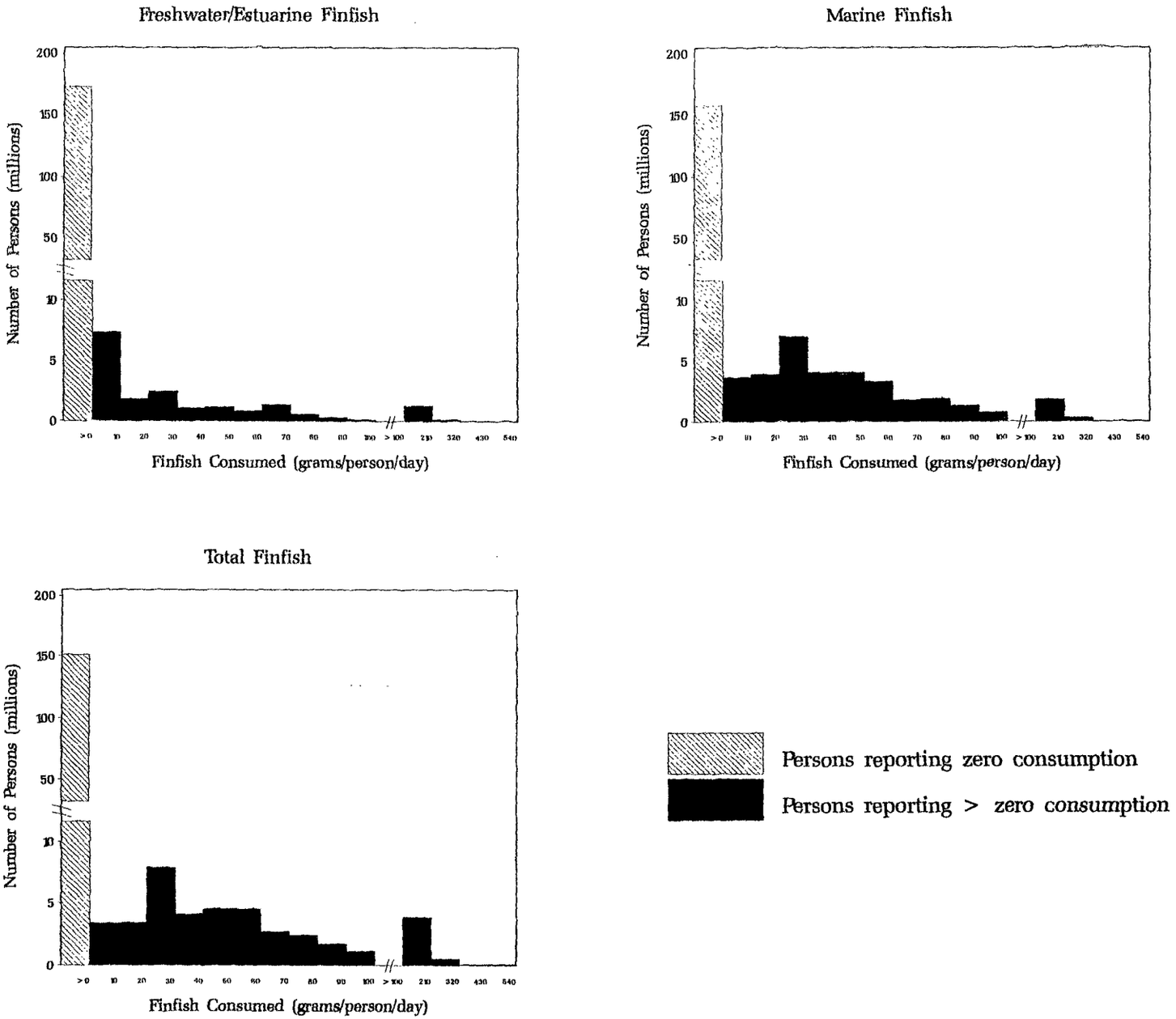


Total Finfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

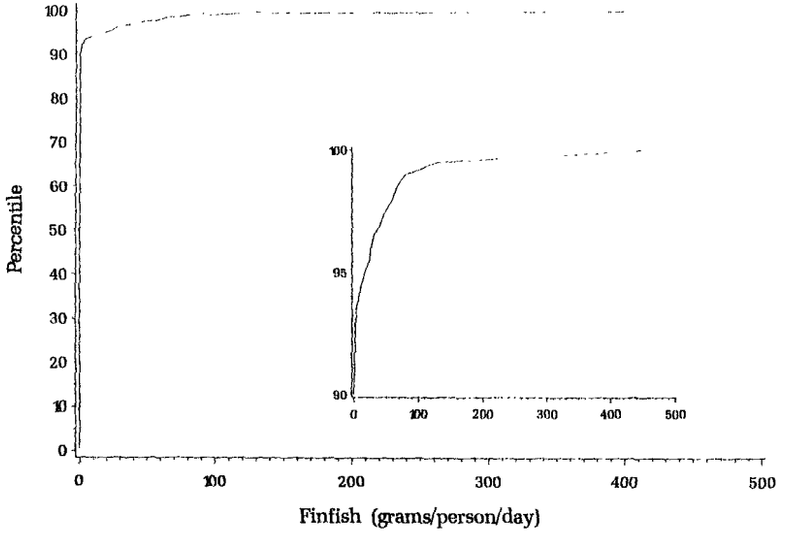
Section 4.1.2 Figure 3. Histograms of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish



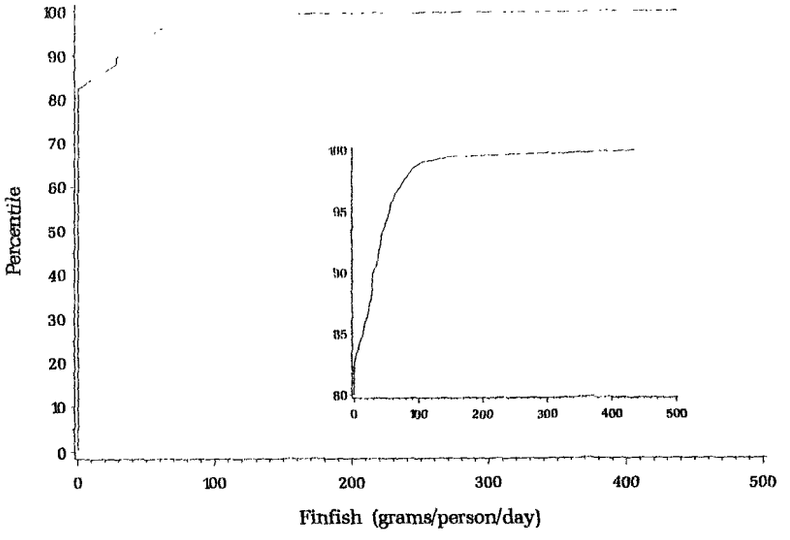
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.2 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish

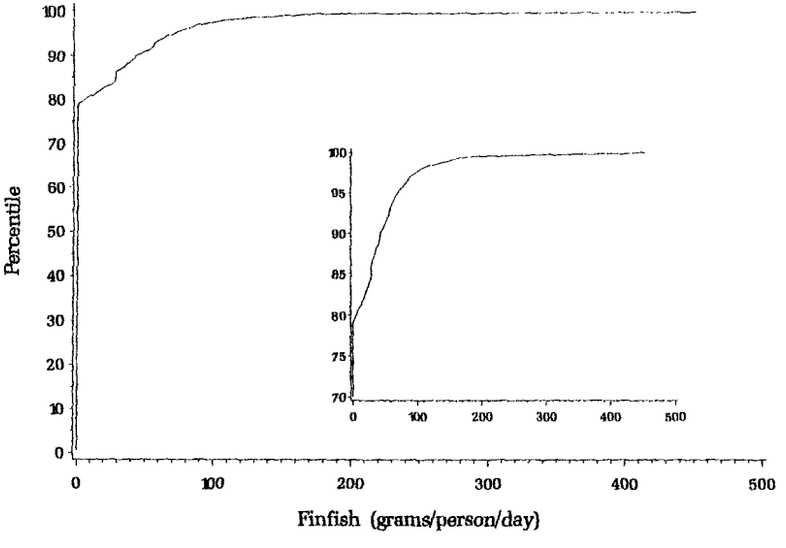
Freshwater/Estuarine Finfish



Marine Finfish



Total Finfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 4.1.3 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Shellfish
All Individuals

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	2.12	1.83	2.41
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	9.90	7.72	11.30
	99th %	60.82	55.80	63.52
Marine	Mean	1.26	0.93	1.58
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.00
	99th %	41.30	29.79	62.15
All Fish	Mean	3.37	2.91	3.84
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	18.54	17.23	21.57
	99th %	87.07	79.01	94.08

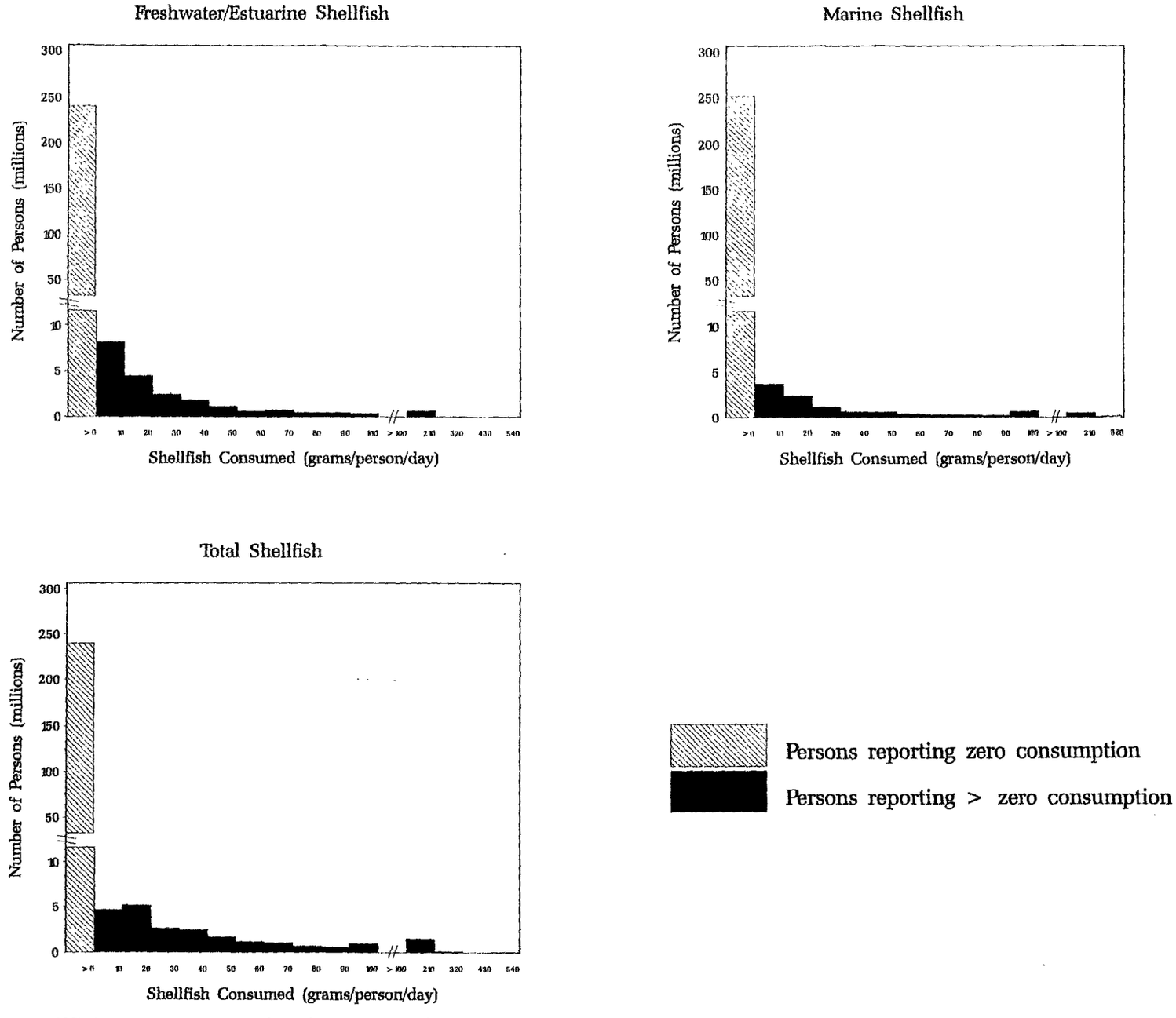
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.3 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	2.53	2.17	2.88
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.18
	95th %	13.13	11.30	16.24
	99th %	67.00	55.80	71.94
Marine	Mean	1.61	1.17	2.06
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	3.68
	99th %	56.07	39.67	89.82
All Fish	Mean	4.14	3.55	4.73
	50th %	0.00	0.00	0.00
	90th %	1.07	0.00	5.15
	95th %	27.71	21.93	32.12
	99th %	93.99	83.60	107.16

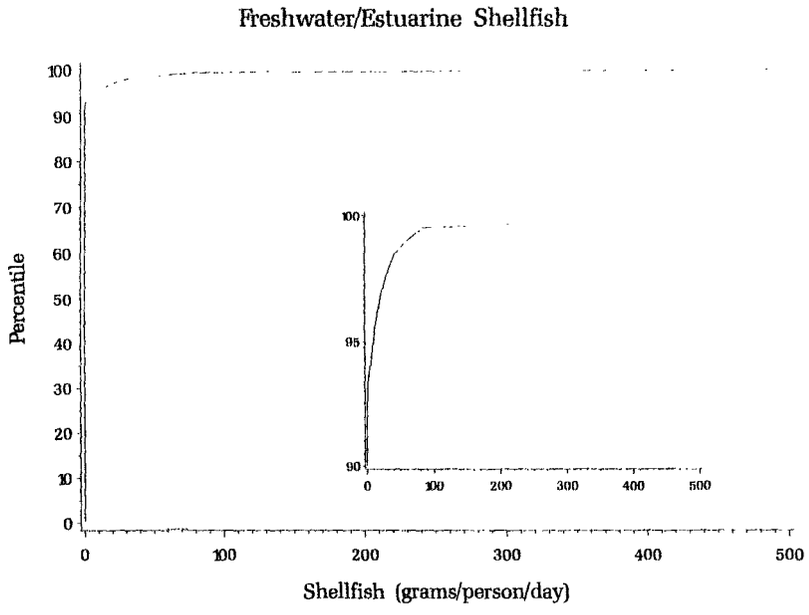
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

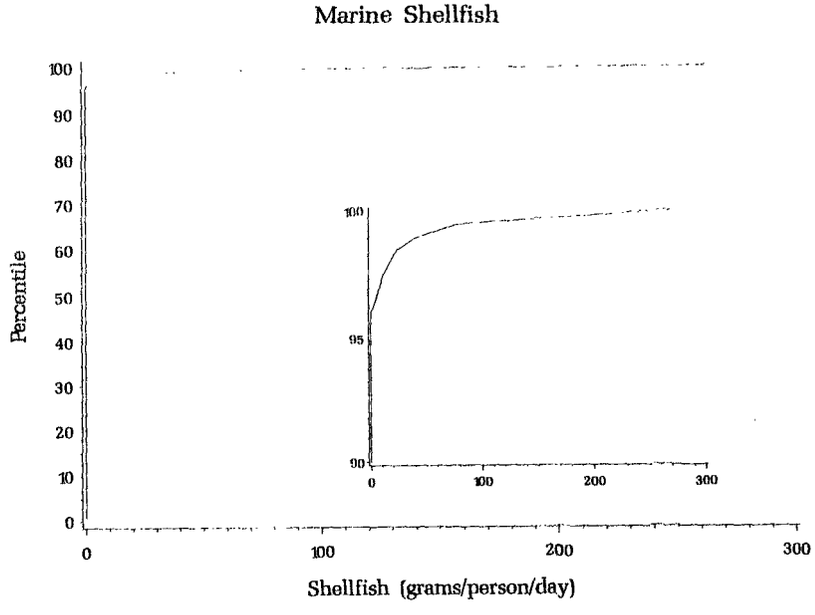
Section 4.1.3 Figure 1. Histograms of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Shellfish

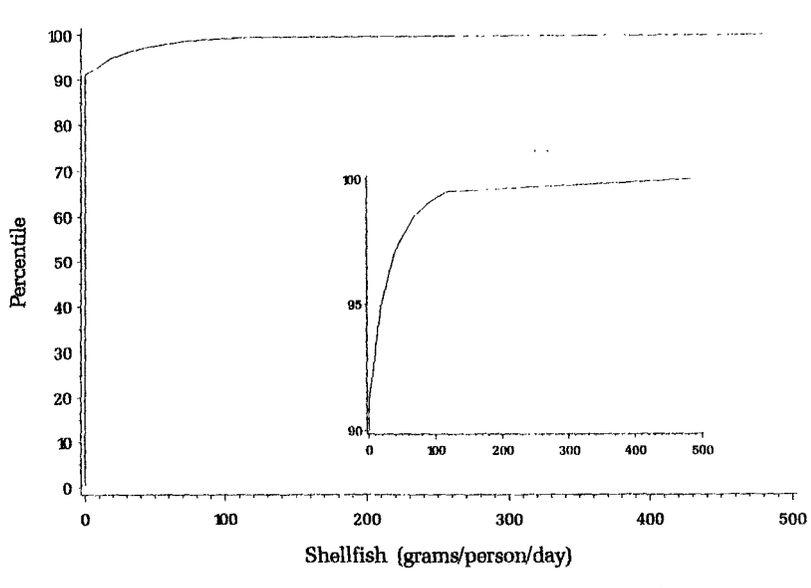


Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.3 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Shellfish

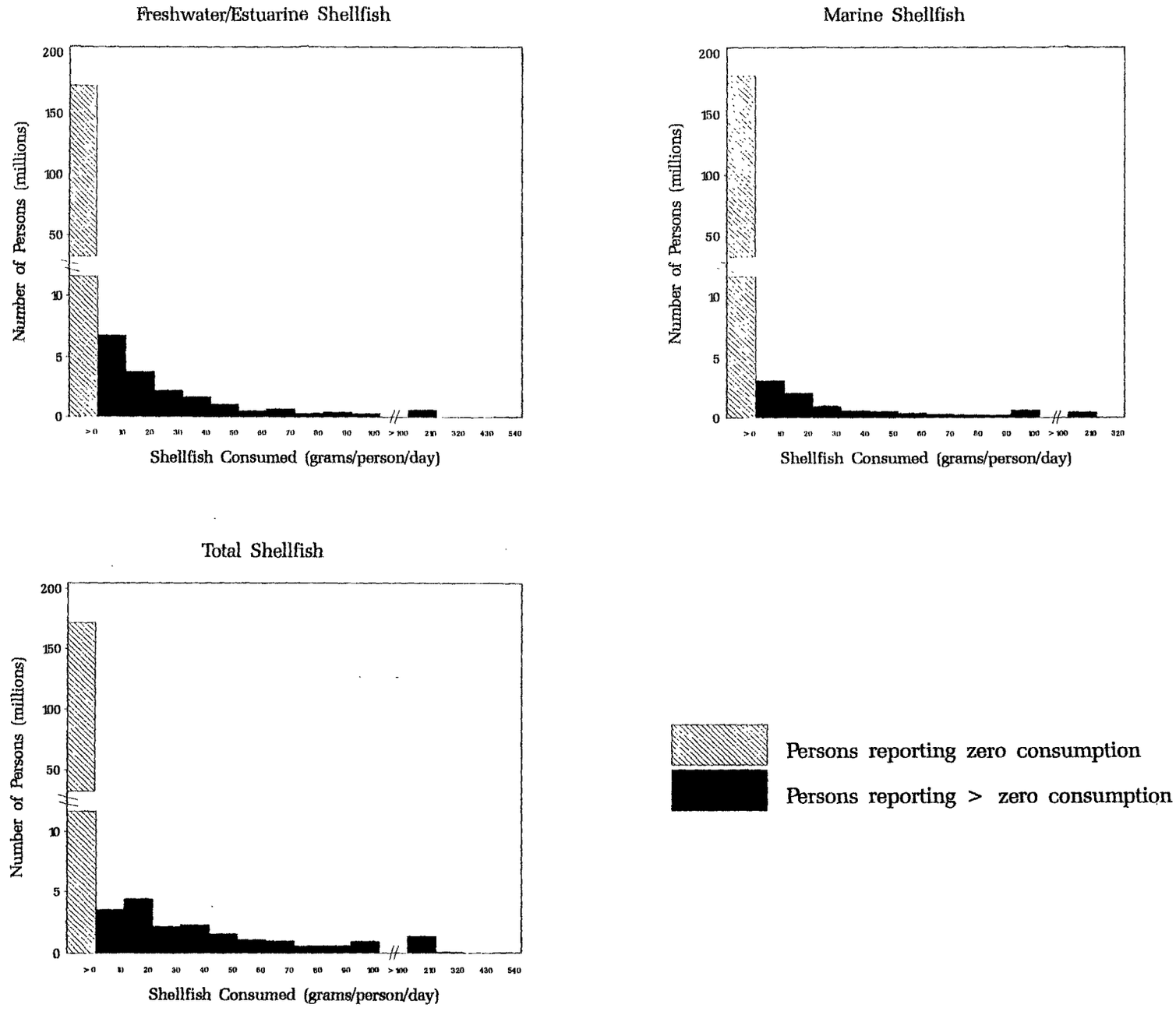






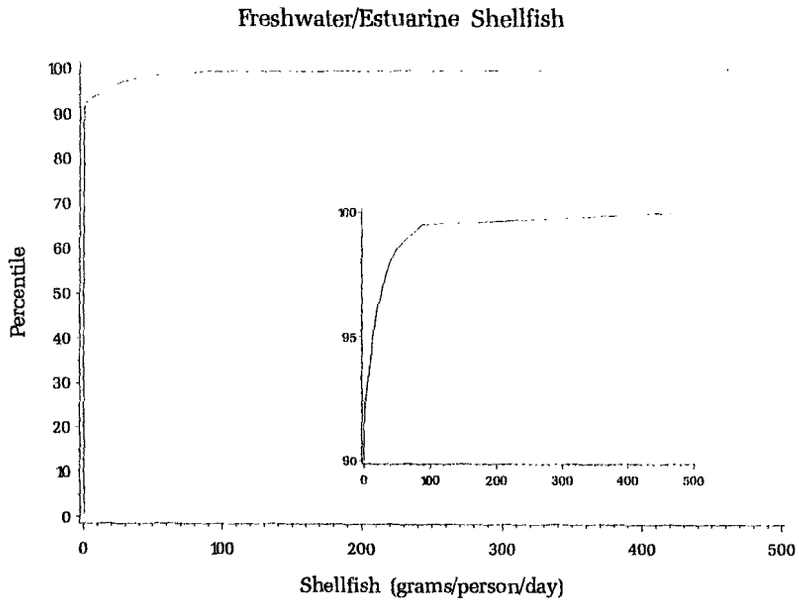
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

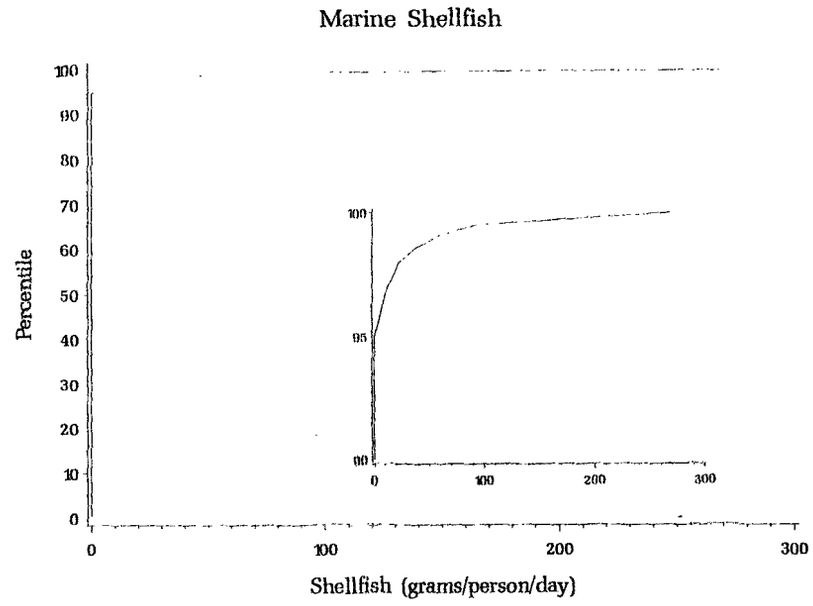
Section 4.1.3 Figure 3. Histograms of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish

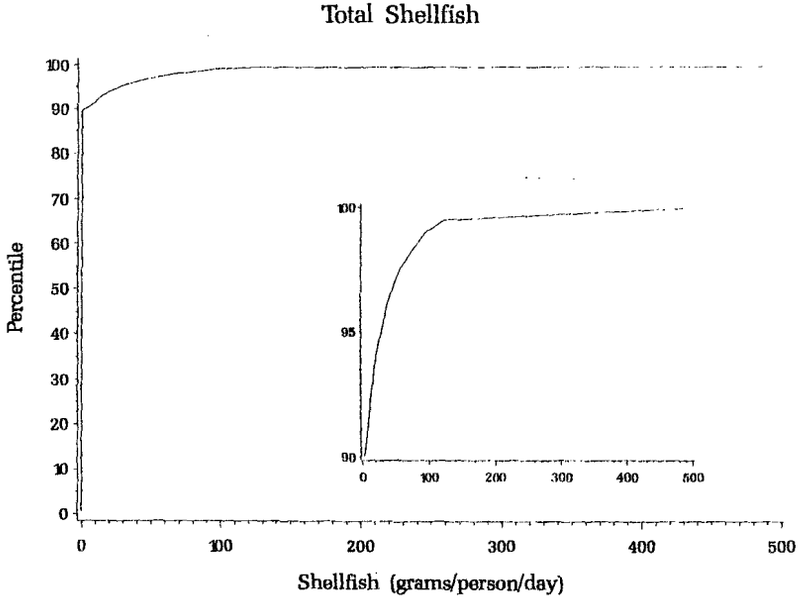


Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.3 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish







Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 4.1.4 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish
Low-income Population

		Grams/person/day		
			90% Interval	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	3.37	2.41	4.32
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	11.64	2.63	21.41
	99th %	96.75	66.70	129.43
Marine	Mean	5.75	4.92	6.58
	50th %	0.00	0.00	0.00
	90th %	16.96	9.69	24.23
	95th %	41.64	36.22	47.42
	99th %	98.26	87.36	114.75
All Fish	Mean	9.11	7.74	10.48
	50th %	0.00	0.00	0.00
	90th %	28.67	27.17	36.22
	95th %	59.68	52.63	72.65
	99th %	148.43	127.61	152.59

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) Low-income is defined as individuals from households with gross income at or below 130% of the federal poverty threshold.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.4 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Shellfish
Low-income Population

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	1.62	1.18	2.06
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	1.79	0.00	2.42
	99th %	54.96	40.47	74.38
Marine	Mean	1.57	0.22	2.92
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.27
	99th %	84.49	14.39	92.27
All Fish	Mean	3.19	1.77	4.61
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	12.32	6.57	25.56
	99th %	93.86	79.01	94.08

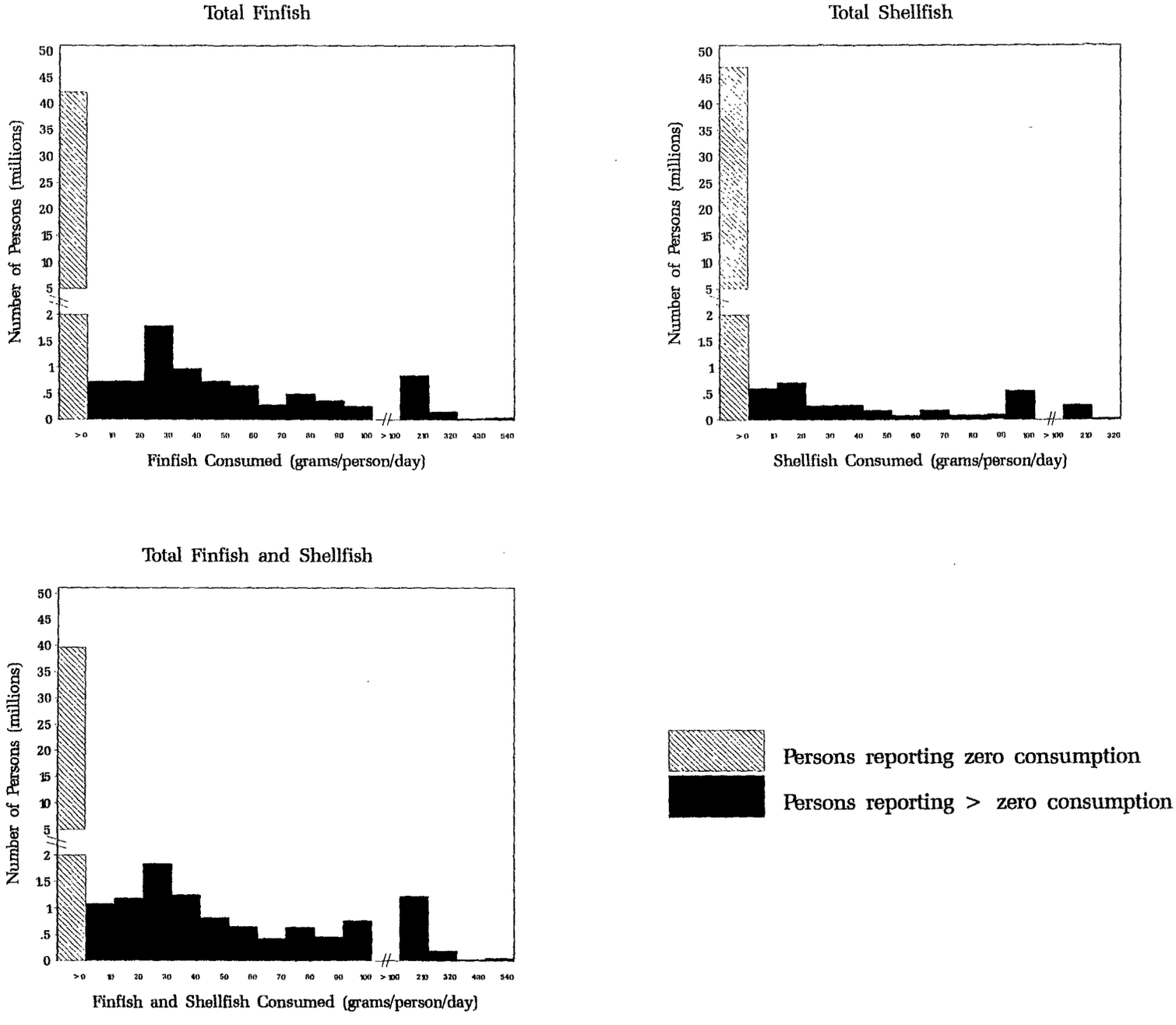
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) Low-income is defined as individuals from *households* with gross income at or below 130% of the federal poverty threshold.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.4 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish
Low-income Population

		Grams/person/day		
			90%Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	4.99	3.91	6.06
	50th %	0.00	0.00	0.00
	90th %	1.87	1.53	5.15
	95th %	28.84	23.50	38.31
	99th %	117.61	87.14	151.05
Marine	Mean	7.32	5.83	8.81
	50th %	0.00	0.00	0.00
	90th %	24.48	18.93	28.35
	95th %	51.52	42.61	72.65
	99th %	111.23	93.67	121.32
All Fish	Mean	12.30	10.45	14.16
	50th %	0.00	0.00	0.00
	90th %	42.23	37.91	54.65
	95th %	83.98	72.65	94.08
	99th %	158.70	151.05	172.22

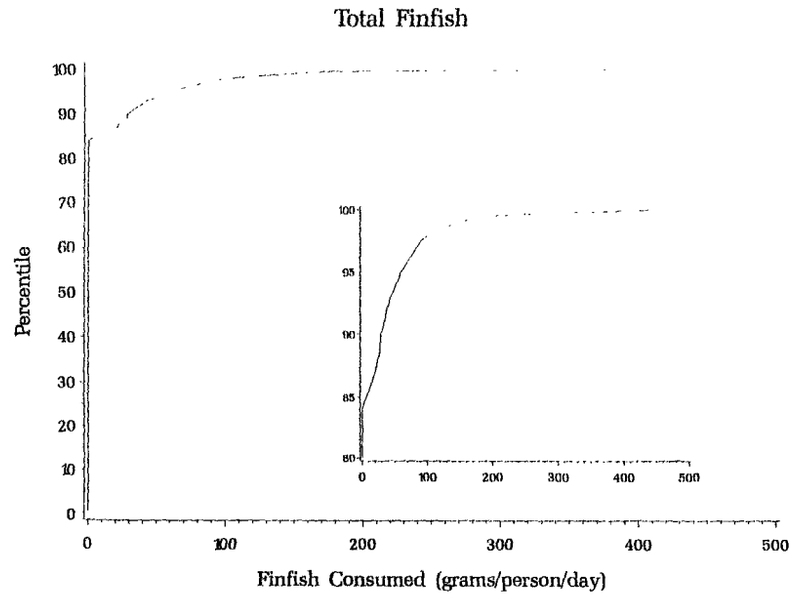
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) Low-income is defined as individuals from households with gross income at or below 130% of the federal poverty threshold.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

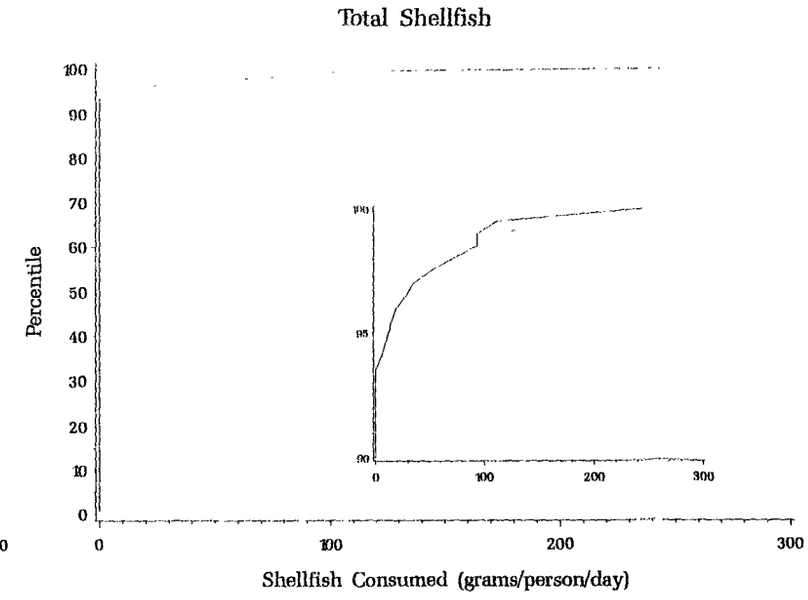
Section 4.1.4 Figure 1. Histograms of As Consumed Fish Consumption by the Low–income U.S. Population: Total Finfish, Total Shellfish, and Total Finfish and Shellfish

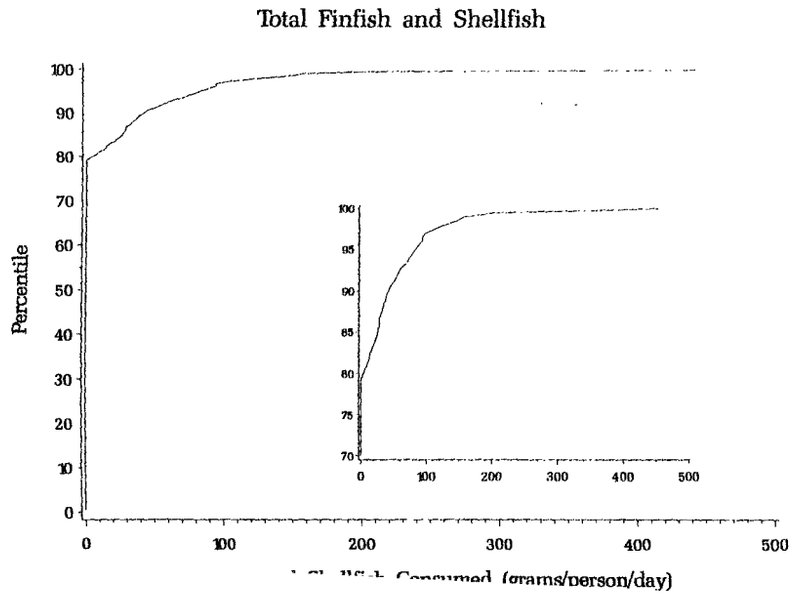


Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.4 Figure 2. Cumulative Distributions of As Consumed Fish Consumption by the Low—income U.S. Population: Total Finfish, Total Shellfish, and Total Finfish and Shellfish







SECTION 4.1.5 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish
Alternate Habitat

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	0.97	0.80	1.13
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.02	0.01	0.02
	99th %	33.75	32.10	38.31
Estuarine/Marine	Mean	8.81	8.27	9.34
	50th %	0.00	0.00	0.00
	90th %	34.43	31.28	36.22
	95th %	58.22	56.78	62.21
	99th %	116.46	112.72	120.24
All Fish	Mean	9.77	9.20	10.35
	50th %	0.00	0.00	0.00
	90th %	36.93	35.49	39.49
	95th %	63.92	60.67	66.08
	99th %	138.46	130.50	145.24

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.5 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Shellfish
Alternate Habitat

		Grams/person/day		
			90%Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	0.01	0.00	0.02
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.00
	99th %	0.00	0.00	0.00
Estuarine/Marine	Mean	3.36	2.89	3.83
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	18.54	17.23	21.42
	99th %	85.98	77.79	94.08
All Fish	Mean	3.37	2.91	3.84
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	18.54	17.23	21.57
	99th %	87.07	79.01	94.08

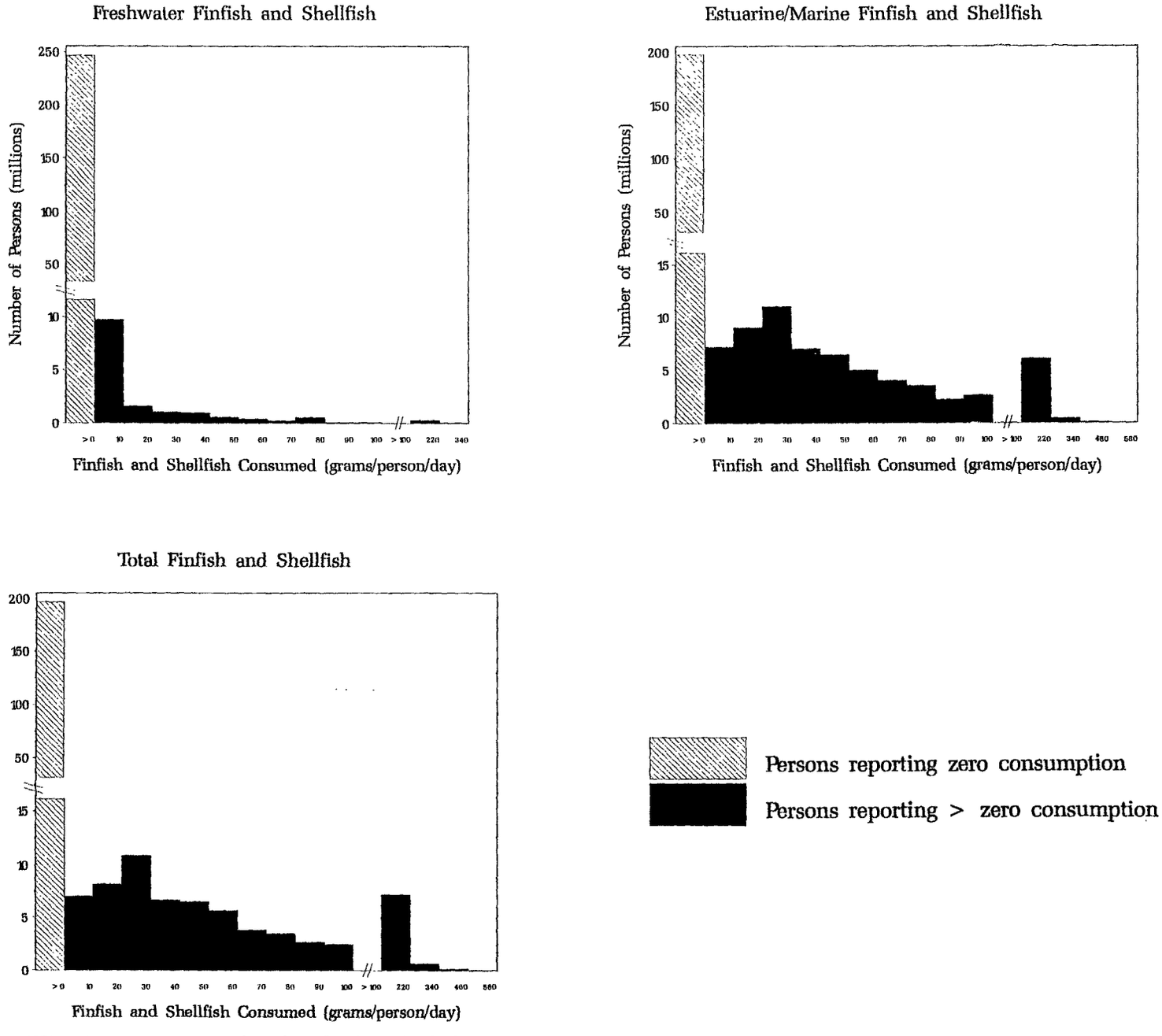
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.1.5 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Finfish and Shellfish
Alternate Habitat

		Grams/person/day		
			90% Interval	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	0.98	0.81	1.15
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.02	0.02	0.03
	99th %	34.30	32.19	38.31
Estuarine/Marine	Mean	12.17	11.42	12.91
	50th %	0.00	0.00	0.00
	90th %	45.96	43.40	47.56
	95th %	74.98	72.27	77.52
	99th %	147.19	142.49	153.77
All Fish	Mean	13.15	12.38	13.91
	50th %	0.00	0.00	0.00
	90th %	49.45	47.63	51.88
	95th %	79.85	77.08	83.33
	99th %	154.67	149.55	163.50

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

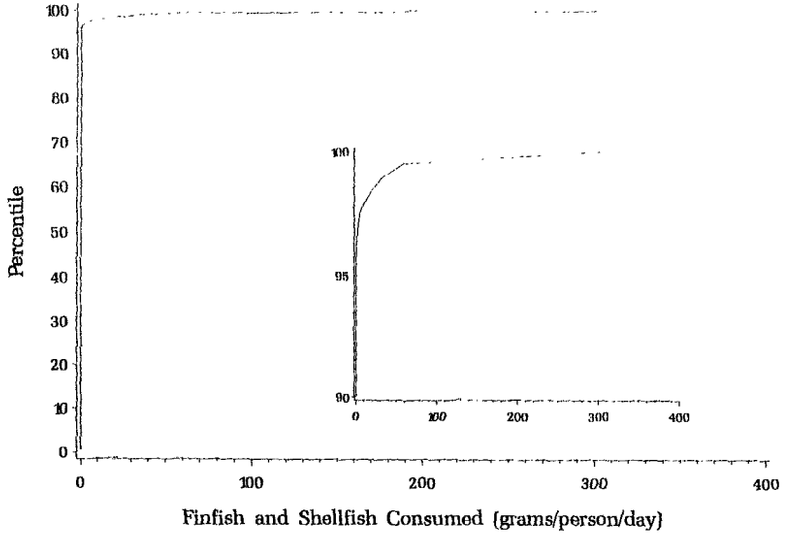
Section 4.1.5 Figure 1. Histograms of As Consumed Fish Consumption for U.S. Population by Alternate Habitat: Freshwater, Estuarine/Marine, and Total Fish



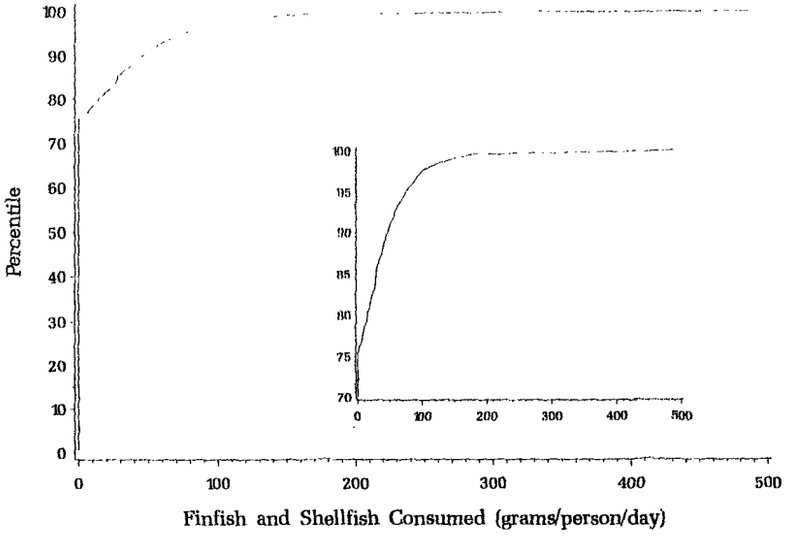
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.1.5 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for U.S. Population by Alternate Habitat: Freshwater, Estuarine/Marine and Total Fish

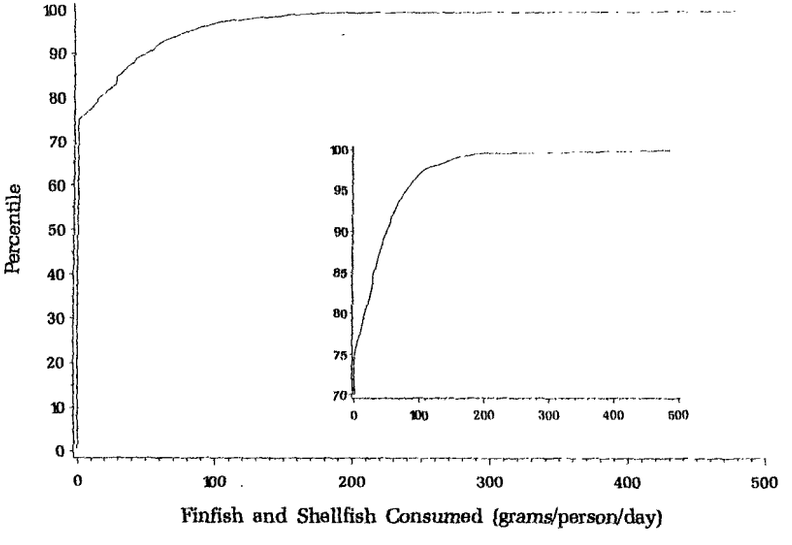
Freshwater Finfish and Shellfish



Estuarine/Marine Finfish and Shellfish



Total Finfish and Shellfish



by Individuals (CSFII).

SECTION 4.1.6 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	0.46293
	Flounder	0.17259*
	Crab (Estuarine)	0.17135*
	Catfish (Estuarine)	0.14267*
	Flatfish (Estuarine)	0.07120*
	Trout, mixed sp. (Estuarine)	0.06017*
	Perch (Estuarine)	0.05468*
	Croaker	0.04184*
	Mullet	0.03311*
	Oyster	0.02162*
	Herring	0.01907*
	Salmon (Estuarine)	0.01137*
	Rockfish	0.00852*
	Anchovy	0.00567*
	Clam (Estuarine)	0.00145*
	Scallop (Estuarine)	0.00025*
Freshwater	Catfish (Freshwater)	0.14267*
	Trout	0.06190*
	Trout, mixed sp. (Freshwater)	0.06017*
	Perch (Freshwater)	0.05468*
	Whitefish (Freshwater)	0.00411*
	Cisco	0.00393*
	Pike	0.00369*
	Carp	0.00148*
	Salmon (Freshwater)	0.00023*
Marine	Tuna	1.55315
	Cod	0.58635*
	Salmon (Marine)	0.36485*
	Pollock	0.33647*
	Whiting	0.10702*
	Ocean Perch	0.09785*
Marine (con't.)	Crab (Marine)	0.08998*
	Haddock	0.07601*
	Clam (Marine)	0.07392*
	Scallop (Marine)	0.04269*
	Mackerel	0.03550*
	Sea Bass	0.02601*
	Pompano	0.02427*
	Sardine	0.01022*
	Flatfish (Marine)	0.00825*
	Porgy	0.00772*
	Halibut	0.00744*
	Lobster	0.00738*
	Whitefish (Marine)	0.00411*
	Squid	0.00172*
Unknown	Fish	0.81473
	Seafood	0.00078*
All Species	Tuna	1.55315
	Fish	0.81473
	Cod	0.58635*
	Shrimp	0.46293
	Salmon (Marine)	0.36485*
	Pollock	0.33647*
	Flounder	0.17259*
	Crab (Estuarine)	0.17135*
	Catfish (Estuarine)	0.14267*
	Catfish (Freshwater)	0.14267*
	Whiting	0.10702*
	Ocean Perch	0.09785*
	Crab (Marine)	0.08998*
	Haddock	0.07601*
	Clam (Marine)	0.07392*
All Species (con't.)	Flatfish (Estuarine)	0.07120*
	Trout	0.06190*
	Trout, mixed sp. (Estuarine)	0.06017*
	Trout, mixed sp. (Freshwater)	0.06017*
	Perch (Estuarine)	0.05468*
	Perch (Freshwater)	0.05468*
	Scallop (Marine)	0.04269*
	Croaker	0.04184*
	Mackerel	0.03550*
	Mullet	0.03311*
	Sea Bass	0.02601*
	Pompano	0.02427*
	Oyster	0.02162*
	Herring	0.01907*
	Salmon (Estuarine)	0.01137*
	Sardine	0.01022*
	Rockfish	0.00852*
	Flatfish (Marine)	0.00825*
	Porgy	0.00772*
	Halibut	0.00744*
	Lobster	0.00738*
	Anchovy	0.00567*
	Whitefish (Freshwater)	0.00411*
	Whitefish (Marine)	0.00411*
	Cisco	0.00393*
	Pike	0.00369*
	Squid	0.00172*
	Carp	0.00148*
	Clam (Estuarine)	0.00145*
	Seafood	0.00078*
	Scallop (Estuarine)	0.00025*
	Salmon (Freshwater)	0.00023*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,564 individuals to the U.S. population of 29,255,630 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.86655
	Catfish (Estuarine)	0.41550*
	Flatfish (Estuarine)	0.37610*
	Crab (Estuarine)	0.23188*
	Flounder	0.18304*
	Perch (Estuarine)	0.10300*
	Trout, mixed sp. (Estuarine)	0.08534*
	Oyster	0.06077*
	Croaker	0.05861*
	Mullet	0.05379*
	Anchovy	0.04131*
	Rockfish	0.03829*
	Herring	0.02864*
	Salmon (Estuarine)	0.02694*
	Clam (Estuarine)	0.00537*
	Eel	0.00218*
	Scallop (Estuarine)	0.00095*
	Sturgeon (Estuarine)	0.00056*
Freshwater	Catfish (Freshwater)	0.41550*
	Trout	0.24367*
	Perch (Freshwater)	0.10300*
	Trout, mixed sp. (Freshwater)	0.08534*
	Carp	0.06760*
	Pike	0.00793*
	Cisco	0.00108*
	Whitefish (Freshwater)	0.00062*
	Sturgeon (Freshwater)	0.00056*
	Salmon (Freshwater)	0.00054*
Marine	Tuna	2.68529
	Cod	0.98590*
	Salmon (Marine)	0.86458*
	Clam (Marine)	0.27302*
	Lobster	0.27191*
	Haddock	0.25936*
	Pollock	0.18981*
Marine (con't.)	Scallop (Marine)	0.16230*
	Squid	0.16092*
	Pompano	0.15179*
	Ocean Perch	0.13587*
	Porgy	0.12539*
	Crab (Marine)	0.12176*
	Whiting	0.09074*
	Sardine	0.08191*
	Sea Bass	0.06188*
	Flatfish (Marine)	0.04356*
	Mackerel	0.03124*
	Mussels	0.01925*
	Halibut	0.01355*
	Conch	0.00689*
	Snapper	0.00666*
	Whitefish (Marine)	0.00062*
Unknown	Fish	0.18716*
	Seafood	0.11285*
All Species	Tuna	2.68529
	Shrimp	1.86655
	Cod	0.98590*
	Salmon (Marine)	0.86458*
	Catfish (Estuarine)	0.41550*
	Catfish (Freshwater)	0.41550*
	Flatfish (Estuarine)	0.37610*
	Clam (Marine)	0.27302*
	Lobster	0.27191*
	Haddock	0.25936*
	Trout	0.24367*
	Crab (Estuarine)	0.23188*
	Pollock	0.18981*
	Fish	0.18716*
	Flounder	0.18304*
	Scallop (Marine)	0.16230*
	Squid	0.16092*
All Species (con't.)	Pompano	0.15179*
	Ocean Perch	0.13587*
	Porgy	0.12539*
	Crab (Marine)	0.12176*
	Seafood	0.11285*
	Perch (Estuarine)	0.10300*
	Perch (Freshwater)	0.10300*
	Whiting	0.09074*
	Trout, mixed sp. (Estuarine)	0.08534*
	Trout, mixed sp. (Freshwater)	0.08534*
	Sardine	0.08191*
	Carp	0.06760*
	Sea Bass	0.06188*
	Oyster	0.06077*
	Croaker	0.05861*
	Mullet	0.05379*
	Flatfish (Marine)	0.04356*
	Anchovy	0.04131*
	Rockfish	0.03829*
	Mackerel	0.03124*
	Herring	0.02864*
	Salmon (Estuarine)	0.02694*
	Mussels	0.01925*
	Halibut	0.01355*
	Pike	0.00793*
	Conch	0.00689*
	Snapper	0.00666*
	Clam (Estuarine)	0.00537*
	Eel	0.00218*
	Cisco	0.00108*
	Scallop (Estuarine)	0.00095*
	Whitefish (Freshwater)	0.00062*
	Whitefish (Marine)	0.00062*
	Sturgeon (Estuarine)	0.00056*
	Sturgeon (Freshwater)	0.00056*
	Salmon (Freshwater)	0.00054*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,332 individuals to the U.S. population of 58,978,782 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.43104
	Flounder	0.91871*
	Catfish (Estuarine)	0.35655*
	Flatfish (Estuarine)	0.26130*
	Herring	0.23938*
	Crab (Estuarine)	0.23220*
	Perch (Estuarine)	0.11482*
	Croaker	0.10721*
	Oyster	0.07600*
	Rockfish	0.05295*
	Salmon (Estuarine)	0.04944
	Trout, mixed sp. (Estuarine)	0.04369*
	Anchovy	0.02065*
	Smelts (Estuarine)	0.01624*
	Mullet	0.01424*
	Clam (Estuarine)	0.00971
	Smelts, Rainbow (Estuarine)	0.00250*
	Scallop (Estuarine)	0.00092*
Freshwater	Catfish (Freshwater)	0.35655*
	Carp	0.18621*
	Trout	0.16358*
	Perch (Freshwater)	0.11482*
	Pike	0.07948*
	Trout, mixed sp. (Freshwater)	0.04369*
	Whitefish (Freshwater)	0.04180*
	Cisco	0.00356*
	Smelts, Rainbow (Freshwater)	0.00250*
	Salmon (Freshwater)	0.00098
Marine	Tuna	3.40995
	Salmon (Marine)	1.58670
	Cod	1.40842
	Porgy	0.64045*
	Haddock	0.54476*
	Clam (Marine)	0.49339
	Whiting	0.31081*
	Pollock	0.21386*
Marine (con't.)	Swordfish	0.20329*
	Mackerel	0.19934*
	Ocean Perch	0.16284*
	Scallop (Marine)	0.15733*
	Lobster	0.14100*
	Crab (Marine)	0.12193*
	Squid	0.12051*
	Snapper	0.11367*
	Sea Bass	0.09112*
	Halibut	0.08723*
	Mussels	0.06917*
	Sardine	0.05309*
	Whitefish (Marine)	0.04180*
	Pompano	0.03614*
	Flatfish (Marine)	0.03026*
	Smelts (Marine)	0.01624*
Unknown	Fish	0.27571*
	Seafood	0.11446*
All Species	Tuna	3.40995
	Salmon (Marine)	1.58670
	Shrimp	1.43104
	Cod	1.40842
	Flounder	0.91871*
	Porgy	0.64045*
	Haddock	0.54476*
	Clam (Marine)	0.49339
	Catfish (Estuarine)	0.35655*
	Catfish (Freshwater)	0.35655*
	Whiting	0.31081*
	Fish	0.27571*
	Flatfish (Estuarine)	0.26130*
	Herring	0.23938*
	Crab (Estuarine)	0.23220*
	Pollock	0.21386*
	Swordfish	0.20329*
All Species (con't.)	Mackerel	0.19934*
	Carp	0.18621*
	Trout	0.16358*
	Ocean Perch	0.16284*
	Scallop (Marine)	0.15733*
	Lobster	0.14100*
	Crab (Marine)	0.12193*
	Squid	0.12051*
	Perch (Estuarine)	0.11482*
	Perch (Freshwater)	0.11482*
	Seafood	0.11446*
	Snapper	0.11367*
	Croaker	0.10721*
	Sea Bass	0.09112*
	Halibut	0.08723*
	Pike	0.07948*
	Oyster	0.07600*
	Mussels	0.06917*
	Sardine	0.05309*
	Rockfish	0.05295*
	Salmon (Estuarine)	0.04944
	Trout, mixed sp. (Estuarine)	0.04369*
	Trout, mixed sp. (Freshwater)	0.04369*
	Whitefish (Freshwater)	0.04180*
	Whitefish (Marine)	0.04180*
	Pompano	0.03614*
	Flatfish (Marine)	0.03026*
	Anchovy	0.02065*
	Smelts (Estuarine)	0.01624*
	Smelts (Marine)	0.01624*
	Mullet	0.01424*
	Clam (Estuarine)	0.00971
	Cisco	0.00356*
	Smelts, Rainbow (Estuarine)	0.00250*
	Smelts, Rainbow (Freshwater)	0.00250*
	Salmon (Freshwater)	0.00098
	Scallop (Estuarine)	0.00092*

(1) Source of data: 1994-1996 *USDA Continuing* Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are *projected* from a sample of 2,654 individuals to the U.S. population of 45,695,152 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on *Nutrition* Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 4. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
All Females

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.41135
	Flounder	0.43176
	Catfish (Estuarine)	0.33579
	Flatfish (Estuarine)	0.27033
	Crab (Estuarine)	0.21877
	Herring	0.09845*
	Perch (Estuarine)	0.09648*
	Croaker	0.07153*
	Trout, mixed sp. (Estuarine)	0.06563*
	Oyster	0.05742*
	Rockfish	0.03679
	Mullet	0.03578*
	Salmon (Estuarine)	0.03122
	Anchovy	0.02648
	Clam (Estuarine)	0.00600
	Smelts (Estuarine)	0.00554*
	Eel	0.00096*
	Smelts, Rainbow (Estuarine)	0.00085*
	Scallop (Estuarine)	0.00078*
	Sturgeon (Estuarine)	0.00025*
Freshwater	Catfish (Freshwater)	0.33579
	Trout	0.17664*
	Perch (Freshwater)	0.09648*
	Carp	0.09362*
	Trout, mixed sp. (Freshwater)	0.06563*
	Pike	0.03142*
	Whitefish (Freshwater)	0.01543*
	Cisco	0.00255*
	Smelts, Rainbow (Freshwater)	0.00085*
	Salmon (Freshwater)	0.00062
	Sturgeon (Freshwater)	0.00025*
Marine	Tuna	2.68523
	Cod	1.04278
	Salmon (Marine)	1.00180
	Haddock	0.31669*
	Clam (Marine)	0.30471
	Porgy	0.27542*
	Pollock	0.23005*
Marine (con't.)	Lobster	0.16946*
	Whiting	0.16938
	Ocean Perch	0.13677*
	Scallop (Marine)	0.13448*
	Crab (Marine)	0.11487
	Squid	0.11236*
	Mackerel	0.08952*
	Pompano	0.08448*
	Swordfish	0.06936*
	Sea Bass	0.06402*
	Sardine	0.05642*
	Snapper	0.04172*
	Halibut	0.03736*
	Mussels	0.03208*
	Flatfish (Marine)	0.03131
	Whitefish (Marine)	0.01543*
	Smelts (Marine)	0.00554*
	Conch	0.00303*
Unknown	Fish	0.35446
	Seafood	0.08892*
All Species	Tuna	2.68523
	Shrimp	1.41135
	Cod	1.04278
	Salmon (Marine)	1.00180
	Flounder	0.43176
	Fish	0.35446
	Catfish (Estuarine)	0.33579
	Catfish (Freshwater)	0.33579
	Haddock	0.31669*
	Clam (Marine)	0.30471
	Porgy	0.27542*
	Flatfish (Estuarine)	0.27033
	Pollock	0.23005*
	Crab (Estuarine)	0.21877
	Trout	0.17664*
	Lobster	0.16946*
	Whiting	0.16938
	Ocean Perch	0.13677*
All Species (con't.)	Scallop (Marine)	0.13448*
	Crab (Marine)	0.11487
	Squid	0.11236*
	Herring	0.09845*
	Perch (Estuarine)	0.09648*
	Perch (Freshwater)	0.09648*
	Carp	0.09362*
	Mackerel	0.08952*
	Seafood	0.08892*
	Pompano	0.08448*
	Croaker	0.07153*
	Swordfish	0.06936*
	Trout, mixed sp. (Estuarine)	0.06563*
	Trout, mixed sp. (Freshwater)	0.06563*
	Sea Bass	0.06402*
	Oyster	0.05742*
	Sardine	0.05642*
	Snapper	0.04172*
	Halibut	0.03736*
	Rockfish	0.03679
	Mullet	0.03578*
	Mussels	0.03208*
	Pike	0.03142*
	Flatfish (Marine)	0.03131
	Salmon (Estuarine)	0.03122
	Anchovy	0.02648
	Whitefish (Freshwater)	0.01543*
	Whitefish (Marine)	0.01543*
	Clam (Estuarine)	0.00600
	Smelts (Estuarine)	0.00554*
	Smelts (Marine)	0.00554*
	Conch	0.00303*
	Cisco	0.00255*
	Eel	0.00096*
	Smelts, Rainbow (Estuarine)	0.00085*
	Smelts, Rainbow (Freshwater)	0.00085*
	Scallop (Estuarine)	0.00078*
	Salmon (Freshwater)	0.00062
	Sturgeon (Estuarine)	0.00025*
	Sturgeon (Freshwater)	0.00025*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,654 individuals to the U.S. population of 45,695,152 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 5. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	0.80386
	Flounder	0.31352*
	Catfish (Estuarine)	0.23449*
	Flatfish (Estuarine)	0.11324*
	Crab (Estuarine)	0.11100*
	Perch (Estuarine)	0.09756*
	Croaker	0.05148*
	Oyster	0.02967*
	Rockfish	0.02293*
	Trout, mixed sp. (Estuarine)	0.01932*
	Salmon (Estuarine)	0.00690*
	Mullet	0.00615*
	Anchovy	0.00441*
	Clam (Estuarine)	0.00155*
	Scallop (Estuarine)	0.00047*
Freshwater	Catfish (Freshwater)	0.23449*
	Perch (Freshwater)	0.09756*
	Trout	0.07533*
	Pike	0.03521*
	Trout, mixed sp. (Freshwater)	0.01932*
	Snails (Freshwater)	0.00673*
	Whitefish (Freshwater)	0.00579*
	Carp	0.00327*
	Cisco	0.00295*
	Salmon (Freshwater)	0.00014*
Marine	Tuna	1.62902
	Cod	0.77447*
	Salmon (Marine)	0.22158*
	Whiting	0.20830*
	Pollock	0.16199*
	Haddock	0.13062*
	Sea Bass	0.09324*
Marine (con't.)	Scallop (Marine)	0.08020*
	Clam (Marine)	0.07899*
	Swordfish	0.07416*
	Pompano	0.07344*
	Ocean Perch	0.06758*
	Porgy	0.06009*
	Crab (Marine)	0.05829*
	Mackerel	0.02744*
	Flatfish (Marine)	0.01312*
	Lobster	0.01209*
	Mussels	0.00946*
	Snails (Marine)	0.00673*
	Whitefish (Marine)	0.00579*
	Snapper	0.00525*
	Halibut	0.00038*
Unknown	Fish	0.74971
	Seafood	0.00330*
All Species	Tuna	1.62902
	Shrimp	0.80386
	Cod	0.77447*
	Fish	0.74971
	Flounder	0.31352*
	Catfish (Estuarine)	0.23449*
	Catfish (Freshwater)	0.23449*
	Salmon (Marine)	0.22158*
	Whiting	0.20830*
	Pollock	0.16199*
	Haddock	0.13062*
	Flatfish (Estuarine)	0.11324*
	Crab (Estuarine)	0.11100*
	Perch (Estuarine)	0.09756*
	Perch (Freshwater)	0.09756*
All Species (con't.)	Sea Bass	0.09324*
	Scallop (Marine)	0.08020*
	Clam (Marine)	0.07899*
	Trout	0.07533*
	Swordfish	0.07416*
	Pompano	0.07344*
	Ocean Perch	0.06758*
	Porgy	0.06009*
	Crab (Marine)	0.05829*
	Croaker	0.05148*
	Pike	0.03521*
	Oyster	0.02967*
	Mackerel	0.02744*
	Rockfish	0.02293*
	Trout, mixed sp. (Estuarine)	0.01932*
	Trout, mixed sp. (Freshwater)	0.01932*
	Flatfish (Marine)	0.01312*
	Lobster	0.01209*
	Mussels	0.00946*
	Salmon (Estuarine)	0.00690*
	Snails (Freshwater)	0.00673*
	Snails (Marine)	0.00673*
	Mullet	0.00615*
	Whitefish (Freshwater)	0.00579*
	Whitefish (Marine)	0.00579*
	Snapper	0.00525*
	Anchovy	0.00441*
	Seafood	0.00330*
	Carp	0.00327*
	Cisco	0.00295*
	Clam (Estuarine)	0.00155*
	Scallop (Estuarine)	0.00047*
	Halibut	0.00038*
	Salmon (Freshwater)	0.00014*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,591 individuals to the U.S. population of 30,241,261 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 6. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.47987
	Flounder	0.54378*
	Flatfish (Estuarine)	0.46552*
	Crab (Estuarine)	0.38698*
	Catfish (Estuarine)	0.29753*
	Oyster	0.25894*
	Perch (Estuarine)	0.21573*
	Trout, mixed sp. (Estuarine)	0.10601*
	Croaker	0.07974*
	Anchovy	0.05514*
	Rockfish	0.03195*
	Salmon (Estuarine)	0.03092*
	Mullet	0.02536*
	Clam (Estuarine)	0.02217*
	Herring	0.01294*
	Eel	0.01001*
	Scallop (Estuarine)	0.00091*
Freshwater	Catfish (Freshwater)	0.29753*
	Perch (Freshwater)	0.21573*
	Trout, mixed sp. (Freshwater)	0.10601*
	Trout	0.09022*
	Carp	0.07172*
	Crayfish	0.02905*
	Snails (Freshwater)	0.00201*
	Salmon (Freshwater)	0.00061*
Marine	Tuna	2.96416
	Cod	1.48060
	Clam (Marine)	1.12649*
	Salmon (Marine)	0.99229*
	Porgy	0.44557*
	Pollock	0.37559*
	Whiting	0.34959*
	Octopus	0.21101*
	Crab (Marine)	0.20320*
Marine (con't.)	Squid	0.19233*
	Sea Bass	0.15880*
	Lobster	0.15663*
	Scallop (Marine)	0.15604*
	Pompano	0.08233*
	Sardine	0.06085*
	Flatfish (Marine)	0.05392*
	Swordfish	0.04865*
	Haddock	0.03530*
	Mussels	0.02984*
	Ocean Perch	0.02035*
	Mackerel	0.01691*
	Halibut	0.00690*
	Snapper	0.00249*
	Snails (Marine)	0.00201*
Unknown	Fish	0.39737*
	Seafood	0.04038*
All Species	Tuna	2.96416
	Shrimp	2.47987
	Cod	1.48060
	Clam (Marine)	1.12649*
	Salmon (Marine)	0.99229*
	Flounder	0.54378*
	Flatfish (Estuarine)	0.46552*
	Porgy	0.44557*
	Fish	0.39737*
	Crab (Estuarine)	0.38698*
	Pollock	0.37559*
	Whiting	0.34959*
	Catfish (Estuarine)	0.29753*
	Catfish (Freshwater)	0.29753*
	Oyster	0.25894*
	Perch (Estuarine)	0.21573*
	Perch (Freshwater)	0.21573*
All Species (con't.)	Octopus	0.21101*
	Crab (Marine)	0.20320*
	Squid	0.19233*
	Sea Bass	0.15880*
	Lobster	0.15663*
	Scallop (Marine)	0.15604*
	Trout, mixed sp. (Estuarine)	0.10601*
	Trout, mixed sp. (Freshwater)	0.10601*
	Trout	0.09022*
	Pompano	0.08233*
	Croaker	0.07974*
	Carp	0.07172*
	Sardine	0.06085*
	Anchovy	0.05514*
	Flatfish (Marine)	0.05392*
	Swordfish	0.04865*
	Seafood	0.04038*
	Haddock	0.03530*
	Rockfish	0.03195*
	Salmon (Estuarine)	0.03092*
	Mussels	0.02984*
	Crayfish	0.02905*
	Mullet	0.02536*
	Clam (Estuarine)	0.02217*
	Ocean Perch	0.02035*
	Mackerel	0.01691*
	Herring	0.01294*
	Eel	0.01001*
	Halibut	0.00690*
	Snapper	0.00249*
	Snails (Freshwater)	0.00201*
	Snails (Marine)	0.00201*
	Scallop (Estuarine)	0.00091*
	Salmon (Freshwater)	0.00061*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,382 individuals to the U.S. population of 59,211,248 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 7. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.22266
	Catfish (Estuarine)	0.81450
	Flounder	0.79633*
	Flatfish (Estuarine)	0.39829
	Croaker	0.29215*
	Crab (Estuarine)	0.28253*
	Perch (Estuarine)	0.24021*
	Herring	0.23510*
	Trout, mixed sp. (Estuarine)	0.21903*
	Oyster	0.19209*
	Salmon (Estuarine)	0.06102
	Rockfish	0.05385*
	Anchovy	0.04041*
	Mullet	0.02847*
	Clam (Estuarine)	0.01608
	Smelts (Estuarine)	0.01362*
	Scallop (Estuarine)	0.00163*
Freshwater	Catfish (Freshwater)	0.81450
	Trout	0.29565*
	Carp	0.26113*
	Perch (Freshwater)	0.24021*
	Trout, mixed sp. (Freshwater)	0.21903*
	Pike	0.06861*
	Whitefish (Freshwater)	0.01103*
	Snails (Freshwater)	0.00510*
	Salmon (Freshwater)	0.00121
Marine	Tuna	3.16623
	Salmon (Marine)	1.95831
	Cod	1.66599
	Clam (Marine)	0.81709
	Haddock	0.53308*
	Sardine	0.32944*
	Scallop (Marine)	0.27967*
	Mackerel	0.26624*
	Whiting	0.25122*
	Ocean Perch	0.24525*
	Pollock	0.22699*
Marine (con't.)	Lobster	0.21825*
	Porgy	0.21330*
	Mussels	0.19064*
	Squid	0.17995*
	Swordfish	0.17103*
	Crab (Marine)	0.14835*
	Sea Bass	0.13233*
	Flatfish (Marine)	0.04613
	Octopus	0.03978*
	Halibut	0.03896*
	Shark	0.02277*
	Pompano	0.01509*
	Smelts (Marine)	0.01362*
	Whitefish (Marine)	0.01103*
	Snapper	0.01023*
	Roe	0.00556*
	Snails (Marine)	0.00510*
Unknown	Fish	0.57403*
	Seafood	0.02487*
All Species	Tuna	3.16623
	Shrimp	2.22266
	Salmon (Marine)	1.95831
	Cod	1.66599
	Clam (Marine)	0.81709
	Catfish (Estuarine)	0.81450
	Catfish (Freshwater)	0.81450
	Flounder	0.79633*
	Fish	0.57403*
	Haddock	0.53308*
	Flatfish (Estuarine)	0.39829
	Sardine	0.32944*
	Trout	0.29565*
	Croaker	0.29215*
	Crab (Estuarine)	0.28253*
	Scallop (Marine)	0.27967*
	Mackerel	0.26624*
	Carp	0.26113*
All Species (con't.)	Whiting	0.25122*
	Ocean Perch	0.24525*
	Perch (Estuarine)	0.24021*
	Perch (Freshwater)	0.24021*
	Herring	0.23510*
	Pollock	0.22699*
	Trout, mixed sp. (Estuarine)	0.21903*
	Trout, mixed sp. (Freshwater)	0.21903*
	Lobster	0.21825*
	Porgy	0.21330*
	Oyster	0.19209*
	Mussels	0.19064*
	Squid	0.17995*
	Swordfish	0.17103*
	Crab (Marine)	0.14835*
	Sea Bass	0.13233*
	Pike	0.06861*
	Salmon (Estuarine)	0.06102
	Rockfish	0.05385*
	Flatfish (Marine)	0.04613
	Anchovy	0.04041*
	Octopus	0.03978*
	Halibut	0.03896*
	Mullet	0.02847*
	Seafood	0.02487*
	Shark	0.02277*
	Clam (Estuarine)	0.01608
	Pompano	0.01509*
	Smelts (Estuarine)	0.01362*
	Smelts (Marine)	0.01362*
	Whitefish (Freshwater)	0.01103*
	Whitefish (Marine)	0.01103*
	Snapper	0.01023*
	Roe	0.00556*
	Snails (Freshwater)	0.00510*
	Snails (Marine)	0.00510*
	Scallop (Estuarine)	0.00163*
	Salmon (Freshwater)	0.00121

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,780 individuals to the U.S. population of 38,515,187 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 8. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
All Males

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.00638
	Flounder	0.56538
	Catfish (Estuarine)	0.43823
	Flatfish (Estuarine)	0.36204
	Crab (Estuarine)	0.29032
	Perch (Estuarine)	0.19517*
	Oyster	0.18464*
	Croaker	0.13699*
	Trout, mixed sp. (Estuarine)	0.11954*
	Herring	0.07675*
	Anchovy	0.03872*
	Rockfish	0.03641
	Salmon (Estuarine)	0.03430
	Mullet	0.02175*
	Clam (Estuarine)	0.01546
	Eel	0.00463*
	Smelts (Estuarine)	0.00410*
	Scallop (Estuarine)	0.00102*
Freshwater	Catfish (Freshwater)	0.43823
	Perch (Freshwater)	0.19517*
	Trout	0.14853*
	Trout, mixed sp. (Freshwater)	0.11954*
	Carp	0.11255*
	Pike	0.02897*
	Crayfish	0.01344*
	Whitefish (Freshwater)	0.00469*
	Snails (Freshwater)	0.00406*
	Cisco	0.00070*
	Salmon (Freshwater)	0.00068
Marine	Tuna	2.70946
	Cod	1.36953
	Salmon (Marine)	1.10090
	Clam (Marine)	0.78582
	Whiting	0.28659
	Porgy	0.28457*
	Pollock	0.28038
	Haddock	0.20764*
	Scallop (Marine)	0.17533*
	Crab (Marine)	0.15245
Marine (con't.)	Squid	0.14315*
	Lobster	0.14102*
	Sea Bass	0.13534*
	Sardine	0.12731*
	Octopus	0.10961*
	Ocean Perch	0.09920*
	Mackerel	0.09444*
	Swordfish	0.09151*
	Mussels	0.07342*
	Pompano	0.05999*
	Flatfish (Marine)	0.04193
	Halibut	0.01501*
	Shark	0.00685*
	Snapper	0.00547*
	Whitefish (Marine)	0.00469*
	Smelts (Marine)	0.00410*
	Snails (Marine)	0.00406*
	Roe	0.00167*
Unknown	Fish	0.53380
	Seafood	0.02695*
All Species	Tuna	2.70946
	Shrimp	2.00638
	Cod	1.36953
	Salmon (Marine)	1.10090
	Clam (Marine)	0.78582
	Flounder	0.56538
	Fish	0.53380
	Catfish (Estuarine)	0.43823
	Catfish (Freshwater)	0.43823
	Flatfish (Estuarine)	0.36204
	Crab (Estuarine)	0.29032
	Whiting	0.28659
	Porgy	0.28457*
	Pollock	0.28038
	Haddock	0.20764*
	Perch (Estuarine)	0.19517*
	Perch (Freshwater)	0.19517*
	Oyster	0.18464*
	Scallop (Marine)	0.17533*
All Species (con't.)	Crab (Marine)	0.15245
	Trout	0.14853*
	Squid	0.14315*
	Lobster	0.14102*
	Croaker	0.13699*
	Sea Bass	0.13534*
	Sardine	0.12731*
	Trout, mixed sp. (Estuarine)	0.11954*
	Trout, mixed sp. (Freshwater)	0.11954*
	Carp	0.11255*
	Octopus	0.10961*
	Ocean Perch	0.09920*
	Mackerel	0.09444*
	Swordfish	0.09151*
	Herring	0.07675*
	Mussels	0.07342*
	Pompano	0.05999*
	Flatfish (Marine)	0.04193
	Anchovy	0.03872*
	Rockfish	0.03641
	Salmon (Estuarine)	0.03430
	Pike	0.02897*
	Seafood	0.02695*
	Mullet	0.02175*
	Clam (Estuarine)	0.01546
	Halibut	0.01501*
	Crayfish	0.01344*
	Shark	0.00685*
	Snapper	0.00547*
	Whitefish (Freshwater)	0.00469*
	Whitefish (Marine)	0.00469*
	Eel	0.00463*
	Smelts (Estuarine)	0.00410*
	Smelts (Marine)	0.00410*
	Snails (Freshwater)	0.00406*
	Snails (Marine)	0.00406*
	Roe	0.00167*
	Scallop (Estuarine)	0.00102*
	Cisco	0.00070*
	Salmon (Freshwater)	0.00068

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 7,753 individuals to the U.S. population of 127,967,696 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 9. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	0.63622
	Flounder	0.24422*
	Catfish (Estuarine)	0.18934*
	Crab (Estuarine)	0.14068*
	Flatfish (Estuarine)	0.09257*
	Perch (Estuarine)	0.07647*
	Croaker	0.04674*
	Trout, mixed sp. (Estuarine)	0.03941*
	Oyster	0.02571*
	Mullet	0.01941*
	Rockfish	0.01584*
	Herring	0.00937*
	Salmon (Estuarine)	0.00910*
	Anchovy	0.00503*
	Clam (Estuarine)	0.00151*
	Scallop (Estuarine)	0.00036*
Freshwater	Catfish (Freshwater)	0.18934*
	Perch (Freshwater)	0.07647*
	Trout	0.06873*
	Trout, mixed sp. (Freshwater)	0.03941*
	Pike	0.01971*
	Whitefish (Freshwater)	0.00497*
	Cisco	0.00343*
	Snails (Freshwater)	0.00342*
	Carp	0.00239*
	Salmon (Freshwater)	0.00018*
Marine	Tuna	1.59171
	Cod	0.68197
	Salmon (Marine)	0.29203*
	Pollock	0.24779*
	Whiting	0.15849*
	Haddock	0.10377*
	Ocean Perch	0.08247*
	Clam (Marine)	0.07649*
Marine (con't.)	Crab (Marine)	0.07387*
	Scallop (Marine)	0.06175*
	Sea Bass	0.06018*
	Pompano	0.04926*
	Swordfish	0.03769*
	Porgy	0.03434*
	Mackerel	0.03140*
	Flatfish (Marine)	0.01072*
	Lobster	0.00977*
	Sardine	0.00503*
	Whitefish (Marine)	0.00497*
	Mussels	0.00481*
	Halibut	0.00385*
	Snails (Marine)	0.00342*
	Snapper	0.00267*
	Squid	0.00084*
Unknown	Fish	0.78168
	Seafood	0.00206*
All Species	Tuna	1.59171
	Fish	0.78168
	Cod	0.68197
	Shrimp	0.63622
	Salmon (Marine)	0.29203*
	Pollock	0.24779*
	Flounder	0.24422*
	Catfish (Estuarine)	0.18934*
	Catfish (Freshwater)	0.18934*
	Whiting	0.15849*
	Crab (Estuarine)	0.14068*
	Haddock	0.10377*
	Flatfish (Estuarine)	0.09257*
	Ocean Perch	0.08247*
	Clam (Marine)	0.07649*
	Perch (Estuarine)	0.07647*
All Species (con't.)	Perch (Freshwater)	0.07647*
	Crab (Marine)	0.07387*
	Trout	0.06873*
	Scallop (Marine)	0.06175*
	Sea Bass	0.06018*
	Pompano	0.04926*
	Croaker	0.04674*
	Trout, mixed sp. (Estuarine)	0.03941*
	Trout, mixed sp. (Freshwater)	0.03941*
	Swordfish	0.03769*
	Porgy	0.03434*
	Mackerel	0.03140*
	Oyster	0.02571*
	Pike	0.01971*
	Mullet	0.01941*
	Rockfish	0.01584*
	Flatfish (Marine)	0.01072*
	Lobster	0.00977*
	Herring	0.00937*
	Salmon (Estuarine)	0.00910*
	Anchovy	0.00503*
	Sardine	0.00503*
	Whitefish (Freshwater)	0.00497*
	Whitefish (Marine)	0.00497*
	Mussels	0.00481*
	Halibut	0.00385*
	Cisco	0.00343*
	Snails (Freshwater)	0.00342*
	Snails (Marine)	0.00342*
	Snapper	0.00267*
	Carp	0.00239*
	Seafood	0.00206*
	Clam (Estuarine)	0.00151*
	Squid	0.00084*
	Scallop (Estuarine)	0.00036*
	Salmon (Freshwater)	0.00018*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 5,155 individuals to the U.S. population of 59,496,891 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 10. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.17381
	Flatfish (Estuarine)	0.42090
	Flounder	0.36377*
	Catfish (Estuarine)	0.35640*
	Crab (Estuarine)	0.30959
	Oyster	0.16005*
	Perch (Estuarine)	0.15948*
	Trout, mixed sp. (Estuarine)	0.09570*
	Croaker	0.06920*
	Anchovy	0.04824*
	Mullet	0.03955*
	Rockfish	0.03511*
	Salmon (Estuarine)	0.02893
	Herring	0.02078*
	Clam (Estuarine)	0.01379
	Eel	0.00610*
	Scallop (Estuarine)	0.00093*
	Sturgeon (Estuarine)	0.00028*
Freshwater	Catfish (Freshwater)	0.35640*
	Trout	0.16679*
	Perch (Freshwater)	0.15948*
	Trout, mixed sp. (Freshwater)	0.09570*
	Carp	0.06967*
	Crayfish	0.01456*
	Pike	0.00396*
	Snails (Freshwater)	0.00101*
	Salmon (Freshwater)	0.00057
	Cisco	0.00054*
	Whitefish (Freshwater)	0.00031*
	Sturgeon (Freshwater)	0.00028*
Marine	Tuna	2.82500
	Cod	1.23373
	Salmon (Marine)	0.92856
	Clam (Marine)	0.70059
	Porgy	0.28580*
	Pollock	0.28288*
	Whiting	0.22042*
	Lobster	0.21416*
Marine (con't.)	Squid	0.17666*
	Crab (Marine)	0.16256
	Scallop (Marine)	0.15916*
	Haddock	0.14711*
	Pompano	0.11699*
	Sea Bass	0.11043*
	Octopus	0.10571*
	Ocean Perch	0.07800*
	Sardine	0.07136*
	Flatfish (Marine)	0.04875
	Mussels	0.02456*
	Swordfish	0.02437*
	Mackerel	0.02406*
	Halibut	0.01022*
	Snapper	0.00457*
	Conch	0.00344*
	Snails (Marine)	0.00101*
	Whitefish (Marine)	0.00031*
Unknown	Fish	0.29247*
	Seafood	0.07655*
All Species	Tuna	2.82500
	Shrimp	2.17381
	Cod	1.23373
	Salmon (Marine)	0.92856
	Clam (Marine)	0.70059
	Flatfish (Estuarine)	0.42090
	Flounder	0.36377*
	Catfish (Estuarine)	0.35640*
	Catfish (Freshwater)	0.35640*
	Crab (Estuarine)	0.30959
	Fish	0.29247*
	Porgy	0.28580*
	Pollock	0.28288*
	Whiting	0.22042*
	Lobster	0.21416*
	Squid	0.17666*
	Trout	0.16679*
	Crab (Marine)	0.16256
All Species (con't.)	Oyster	0.16005*
	Perch (Estuarine)	0.15948*
	Perch (Freshwater)	0.15948*
	Scallop (Marine)	0.15916*
	Haddock	0.14711*
	Pompano	0.11699*
	Sea Bass	0.11043*
	Octopus	0.10571*
	Trout, mixed sp. (Estuarine)	0.09570*
	Trout, mixed sp. (Freshwater)	0.09570*
	Ocean Perch	0.07800*
	Seafood	0.07655*
	Sardine	0.07136*
	Carp	0.06967*
	Croaker	0.06920*
	Flatfish (Marine)	0.04875
	Anchovy	0.04824*
	Mullet	0.03955*
	Rockfish	0.03511*
	Salmon (Estuarine)	0.02893
	Mussels	0.02456*
	Swordfish	0.02437*
	Mackerel	0.02406*
	Herring	0.02078*
	Crayfish	0.01456*
	Clam (Estuarine)	0.01379
	Halibut	0.01022*
	Eel	0.00610*
	Snapper	0.00457*
	Pike	0.00396*
	Conch	0.00344*
	Snails (Freshwater)	0.00101*
	Snails (Marine)	0.00101*
	Scallop (Estuarine)	0.00093*
	Salmon (Freshwater)	0.00057
	Cisco	0.00054*
	Whitefish (Freshwater)	0.00031*
	Whitefish (Marine)	0.00031*
	Sturgeon (Estuarine)	0.00028*
	Sturgeon (Freshwater)	0.00028*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 4,714 individuals to the U.S. population of 118,190,030 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
* The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 11. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.79310
	Flounder	0.86274
	Catfish (Estuarine)	0.56600
	Flatfish (Estuarine)	0.32395
	Crab (Estuarine)	0.25522
	Herring	0.23743*
	Croaker	0.19180*
	Perch (Estuarine)	0.17217*
	Oyster	0.12910*
	Trout, mixed sp. (Estuarine)	0.12388*
	Salmon (Estuarine)	0.05474
	Rockfish	0.05336
	Anchovy	0.02969*
	Mullet	0.02075*
	Smelts (Estuarine)	0.01504*
	Clam (Estuarine)	0.01262
	Smelts, Rainbow (Estuarine)	0.00136*
	Scallop (Estuarine)	0.00124*
Freshwater	Catfish (Freshwater)	0.56600
	Trout	0.22399*
	Carp	0.22047*
	Perch (Freshwater)	0.17217*
	Trout, mixed sp. (Freshwater)	0.12388*
	Pike	0.07450*
	Whitefish (Freshwater)	0.02773*
	Snails (Freshwater)	0.00233*
	Cisco	0.00193*
	Smelts, Rainbow (Freshwater)	0.00136*
	Salmon (Freshwater)	0.00109
Marine	Tuna	3.29848
	Salmon (Marine)	1.75666
	Cod	1.52623
	Clam (Marine)	0.64144
	Haddock	0.53942*
	Porgy	0.44508*
	Whiting	0.28356
	Mackerel	0.22993*
	Pollock	0.21987*
	Scallop (Marine)	0.21329*
Marine (con't.)	Ocean Perch	0.20053*
	Swordfish	0.18853*
	Sardine	0.17949*
	Lobster	0.17633*
	Squid	0.14770*
	Crab (Marine)	0.13401
	Mussels	0.12472*
	Sea Bass	0.10997*
	Snapper	0.06636*
	Halibut	0.06515*
	Flatfish (Marine)	0.03752
	Whitefish (Marine)	0.02773*
	Pompano	0.02651*
	Octopus	0.01819*
	Smelts (Marine)	0.01504*
	Shark	0.01041*
	Roe	0.00254*
	Snails (Marine)	0.00233*
Unknown	Fish	0.41215
	Seafood	0.07349*
All Species	Tuna	3.29848
	Shrimp	1.79310
	Salmon (Marine)	1.75666
	Cod	1.52623
	Flounder	0.86274
	Clam (Marine)	0.64144
	Catfish (Estuarine)	0.56600
	Catfish (Freshwater)	0.56600
	Haddock	0.53942*
	Porgy	0.44508*
	Fish	0.41215
	Flatfish (Estuarine)	0.32395
	Whiting	0.28356
	Crab (Estuarine)	0.25522
	Herring	0.23743*
	Mackerel	0.22993*
	Trout	0.22399*
	Carp	0.22047*
	Pollock	0.21987*
All Species (con't.)	Scallop (Marine)	0.21329*
	Ocean Perch	0.20053*
	Croaker	0.19180*
	Swordfish	0.18853*
	Sardine	0.17949*
	Lobster	0.17633*
	Perch (Estuarine)	0.17217*
	Perch (Freshwater)	0.17217*
	Squid	0.14770*
	Crab (Marine)	0.13401
	Oyster	0.12910*
	Mussels	0.12472*
	Trout, mixed sp. (Estuarine)	0.12388*
	Trout, mixed sp. (Freshwater)	0.12388*
	Sea Bass	0.10997*
	Pike	0.07450*
	Seafood	0.07349*
	Snapper	0.06636*
	Halibut	0.06515*
	Salmon (Estuarine)	0.05474
	Rockfish	0.05336
	Flatfish (Marine)	0.03752
	Anchovy	0.02969*
	Whitefish (Freshwater)	0.02773*
	Whitefish (Marine)	0.02773*
	Pompano	0.02651*
	Mullet	0.02075*
	Octopus	0.01819*
	Smelts (Estuarine)	0.01504*
	Smelts (Marine)	0.01504*
	Clam (Estuarine)	0.01262
	Shark	0.01041*
	Roe	0.00254*
	Snails (Freshwater)	0.00233*
	Snails (Marine)	0.00233*
	Cisco	0.00193*
	Smelts, Rainbow (Estuarine)	0.00136*
	Smelts, Rainbow (Freshwater)	0.00136*
	Scallop (Estuarine)	0.00124*
	Salmon (Freshwater)	0.00109

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 5,434 individuals to the U.S. population of 84,210,339 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 12. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 18 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.02859
	Flounder	0.58126
	Catfish (Estuarine)	0.45025
	Flatfish (Estuarine)	0.38812
	Crab (Estuarine)	0.29576
	Perch (Estuarine)	0.16821
	Oyster	0.14586*
	Croaker	0.12743*
	Herring	0.11758*
	Trout, mixed sp. (Estuarine)	0.11065*
	Rockfish	0.04275
	Salmon (Estuarine)	0.04176
	Anchovy	0.04151
	Mullet	0.03363*
	Clam (Estuarine)	0.01384
	Smelts (Estuarine)	0.00663*
	Eel	0.00378*
	Scallop (Estuarine)	0.00112*
	Smelts, Rainbow (Estuarine)	0.00060*
	Sturgeon (Estuarine)	0.00017*
Freshwater	Catfish (Freshwater)	0.45025
	Trout	0.19286*
	Perch (Freshwater)	0.16821
	Carp	0.14037*
	Trout, mixed sp. (Freshwater)	0.11065*
	Pike	0.03531*
	Whitefish (Freshwater)	0.01242*
	Crayfish	0.00901*
	Snails (Freshwater)	0.00165*
	Cisco	0.00119*
	Salmon (Freshwater)	0.00083
	Smelts, Rainbow (Freshwater)	0.00060*
	Sturgeon (Freshwater)	0.00017*
Marine	Tuna	3.11784
	Cod	1.36747
	Salmon (Marine)	1.34009
	Clam (Marine)	0.70316
	Porgy	0.35557*
	Haddock	0.30782
	Whiting	0.25906
	Pollock	0.25327
	Scallop (Marine)	0.19198*
Marine (con't.)	Lobster	0.19178*
	Squid	0.17449*
	Crab (Marine)	0.15530
	Ocean Perch	0.13127*
	Sardine	0.12334*
	Mackerel	0.11631*
	Sea Bass	0.10032*
	Swordfish	0.09824*
	Pompano	0.08364*
	Octopus	0.07346*
	Mussels	0.06997*
	Flatfish (Marine)	0.04495
	Halibut	0.03459*
	Snapper	0.03162*
	Whitefish (Marine)	0.01242*
	Smelts (Marine)	0.00663*
	Shark	0.00459*
	Conch	0.00213*
	Snails (Marine)	0.00165*
	Roe	0.00112*
Unknown	Fish	0.35750
	Seafood	0.07938*
All Species	Tuna	3.11784
	Shrimp	2.02859
	Cod	1.36747
	Salmon (Marine)	1.34009
	Clam (Marine)	0.70316
	Flounder	0.58126
	Catfish (Estuarine)	0.45025
	Catfish (Freshwater)	0.45025
	Flatfish (Estuarine)	0.38812
	Fish	0.35750
	Porgy	0.35557*
	Haddock	0.30782
	Crab (Estuarine)	0.29576
	Whiting	0.25906
	Pollock	0.25327
	Trout	0.19286*
	Scallop (Marine)	0.19198*
	Lobster	0.19178*
	Squid	0.17449*
	Perch (Estuarine)	0.16821
All Species (con't.)	Perch (Freshwater)	0.16821
	Crab (Marine)	0.15530
	Oyster	0.14586*
	Carp	0.14037*
	Ocean Perch	0.13127*
	Croaker	0.12743*
	Sardine	0.12334*
	Herring	0.11758*
	Mackerel	0.11631*
	Trout, mixed sp. (Estuarine)	0.11065*
	Trout, mixed sp. (Freshwater)	0.11065*
	Sea Bass	0.10032*
	Swordfish	0.09824*
	Pompano	0.08364*
	Seafood	0.07938*
	Octopus	0.07346*
	Mussels	0.06997*
	Flatfish (Marine)	0.04495
	Rockfish	0.04275
	Salmon (Estuarine)	0.04176
	Anchovy	0.04151
	Pike	0.03531*
	Halibut	0.03459*
	Mullet	0.03363*
	Snapper	0.03162*
	Clam (Estuarine)	0.01384
	Whitefish (Freshwater)	0.01242*
	Whitefish (Marine)	0.01242*
	Crayfish	0.00901*
	Smelts (Estuarine)	0.00663*
	Smelts (Marine)	0.00663*
	Shark	0.00459*
	Eel	0.00378*
	Conch	0.00213*
	Snails (Freshwater)	0.00165*
	Snails (Marine)	0.00165*
	Cisco	0.00119*
	Roe	0.00112*
	Scallop (Estuarine)	0.00112*
	Salmon (Freshwater)	0.00083
	Smelts, Rainbow (Estuarine)	0.00060*
	Smelts, Rainbow (Freshwater)	0.00060*
	Sturgeon (Estuarine)	0.00017*
	Sturgeon (Freshwater)	0.00017*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals to the U.S. population of 190,931,846 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.1.6 TABLE 13. AS CONSUMED FISH CONSUMPTION ESTIMATES
U.S. Population - Mean Consumption by Species within Habitat
All Individuals

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.70209
	Flounder	0.49705
	Catfish (Estuarine)	0.38584
	Flatfish (Estuarine)	0.31514
	Crab (Estuarine)	0.25373
	Perch (Estuarine)	0.14470
	Oyster	0.11958*
	Croaker	0.10352*
	Trout, mixed sp. (Estuarine)	0.09197*
	Herring	0.08785*
	Rockfish	0.03660
	Salmon (Estuarine)	0.03272
	Anchovy	0.03246
	Mullet	0.02893*
	Clam (Estuarine)	0.01062
	Smelts (Estuarine)	0.00484*
	Eel	0.00275*
	Scallop (Estuarine)	0.00090
	Smelts, Rainbow (Estuarine)	0.00044*
	Sturgeon (Estuarine)	0.00013*
Freshwater	Catfish (Freshwater)	0.38584
	Trout	0.16290*
	Perch (Freshwater)	0.14470
	Carp	0.10287*
	Trout, mixed sp. (Freshwater)	0.09197*
	Pike	0.03022*
	Whitefish (Freshwater)	0.01018*
	Crayfish	0.00657*
	Snails (Freshwater)	0.00198*
	Cisco	0.00164*
	Salmon (Freshwater)	0.00065
	Smelts, Rainbow (Freshwater)	0.00044*
	Sturgeon (Freshwater)	0.00013*
Marine	Tuna	2.69707
	Cod	1.20243
	Salmon (Marine)	1.05022
	Clam (Marine)	0.53979
	Porgy	0.27989*
	Haddock	0.26341
	Pollock	0.25465
	Whiting	0.22665
	Lobster	0.15556*
Marine (con't.)	Scallop (Marine)	0.15444
	Crab (Marine)	0.13323
	Squid	0.12740*
	Ocean Perch	0.11841*
	Sea Bass	0.09887*
	Mackerel	0.09192*
	Sardine	0.09106*
	Swordfish	0.08018*
	Pompano	0.07251*
	Octopus	0.05356*
	Mussels	0.05228*
	Flatfish (Marine)	0.03650
	Halibut	0.02644*
	Snapper	0.02401*
	Whitefish (Marine)	0.01018*
	Smelts (Marine)	0.00484*
	Shark	0.00335*
	Snails (Marine)	0.00198*
	Conch	0.00155*
	Roe	0.00082*
Unknown	Fish	0.44209
	Seafood	0.05864*
All Species	Tuna	2.69707
	Shrimp	1.70209
	Cod	1.20243
	Salmon (Marine)	1.05022
	Clam (Marine)	0.53979
	Flounder	0.49705
	Fish	0.44209
	Catfish (Estuarine)	0.38584
	Catfish (Freshwater)	0.38584
	Flatfish (Estuarine)	0.31514
	Porgy	0.27989*
	Haddock	0.26341
	Pollock	0.25465
	Crab (Estuarine)	0.25373
	Whiting	0.22665
	Trout	0.16290*
	Lobster	0.15556*
	Scallop (Marine)	0.15444
	Perch (Estuarine)	0.14470
	Perch (Freshwater)	0.14470
All Species (con't.)	Crab (Marine)	0.13323
	Squid	0.12740*
	Oyster	0.11958*
	Ocean Perch	0.11841*
	Croaker	0.10352*
	Carp	0.10287*
	Sea Bass	0.09887*
	Trout, mixed sp. (Estuarine)	0.09197*
	Trout, mixed sp. (Freshwater)	0.09197*
	Mackerel	0.09192*
	Sardine	0.09106*
	Herring	0.08785*
	Swordfish	0.08018*
	Pompano	0.07251*
	Seafood	0.05864*
	Octopus	0.05356*
	Mussels	0.05228*
	Rockfish	0.03660
	Flatfish (Marine)	0.03650
	Salmon (Estuarine)	0.03272
	Anchovy	0.03246
	Pike	0.03022*
	Mullet	0.02893*
	Halibut	0.02644*
	Snapper	0.02401*
	Clam (Estuarine)	0.01062
	Whitefish (Freshwater)	0.01018*
	Whitefish (Marine)	0.01018*
	Crayfish	0.00657*
	Smelts (Estuarine)	0.00484*
	Smelts (Marine)	0.00484*
	Shark	0.00335*
	Eel	0.00275*
	Snails (Freshwater)	0.00198*
	Snails (Marine)	0.00198*
	Cisco	0.00164*
	Conch	0.00155*
	Scallop (Estuarine)	0.00090
	Roe	0.00082*
	Salmon (Freshwater)	0.00065
	Smelts, Rainbow (Estuarine)	0.00044*
	Smelts, Rainbow (Freshwater)	0.00044*
	Sturgeon (Estuarine)	0.00013*
	Sturgeon (Freshwater)	0.00013*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".

SECTION 4.2.1.1 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES

Consumers Only - Finfish and Shellfish (grams/person/day)

Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	242	38.04 (30.89-45.19)	91.01 (77.52-114.01)	145.59*(118.05-174.28)	241.32*(187.27-302.09)
15 - 44	336	58.50 (48.69-68.30)	128.18 (113.24-158.57)	204.98 (154.44-280.31)	341.86*(302.09-972.11)
45 and Older	457	51.20 (46.38-56.01)	127.77 (125.04-138.82)	160.31 (154.57-171.31)	304.48*(258.85-317.55)
All Ages	1,035	52.61 (47.22-58.00)	126.63 (121.35-137.44)	167.09 (158.61-194.53)	318.85*(302.09-372.65)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	225	52.11 (43.66-60.55)	139.05 (124.97-148.75)	184.40*(156.56-302.09)	308.16*(259.16-333.44)
15 - 44	362	70.79 (63.13-78.46)	172.91 (167.45-180.86)	239.03 (230.12-290.47)	357.64*(344.70-476.33)
45 and Older	555	71.92 (63.40-80.44)	173.41 (158.57-185.24)	234.66 (207.23-258.88)	436.66*(306.62-634.28)
All Ages	1,142	68.71 (63.16-74.26)	169.18 (158.02-177.88)	239.11 (205.55-261.30)	355.53*(317.33-476.33)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	467	45.17 (40.05-50.28)	120.96 (103.53-139.71)	163.92 (145.45-190.57)	302.63*(290.47-333.44)
15 - 44	698	64.88 (59.61-70.16)	158.70 (153.93-168.68)	229.00 (187.45-253.87)	356.35*(344.70-436.36)
45 and Older	1,012	61.40 (55.32-67.47)	152.15 (138.46-157.97)	200.75 (177.01-207.23)	310.32*(303.19-400.69)
All Ages	2,177	60.78 (56.56-65.00)	153.38 (145.43-158.02)	200.99 (187.45-238.69)	343.09 (317.55-403.56)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.2.1.1 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish (grams/person/day)
Marine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	349	54.56 (49.10-60.02)	101.36 (93.56-140.13)	145.88 (110.15-180.51)	201.24*(183.70-255.66)
15 - 44	412	70.22 (65.35-75.09)	145.57 (128.81-162.31)	184.46 (170.10-212.06)	289.18*(265.82-293.24)
45 and Older	588	79.25 (72.34-86.15)	145.39 (141.95-154.16)	189.34 (170.10-214.18)	318.22*(304.33-485.38)
All Ages	1,349	71.57 (68.07-75.06)	143.77 (132.16-150.09)	178.63 (170.34-197.97)	292.55 (265.82-412.78)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	332	60.93 (51.59-70.27)	167.03 (112.24-170.10)	170.92 (167.04-229.24)	267.82*(194.65-294.00)
15 - 44	413	99.54 (91.15-107.92)	187.87 (184.53-197.63)	231.91 (199.55-255.79)	436.22*(401.03-487.08)
45 and Older	623	87.24 (81.69-92.78)	170.09 (165.23-187.88)	223.66 (198.50-239.35)	302.64*(292.54-384.00)
All Ages	1,368	88.19 (82.79-93.58)	184.18 (170.10-187.08)	220.28 (200.04-233.80)	351.81 (315.66-436.62)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	681	57.73 (50.86-64.59)	113.67 (98.33-170.00)	170.10 (167.02-180.51)	236.95*(183.70-294.00)
15 - 44	825	84.80 (78.94-90.65)	184.29 (167.00-184.53)	203.17 (197.63-233.80)	347.51*(293.24-401.03)
45 and Older	1,211	82.92 (78.12-87.72)	159.78 (147.00-174.46)	210.82 (190.62-227.32)	315.45*(302.67-485.38)
All Ages	2,717	79.57 (75.97-83.18)	167.39 (159.57-179.45)	199.67 (194.27-214.18)	315.56 (293.24-368.46)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.2.1.1 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish (grams/person/day)
All Fish: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	447	62.20 (56.52-67.89)	119.52 (113.56-150.59)	170.36 (122.31-183.70)	271.21*(187.88-302.09)
15 - 44	554	84.47 (76.48-92.46)	169.99 (148.75-191.89)	239.60 (217.16-294.57)	338.88*(299.21-391.95)
45 and Older	751	90.51 (84.69-96.33)	167.08 (156.82-177.19)	204.68 (198.43-228.69)	354.96*(320.00-612.93)
All Ages	1,752	83.55 (79.13-87.97)	163.61 (152.81-172.03)	217.07 (202.73-233.80)	338.21 (308.51-379.86)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	421	75.21 (66.38-84.03)	170.21 (145.99-223.78)	250.75 (182.87-290.47)	306.72*(302.09-312.29)
15 - 44	565	115.03 (109.01-121.05)	211.54 (200.04-245.62)	300.23 (251.41-330.83)	447.97*(368.46-487.08)
45 and Older	849	108.56 (102.70-114.41)	212.67 (198.97-235.23)	291.30 (258.33-302.26)	409.19*(329.51-517.71)
All Ages	1,835	106.17 (101.95-110.38)	209.92 (201.00-223.78)	290.51 (262.13-298.99)	436.32 (370.43-476.33)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	868	68.73 (62.11-75.35)	149.61 (138.00-170.10)	210.06 (180.51-261.00)	298.86*(285.60-312.29)
15 - 44	1,119	99.79 (94.46-105.12)	199.97 (188.16-209.63)	273.79 (247.14-294.57)	436.24*(368.46-487.08)
45 and Older	1,600	99.09 (93.76-104.43)	193.22 (184.00-200.35)	251.97 (238.34-261.30)	384.11 (336.04-479.19)
All Ages	3,587	94.66 (90.81-98.50)	189.49 (185.87-199.52)	254.09 (234.75-290.79)	385.23 (354.03-436.62)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

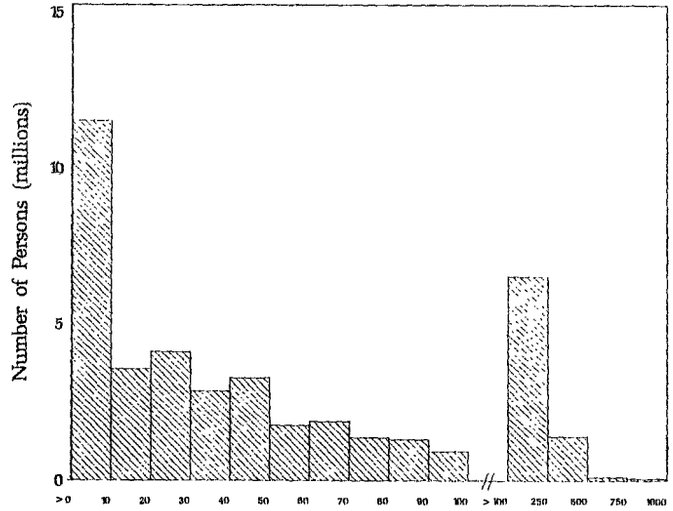
SECTION 4.2.1.1 TABLE 4. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	62.95	58.19	67.70
n = 1,654	50th %	35.29	30.88	40.69
N = 33,438,807	90th %	156.16	143.89	161.21
	95th %	211.32	187.45	239.55
	99th %	348.96	342.76	448.72
Marine	Mean	83.56	79.78	87.34
n = 1,979	50th %	64.88	60.00	70.98
N = 40,081,640	90th %	169.31	163.13	184.53
	95th %	201.63	194.51	220.31
	99th %	330.81	304.33	401.03
All Fish	Mean	99.32	95.17	103.47
n = 2,634	50th %	78.56	74.74	83.64
N = 53,184,336	90th %	196.27	187.88	202.26
	95th %	258.38	248.83	286.26
	99th %	400.91	372.40	466.59

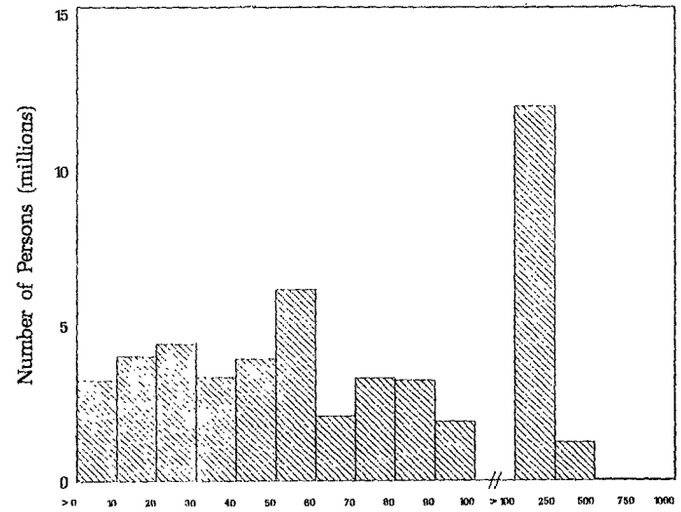
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only of age 18 and older, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

Section 4.2.1.1 Figure 1. Histograms of As Consumed Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

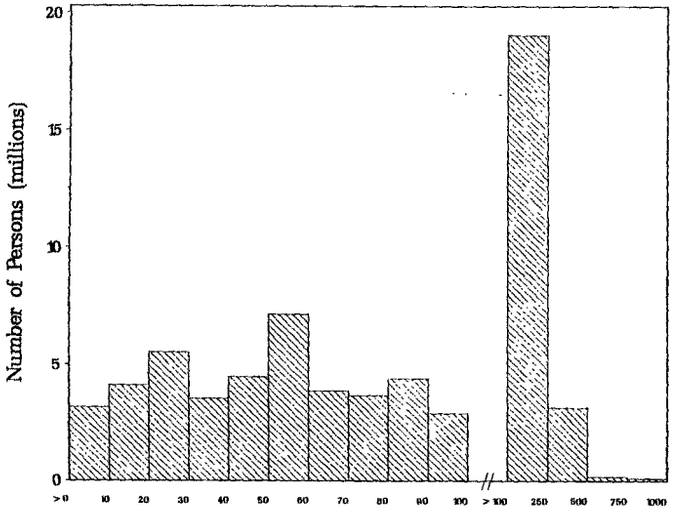
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



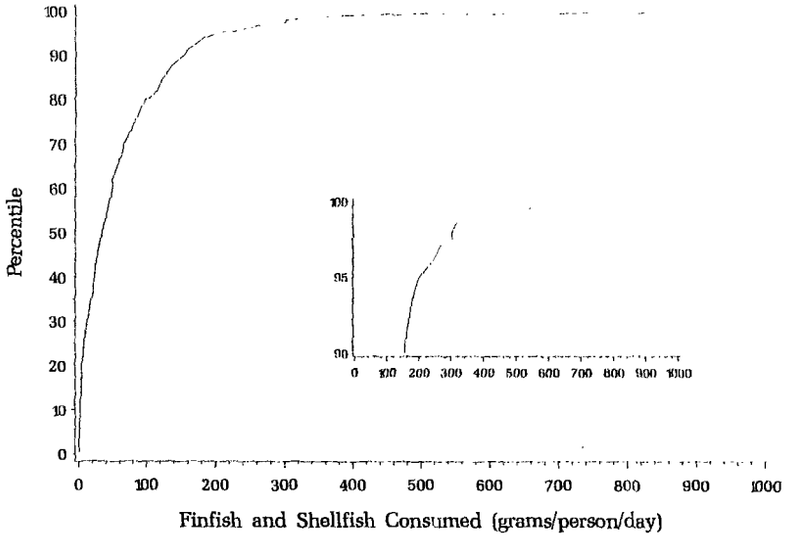
Total Finfish and Shellfish



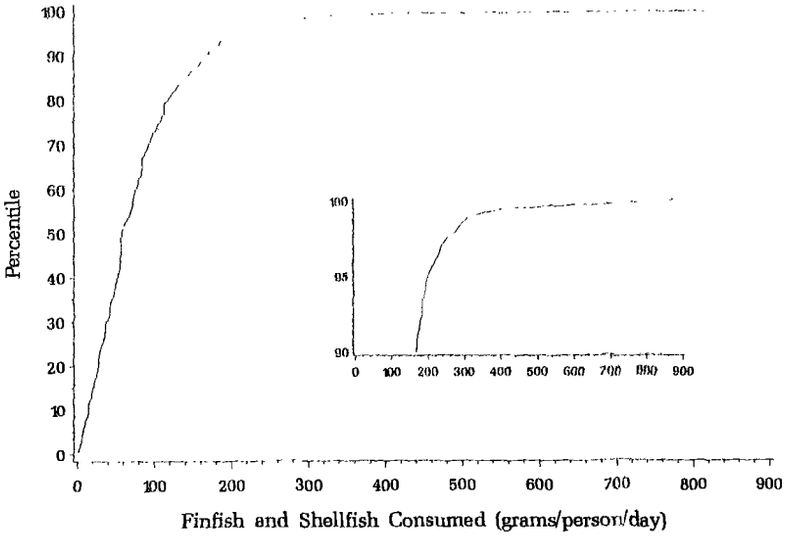
Intakes by Individuals (CSFII).

Section 4.2.1.1 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

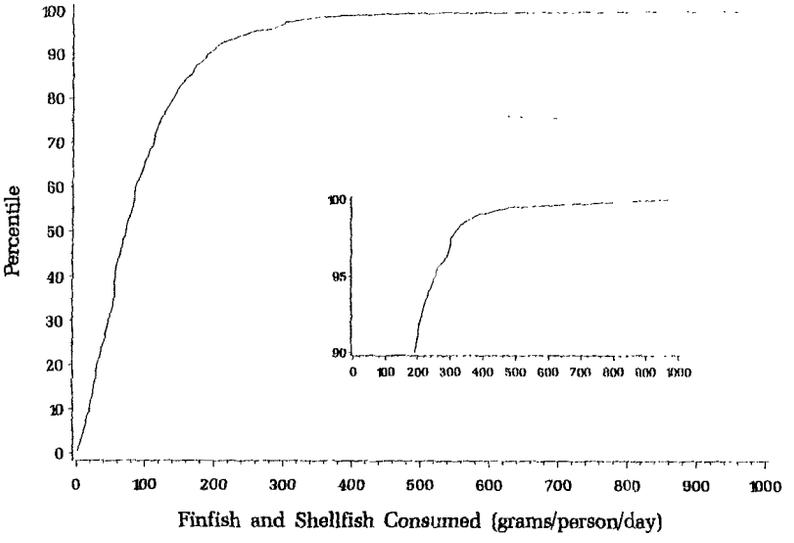
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



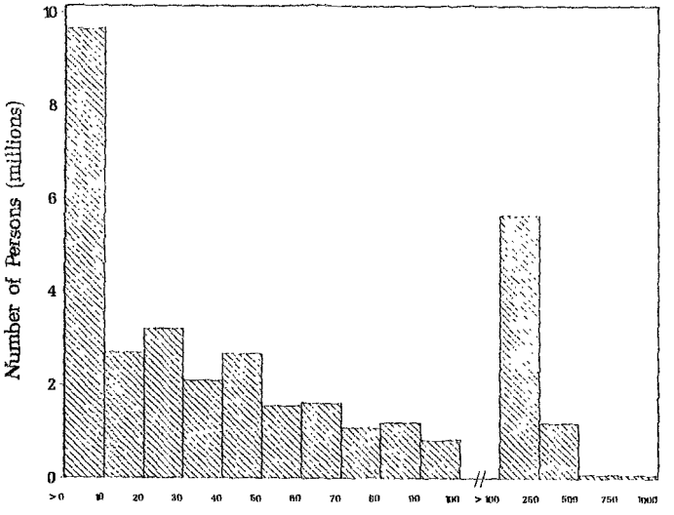
Total Finfish and Shellfish



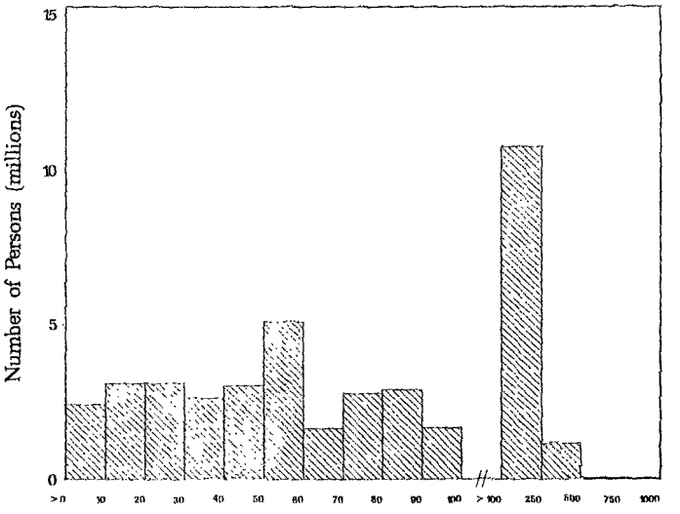
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.2.1.1 Figure 3. Histograms of As Consumed Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

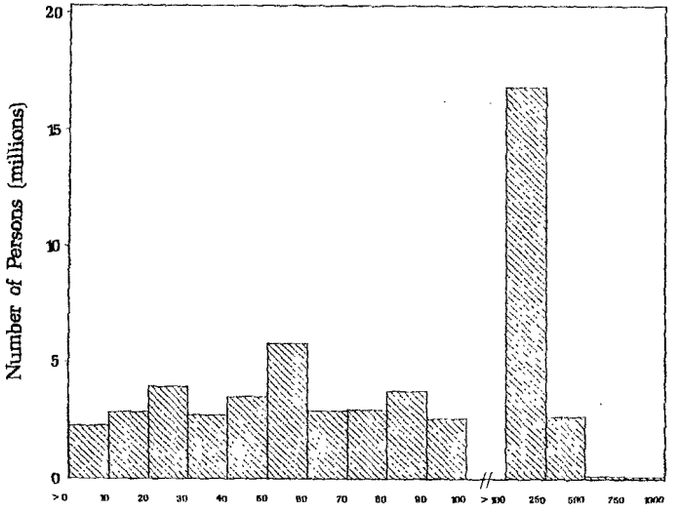
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



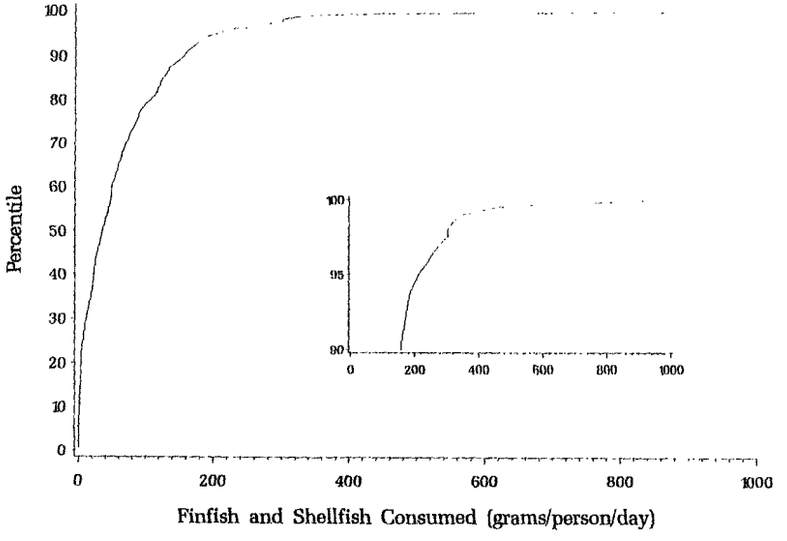
Total Finfish and Shellfish



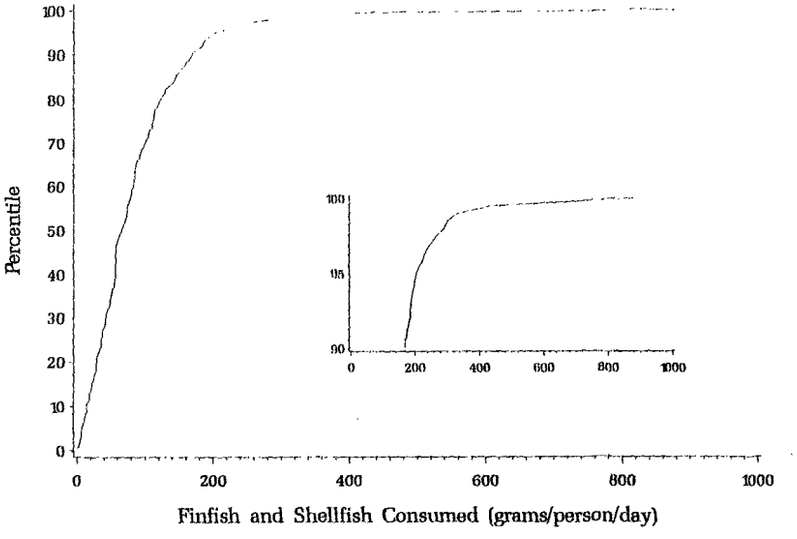
Summary of Food Intakes by Individuals (CSFII).

Section 4.2.1.1 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

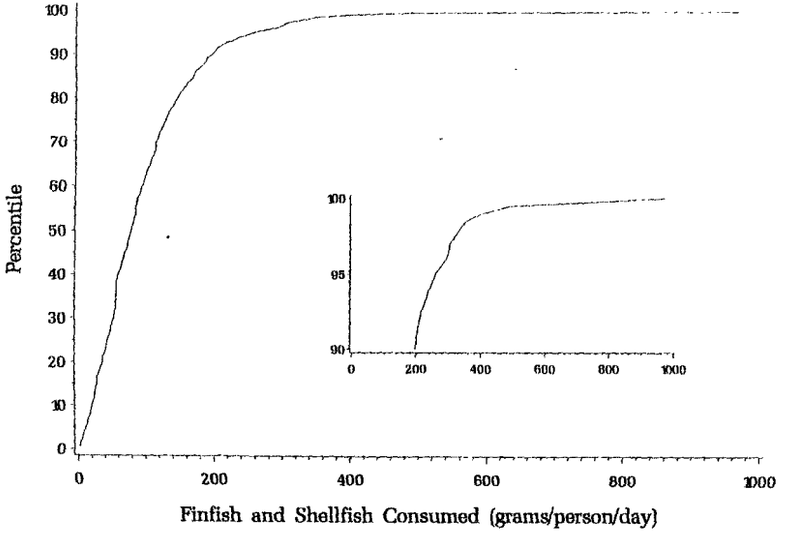
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



SECTION 4.2.1.2 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	218	1,548.98 (1,214.62-1,883.35)	3,537.98 (3,172.06-3,946.83)	6,302.89*(5,438.40-8,746.60)	12,186.55*(9,405.18-14,786.77)
15 - 44	326	921.46 (754.38-1,088.53)	2,185.25 (1,786.60-2,518.97)	3,393.57 (2,595.40-4,730.38)	5,796.25*(4,730.38-18,145.82)
45 and Older	440	768.50 (691.40-845.60)	2,098.47 (1,940.93-2,196.49)	2,497.88 (2,311.24-2,972.70)	3,541.50*(3,375.97-7,078.55)
All Ages	984	938.98 (837.16-1,040.81)	2,197.84 (2,053.42-2,482.15)	3,198.78 (2,671.89-3,597.19)	6,927.59*(5,807.59-12,476.34)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	210	1,623.51 (1,362.27-1,884.76)	3,613.76 (3,557.32-4,016.05)	4,870.97*(4,391.12-9,406.97)	10,460.29*(7,392.08-13,308.09)
15 - 44	359	893.33 (795.45-991.20)	2,368.45 (2,022.46-2,492.06)	2,840.14 (2,578.27-3,763.60)	4,723.02*(4,365.24-5,828.79)
45 and Older	550	852.76 (753.39-952.12)	1,947.39 (1,846.96-2,104.45)	2,615.09 (2,432.92-3,003.66)	5,562.73*(4,105.24-7,674.68)
All Ages	1,119	977.88 (896.88-1,058.88)	2,376.82 (2,320.70-2,502.39)	3,477.36 (3,233.73-3,578.18)	6,118.87*(5,263.64-7,407.51)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	428	1,588.42 (1,419.87-1,756.96)	3,579.12 (3,464.88-3,976.99)	5,822.87 (4,391.12-8,746.60)	11,296.95*(9,405.18-13,308.09)
15 - 44	685	906.61 (823.48-989.73)	2,342.44 (2,066.43-2,444.40)	3,269.77 (2,683.22-3,763.60)	5,732.37*(5,323.24-6,236.52)
45 and Older	990	811.17 (739.47-882.87)	2,018.44 (1,928.72-2,110.80)	2,554.95 (2,432.92-2,828.10)	4,959.62*(3,713.23-6,420.15)
All Ages	2,103	959.83 (890.54-1,029.12)	2,342.57 (2,194.51-2,464.68)	3,283.54 (3,071.10-3,564.85)	6,834.18 (5,565.08-7,401.33)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.2.1.2 TABLE 2. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Marine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	324	2,184.34 (1,974.14-2,394.54)	4,415.16 (3,959.12-5,338.17)	5,648.79 (5,360.06-7,114.97)	7,812.03*(7,117.95-9,555.64)
15 - 44	403	1,141.07 (1,051.38-1,230.76)	2,358.04 (2,026.64-2,513.96)	3,162.74 (2,565.64-4,435.65)	5,077.84*(3,644.91-5,555.55)
45 and Older	568	1,213.18 (1,108.65-1,317.71)	2,322.59 (2,182.54-2,359.83)	3,013.84 (2,686.84-3,235.52)	6,227.92*(4,259.75-9,296.60)
All Ages	1,295	1,327.31 (1,263.27-1,391.34)	2,644.77 (2,441.30-2,931.28)	3,631.61 (3,416.42-4,107.35)	6,257.99 (5,555.55-8,057.83)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	320	2,094.40 (1,851.12-2,337.68)	4,535.50 (3,894.30-4,860.96)	6,054.22 (5,027.52-6,275.04)	8,718.42*(7,619.69-10,005.64)
15 - 44	410	1,246.15 (1,152.57-1,339.73)	2,434.69 (2,268.90-2,651.71)	2,944.04 (2,607.52-3,078.28)	4,855.37*(3,414.62-5,888.78)
45 and Older	621	1,089.46 (1,018.24-1,160.68)	2,158.60 (1,953.89-2,452.31)	2,811.85 (2,569.75-3,225.03)	4,526.41*(3,991.33-5,126.15)
All Ages	1,351	1,321.42 (1,246.04-1,396.80)	2,678.21 (2,442.79-2,762.41)	3,409.31 (3,177.44-3,915.81)	5,885.31 (5,339.55-6,375.41)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	644	2,137.93 (1,953.27-2,322.59)	4,422.38 (4,042.80-5,057.44)	5,918.75 (5,057.90-6,196.75)	8,259.39*(7,619.69-9,884.44)
15 - 44	813	1,193.75 (1,123.77-1,263.74)	2,412.36 (2,283.44-2,500.09)	2,998.97 (2,746.75-3,330.97)	5,141.35*(4,435.65-5,344.46)
45 and Older	1,189	1,154.73 (1,090.48-1,218.98)	2,231.95 (2,031.54-2,482.90)	2,997.71 (2,644.81-3,213.78)	5,312.85*(4,190.71-7,504.97)
All Ages	2,646	1,323.81 (1,272.00-1,375.62)	2,664.14 (2,548.76-2,750.93)	3,543.48 (3,459.92-3,753.88)	6,076.26 (5,652.43-6,690.92)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
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**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

SECTION 4.2.1.2 TABLE 3. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
All Fish: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	413	2,517.93 (2,303.35-2,732.52)	5,354.56 (4,926.96-5,786.55)	7,465.25 (6,260.14-7,982.79)	12,554.85*(10,484.62-14,786.77)
15 - 44	541	1,352.45 (1,214.49-1,490.42)	2,571.49 (2,482.15-3,305.19)	3,910.52 (3,464.50-4,730.38)	5,784.39*(5,411.34-12,476.34)
45 and Older	725	1,379.08 (1,291.12-1,467.05)	2,583.19 (2,398.95-2,874.20)	3,335.62 (2,986.99-3,876.03)	6,437.49*(5,035.73-10,143.67)
All Ages	1,679	1,532.05 (1,450.75-1,613.35)	3,179.92 (2,875.09-3,394.92)	4,259.69 (3,997.75-4,680.62)	7,936.41 (7,078.55-10,143.67)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	397	2,519.37 (2,313.79-2,724.96)	5,590.55 (5,224.87-5,754.18)	6,940.26 (6,196.75-8,197.18)	10,316.71*(9,406.97-11,606.54)
15 - 44	561	1,447.07 (1,378.95-1,515.19)	2,756.21 (2,607.52-3,029.33)	3,735.86 (3,349.25-4,118.22)	5,678.37*(4,687.28-5,950.07)
45 and Older	842	1,330.04 (1,260.28-1,399.81)	2,610.36 (2,458.28-2,824.64)	3,296.47 (3,177.44-3,525.90)	5,263.07*(4,770.07-7,674.68)
All Ages	1,800	1,566.81 (1,500.47-1,633.14)	3,111.90 (2,902.61-3,354.07)	4,118.19 (3,845.60-4,597.73)	7,374.07 (6,678.74-7,761.57)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	810	2,518.67 (2,336.77-2,700.58)	5,559.43 (4,841.01-6,055.08)	7,059.51 (6,260.14-7,982.79)	11,164.15*(10,236.99-12,757.45)
15 - 44	1,102	1,400.25 (1,327.07-1,473.44)	2,708.51 (2,570.03-3,029.33)	3,764.27 (3,510.56-4,118.22)	5,781.33*(5,411.34-5,888.78)
45 and Older	1,567	1,355.40 (1,286.43-1,424.37)	2,598.87 (2,527.04-2,795.98)	3,326.77 (3,213.78-3,520.82)	5,760.41 (5,263.64-7,078.55)
All Ages	3,479	1,549.34 (1,485.83-1,612.86)	3,159.49 (2,972.70-3,269.17)	4,157.21 (3,959.12-4,597.73)	7,608.30 (6,948.22-7,923.38)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
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(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
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**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

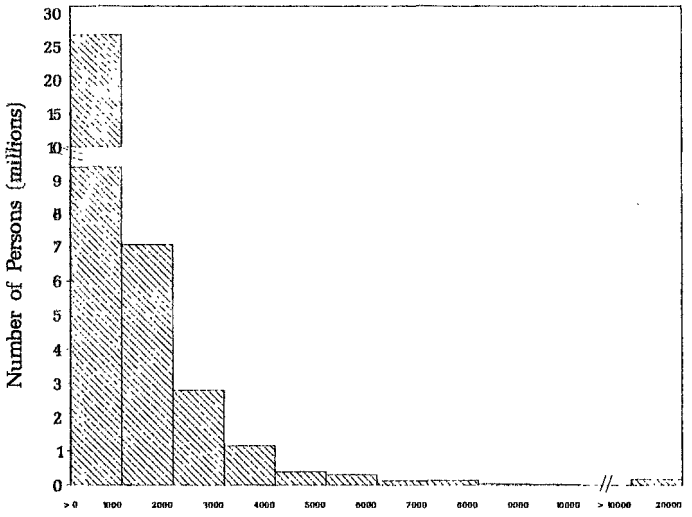
SECTION 4.2.1.2 TABLE 4. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish
Individuals of Age 18 and Older

Habitat	Statistic	Milligrams/kilogram of body weight/day	90% Interval**	
		Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	855.62	793.62	917.63
n = 1,620	50th %	488.07	428.97	521.91
N = 32,775,671	90th %	2,096.82	1,974.61	2,201.57
	95th %	2,831.44	2,587.92	3,144.49
	99th %	5,565.35	4,687.28	6,236.52
Marine	Mean	1,165.02	1,118.43	1,211.62
n = 1,945	50th %	924.84	880.48	963.40
N = 39,370,145	90th %	2,305.22	2,142.18	2,423.93
	95th %	2,921.15	2,747.08	3,052.58
	99th %	5,131.26	4,560.98	5,555.55
All Fish	Mean	1,372.11	1,317.76	1,426.47
n = 2,585	50th %	1,060.70	1,019.74	1,132.37
N = 52,207,649	90th %	2,607.51	2,540.43	2,761.06
	95th %	3,559.85	3,343.97	3,763.60
	99th %	5,782.95	5,348.30	6,236.52

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only of age 18 and older, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

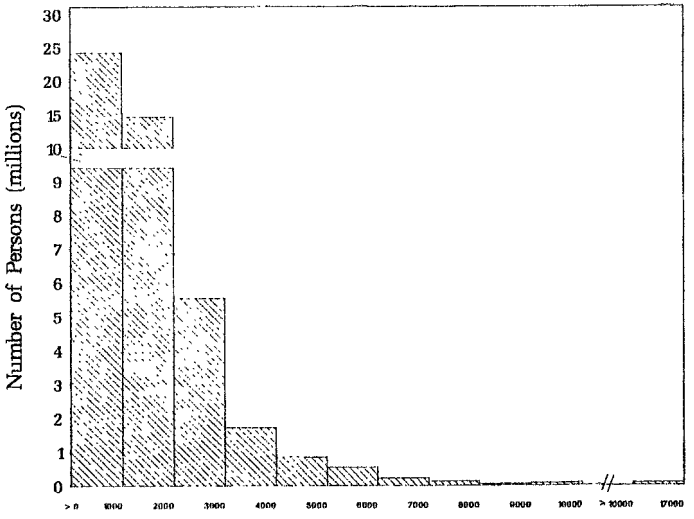
Section 4.2.1.2 Figure 1. Histograms of As Consumed Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



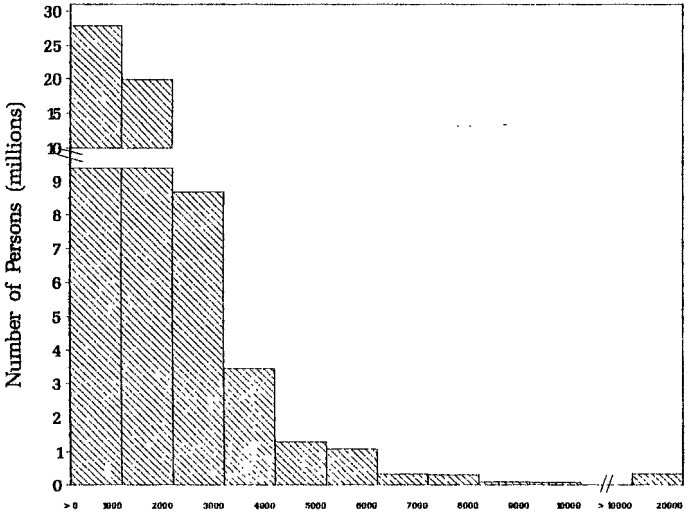
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish

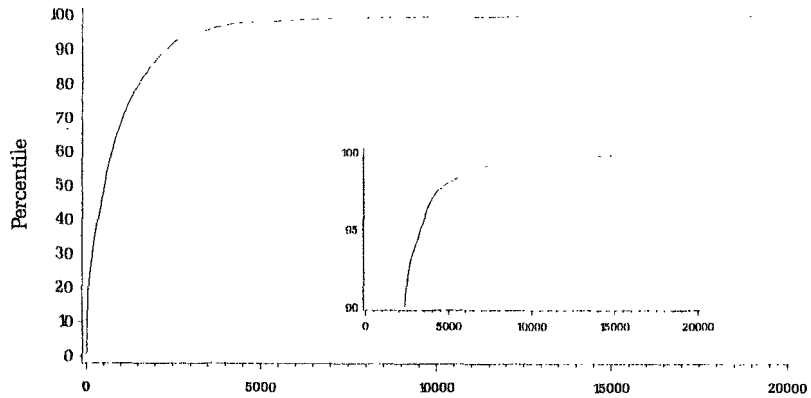


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

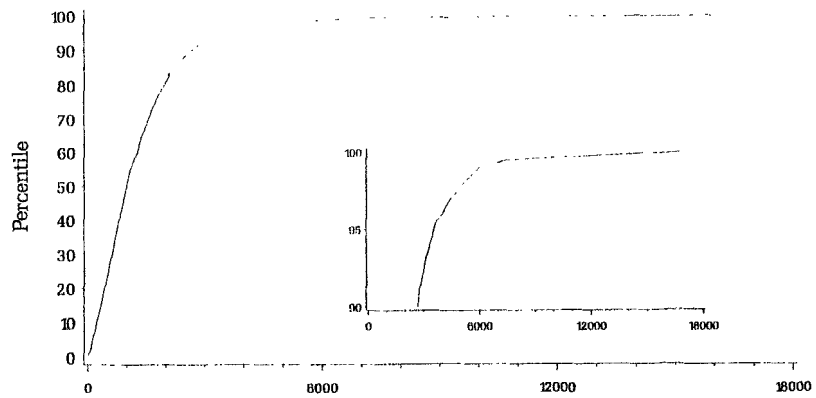
Section 4.2.1.2 Figure 2. Cumulative Distributions of As Consumed Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



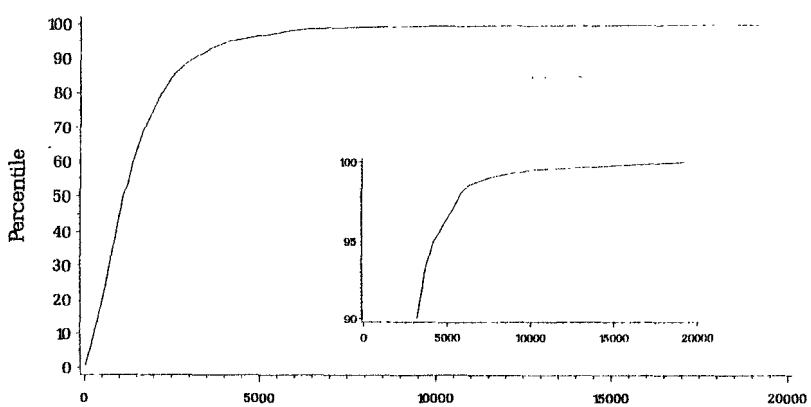
Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Total Finfish and Shellfish

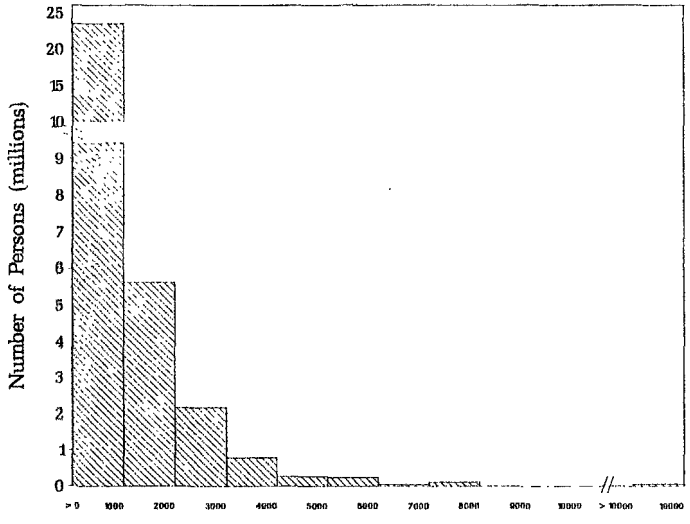


Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

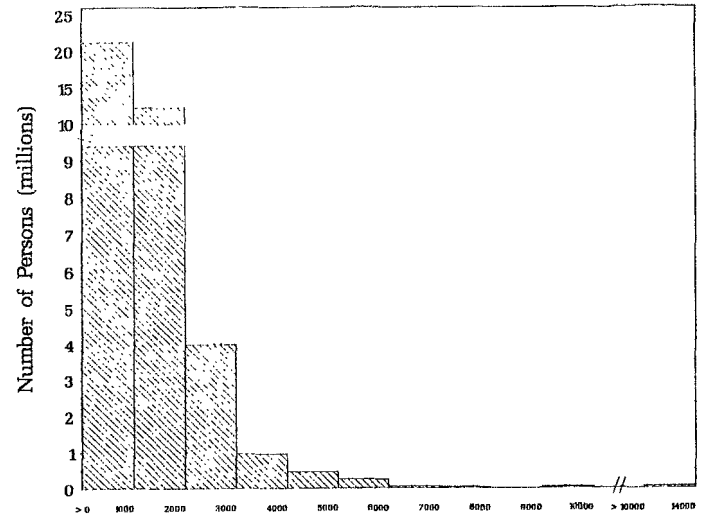
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.2.1.2 Figure 3. Histograms of As Consumed Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

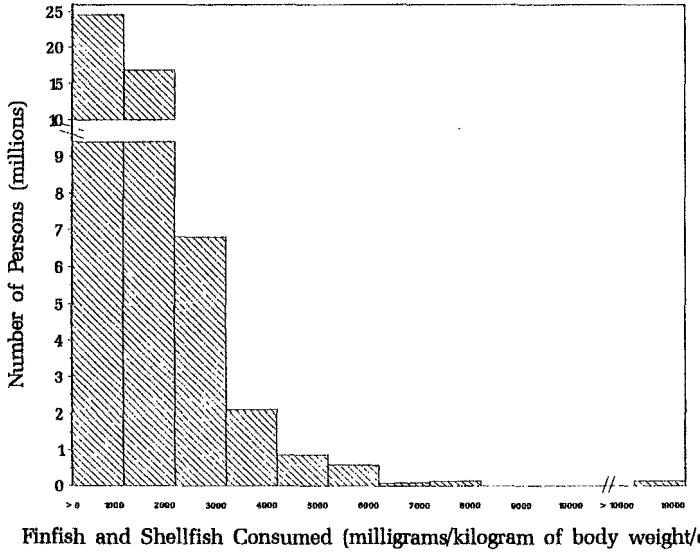
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



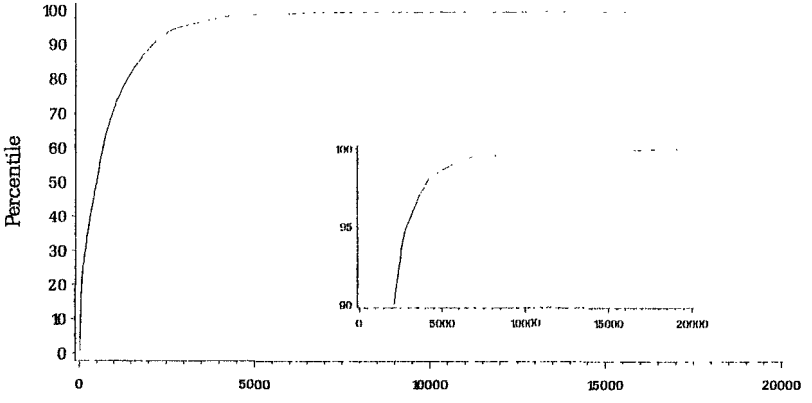
Total Finfish and Shellfish



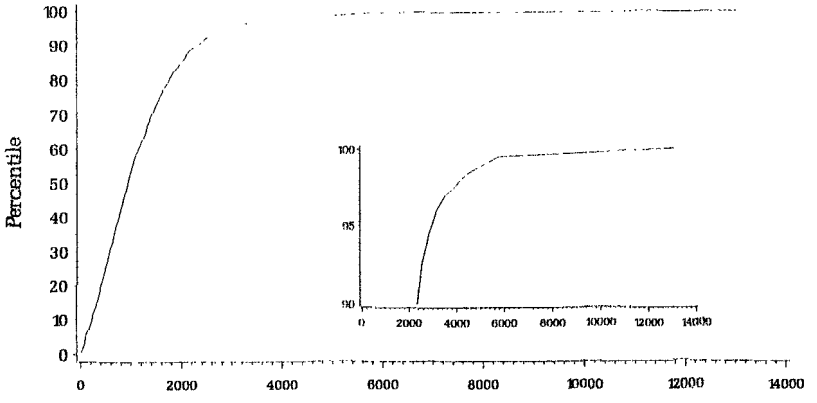
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 4.2.1.2 Figure 4. Cumulative Distributions of As Consumed Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

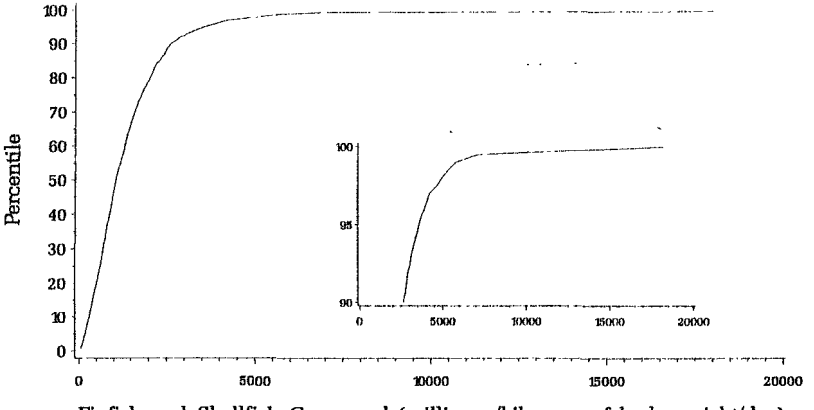
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 4.2.2 TABLE 1. AS CONSUMED FISH CONSUMPTION ESTIMATES
Consumers Only - Finfish and Shellfish
Alternate Habitat

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	31.97	27.33	36.60
n = 887	50th %	5.38	4.56	6.61
N = 15,379,935	90th %	90.75	84.11	117.61
	95th %	150.84	130.65	151.05
	99th %	305.68*	228.56	325.78
Estuarine/Marine	Mean	88.84	85.25	92.44
n = 3,551	50th %	67.44	64.97	70.98
N = 64,336,846	90th %	183.35	170.53	188.16
	95th %	230.07	213.41	245.62
	99th %	351.65	335.68	394.39
All Fish	Mean	94.66	90.81	98.50
n = 3,587	50th %	72.55	70.00	73.50
N = 65,093,788	90th %	189.49	185.87	199.52
	95th %	254.09	234.75	290.79
	99th %	385.23	354.03	436.62

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.

5. "UNCOOKED" FISH CONSUMPTION ESTIMATES

This section presents tabulated daily average "uncooked" fish consumption estimates and augments these estimates with selected graphical presentations of the data. Estimates and graphics are organized in subsections. This preface to the subsections delineates the organization of the section.

Tables and figures are first organized by estimates for the U.S. population (Section 5.1) or "consumers only" (Section 5.2). For the U.S. population, daily average "uncooked" fish consumption was estimated for:

- finfish and shellfish (grams/person/day),
- finfish and shellfish (milligrams/kilogram of body weight/day),
- finfish (grams/person/day),
- shellfish (grams/person/day),
- low-income individuals (grams/person/day),
- alternate habitat (grams/person/day), and
- mean consumption by species within habitat (grams/person/day).

For "consumers only," estimates were calculated for:

- finfish and shellfish (grams/person/day),
- finfish and shellfish (milligrams/kilogram of body weight/day), and
- alternate habitat (grams/person/day).

The tables list estimates of the mean, median, 90th percentile, 95th percentile, and 99th percentile empirical daily average per capita consumption and 90–percent intervals about each estimate. These estimates used survey weights to project data from the USDA's combined 1994, 1995, and 1996 CSFII to daily average per capita consumption by the U.S. population. Estimates project consumption from a combined sample of 15,303 individuals to a population of 261,897,260. Subpopulation sample sizes and the projected subpopulation sizes are included on tables, where appropriate.

When estimates are presented according to age and gender, the age categories are (1) 14 years of age and younger, (2) 15 to 44, and (3) 45 years of age and older. For women, 15 to 44 years approximates the childbearing years. Estimates for the subpopulation of individuals 18 and older describe fish consumption by adults. These estimates project consumption from a combined sample of 9,596 individuals 18 years of age and older to a population of 190,931,846.

Estimates for "consumers only" are based on CSFII respondents who reported consumption of fish on at least one of the two days. Daily average estimates for "consumers only," as described in Section 3, are determined across the number of days for which fish consumption was reported.

SECTION 5.1.1.1 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (grams/person/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,564	2.41 (1.83-2.99)	0.00 (0.00-0.10)	14.18 (10.44-14.96)	59.01 (49.36-86.37)
15-44	2,332	5.81 (4.65-6.96)	7.36 (4.98-12.84)	32.35 (27.73-38.04)	109.72 (99.50-154.49)
45 and Older	2,654	6.41 (5.36-7.47)	17.78 (8.94-23.63)	45.06 (37.41-55.73)	108.80 (95.36-123.85)
All Ages	7,550	5.27 (4.56-5.99)	7.56 (5.72-11.90)	32.19 (28.80-37.41)	102.14 (97.83-112.07)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,591	3.23 (2.46-4.00)	0.00 (0.00-0.08)	15.70 (12.17-19.83)	86.51 (73.71-147.25)
15-44	2,382	7.78 (6.52-9.05)	15.57 (13.16-19.19)	49.35 (45.72-65.42)	150.20 (126.38-183.38)
45 and Older	2,780	10.18 (8.62-11.74)	32.47 (27.88-37.41)	73.52 (66.22-77.07)	165.92 (147.73-190.72)
All Ages	7,753	7.44 (6.55-8.34)	15.12 (12.44-18.50)	49.26 (46.74-55.23)	147.83 (136.11-160.46)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	5,155	2.83 (2.33-3.32)	0.00 (0.00-0.10)	14.97 (11.56-18.84)	77.95 (64.22-95.07)
15-44	4,714	6.80 (5.97-7.63)	13.20 (8.91-15.56)	43.21 (37.81-47.32)	134.87 (120.65-167.02)
45 and Older	5,434	8.14 (7.10-9.18)	24.98 (18.84-28.62)	56.56 (49.27-68.64)	144.31 (121.73-156.84)
All Ages	15,303	6.33 (5.73-6.94)	12.05 (8.14-13.69)	41.09 (38.04-45.16)	124.09 (118.65-136.11)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.1.1 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (grams/person/day)
Marine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	2,564	5.20 (4.38-6.02)	18.91 (14.20-27.40)	39.60 (37.51-48.06)	80.87 (65.55-102.56)
15-44	2,332	8.98 (7.85-10.11)	37.51 (32.44-37.85)	61.69 (55.77-71.16)	120.58 (116.74-132.54)
45 and Older	2,654	13.71 (12.03-15.39)	51.43 (49.00-55.44)	80.35 (76.56-82.55)	155.55 (148.67-178.75)
All Ages	7,550	9.77 (8.93-10.61)	37.80 (37.51-38.55)	64.66 (62.59-66.42)	128.05 (120.61-137.53)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	2,591	5.53 (4.49-6.56)	16.07 (9.21-21.75)	37.62 (31.77-41.28)	113.15 (111.35-140.30)
15-44	2,382	12.14 (10.60-13.67)	46.82 (37.85-56.54)	90.51 (76.97-106.67)	158.25 (134.91-194.60)
45 and Older	2,780	14.99 (13.33-16.66)	57.98 (53.49-68.27)	90.73 (85.48-97.30)	168.76 (157.10-186.87)
All Ages	7,753	11.42 (10.37-12.47)	41.25 (37.80-49.65)	82.63 (75.60-92.51)	153.36 (138.77-168.65)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	5,155	5.37 (4.60-6.13)	17.10 (13.03-18.94)	38.41 (37.40-40.83)	102.47 (86.82-114.84)
15-44	4,714	10.56 (9.43-11.69)	37.85 (37.60-41.28)	75.31 (69.17-83.45)	137.52 (121.76-151.03)
45 and Older	5,434	14.30 (12.96-15.63)	55.70 (53.13-57.83)	83.43 (80.94-85.48)	165.98 (155.52-178.04)
All Ages	15,303	10.58 (9.80-11.35)	38.46 (37.80-41.28)	74.82 (69.92-75.60)	139.26 (134.91-150.04)

105

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.1.1 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (grams/person/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,564	7.61 (6.50-8.72)	29.00 (25.39-37.93)	56.29 (49.36-59.12)	104.08 (94.70-126.23)
15-44	2,332	14.79 (13.00-16.57)	53.60 (47.05-59.12)	85.40 (80.51-94.50)	189.90 (165.08-197.11)
45 and Older	2,654	20.12 (17.97-22.28)	73.87 (68.18-77.71)	104.04 (96.73-112.99)	214.25 (190.72-223.68)
All Ages	7,550	15.04 (13.79-16.29)	56.54 (53.44-59.12)	86.37 (82.97-92.55)	186.05 (170.10-195.03)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,591	8.76 (7.41-10.10)	28.90 (23.52-37.85)	56.27 (46.23-75.02)	165.93 (138.30-177.88)
15-44	2,382	19.92 (18.07-21.77)	77.00 (68.00-88.79)	118.59 (110.69-127.12)	242.59 (224.34-254.85)
45 and Older	2,780	25.17 (23.03-27.32)	89.74 (86.46-93.81)	130.67 (125.68-136.33)	226.52 (207.36-278.29)
All Ages	7,753	18.86 (17.66-20.07)	73.51 (67.37-80.49)	113.38 (110.47-117.13)	219.18 (205.81-235.69)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	5,155	8.19 (7.20-9.19)	28.92 (25.62-34.00)	56.28 (49.59-56.78)	132.77 (117.27-174.00)
15-44	4,714	17.36 (16.00-18.71)	65.58 (59.98-73.51)	107.81 (99.76-113.56)	210.65 (192.20-242.30)
45 and Older	5,434	22.43 (20.71-24.16)	80.66 (75.02-85.09)	115.26 (111.65-120.65)	218.54 (212.60-227.62)
All Ages	15,303	16.91 (15.92-17.90)	63.87 (61.16-65.83)	102.20 (98.57-106.39)	198.16 (192.20-209.47)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

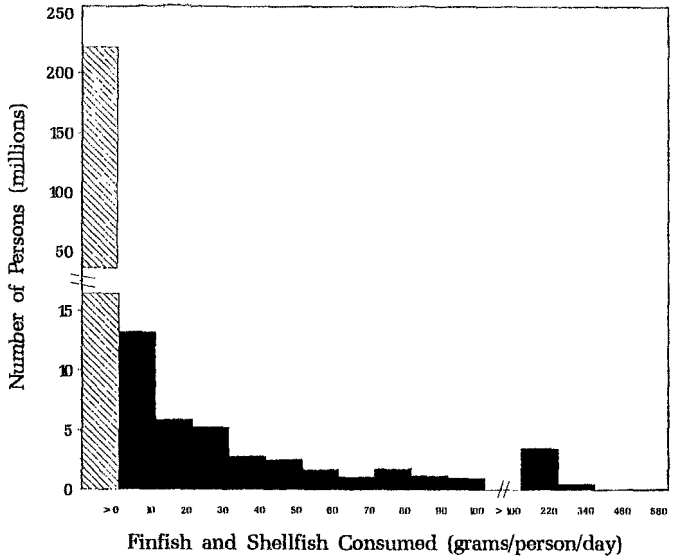
SECTION 5.1.1.1 TABLE 4. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	7.50	6.73	8.27
	50th %	0.00	0.00	0.00
	90th %	17.53	14.46	21.68
	95th %	49.59	46.87	55.30
	99th %	142.41	124.95	156.84
Marine	Mean	12.46	11.51	13.41
	50th %	0.00	0.00	0.00
	90th %	49.16	47.90	51.36
	95th %	80.93	77.93	83.63
	99th %	150.86	139.66	166.90
All Fish	Mean	19.96	18.75	21.18
	50th %	0.00	0.00	0.00
	90th %	74.87	71.79	75.80
	95th %	111.45	110.03	114.06
	99th %	215.73	198.20	228.53

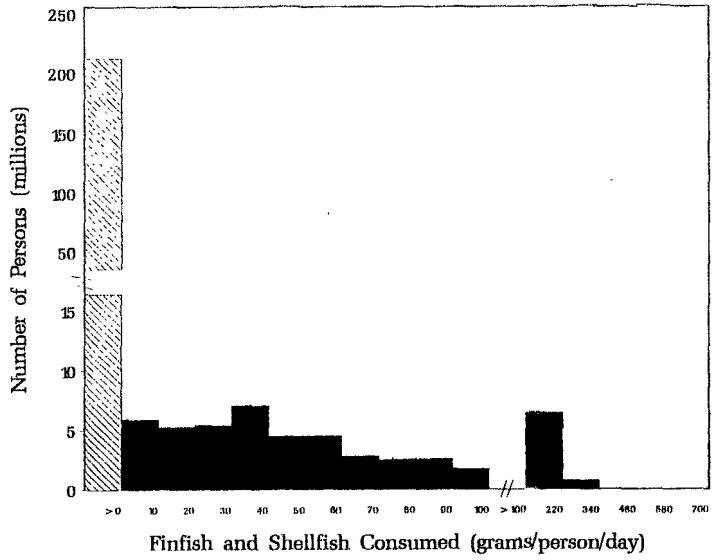
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

Section 5.1.1.1 Figure 1. Histograms of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

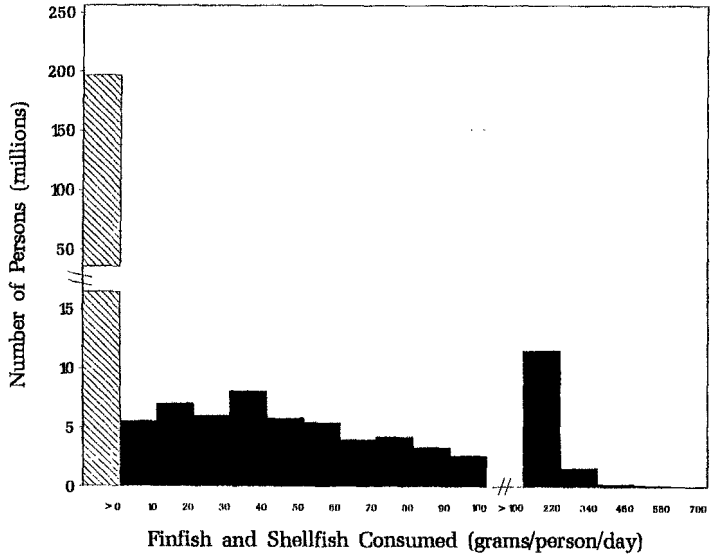
Freshwater/Estuarine Finfish and Shellfish

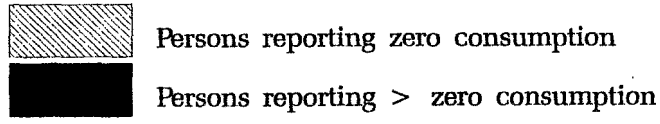


Marine Finfish and Shellfish



Total Finfish and Shellfish

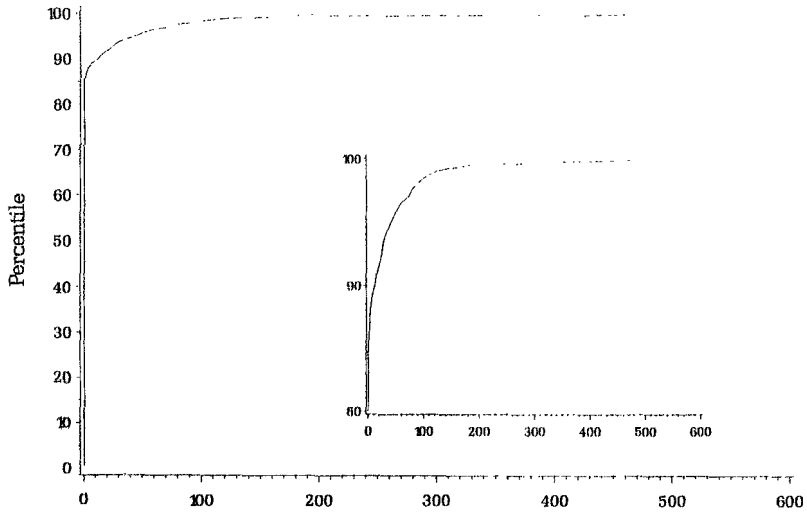




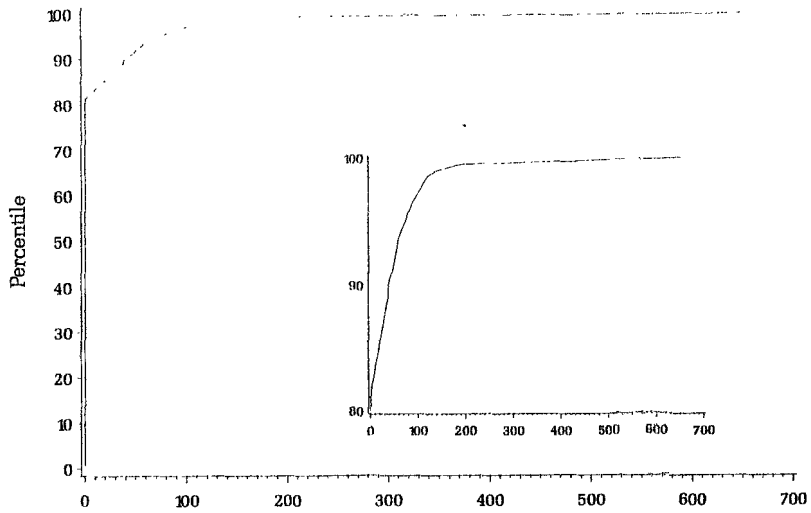
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.1.1 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

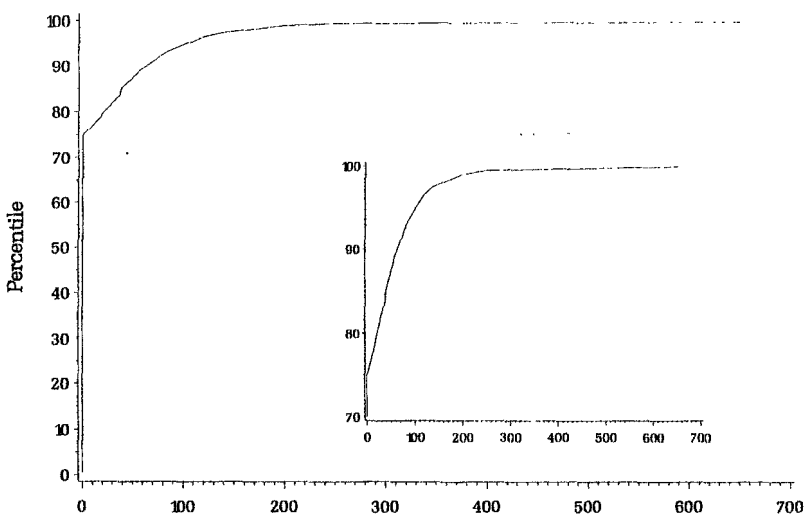
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish

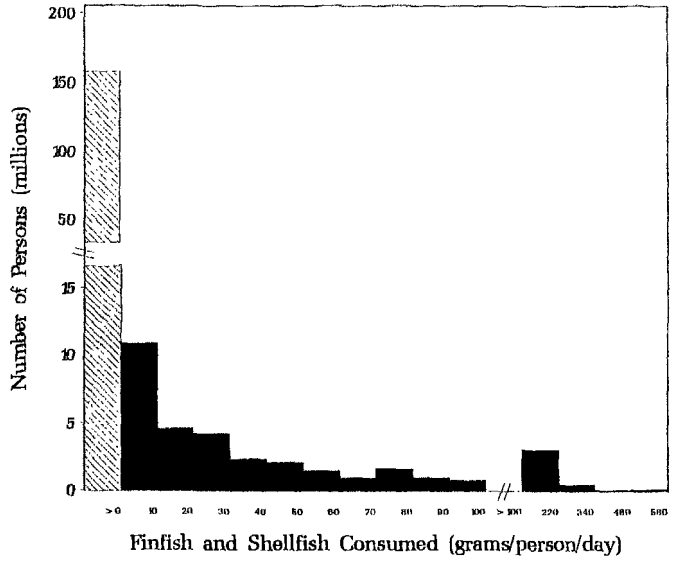


Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

191

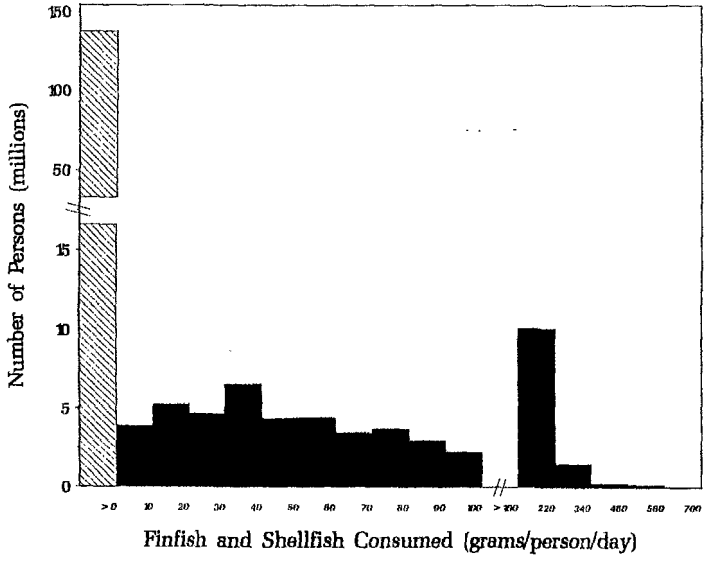
Section 5.1.1.1 Figure 3. Histograms of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

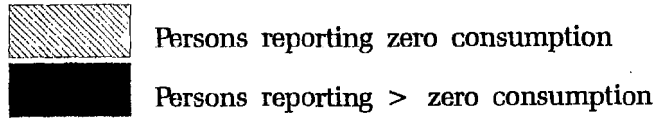
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish

Total Finfish and Shellfish



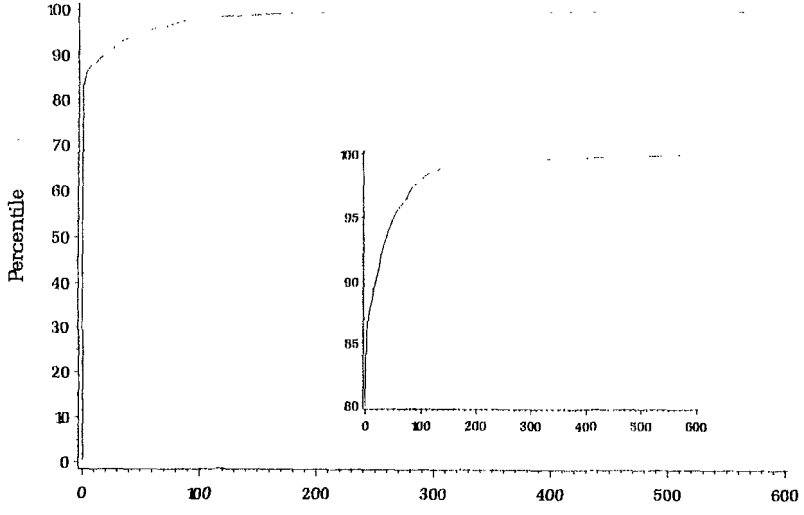


Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

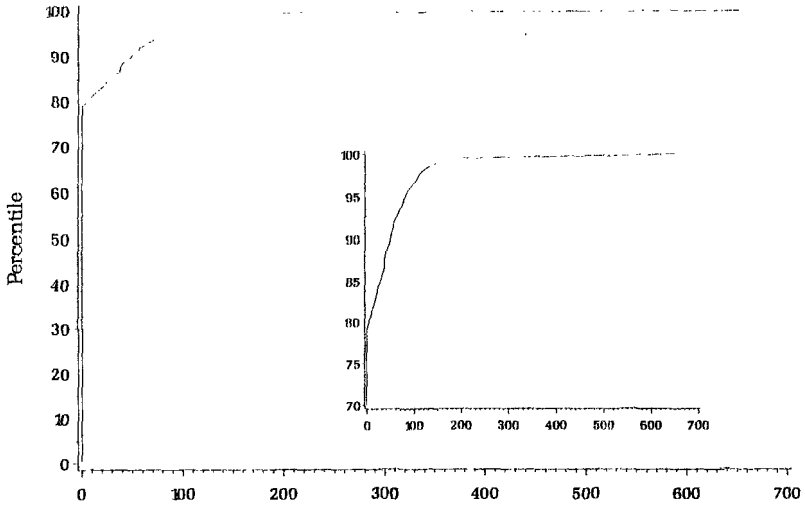
011

Section 5.1.1.1 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

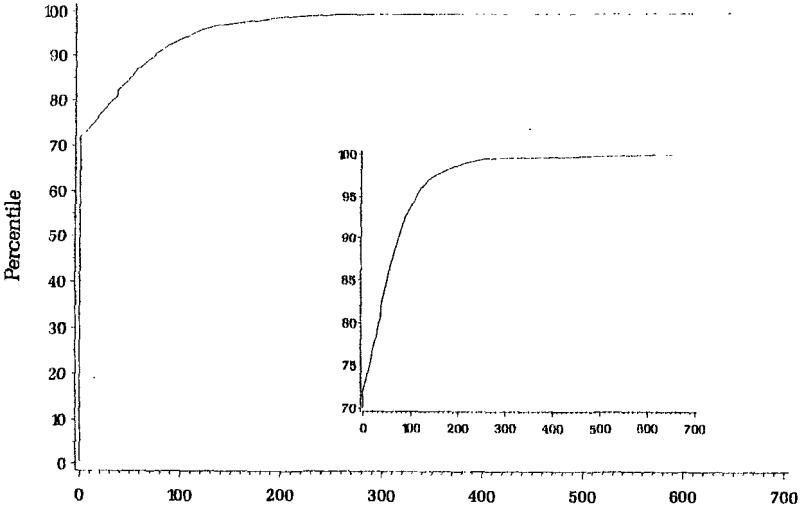
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 5.1.1.2 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	89.56 (69.26-109.86)	0.00 (0.00-0.00)	471.77 (326.59-659.03)	2,190.40 (1,584.62-2,440.28)
15-44	2,275	91.11 (71.58-110.65)	114.45 (83.17-180.85)	485.44 (420.17-534.42)	1,809.04 (1,482.59-2,146.70)
45 and Older	2,569	96.54 (78.98-114.10)	250.11 (202.09-311.22)	657.70 (567.41-731.18)	1,822.44 (1,517.18-1,918.16)
All Ages	7,259	92.79 (79.89-105.69)	121.74 (89.17-178.53)	536.02 (484.83-637.34)	1,876.88 (1,646.63-2,146.70)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	98.54 (76.10-120.97)	0.00 (0.00-1.98)	544.79 (453.04-642.37)	2,329.10 (1,855.64-2,494.96)
15-44	2,369	98.33 (81.97-114.70)	200.94 (150.77-277.23)	622.18 (558.03-714.33)	1,854.11 (1,751.76-2,420.27)
45 and Older	2,764	121.22 (102.49-139.94)	377.73 (337.37-416.31)	891.09 (779.20-971.49)	1,963.23 (1,736.04-2,131.71)
All Ages	7,596	105.85 (93.07-118.62)	207.92 (164.23-256.02)	707.14 (661.94-801.63)	2,022.07 (1,839.41-2,220.71)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	94.18 (77.35-111.01)	0.00 (0.00-0.68)	505.24 (354.13-606.25)	2,240.44 (2,022.51-2,440.28)
15-44	4,644	94.79 (82.75-106.83)	153.40 (116.97-204.02)	557.27 (493.03-620.60)	1,855.68 (1,883.03-2,220.71)
45 and Older	5,333	108.08 (94.06-122.10)	321.79 (248.74-369.72)	760.49 (656.38-870.31)	1,868.09 (1,708.50-1,940.99)
All Ages	14,855	99.25 (89.68-108.82)	160.93 (119.13-193.11)	635.67 (584.57-675.25)	1,941.30 (1,845.97-2,035.57)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.1.2 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Marine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	207.69 (172.90-242.48)	606.90 (456.45-1,030.18)	1,509.45 (1,229.93-1,737.16)	3,656.52 (3,176.97-4,239.01)
15-44	2,275	146.32 (126.68-165.95)	556.91 (464.89-619.20)	994.51 (947.38-1,032.72)	2,056.80 (1,889.26-2,418.96)
45 and Older	2,569	208.93 (184.70-233.15)	807.62 (725.78-856.58)	1,184.19 (1,135.33-1,292.80)	2,458.77 (2,239.39-3,010.45)
All Ages	7,259	180.63 (166.05-195.20)	661.22 (619.20-705.54)	1,158.32 (1,102.86-1,231.95)	2,653.23 (2,406.57-2,965.53)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	192.09 (162.12-222.06)	532.93 (441.56-694.82)	1,437.45 (1,298.09-1,721.32)	3,304.21 (2,986.14-4,131.17)
15-44	2,369	151.62 (133.33-169.90)	582.63 (497.73-741.26)	1,142.50 (977.38-1,226.13)	2,009.82 (1,850.33-2,196.69)
45 and Older	2,764	187.64 (167.05-208.22)	712.84 (671.72-818.76)	1,138.09 (1,100.06-1,206.33)	2,275.26 (1,981.00-2,546.07)
All Ages	7,596	171.32 (157.33-185.30)	639.71 (575.11-733.47)	1,178.50 (1,101.48-1,226.13)	2,489.62 (2,314.36-2,686.44)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	199.68 (174.41-224.94)	581.37 (484.58-679.72)	1,490.30 (1,372.98-1,627.27)	3,528.82 (3,038.10-3,941.12)
15-44	4,644	148.97 (133.32-164.62)	568.99 (503.58-629.86)	1,051.59 (976.17-1,184.78)	2,027.29 (1,924.78-2,196.69)
45 and Older	5,333	198.96 (180.99-216.93)	768.11 (717.34-832.60)	1,156.27 (1,115.68-1,213.14)	2,380.11 (2,279.02-2,546.07)
All Ages	14,855	176.02 (164.92-187.12)	653.18 (617.79-693.83)	1,172.84 (1,126.68-1,226.13)	2,542.42 (2,400.64-2,704.55)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
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SECTION 5.1.1.2 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish (milligrams/kilogram of body weight/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,415	297.25 (255.64-338.86)	1,044.28 (729.83-1,361.94)	2,089.94 (1,693.54-2,355.03)	4,499.13 (4,116.64-5,466.62)
15-44	2,275	237.43 (206.81-268.05)	834.34 (782.38-922.29)	1,363.51 (1,266.65-1,474.66)	3,110.07 (2,672.64-3,360.63)
45 and Older	2,569	305.46 (272.51-338.42)	1,065.24 (1,010.28-1,170.95)	1,568.44 (1,510.55-1,674.24)	3,108.44 (2,662.35-3,948.67)
All Ages	7,259	273.42 (251.66-295.19)	976.51 (932.76-1,013.78)	1,567.48 (1,526.11-1,633.00)	3,552.40 (3,193.89-3,948.67)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	2,463	290.63 (253.36-327.89)	1,019.09 (850.41-1,212.17)	1,996.73 (1,842.35-2,356.75)	4,331.12 (4,045.54-5,182.69)
15-44	2,369	249.95 (226.82-273.08)	997.14 (946.14-1,160.25)	1,532.80 (1,415.09-1,618.52)	3,003.98 (2,643.56-3,470.12)
45 and Older	2,764	308.86 (282.55-335.17)	1,128.10 (1,043.63-1,209.83)	1,604.54 (1,538.79-1,730.85)	2,820.79 (2,756.95-3,160.55)
All Ages	7,596	277.16 (260.15-294.18)	1,057.71 (982.01-1,168.15)	1,619.05 (1,551.57-1,754.94)	3,343.47 (3,203.84-3,724.01)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	4,878	293.86 (262.08-325.64)	1,039.52 (865.87-1,166.31)	2,037.56 (1,872.25-2,188.89)	4,363.99 (4,243.42-4,799.81)
15-44	4,644	243.76 (224.11-263.41)	951.25 (888.86-1,018.97)	1,451.35 (1,342.56-1,601.94)	3,092.61 (2,787.73-3,349.32)
45 and Older	5,333	307.04 (283.00-331.08)	1,113.09 (1,010.35-1,158.49)	1,590.82 (1,517.18-1,681.96)	3,045.13 (2,716.17-3,226.17)
All Ages	14,855	275.27 (259.66-290.88)	1,013.38 (977.59-1,052.41)	1,604.21 (1,552.29-1,651.40)	3,420.78 (3,226.17-3,726.98)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 14,855 individuals to the U.S. population of 255,553,578 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

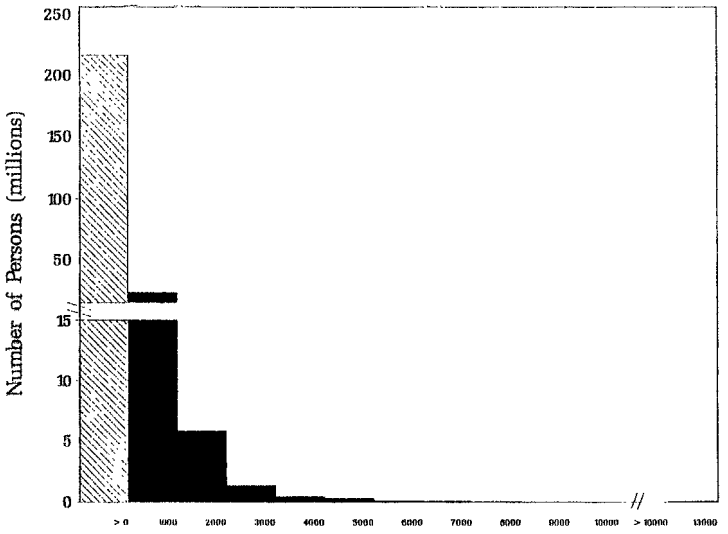
SECTION 5.1.1.2 TABLE 4. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish
Individuals of Age 18 and Older

		Milligrams/kilogram of body weight/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	102.03	91.85	112.22
	50th %	0.00	0.00	0.00
	90th %	240.71	193.01	277.23
	95th %	669.39	596.79	741.15
	99th %	1,875.57	1,693.17	2,034.18
Marine	Mean	173.67	160.72	186.61
	50th %	0.00	0.00	0.00
	90th %	675.07	655.59	735.06
	95th %	1,115.51	1,078.13	1,182.74
	99th %	2,187.50	2,024.24	2,417.22
All Fish	Mean	275.70	258.76	292.64
	50th %	0.00	0.00	0.00
	90th %	1,024.71	982.65	1,078.13
	95th %	1,549.09	1,486.40	1,599.91
	99th %	3,060.80	2,771.47	3,203.84

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,432 individuals of age 18 and older to the population of 187,535,835 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

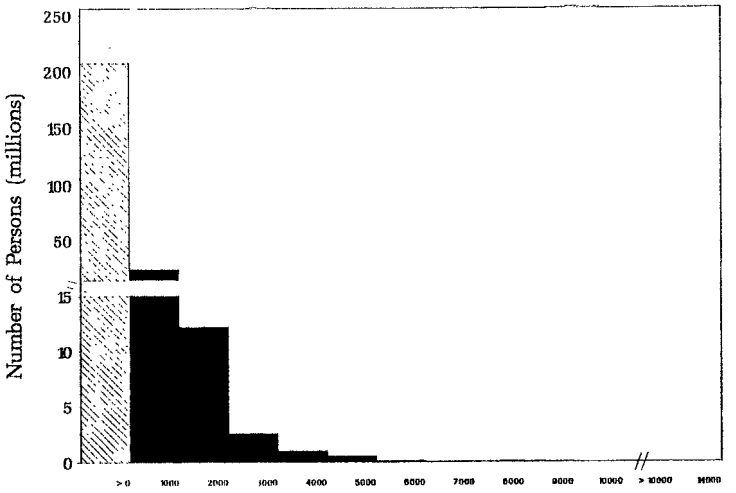
Section 5.1.1.2 Figure 1. Histograms of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



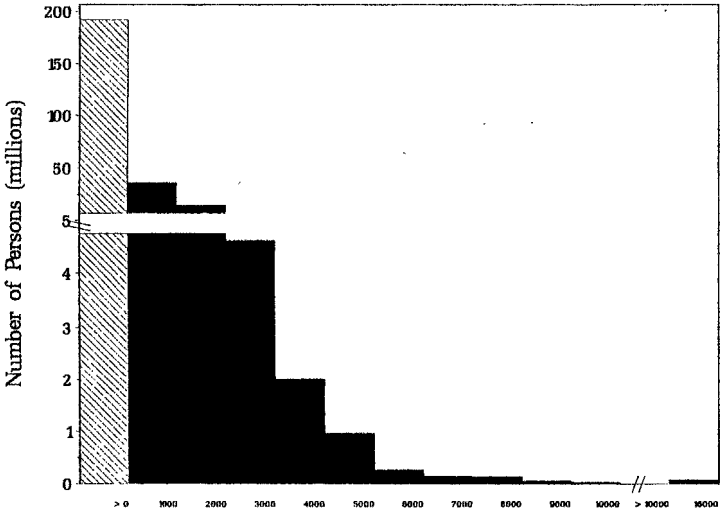
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish

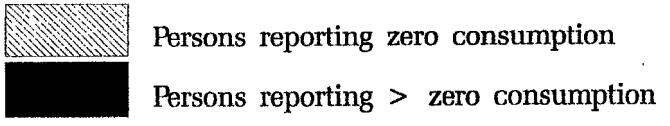


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish



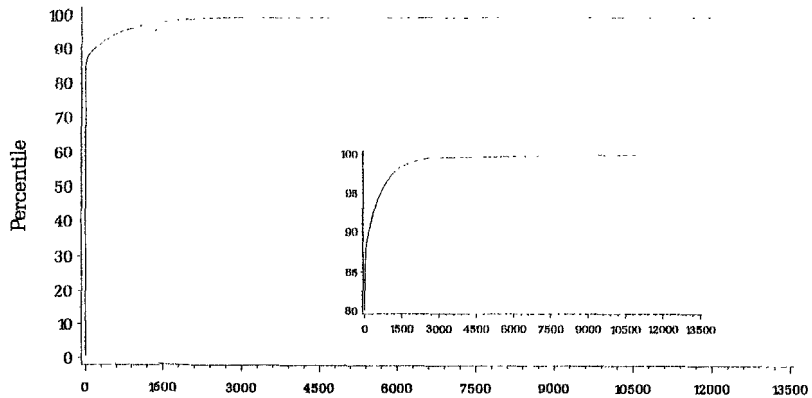
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)



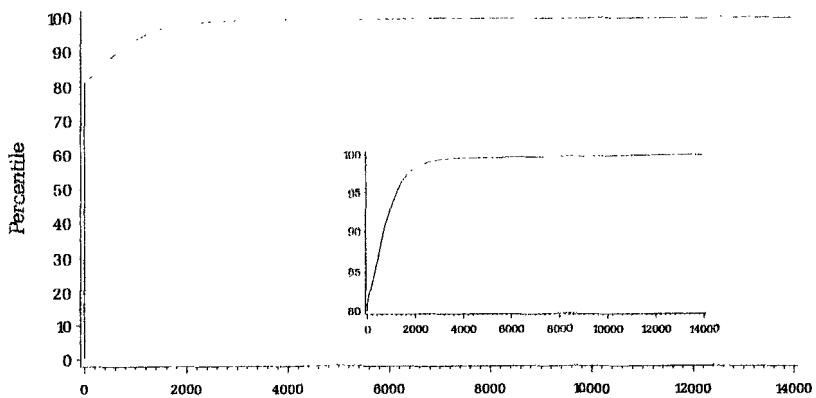
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.1.2 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Fish

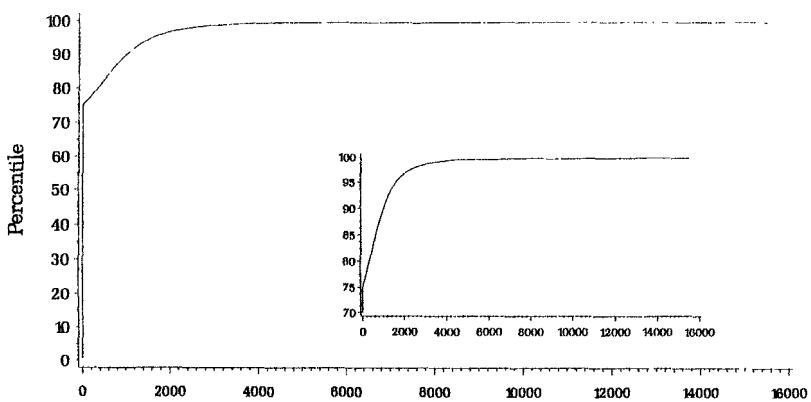
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



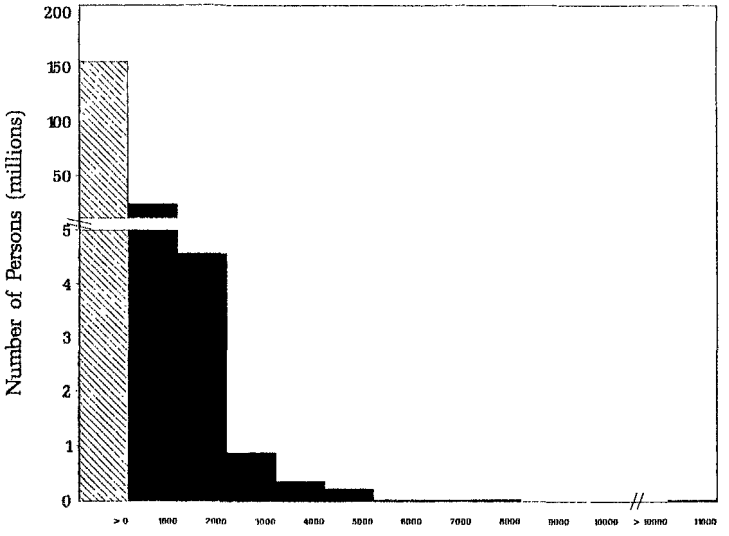
Total Finfish and Shellfish



Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

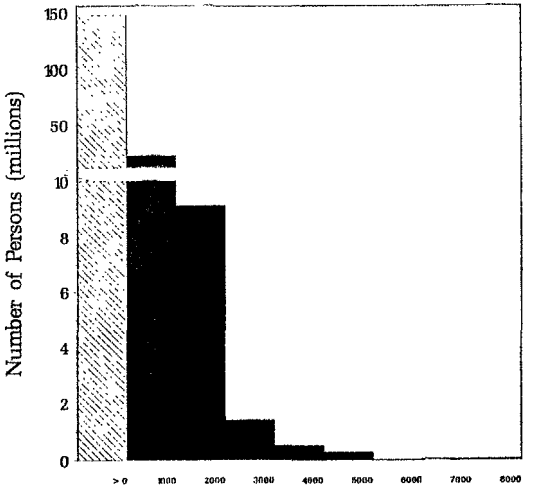
Section 5.1.1.2 Figure 3. Histograms of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



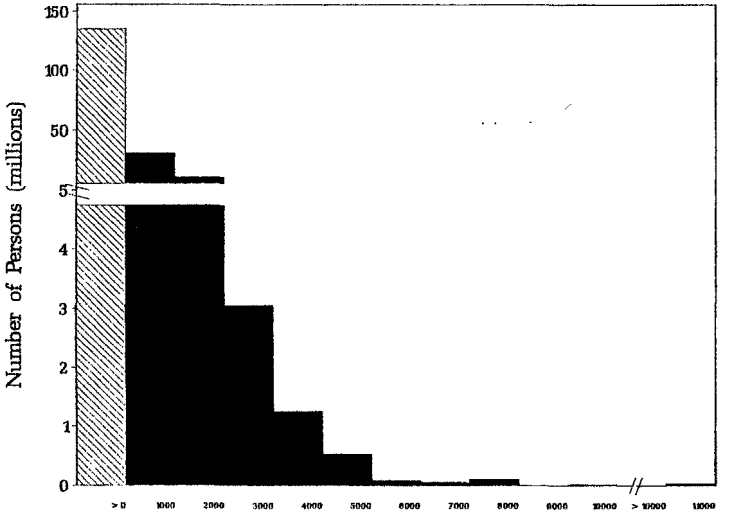
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish

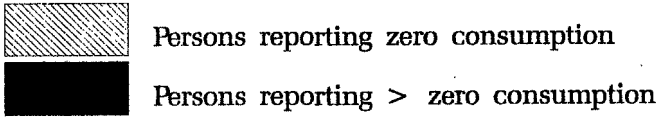


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish



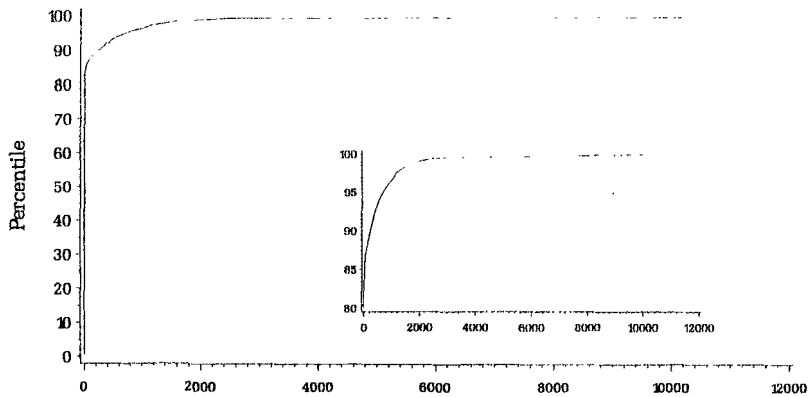
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)



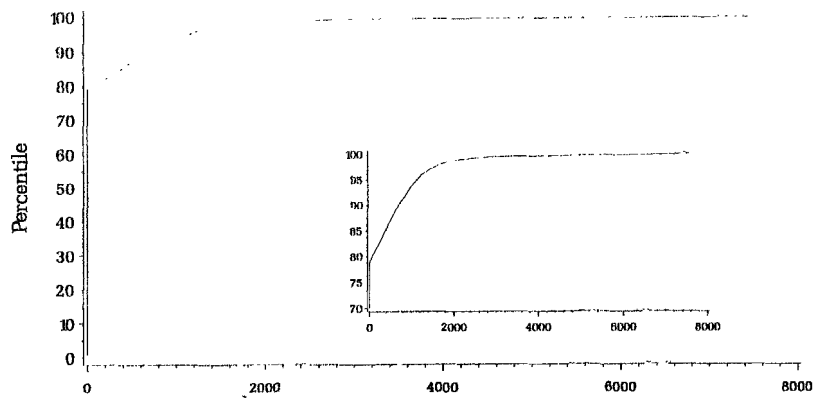
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.1.2 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

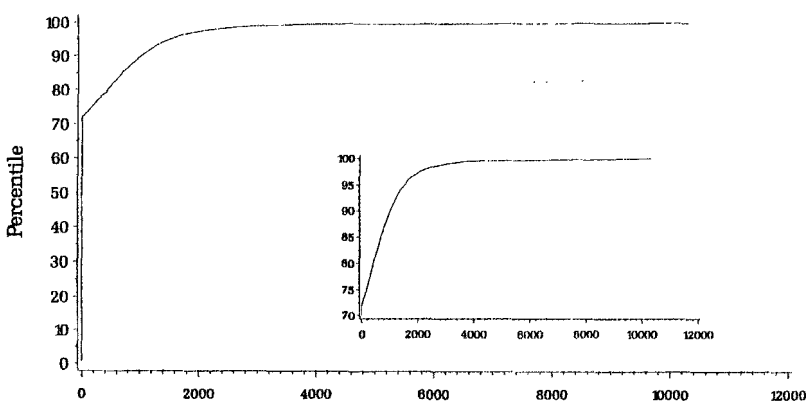
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 5.1.2 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish
All Individuals

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	3.58	3.16	3.99
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	14.39	11.29	17.23
	99th %	95.33	83.13	102.19
Marine	Mean	8.98	8.40	9.56
	50th %	0.00	0.00	0.00
	90th %	37.51	32.47	37.60
	95th %	62.55	59.12	66.06
	99th %	127.97	119.29	137.21
All Fish	Mean	12.56	11.83	13.29
	50th %	0.00	0.00	0.00
	90th %	48.68	45.33	50.15
	95th %	81.79	77.47	86.10
	99th %	173.69	164.72	184.81

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.2 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	4.20	3.66	4.74
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.66
	95th %	22.88	16.36	25.73
	99th %	105.78	94.70	117.10
Marine	Mean	10.42	9.75	11.08
	50th %	0.00	0.00	0.00
	90th %	40.27	37.85	42.57
	95th %	74.31	69.51	75.02
	99th %	136.55	128.95	141.75
All Fish	Mean	14.62	13.76	15.48
	50th %	0.00	0.00	0.00
	90th %	56.56	54.08	57.55
	95th %	90.21	86.33	94.70
	99th %	186.85	173.45	194.00

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
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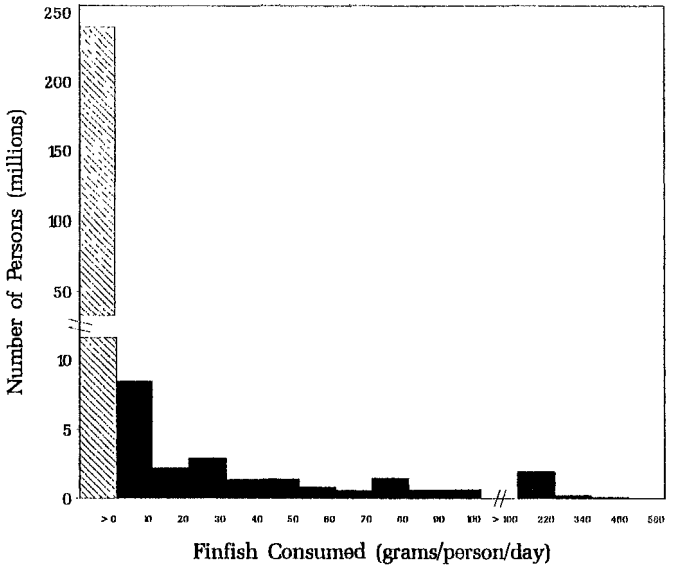
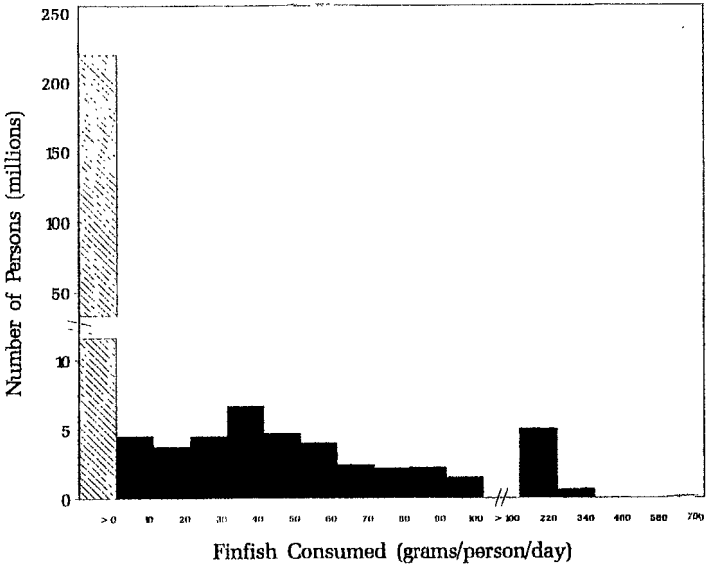
Section 5.1.2 Figure 1. Histograms of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Finfish

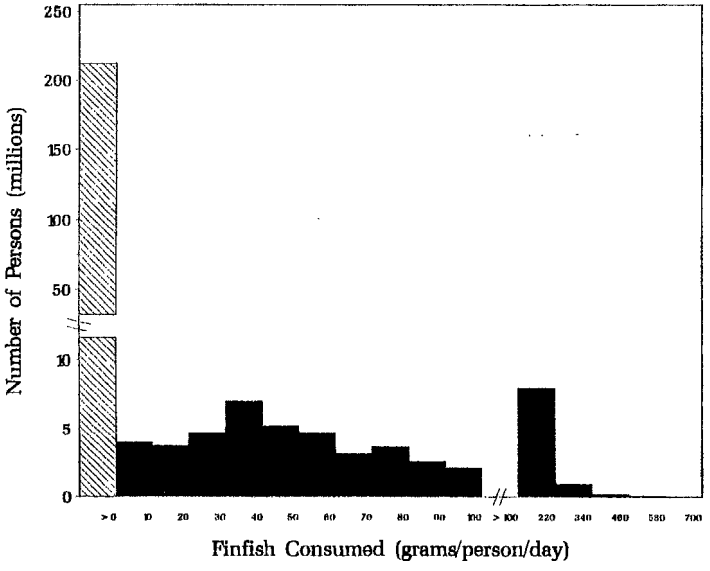
Freshwater/Estuarine Finfish

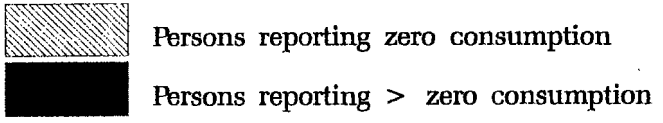


Marine Finfish



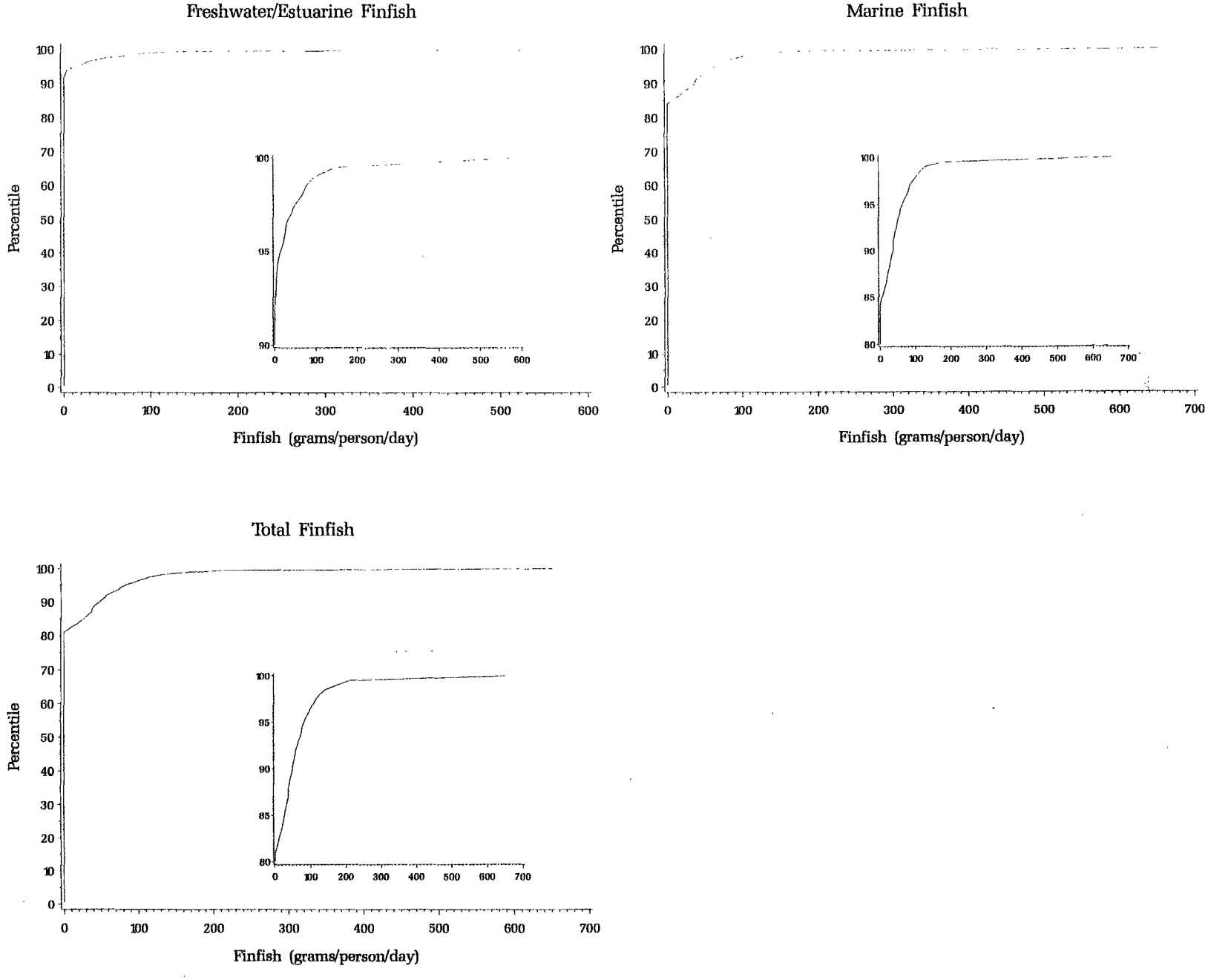
Total Finfish





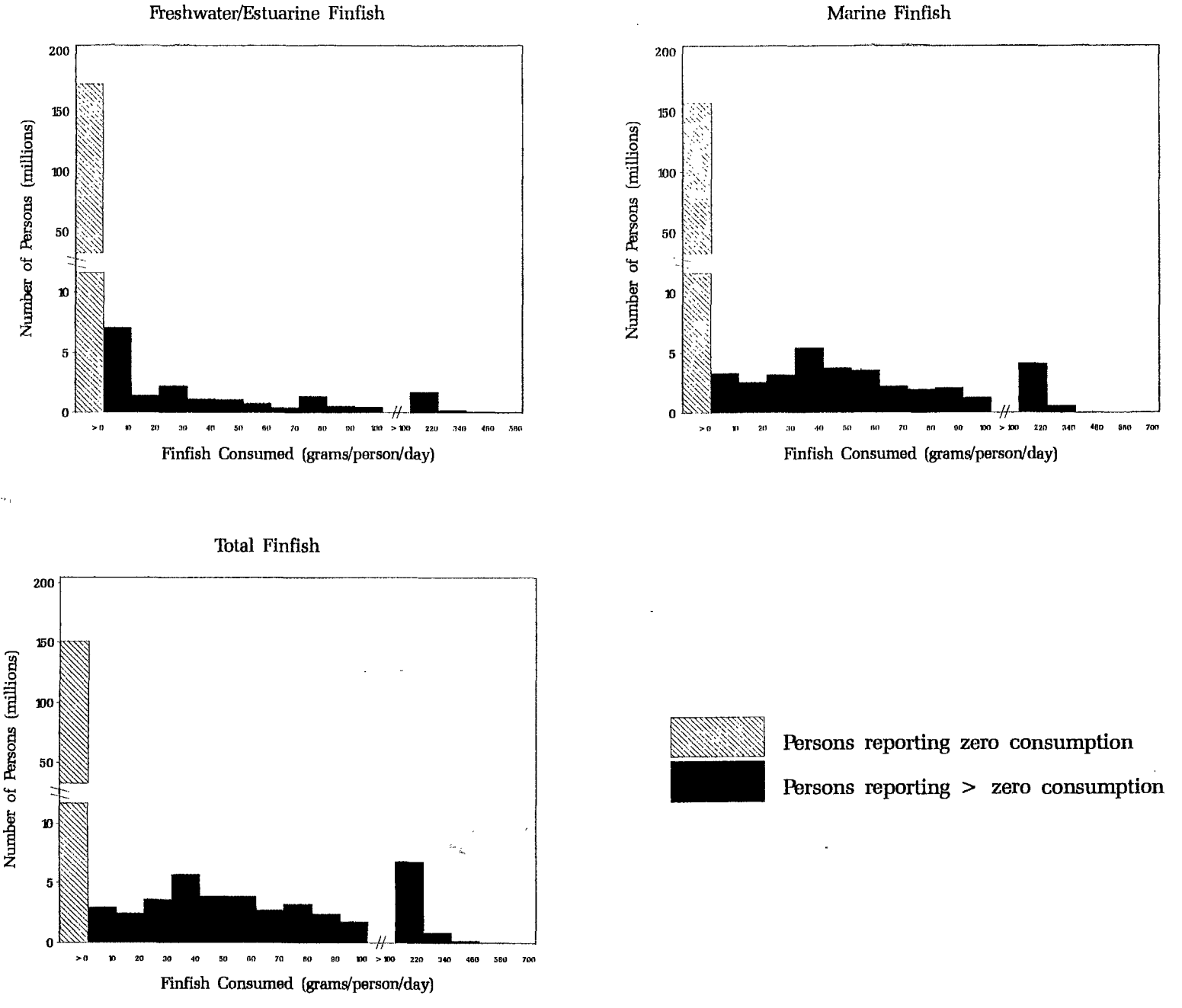
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.2 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Finfish



Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

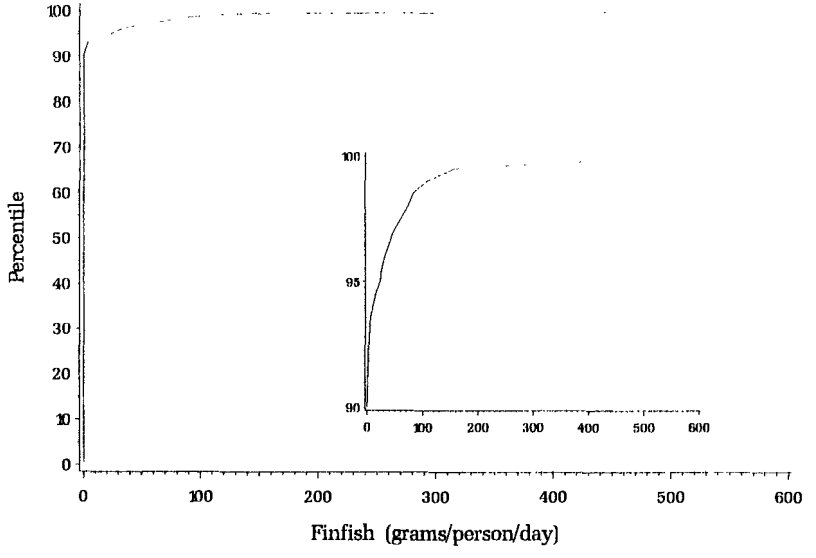
Section 5.1.2 Figure 3. Histograms of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish



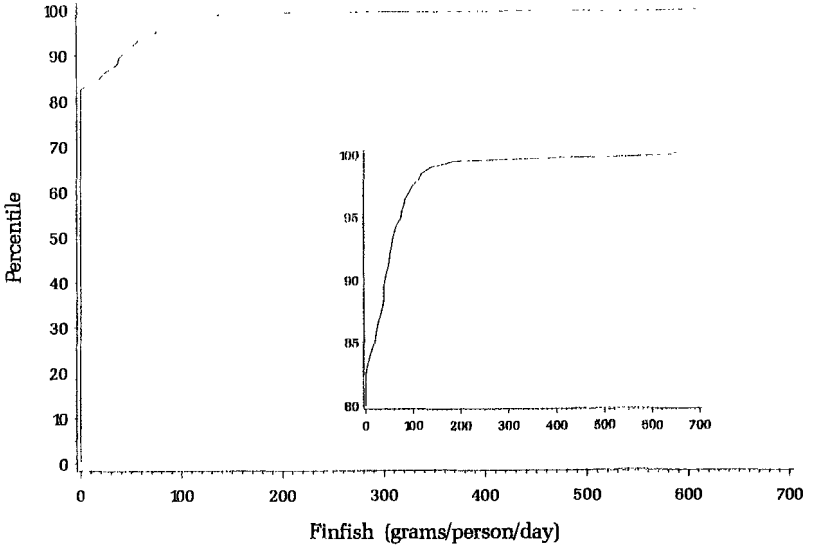
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.2 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Finfish

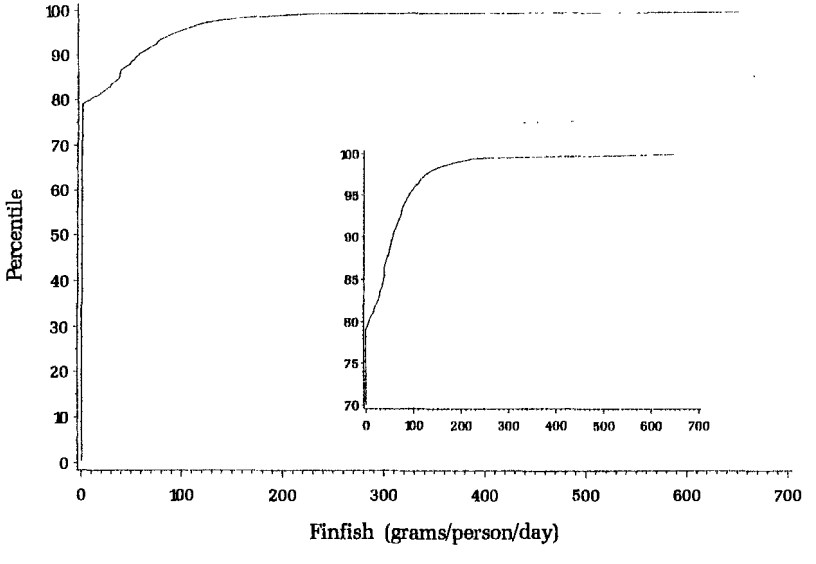
Freshwater/Estuarine Finfish



Marine Finfish



Total Finfish



Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

125

SECTION 5.1.3 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Shellfish
All Individuals

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	2.76	2.37	3.14
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	12.85	10.27	14.84
	99th %	77.02	73.54	82.85
Marine	Mean	1.60	1.20	2.00
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.00
	99th %	54.81	36.40	81.26
All Fish	Mean	4.35	3.75	4.95
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	24.07	22.76	27.49
	99th %	110.54	99.22	110.69

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
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SECTION 5.1.3 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	3.30	2.83	3.77
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.18
	95th %	18.02	14.84	22.34
	99th %	82.23	73.07	92.55
Marine	Mean	2.05	1.50	2.59
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	4.97
	99th %	74.19	50.73	108.55
All Fish	Mean	5.34	4.58	6.10
	50th %	0.00	0.00	0.00
	90th %	1.40	0.00	6.22
	95th %	35.38	27.51	40.75
	99th %	113.62	104.35	137.53

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals of age 18 and older to the population of 190,931,846 individuals of age 18 and older using 3-year combined survey weights.
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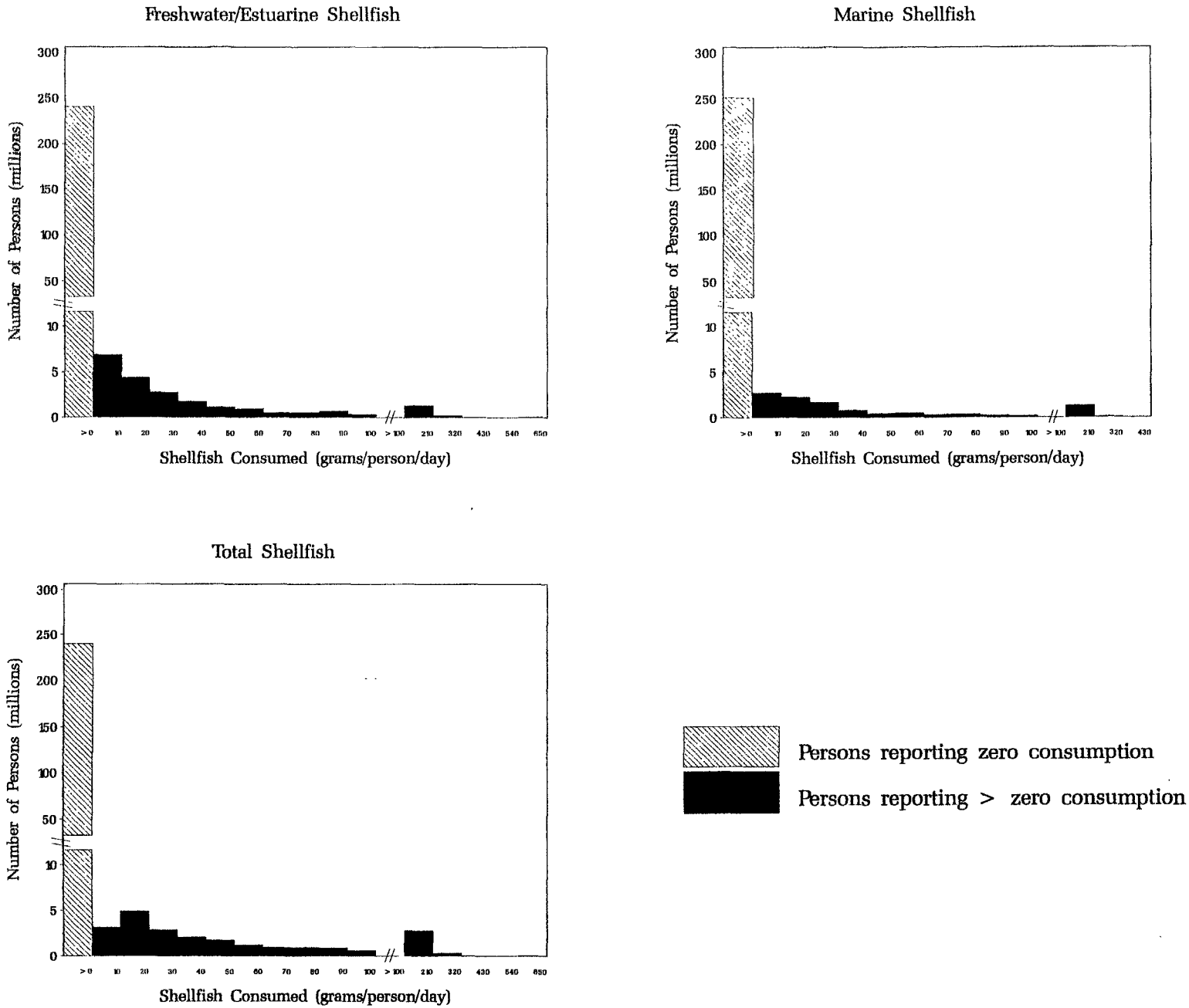
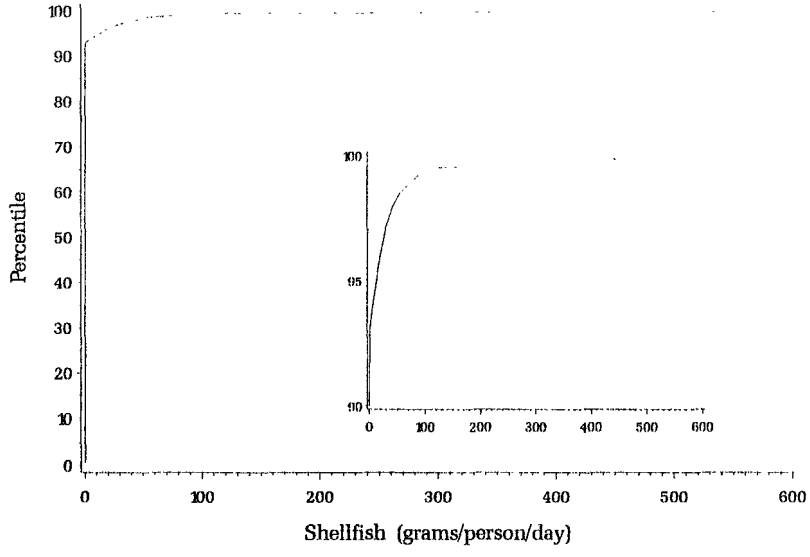
Section 5.1.3 Figure 1. Histograms of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Shellfish



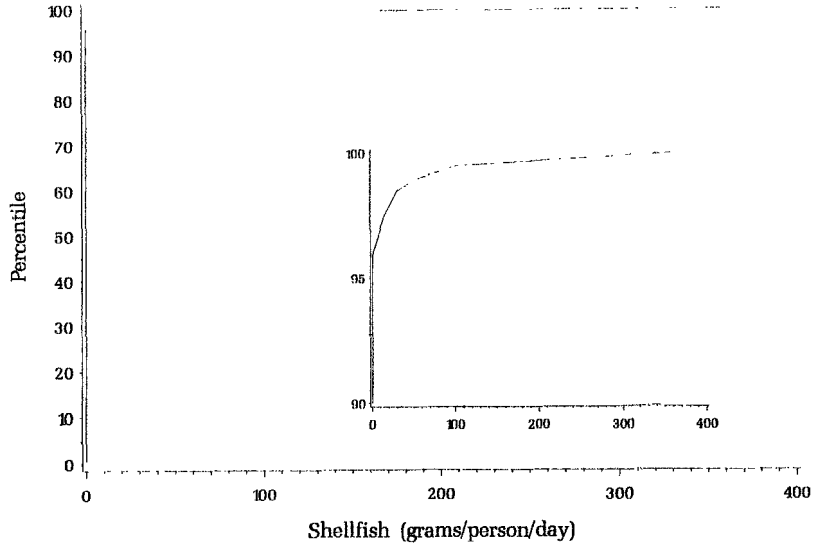
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.3 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for U.S. Population: Freshwater/Estuarine, Marine, and Total Shellfish

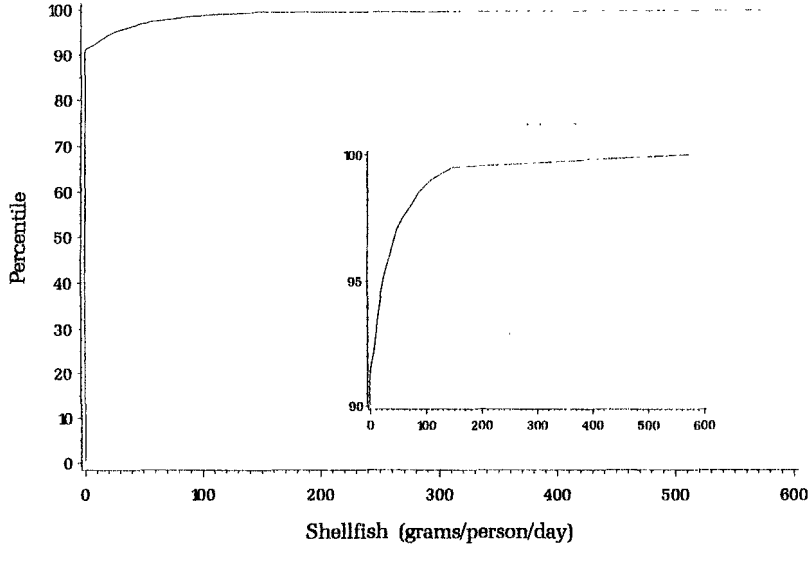
Freshwater/Estuarine Shellfish



Marine Shellfish

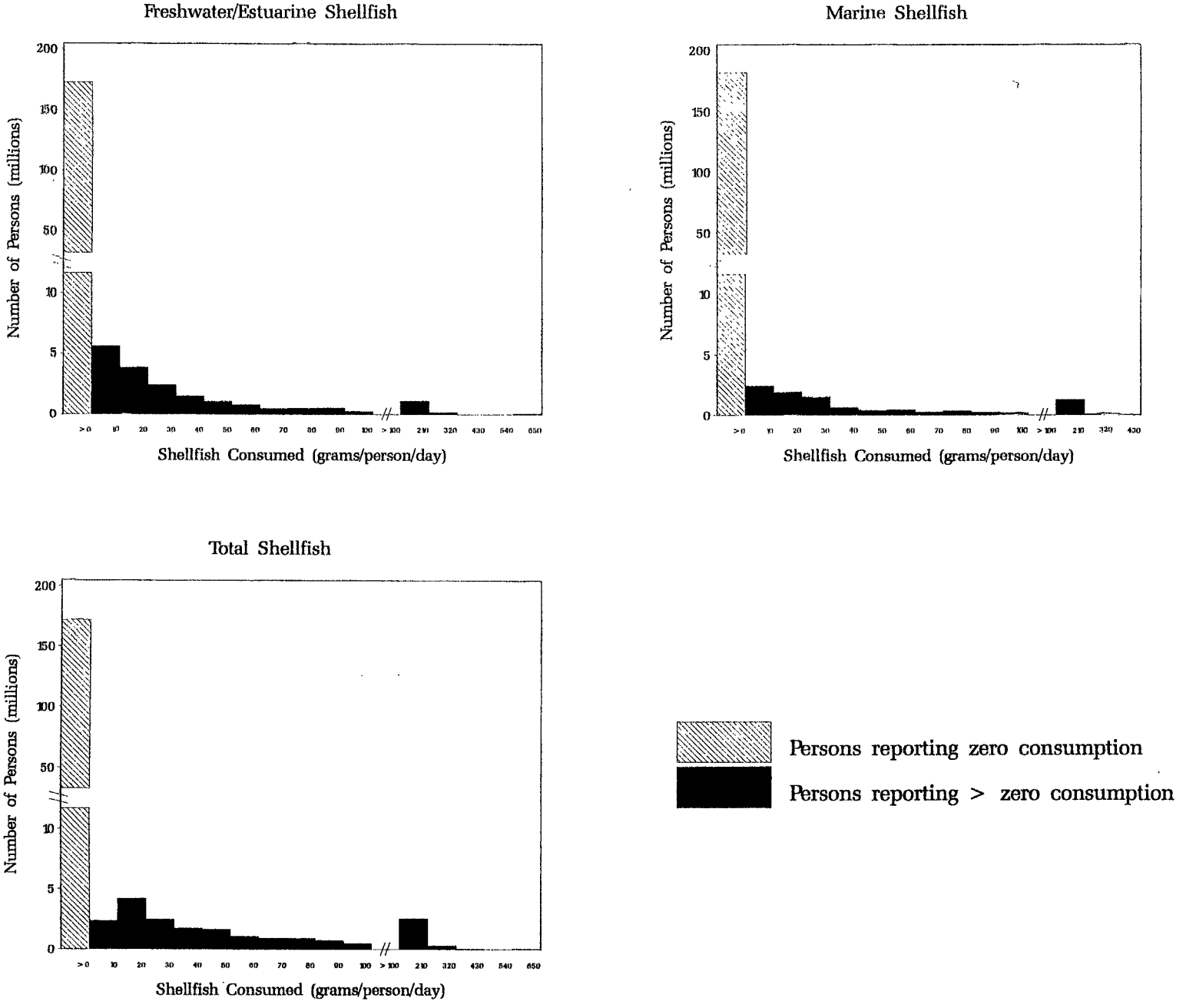


Total Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

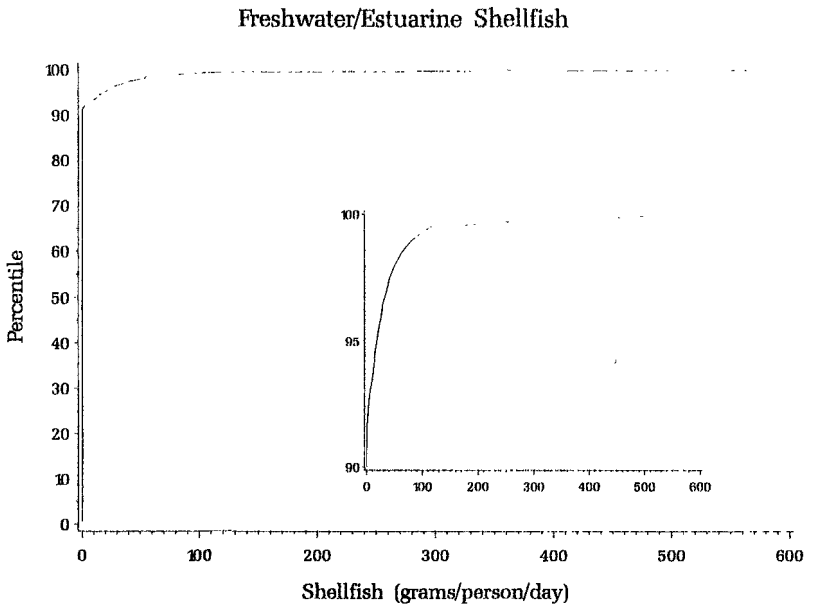
Section 5.1.3 Figure 3. Histograms of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish

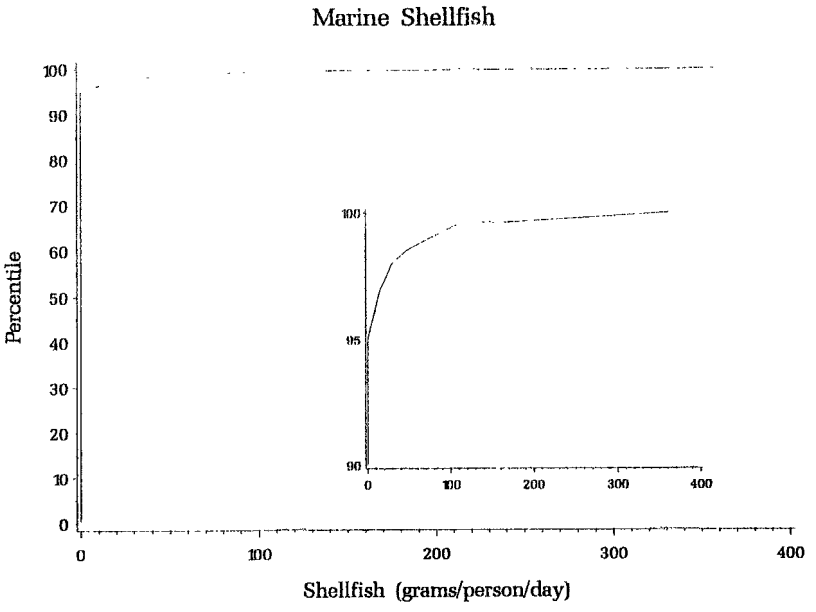


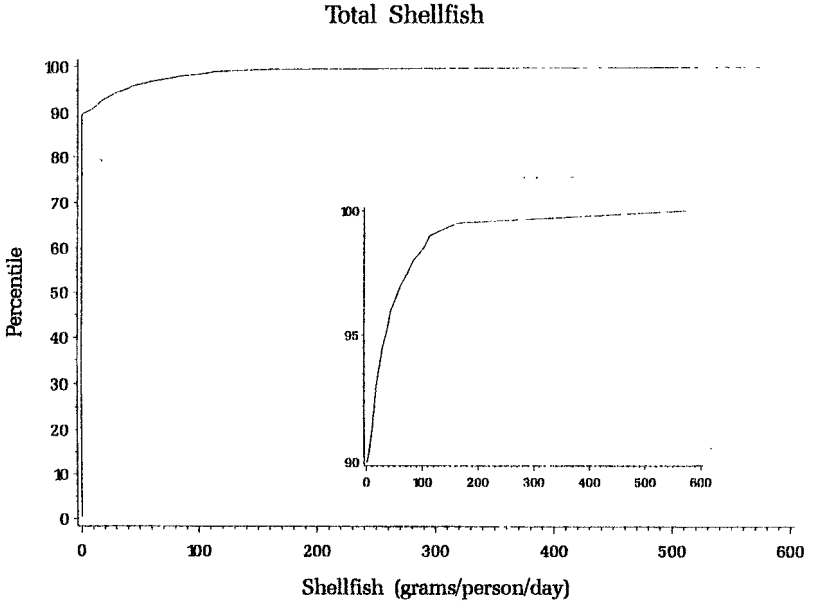
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

120

Section 5.1.3 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Individuals of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Shellfish







Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 5.1.4 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish
Low-income Population

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	4.19	3.00	5.38
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	14.60	3.98	25.73
	99th %	110.23	85.90	153.19
Marine	Mean	7.49	6.42	8.55
	50th %	0.00	0.00	0.00
	90th %	22.83	12.50	31.94
	95th %	53.32	48.46	61.65
	99th %	124.49	111.30	147.36
All Fish	Mean	11.68	9.96	13.40
	50th %	0.00	0.00	0.00
	90th %	38.65	37.51	45.33
	95th %	75.93	66.22	94.89
	99th %	190.58	167.61	200.50

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) Low-income is defined as individuals from households with gross income at or below 130% of the federal poverty threshold.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.4 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Shellfish
Low-income Population

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	2.10	1.54	2.65
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	2.07	0.00	3.80
	99th %	72.87	55.12	97.86
Marine	Mean	1.92	0.33	3.52
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.47
	99th %	99.46	19.35	108.55
All Fish	Mean	4.02	2.32	5.72
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	16.99	8.58	30.36
	99th %	110.52	97.86	119.00

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
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SECTION 5.1.4 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish
Low-income Population

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	6.29	4.95	7.63
	50th %	0.00	0.00	0.00
	90th %	2.87	2.06	5.85
	95th %	36.42	26.99	47.89
	99th %	147.22	113.24	190.72
Marine	Mean	9.41	7.59	11.23
	50th %	0.00	0.00	0.00
	90th %	32.44	26.00	37.80
	95th %	66.13	53.66	97.78
	99th %	137.51	115.76	150.04
All Fish	Mean	15.70	13.41	17.99
	50th %	0.00	0.00	0.00
	90th %	54.55	49.00	68.04
	95th %	105.73	92.55	110.69
	99th %	201.26	190.72	228.12

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 3,977 low-income individuals to the low-income U.S. population of 50,234,917 using 3-year combined survey weights.
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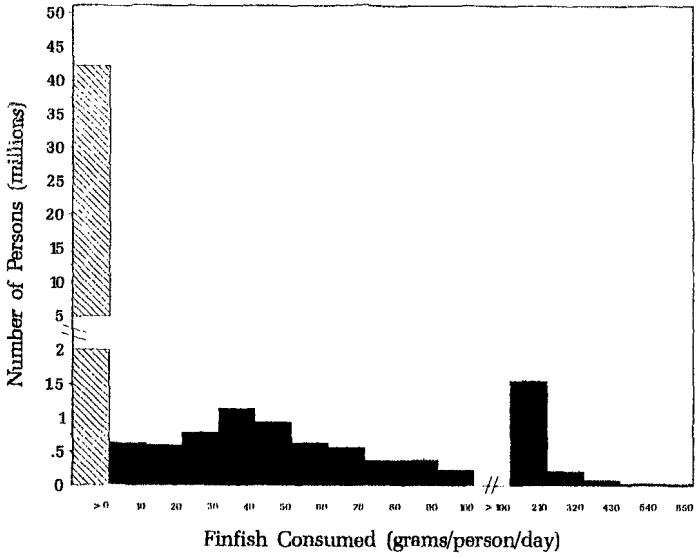
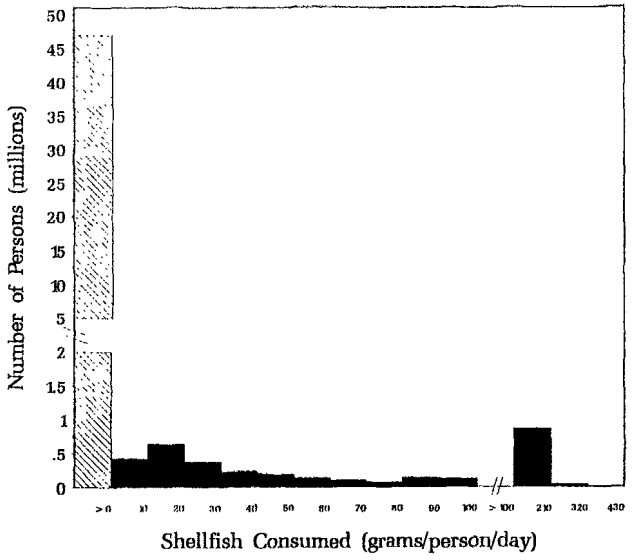
Section 5.1.4 Figure 1. Histograms of Uncooked Fish Consumption by the Low—income U.S. Population: Total Finfish, Total Shellfish, and Total Finfish and Shellfish

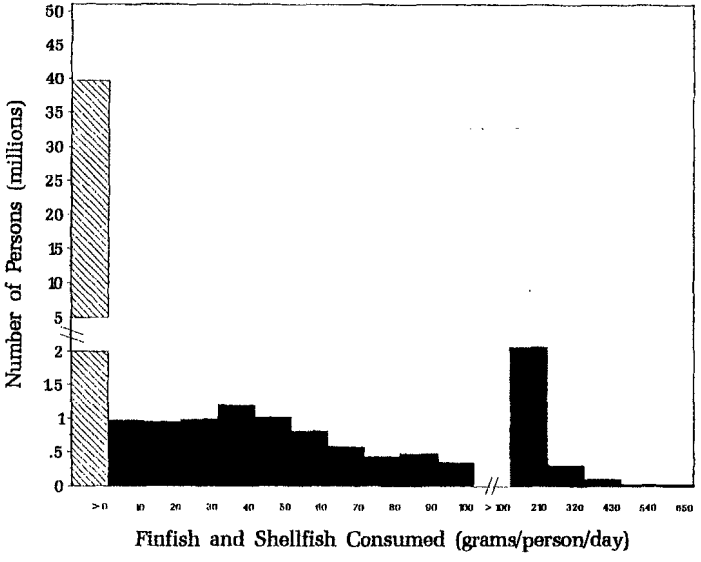
Total Finfish

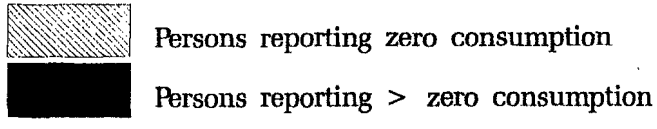


Total Shellfish



Total Finfish and Shellfish

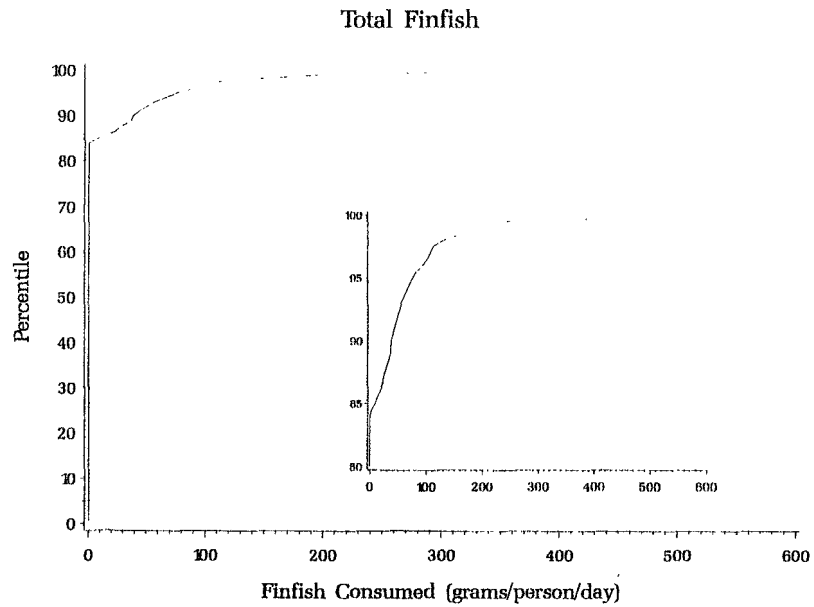


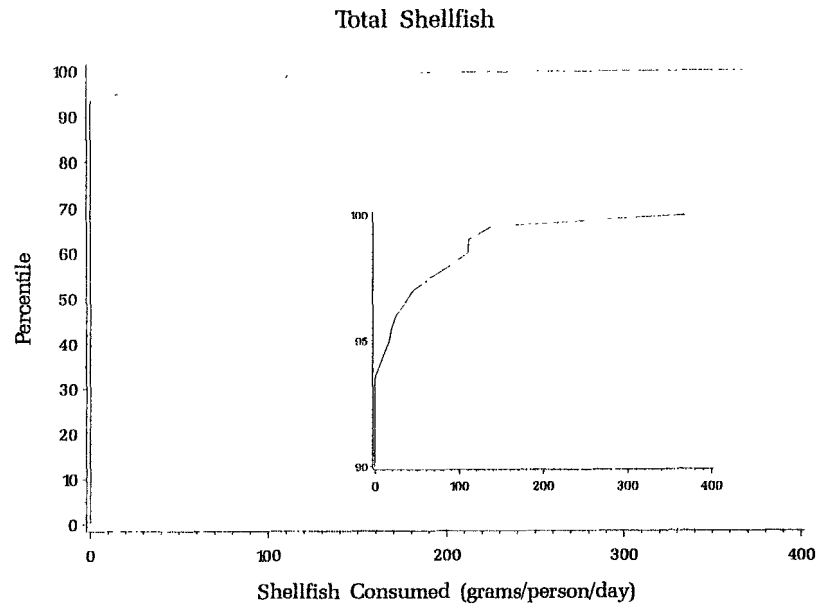


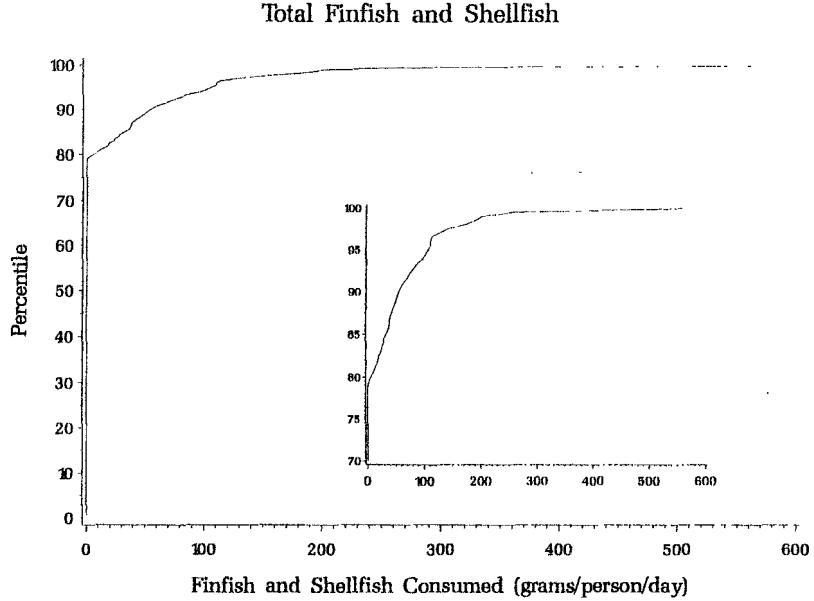
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

135

Section 5.1.4 Figure 2. Cumulative Distributions of Uncooked Fish Consumption by the Low—income U.S. Population: Total Finfish, Total Shellfish, and Total Finfish and Shellfish







Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

1396

SECTION 5.1.5 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish
Alternate Habitat

		Grams/person/day		
			95% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	1.23	1.02	1.43
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.02	0.01	0.03
	99th %	45.10	41.56	47.98
Estuarine/Marine	Mean	11.33	10.65	12.01
	50th %	0.00	0.00	0.00
	90th %	43.00	40.53	46.26
	95th %	75.62	74.89	80.51
	99th %	149.26	141.59	160.08
All Fish	Mean	12.56	11.83	13.29
	50th %	0.00	0.00	0.00
	90th %	48.68	45.33	50.15
	95th %	81.79	77.47	86.10
	99th %	173.69	164.72	184.81

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: *Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.*
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.5 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Shellfish
Alternate Habitat

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	0.01	0.00	0.03
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.00	0.00	0.00
	99th %	0.00	0.00	0.00
Estuarine/Marine	Mean	4.34	3.74	4.94
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	24.06	22.34	27.49
	99th %	110.53	98.60	110.69
All Fish	Mean	4.35	3.75	4.95
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	24.07	22.76	27.49
	99th %	110.54	99.22	110.69

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

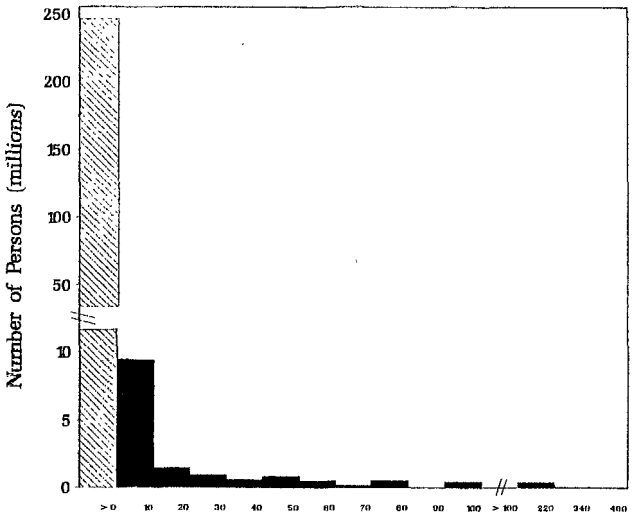
SECTION 5.1.5 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Finfish and Shellfish
Alternate Habitat

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater	Mean	1.24	1.03	1.45
	50th %	0.00	0.00	0.00
	90th %	0.00	0.00	0.00
	95th %	0.03	0.02	0.04
	99th %	45.39	41.57	48.41
Estuarine/Marine	Mean	15.67	14.70	16.64
	50th %	0.00	0.00	0.00
	90th %	57.79	56.27	61.33
	95th %	95.68	93.11	98.64
	99th %	189.86	182.13	196.00
All Fish	Mean	16.91	15.92	17.90
	50th %	0.00	0.00	0.00
	90th %	63.87	61.16	65.83
	95th %	102.20	98.57	106.39
	99th %	198.16	192.20	209.47

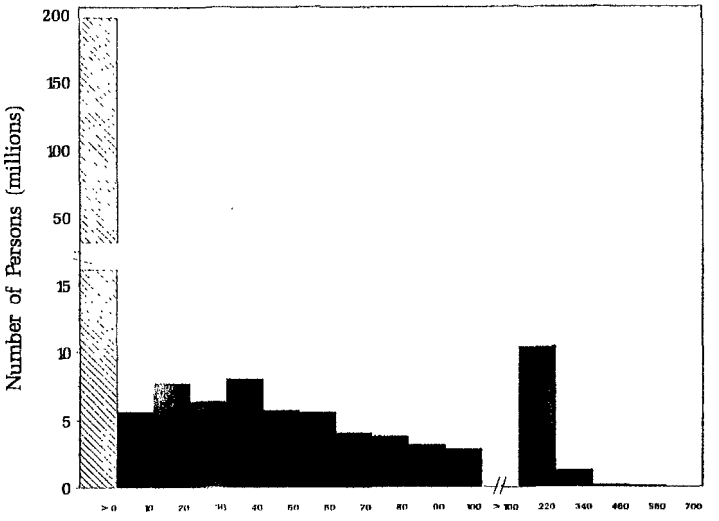
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

Section 5.15 Figure 1. Histograms of Uncooked Fish Consumption for U.S. Population by Alternate Habitat: Freshwater, Estuarine/Marine, and Total Fish

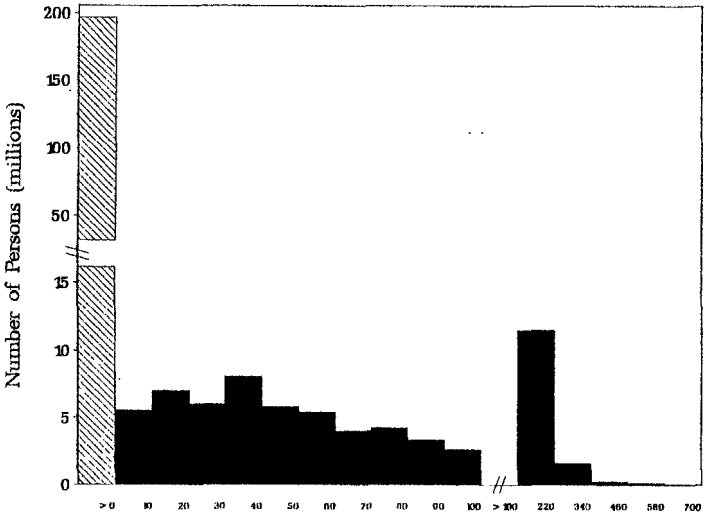
Freshwater Finfish and Shellfish

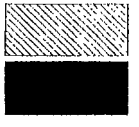


Estuarine/Marine Finfish and Shellfish



Total Finfish and Shellfish





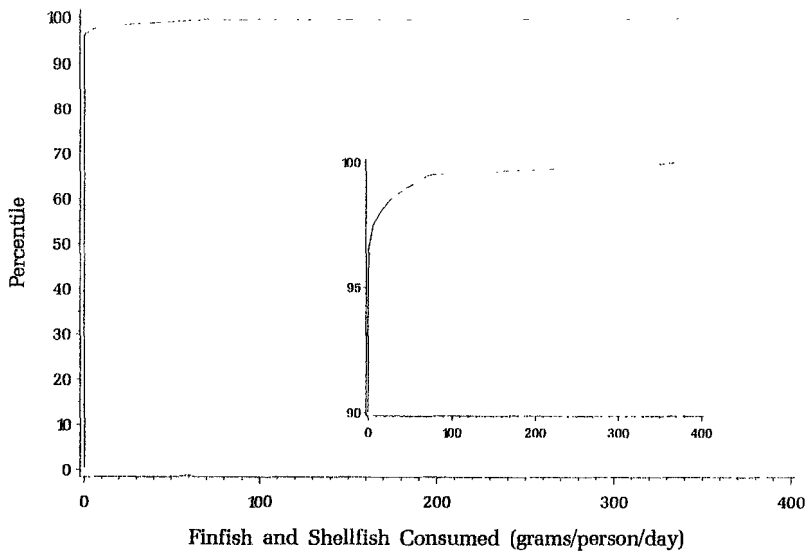
Persons reporting zero consumption

Persons reporting > zero consumption

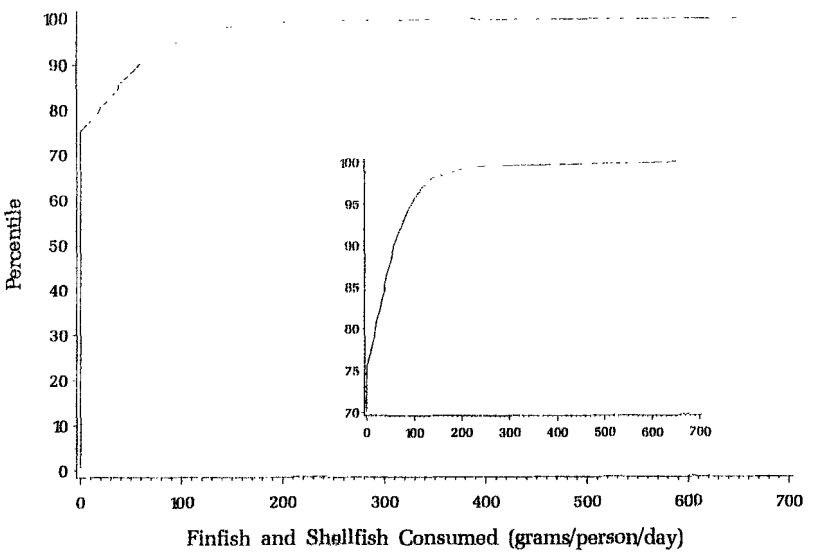
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.1.5 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for U.S. Population by Alternate Habitat: Freshwater, Estuarine/Marine and Total Fish

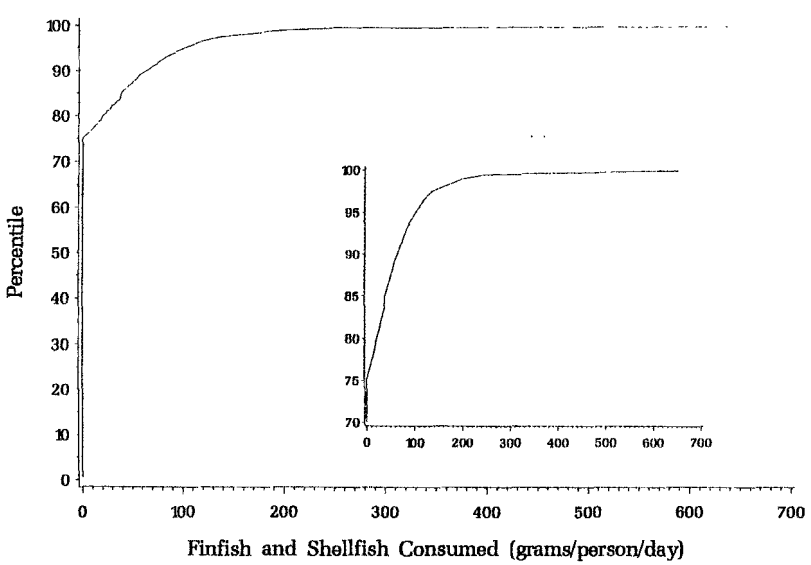
Freshwater Finfish and Shellfish



Estuarine/Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 5.1.6 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	*Shrimp*	*0.61326*
	Crab (Estuarine)	0.23684*
	Flounder	0.20795*
	Catfish (Estuarine)	0.18023*
	Flatfish (Estuarine)	0.07823*
	Trout, mixed sp. (Estuarine)	0.07318*
	Perch (Estuarine)	0.06881*
	Croaker	0.05436*
	Mullet	0.04181*
	Herring	0.02284*
	Oyster	0.02241*
	Salmon (Estuarine)	0.01511*
	Rockfish	0.01050*
	Anchovy	0.00756*
	Clam (Estuarine)	0.00186*
	Scallop (Estuarine)	0.00028*
Freshwater	Catfish (Freshwater)	0.18023*
	Trout	0.07745*
	Trout, mixed sp. (Freshwater)	0.07318*
	Perch (Freshwater)	0.06881*
	Cisco	0.00563*
	Whitefish (Freshwater)	0.00424*
	Pike	0.00369*
	Carp	0.00148*
	Salmon (Freshwater)	0.00030*
Marine	Tuna	2.11561
	Cod	0.72263*
	Salmon (Marine)	0.48500*
	Pollock	0.38043*
	Whiting	0.12471*
	Crab (Marine)	0.12436*
Marine (con't.)	Ocean Perch	0.11120*
	Clam (Marine)	0.09427*
	Haddock	0.08959*
	Scallop (Marine)	0.04851*
	Mackerel	0.04656*
	Pompano	0.03433*
	Sea Bass	0.03382*
	Sardine	0.01514*
	Lobster	0.01191*
	Porgy	0.00992*
	Flatfish (Marine)	0.00906*
	Halibut	0.00899*
	Whitefish (Marine)	0.00424*
	Squid	*0.00202**
Unknown	Fish	1.08597
	Seafood	0.00104*
All Species	Tuna	2.11561
	Fish	1.08597
	Cod	0.72263*
	Shrimp	0.61326
	Salmon (Marine)	0.48500*
	Pollock	0.38043*
	Crab (Estuarine)	0.23684*
	Flounder	0.20795*
	Catfish (Estuarine)	0.18023*
	Catfish (Freshwater)	0.18023*
	Whiting	0.12471*
	Crab (Marine)	0.12436*
	Ocean Perch	0.11120*
	Clam (Marine)	0.09427*
	Haddock	0.08959*
All Species (con't.)	Flatfish (Estuarine)	0.07823*
	Trout	0.07745*
	Trout, mixed sp. (Estuarine)	0.07318*
	Trout, mixed sp. (Frshwtr)	0.07318*
	Perch (Estuarine)	0.06881*
	Perch (Freshwater)	0.06881*
	Croaker	0.05436*
	Scallop (Marine)	0.04851*
	Mackerel	0.04656*
	Mullet	0.04181*
	Pompano	0.03433*
	Sea Bass	0.03382*
	Herring	0.02284*
	Oyster	0.02241*
	Sardine	0.01514*
	Salmon (Estuarine)	0.01511*
	Lobster	0.01191*
	Rockfish	0.01050*
	Porgy	0.00992*
	Flatfish (Marine)	0.00906*
	Halibut	0.00899*
	Anchovy	0.00756*
	Cisco	0.00563*
	Whitefish (Freshwater)	0.00424*
	Whitefish (Marine)	0.00424*
	Pike	0.00369*
	Squid	*0.00202**
	Clam (Estuarine)	0.00186*
	Carp	0.00148*
	Seafood	0.00104*
	Salmon (Freshwater)	0.00030*
	Scallop (Estuarine)	0.00028*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,564 individuals to the U.S. population of 29,255,630 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.39474
	Catfish (Estuarine)	0.52413*
	Flatfish (Estuarine)	0.40814*
	Crab (Estuarine)	0.31674*
	Flounder	0.21866*
	Perch (Estuarine)	0.13001*
	Trout, mixed sp. (Estuarine)	0.10446*
	Oyster	0.07684*
	Croaker	0.07632*
	Mullet	0.06792*
	Anchovy	0.05508*
	Rockfish	0.04503*
	Herring	0.04029*
	Salmon (Estuarine)	0.03607*
	Clam (Estuarine)	0.00678*
	Eel	0.00257*
	Scallop (Estuarine)	0.00121*
	Sturgeon (Estuarine)	0.00056*
Freshwater	Catfish (Freshwater)	0.52413*
	Trout	0.30502*
	Perch (Freshwater)	0.13001*
	Trout, mixed sp. (Freshwater)	0.10446*
	Carp	0.06613*
	Pike	0.00992*
	Cisco	0.00155*
	Salmon (Freshwater)	0.00072*
	Whitefish (Freshwater)	0.00066*
	Sturgeon (Freshwater)	0.00056*
Marine	Tuna	3.59602
	Cod	1.21793*
	Salmon (Marine)	1.15754*
	Lobster	0.36330*
	Clam (Marine)	0.34463*
	Haddock	0.31650*
	Pompano	0.20844*
Marine (con't.)	Scallop (Marine)	0.20708*
	Pollock	0.20225*
	Squid	0.19349*
	Porgy	0.17623*
	Crab (Marine)	0.16632*
	Ocean Perch	0.16384*
	Sardine	0.10921*
	Whiting	0.10675*
	Sea Bass	0.07752*
	Flatfish (Marine)	0.04727*
	Mackerel	0.04091*
	Mussels	0.02385*
	Halibut	0.01522*
	Conch	0.00918*
	Snapper	0.00833*
	Whitefish (Marine)	0.00066*
Unknown	Fish	0.24936*
	Seafood	0.11811*
All Species	Tuna	3.59602
	Shrimp	2.39474
	Cod	1.21793*
	Salmon (Marine)	1.15754*
	Catfish (Estuarine)	0.52413*
	Catfish (Freshwater)	0.52413*
	Flatfish (Estuarine)	0.40814*
	Lobster	0.36330*
	Clam (Marine)	0.34463*
	Crab (Estuarine)	0.31674*
	Haddock	0.31650*
	Trout	0.30502*
	Fish	0.24936*
	Flounder	0.21866*
	Pompano	0.20844*
	Scallop (Marine)	0.20708*
	Pollock	0.20225*
All Species (con't.)	Squid	0.19349*
	Porgy	0.17623*
	Crab (Marine)	0.16632*
	Ocean Perch	0.16384*
	Perch (Estuarine)	0.13001*
	Perch (Freshwater)	0.13001*
	Seafood	0.11811*
	Sardine	0.10921*
	Whiting	0.10675*
	Trout, mixed sp. (Estuarine)	0.10446*
	Trout, mixed sp. (Freshwater)	0.10446*
	Carp	0.06613*
	Sea Bass	0.07752*
	Oyster	0.07684*
	Croaker	0.07632*
	Mullet	0.06792*
	Anchovy	0.05508*
	Flatfish (Marine)	0.04727*
	Rockfish	0.04503*
	Mackerel	0.04091*
	Herring	0.04029*
	Salmon (Estuarine)	0.03607*
	Mussels	0.02385*
	Halibut	0.01522*
	Pike	0.00992*
	Conch	0.00918*
	Snapper	0.00833*
	Clam (Estuarine)	0.00678*
	Eel	0.00257*
	Cisco	0.00155*
	Scallop (Estuarine)	0.00121*
	Salmon (Freshwater)	0.00072*
	Whitefish (Freshwater)	0.00066*
	Whitefish (Marine)	0.00066*
	Sturgeon (Estuarine)	0.00056*
	Sturgeon (Freshwater)	0.00056*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,332 individuals to the U.S. population of 58,978,782 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Females of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.80291
	Flounder	1.11872*
	Catfish (Estuarine)	0.46136*
	Crab (Estuarine)	0.34038*
	Herring	0.33205*
	Flatfish (Estuarine)	0.30007*
	Croaker	0.15189*
	Perch (Estuarine)	0.14442*
	Oyster	0.09092*
	Rockfish	0.06677*
	Salmon (Estuarine)	0.06667
	Trout, mixed sp. (Estuarine)	0.05430*
	Anchovy	0.02753*
	Smelts (Estuarine)	0.02050*
	Mullet	0.02003*
	Clam (Estuarine)	0.01263
	Smelts, Rainbow (Estuarine)	0.00300*
	Scallop (Estuarine)	0.00111*
Freshwater	Catfish (Freshwater)	0.46136*
	Carp	0.24207*
	Trout	0.20482*
	Perch (Freshwater)	0.14442*
	Pike	0.07948*
	Trout, mixed sp. (Freshwater)	0.05430*
	Whitefish (Freshwater)	0.04191*
	Cisco	0.00511*
	Smelts, Rainbow (Freshwater)	0.00300*
	Salmon (Freshwater)	0.00132
Marine	Tuna	4.57938
	Salmon (Marine)	2.13971
	Cod	1.75818
	Porgy	0.91498*
	Haddock	0.66393*
	Clam (Marine)	0.64173
	Whiting	0.36624*
	Swordfish	0.26351*
Marine (con't.)	Mackerel	0.24272*
	Pollock	0.23834*
	Lobster	0.19792*
	Ocean Perch	0.19707*
	Scallop (Marine)	0.19082*
	Crab (Marine)	0.17873*
	Squid	0.14784*
	Snapper	0.12836*
	Sea Bass	0.11587*
	Halibut	0.11019*
	Mussels	0.09922*
	Sardine	0.07079*
	Pompano	0.04761*
	Whitefish (Marine)	0.04191*
	Flatfish (Marine)	0.03475*
	Smelts (Marine)	0.02050*
Unknown	Fish	0.36620*
	Seafood	0.11463*
All Species	Tuna	4.57938
	Salmon (Marine)	2.13971
	Shrimp	1.80291
	Cod	1.75818
	Flounder	1.11872*
	Porgy	0.91498*
	Haddock	0.66393*
	Clam (Marine)	0.64173
	Catfish (Estuarine)	0.46136*
	Catfish (Freshwater)	0.46136*
	Whiting	0.36624*
	Fish	0.36620*
	Crab (Estuarine)	0.34038*
	Herring	0.33205*
	Flatfish (Estuarine)	0.30007*
	Swordfish	0.26351*
	Mackerel	0.24272*
	Carp	0.24207*
All Species (con't.)	Pollock	0.23834*
	Trout	0.20482*
	Lobster	0.19792*
	Ocean Perch	0.19707*
	Scallop (Marine)	0.19082*
	Crab (Marine)	0.17873*
	Croaker	0.15189*
	Squid	0.14784*
	Perch (Estuarine)	0.14442*
	Perch (Freshwater)	0.14442*
	Snapper	0.12836*
	Sea Bass	0.11587*
	Seafood	0.11463*
	Halibut	0.11019*
	Mussels	0.09922*
	Oyster	0.09092*
	Pike	0.07948*
	Sardine	0.07079*
	Rockfish	0.06677*
	Salmon (Estuarine)	0.06667
	Trout, mixed sp. (Estuarine)	0.05430*
	Trout, mixed sp. (Freshwater)	0.05430*
	Pompano	0.04761*
	Whitefish (Freshwater)	0.04191*
	Whitefish (Marine)	0.04191*
	Flatfish (Marine)	0.03475*
	Anchovy	0.02753*
	Smelts (Estuarine)	0.02050*
	Smelts (Marine)	0.02050*
	Mullet	0.02003*
	Clam (Estuarine)	0.01263
	Cisco	0.00511*
	Smelts, Rainbow (Estuarine)	0.00300*
	Smelts, Rainbow (Freshwater)	0.00300*
	Salmon (Freshwater)	0.00132
	Scallop (Estuarine)	0.00111*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,654 individuals to the U.S. population of 45,695,152 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 4. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
All Females

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.80367
	Flounder	0.52341
	Catfish (Estuarine)	0.42759
	Crab (Estuarine)	0.30735
	Flatfish (Estuarine)	0.29920
	Herring	0.13602*
	Perch (Estuarine)	0.12156*
	Croaker	0.09731*
	Trout, mixed sp. (Estuarine)	0.08051*
	Oyster	0.06976*
	Mullet	0.04588*
	Rockfish	0.04491
	Salmon (Estuarine)	0.04193
	Anchovy	0.03530
	Clam (Estuarine)	0.00770
	Smelts (Estuarine)	0.00700*
	Eel	0.00113*
	Smelts, Rainbow (Estuarine)	0.00103*
	Scallop (Estuarine)	0.00097*
	Sturgeon (Estuarine)	0.00025*
Freshwater	Catfish (Freshwater)	0.42759
	Trout	0.22112*
	Perch (Freshwater)	0.12156*
	Carp	0.12084*
	Trout, mixed sp. (Freshwater)	0.08051*
	Pike	0.03229*
	Whitefish (Freshwater)	0.01551*
	Cisco	0.00366*
	Smelts, Rainbow (Freshwater)	0.00103*
	Salmon (Freshwater)	0.00083
	Sturgeon (Freshwater)	0.00025*
Marine	Tuna	3.60815
	Salmon (Marine)	1.34573
	Cod	1.29407
	Porgy	0.39195*
	Clam (Marine)	0.39131
	Haddock	0.38547*
	Pollock	0.25349*
Marine (con't.)	Lobster	0.23012*
	Whiting	0.19921
	Scallop (Marine)	0.16690*
	Ocean Perch	0.16368*
	Crab (Marine)	0.16139
	Squid	0.13609*
	Pompano	0.11554*
	Mackerel	0.11100*
	Swordfish	0.08991*
	Sea Bass	0.08106*
	Sardine	0.07555*
	Snapper	0.04746*
	Halibut	0.04626*
	Mussels	0.04435*
	Flatfish (Marine)	0.03465
	Whitefish (Marine)	0.01551*
	Smelts (Marine)	0.00700*
	Conch	0.00404*
Unknown	Fish	0.47198
	Seafood	0.09135*
All Species	Tuna	3.60815
	Shrimp	1.80367
	Salmon (Marine)	1.34573
	Cod	1.29407
	Flounder	0.52341
	Fish	0.47198
	Catfish (Estuarine)	0.42759
	Catfish (Freshwater)	0.42759
	Porgy	0.39195*
	Clam (Marine)	0.39131
	Haddock	0.38547*
	Crab (Estuarine)	0.30735
	Flatfish (Estuarine)	0.29920
	Pollock	0.25349*
	Lobster	0.23012*
	Trout	0.22112*
	Whiting	0.19921
	Scallop (Marine)	0.16690*
All Species (con't.)	Ocean Perch	0.16368*
	Crab (Marine)	0.16139
	Squid	0.13609*
	Herring	0.13602*
	Perch (Estuarine)	0.12156*
	Perch (Freshwater)	0.12156*
	Carp	0.12084*
	Pompano	0.11554*
	Mackerel	0.11100*
	Croaker	0.09731*
	Seafood	0.09135*
	Swordfish	0.08991*
	Sea Bass	0.08106*
	Trout, mixed sp. (Estuarine)	0.08051*
	Trout, mixed sp. (Freshwater)	0.08051*
	Sardine	0.07555*
	Oyster	0.06976*
	Snapper	0.04746*
	Halibut	0.04626*
	Mullet	0.04588*
	Rockfish	0.04491
	Mussels	0.04435*
	Salmon (Estuarine)	0.04193
	Anchovy	0.03530
	Flatfish (Marine)	0.03465
	Pike	0.03229*
	Whitefish (Freshwater)	0.01551*
	Whitefish (Marine)	0.01551*
	Clam (Estuarine)	0.00770
	Smelts (Estuarine)	0.00700*
	Smelts (Marine)	0.00700*
	Conch	0.00404*
	Cisco	0.00366*
	Eel	0.00113*
	Smelts, Rainbow (Estuarine)	0.00103*
	Smelts, Rainbow (Freshwater)	0.00103*
	Scallop (Estuarine)	0.00097*
	Salmon (Freshwater)	0.00083
	Sturgeon (Estuarine)	0.00025*
	Sturgeon (Freshwater)	0.00025*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 7,550 individuals to the U.S. population of 133,929,564 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 5. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	1.02173
	Flounder	0.37486*
	Catfish (Estuarine)	0.29896*
	Crab (Estuarine)	0.14824*
	Flatfish (Estuarine)	0.12610*
	Perch (Estuarine)	0.12537*
	Croaker	0.06703*
	Oyster	0.03335*
	Rockfish	0.02744*
	Trout, mixed sp. (Estuarine)	0.02393*
	Salmon (Estuarine)	0.00866*
	Mullet	0.00777*
	Anchovy	0.00588*
	Clam (Estuarine)	0.00193*
	Scallop (Estuarine)	0.00055*
Freshwater	Catfish (Freshwater)	0.29896*
	Perch (Freshwater)	0.12537*
	Trout	0.09478*
	Pike	0.04198*
	Trout, mixed sp. (Freshwater)	0.02393*
	Snails (Freshwater)	0.00842*
	Whitefish (Freshwater)	0.00588*
	Cisco	0.00423*
	Carp	0.00327*
	Salmon (Freshwater)	0.00017*
Marine	Tuna	2.22143
	Cod	0.95349*
	Salmon (Marine)	0.27802*
	Whiting	0.23866*
	Pollock	0.18088*
	Haddock	0.15664*
	Sea Bass	0.11424*
Marine (con't.)	Pompano	0.10387*
	Clam (Marine)	0.09820*
	Swordfish	0.09643*
	Scallop (Marine)	0.09417*
	Ocean Perch	0.07916*
	Porgy	0.07831*
	Crab (Marine)	0.07784*
	Mackerel	0.03625*
	Lobster	0.01834*
	Flatfish (Marine)	0.01461*
	Mussels	0.01169*
	Snails (Marine)	0.00842*
	Snapper	0.00614*
	Whitefish (Marine)	0.00588*
	Halibut	0.00038*
Unknown	Fish	0.99928
	Seafood	0.00439*
All Species	Tuna	2.22143
	Shrimp	1.02173
	Fish	0.99928
	Cod	0.95349*
	Flounder	0.37486*
	Catfish (Estuarine)	0.29896*
	Catfish (Freshwater)	0.29896*
	Salmon (Marine)	0.27802*
	Whiting	0.23866*
	Pollock	0.18088*
	Haddock	0.15664*
	Crab (Estuarine)	0.14824*
	Flatfish (Estuarine)	0.12610*
	Perch (Estuarine)	0.12537*
	Perch (Freshwater)	0.12537*
All Species (con't.)	Sea Bass	0.11424*
	Pompano	0.10387*
	Clam (Marine)	0.09820*
	Swordfish	0.09643*
	Trout	0.09478*
	Scallop (Marine)	0.09417*
	Ocean Perch	0.07916*
	Porgy	0.07831*
	Crab (Marine)	0.07784*
	Croaker	0.06703*
	Pike	0.04198*
	Mackerel	0.03625*
	Oyster	0.03335*
	Rockfish	0.02744*
	Trout, mixed sp. (Estuarine)	0.02393*
	Trout, mixed sp. (Freshwater)	0.02393*
	Lobster	0.01834*
	Flatfish (Marine)	0.01461*
	Mussels	0.01169*
	Salmon (Estuarine)	0.00866*
	Snails (Freshwater)	0.00842*
	Snails (Marine)	0.00842*
	Mullet	0.00777*
	Snapper	0.00614*
	Whitefish (Freshwater)	0.00588*
	Whitefish (Marine)	0.00588*
	Anchovy	0.00588*
	Seafood	0.00439*
	Cisco	0.00423*
	Carp	0.00327*
	Clam (Estuarine)	0.00193*
	Scallop (Estuarine)	0.00055*
	Halibut	0.00038*
	Salmon (Freshwater)	0.00017*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,591 individuals to the U.S. population of 30,241,261 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 6. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	3.30111
	Flounder	0.65268*
	Crab (Estuarine)	0.55519*
	Flatfish (Estuarine)	0.51967*
	Catfish (Estuarine)	0.37381*
	Oyster	0.31486*
	Perch (Estuarine)	0.27184*
	Trout, mixed sp. (Estuarine)	0.15941*
	Croaker	0.10383*
	Anchovy	0.07352*
	Salmon (Estuarine)	0.04165*
	Rockfish	0.03764*
	Mullet	0.03202*
	Clam (Estuarine)	0.02652*
	Herring	0.01820*
	Eel	0.01178*
	Scallop (Estuarine)	0.00114*
Freshwater	Catfish (Freshwater)	0.37381*
	Perch (Freshwater)	0.27184*
	Trout, mixed sp. (Freshwater)	0.15941*
	Trout	0.11315*
	Carp	0.10031*
	Crayfish	0.03302*
	Snails (Freshwater)	0.00251*
	Salmon (Freshwater)	0.00083*
Marine	Tuna	4.03067
	Cod	1.80428
	Clam (Marine)	1.34777*
	Salmon (Marine)	1.33656*
	Porgy	0.60981*
	Pollock	0.41910*
	Whiting	0.41433*
	Crab (Marine)	0.29153*
	Octopus	0.25283*
Marine (con't.)	Squid	0.22969*
	Lobster	0.21012*
	Scallop (Marine)	0.19553*
	Sea Bass	0.19356*
	Pompano	0.10630*
	Sardine	0.08856*
	Swordfish	0.06327*
	Flatfish (Marine)	0.06019*
	Haddock	0.04375*
	Mussels	0.04114*
	Ocean Perch	0.02373*
	Mackerel	0.02162*
	Halibut	0.00752*
	Snapper	0.00311*
	Snails (Marine)	0.00251*
Unknown	Fish	0.52944*
	Seafood	0.04306*
All Species	Tuna	4.03067
	Shrimp	3.30111
	Cod	1.80428
	Clam (Marine)	1.34777*
	Salmon (Marine)	1.33656*
	Flounder	0.65268*
	Porgy	0.60981*
	Crab (Estuarine)	0.55519*
	Fish	0.52944*
	Flatfish (Estuarine)	0.51967*
	Pollock	0.41910*
	Whiting	0.41433*
	Catfish (Estuarine)	0.37381*
	Catfish (Freshwater)	0.37381*
	Oyster	0.31486*
	Crab (Marine)	0.29153*
All Species (con't.)	Perch (Estuarine)	0.27184*
	Perch (Freshwater)	0.27184*
	Octopus	0.25283*
	Squid	0.22969*
	Lobster	0.21012*
	Scallop (Marine)	0.19553*
	Sea Bass	0.19356*
	Trout, mixed sp. (Estuarine)	0.15941*
	Trout, mixed sp. (Freshwater)	0.15941*
	Trout	0.11315*
	Pompano	0.10630*
	Croaker	0.10383*
	Carp	0.10031*
	Sardine	0.08856*
	Anchovy	0.07352*
	Swordfish	0.06327*
	Flatfish (Marine)	0.06019*
	Haddock	0.04375*
	Seafood	0.04306*
	Salmon (Estuarine)	0.04165*
	Mussels	0.04114*
	Rockfish	0.03764*
	Crayfish	0.03302*
	Mullet	0.03202*
	Clam (Estuarine)	0.02652*
	Ocean Perch	0.02373*
	Mackerel	0.02162*
	Herring	0.01820*
	Eel	0.01178*
	Halibut	0.00752*
	Snapper	0.00311*
	Snails (Freshwater)	0.00251*
	Snails (Marine)	0.00251*
	Scallop (Estuarine)	0.00114*
	Salmon (Freshwater)	0.00083*

(1) Source of data: 1994-1998 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,382 individuals to the U.S. population of 59,211,248 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 7. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Males of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.87302
	Catfish (Estuarine)	1.04474
	Flounder	0.95329*
	Flatfish (Estuarine)	0.44249
	Crab (Estuarine)	0.39182*
	Croaker	0.38266*
	Perch (Estuarine)	0.30530*
	Herring	0.29154*
	Trout, mixed sp. (Estuarine)	0.27156*
	Oyster	0.20701*
	Salmon (Estuarine)	0.08279
	Rockfish	0.06427*
	Anchovy	0.05388*
	Mullet	0.03594*
	Clam (Estuarine)	0.02114
	Smelts (Estuarine)	0.01720*
	Scallop (Estuarine)	0.00197*
Freshwater	Catfish (Freshwater)	1.04474
	Trout	0.36993*
	Carp	0.32659*
	Perch (Freshwater)	0.30530*
	Trout, mixed sp. (Freshwater)	0.27156*
	Pike	0.08024*
	Whitefish (Freshwater)	0.01103*
	Snails (Freshwater)	0.00637*
	Salmon (Freshwater)	0.00164
Marine	Tuna	4.26077
	Salmon (Marine)	2.65689
	Cod	2.02788
	Clam (Marine)	1.07403
	Haddock	0.64553*
	Sardine	0.43926*
	Scallop (Marine)	0.33808*
	Mackerel	0.33793*
	Whiting	0.29754*
	Lobster	0.29487*
	Porgy	0.28964*
Marine (con't.)	Ocean Perch	0.28911*
	Mussels	0.27819*
	Pollock	0.25044*
	Swordfish	0.21447*
	Squid	0.21366*
	Crab (Marine)	0.20574*
	Sea Bass	0.16677*
	Flatfish (Marine)	0.05125
	Octopus	0.04680*
	Halibut	0.04672*
	Shark	0.02882*
	Pompano	0.01893*
	Smelts (Marine)	0.01720*
	Snapper	0.01278*
	Whitefish (Marine)	0.01103*
	Roe	0.00695*
	Snails (Marine)	0.00637*
Unknown	Fish	0.76375*
	Seafood	0.02521*
All Species	Tuna	4.26077
	Shrimp	2.87302
	Salmon (Marine)	2.65689
	Cod	2.02788
	Clam (Marine)	1.07403
	Catfish (Estuarine)	1.04474
	Catfish (Freshwater)	1.04474
	Flounder	0.95329*
	Fish	0.76375*
	Haddock	0.64553*
	Flatfish (Estuarine)	0.44249
	Sardine	0.43926*
	Crab (Estuarine)	0.39182*
	Croaker	0.38266*
	Trout	0.36993*
	Scallop (Marine)	0.33808*
	Mackerel	0.33793*
	Carp	0.32659*
All Species (con't.)	Perch (Estuarine)	0.30530*
	Perch (Freshwater)	0.30530*
	Whiting	0.29754*
	Lobster	0.29487*
	Herring	0.29154*
	Porgy	0.28964*
	Ocean Perch	0.28911*
	Mussels	0.27819*
	Trout, mixed sp. (Estuarine)	0.27156*
	Trout, mixed sp. (Freshwater)	0.27156*
	Pollock	0.25044*
	Swordfish	0.21447*
	Squid	0.21366*
	Oyster	0.20701*
	Crab (Marine)	0.20574*
	Sea Bass	0.16677*
	Salmon (Estuarine)	0.08279
	Pike	0.08024*
	Rockfish	0.06427*
	Anchovy	0.05388*
	Flatfish (Marine)	0.05125
	Octopus	0.04680*
	Halibut	0.04672*
	Mullet	0.03594*
	Shark	0.02882*
	Seafood	0.02521*
	Clam (Estuarine)	0.02114
	Pompano	0.01893*
	Smelts (Estuarine)	0.01720*
	Smelts (Marine)	0.01720*
	Snapper	0.01278*
	Whitefish (Freshwater)	0.01103*
	Whitefish (Marine)	0.01103*
	Roe	0.00695*
	Snails (Freshwater)	0.00637*
	Snails (Marine)	0.00637*
	Scallop (Estuarine)	0.00197*
	Salmon (Freshwater)	0.00164

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 2,760 individuals to the U.S. population of 38,515,187 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 8. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
All Males

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.63360
	Flounder	0.67750
	Catfish (Estuarine)	0.55806
	Crab (Estuarine)	0.40985
	Flatfish (Estuarine)	0.40343
	Perch (Estuarine)	0.24730*
	Oyster	0.21588*
	Croaker	0.17912*
	Trout, mixed sp. (Estuarine)	0.16115*
	Herring	0.09617*
	Anchovy	0.05162*
	Salmon (Estuarine)	0.04623
	Rockfish	0.04325
	Mullet	0.02747*
	Clam (Estuarine)	0.01909
	Eel	0.00545*
	Smelts (Estuarine)	0.00518*
	Scallop (Estuarine)	0.00125*
Freshwater	Catfish (Freshwater)	0.55806
	Perch (Freshwater)	0.24730*
	Trout	0.18609*
	Trout, mixed sp. (Freshwater)	0.16115*
	Carp	0.14548*
	Pike	0.03407*
	Crayfish	0.01528*
	Snails (Freshwater)	0.00507*
	Whitefish (Freshwater)	0.00471*
	Cisco	0.00100*
	Salmon (Freshwater)	0.00092
Marine	Tuna	3.67237
	Cod	1.67052
	Salmon (Marine)	1.48379
	Clam (Marine)	0.97009
	Porgy	0.38784*
	Whiting	0.33767
	Pollock	0.31204
	Haddock	0.25155*
	Crab (Marine)	0.21521
	Scallop (Marine)	0.21448*
Marine (con't.)	Lobster	0.19031*
	Sardine	0.17318*
	Squid	0.17058*
	Sea Bass	0.16675*
	Octopus	0.13107*
	Mackerel	0.12028*
	Ocean Perch	0.11670*
	Swordfish	0.11661*
	Mussels	0.10553*
	Pompano	0.07943*
	Flatfish (Marine)	0.04673
	Halibut	0.01763*
	Shark	0.00867*
	Snapper	0.00674*
	Smelts (Marine)	0.00518*
	Snails (Marine)	0.00507*
	Whitefish (Marine)	0.00471*
	Roe	0.00209*
Unknown	Fish	0.71099
	Seafood	0.02855*
All Species	Tuna	3.67237
	Shrimp	2.63360
	Cod	1.67052
	Salmon (Marine)	1.48379
	Clam (Marine)	0.97009
	Fish	0.71099
	Flounder	0.67750
	Catfish (Estuarine)	0.55806
	Catfish (Freshwater)	0.55806
	Crab (Estuarine)	0.40985
	Flatfish (Estuarine)	0.40343
	Porgy	0.38784*
	Whiting	0.33767
	Pollock	0.31204
	Haddock	0.25155*
	Perch (Estuarine)	0.24730*
	Perch (Freshwater)	0.24730*
	Oyster	0.21588*
	Crab (Marine)	0.21521
All Species (con't.)	Scallop (Marine)	0.21448*
	Lobster	0.19031*
	Trout	0.18609*
	Croaker	0.17912*
	Sardine	0.17318*
	Squid	0.17058*
	Sea Bass	0.16675*
	Trout, mixed sp. (Estuarine)	0.16115*
	Trout, mixed sp. (Freshwater)	0.16115*
	Carp	0.14548*
	Octopus	0.13107*
	Mackerel	0.12028*
	Ocean Perch	0.11670*
	Swordfish	0.11661*
	Mussels	0.10553*
	Herring	0.09617*
	Pompano	0.07943*
	Anchovy	0.05162*
	Flatfish (Marine)	0.04673
	Salmon (Estuarine)	0.04623
	Rockfish	0.04325
	Pike	0.03407*
	Seafood	0.02855*
	Mullet	0.02747*
	Clam (Estuarine)	0.01909
	Halibut	0.01763*
	Crayfish	0.01528*
	Shark	0.00867*
	Snapper	0.00674*
	Eel	0.00545*
	Smelts (Estuarine)	0.00518*
	Smelts (Marine)	0.00518*
	Snails (Freshwater)	0.00507*
	Snails (Marine)	0.00507*
	Whitefish (Freshwater)	0.00471*
	Whitefish (Marine)	0.00471*
	Roe	0.00209*
	Scallop (Estuarine)	0.00125*
	Cisco	0.00100*
	Salmon (Freshwater)	0.00092

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 7,753 individuals to the U.S. population of 127,967,696 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 9. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 14 and Younger

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	0.82088
	Flounder	0.29279*
	Catfish (Estuarine)	0.24057*
	Crab (Estuarine)	0.19181*
	Flatfish (Estuarine)	0.10256*
	Perch (Estuarine)	0.09756*
	Croaker	0.06080*
	Trout, mixed sp. (Estuarine)	0.04814*
	Oyster	0.02797*
	Mullet	0.02450*
	Rockfish	0.01911*
	Salmon (Estuarine)	0.01183*
	Herring	0.01123*
	Anchovy	0.00671*
	Clam (Estuarine)	0.00189*
	Scallop (Estuarine)	0.00042*
Freshwater	Catfish (Freshwater)	0.24057*
	Perch (Freshwater)	0.09756*
	Trout	0.08626*
	Trout, mixed sp. (Freshwater)	0.04814*
	Pike	0.02315*
	Whitefish (Freshwater)	0.00507*
	Cisco	0.00492*
	Snails (Freshwater)	0.00428*
	Carp	0.00239*
	Salmon (Freshwater)	0.00024*
Marine	Tuna	2.16940
	Cod	0.83998
	Salmon (Marine)	0.37979*
	Pollock	0.27900*
	Whiting	0.18263*
	Haddock	0.12367*
	Crab (Marine)	0.10072*
	Clam (Marine)	0.09627*
Marine (con't.)	Ocean Perch	0.09491*
	Sea Bass	0.07470*
	Scallop (Marine)	0.07172*
	Pompano	0.06968*
	Swordfish	0.04901*
	Porgy	0.04468*
	Mackerel	0.04132*
	Lobster	0.01518*
	Flatfish (Marine)	0.01188*
	Sardine	0.00744*
	Mussels	0.00594*
	Whitefish (Marine)	0.00507*
	Halibut	0.00462*
	Snails (Marine)	0.00428*
	Snapper	0.00312*
	Squid	0.00099*
Unknown	Fish	1.04190
	Seafood	0.00275*
All Species	Tuna	2.16940
	Fish	1.04190
	Cod	0.83998
	Shrimp	0.82088
	Salmon (Marine)	0.37979*
	Flounder	0.29279*
	Pollock	0.27900*
	Catfish (Estuarine)	0.24057*
	Catfish (Freshwater)	0.24057*
	Crab (Estuarine)	0.19181*
	Whiting	0.18263*
	Haddock	0.12367*
	Flatfish (Estuarine)	0.10256*
	Crab (Marine)	0.10072*
	Perch (Estuarine)	0.09756*
	Perch (Freshwater)	0.09756*
All Species (con't.)	Clam (Marine)	0.09627*
	Ocean Perch	0.09491*
	Trout	0.08626*
	Sea Bass	0.07470*
	Scallop (Marine)	0.07172*
	Pompano	0.06968*
	Croaker	0.06080*
	Swordfish	0.04901*
	Trout, mixed sp. (Estuarine)	0.04814*
	Trout, mixed sp. (Freshwater)	0.04814*
	Porgy	0.04468*
	Mackerel	0.04132*
	Oyster	0.02797*
	Mullet	0.02450*
	Pike	0.02315*
	Rockfish	0.01911*
	Lobster	0.01518*
	Flatfish (Marine)	0.01188*
	Salmon (Estuarine)	0.01183*
	Herring	0.01123*
	Sardine	0.00744*
	Anchovy	0.00671*
	Mussels	0.00594*
	Whitefish (Freshwater)	0.00507*
	Whitefish (Marine)	0.00507*
	Cisco	0.00492*
	Halibut	0.00462*
	Snails (Freshwater)	0.00428*
	Snails (Marine)	0.00428*
	Snapper	0.00312*
	Seafood	0.00275*
	Carp	0.00239*
	Clam (Estuarine)	0.00189*
	Squid	0.00099*
	Scallop (Estuarine)	0.00042*
	Salmon (Freshwater)	0.00024*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 5,155 individuals to the U.S. population of 59,496,891 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

150

SECTION 5.1.6 TABLE 10. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 15 to 44

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.84881
	Flatfish (Estuarine)	0.46402
	Catfish (Estuarine)	0.44882*
	Crab (Estuarine)	0.43620
	Flounder	0.43610*
	Perch (Estuarine)	0.20107*
	Oyster	0.19609*
	Trout, mixed sp. (Estuarine)	0.13199*
	Croaker	0.09010*
	Anchovy	0.06432*
	Mullet	0.04993*
	Rockfish	0.04133*
	Salmon (Estuarine)	0.03886
	Herring	0.02922*
	Clam (Estuarine)	0.01667
	Eel	0.00718*
	Scallop (Estuarine)	0.00117*
	Sturgeon (Estuarine)	0.00028*
Freshwater	Catfish (Freshwater)	0.44882*
	Trout	0.20890*
	Perch (Freshwater)	0.20107*
	Trout, mixed sp. (Freshwater)	0.13199*
	Carp	0.09323*
	Crayfish	0.01654*
	Pike	0.00495*
	Snails (Freshwater)	0.00126*
	Cisco	0.00077*
	Salmon (Freshwater)	0.00077
	Whitefish (Freshwater)	0.00033*
	Sturgeon (Freshwater)	0.00028*
Marine	Tuna	3.81377
	Cod	1.51169
	Salmon (Marine)	1.24723
	Clam (Marine)	0.84719
	Porgy	0.39344*
	Pollock	0.31089*
	Lobster	0.28656*
	Whiting	0.26085*
Marine (con't.)	Crab (Marine)	0.22904
	Squid	0.21162*
	Scallop (Marine)	0.20129*
	Haddock	0.17986*
	Pompano	0.15727*
	Sea Bass	0.13566*
	Octopus	0.12667*
	Sardine	0.09886*
	Ocean Perch	0.09365*
	Flatfish (Marine)	0.05374
	Mussels	0.03251*
	Swordfish	0.03170*
	Mackerel	0.03125*
	Halibut	0.01136*
	Snapper	0.00572*
	Conch	0.00458*
	Snails (Marine)	0.00126*
	Whitefish (Marine)	0.00033*
Unknown	Fish	0.38967*
	Seafood	0.08052*
All Species	Tuna	3.81377
	Shrimp	2.84881
	Cod	1.51169
	Salmon (Marine)	1.24723
	Clam (Marine)	0.84719
	Flatfish (Estuarine)	0.46402
	Catfish (Estuarine)	0.44882*
	Catfish (Freshwater)	0.44882*
	Crab (Estuarine)	0.43620
	Flounder	0.43610*
	Porgy	0.39344*
	Fish	0.38967*
	Pollock	0.31089*
	Lobster	0.28656*
	Whiting	0.26085*
	Crab (Marine)	0.22904
	Squid	0.21162*
	Trout	0.20890*
All Species (con't.)	Scallop (Marine)	0.20129*
	Perch (Estuarine)	0.20107*
	Perch (Freshwater)	0.20107*
	Oyster	0.19609*
	Haddock	0.17986*
	Pompano	0.15727*
	Sea Bass	0.13566*
	Trout, mixed sp. (Estuarine)	0.13199*
	Trout, mixed sp. (Freshwater)	0.13199*
	Octopus	0.12667*
	Sardine	0.09886*
	Ocean Perch	0.09365*
	Carp	0.09323*
	Croaker	0.09010*
	Seafood	0.08052*
	Anchovy	0.06432*
	Flatfish (Marine)	0.05374
	Mullet	0.04993*
	Rockfish	0.04133*
	Salmon (Estuarine)	0.03886
	Mussels	0.03251*
	Swordfish	0.03170*
	Mackerel	0.03125*
	Herring	0.02922*
	Clam (Estuarine)	0.01667
	Crayfish	0.01654*
	Halibut	0.01136*
	Eel	0.00718*
	Snapper	0.00572*
	Pike	0.00495*
	Conch	0.00458*
	Snails (Freshwater)	0.00126*
	Snails (Marine)	0.00126*
	Scallop (Estuarine)	0.00117*
	Cisco	0.00077*
	Salmon (Freshwater)	0.00077
	Whitefish (Freshwater)	0.00033*
	Whitefish (Marine)	0.00033*
	Sturgeon (Estuarine)	0.00028*
	Sturgeon (Freshwater)	0.00028*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 4,714 individuals to the U.S. population of 118,190,030 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 11. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
Individuals of Age 45 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.29235
	Flounder	1.04306
	Catfish (Estuarine)	0.72818
	Flatfish (Estuarine)	0.36521
	Crab (Estuarine)	0.36391
	Herring	0.31352*
	Croaker	0.25753*
	Perch (Estuarine)	0.21800*
	Trout, mixed sp. (Estuarine)	0.15366*
	Oyster	0.14402*
	Salmon (Estuarine)	0.07404
	Rockfish	0.06563
	Anchovy	0.03958*
	Mullet	0.02731*
	Smelts (Estuarine)	0.01899*
	Clam (Estuarine)	0.01652
	Smelts, Rainbow (Estuarine)	0.00163*
	Scallop (Estuarine)	0.00151*
Freshwater	Catfish (Freshwater)	0.72818
	Carp	0.28073*
	Trout	0.28033*
	Perch (Freshwater)	0.21800*
	Trout, mixed sp. (Freshwater)	0.15366*
	Pike	0.07983*
	Whitefish (Freshwater)	0.02779*
	Snails (Freshwater)	0.00292*
	Cisco	0.00277*
	Smelts, Rainbow (Freshwater)	0.00163*
	Salmon (Freshwater)	0.00147
Marine	Tuna	4.43366
	Salmon (Marine)	2.37625
	Cod	1.88153
	Clam (Marine)	0.83945
	Haddock	0.65552*
	Porgy	0.62897*
	Whiting	0.33482
	Mackerel	0.28627*
	Scallop (Marine)	0.25817*
	Pollock	0.24388*
Marine (con't.)	Lobster	0.24227*
	Swordfish	0.24108*
	Sardine	0.23932*
	Ocean Perch	0.23917*
	Crab (Marine)	0.19108
	Mussels	0.18108*
	Squid	0.17794*
	Sea Bass	0.13915*
	Halibut	0.08116*
	Snapper	0.07550*
	Flatfish (Marine)	0.04230
	Pompano	0.03449*
	Whitefish (Marine)	0.02779*
	Octopus	0.02140*
	Smelts (Marine)	0.01899*
	Shark	0.01318*
	Roe	0.00318*
	Snails (Marine)	0.00292*
Unknown	Fish	0.54803
	Seafood	0.07373*
All Species	Tuna	4.43366
	Salmon (Marine)	2.37625
	Shrimp	2.29235
	Cod	1.88153
	Flounder	1.04306
	Clam (Marine)	0.83945
	Catfish (Estuarine)	0.72818
	Catfish (Freshwater)	0.72818
	Haddock	0.65552*
	Porgy	0.62897*
	Fish	0.54803
	Flatfish (Estuarine)	0.36521
	Crab (Estuarine)	0.36391
	Whiting	0.33482
	Herring	0.31352*
	Mackerel	0.28627*
	Carp	0.28073*
	Trout	0.28033*
	Scallop (Marine)	0.25817*
All Species (con't.)	Croaker	0.25753*
	Pollock	0.24388*
	Lobster	0.24227*
	Swordfish	0.24108*
	Sardine	0.23932*
	Ocean Perch	0.23917*
	Perch (Estuarine)	0.21800*
	Perch (Freshwater)	0.21800*
	Crab (Marine)	0.19108
	Mussels	0.18108*
	Squid	0.17794*
	Trout, mixed sp. (Estuarine)	0.15366*
	Trout, mixed sp. (Freshwater)	0.15366*
	Oyster	0.14402*
	Sea Bass	0.13915*
	Halibut	0.08116*
	Pike	0.07983*
	Snapper	0.07550*
	Salmon (Estuarine)	0.07404
	Seafood	0.07373*
	Rockfish	0.06563
	Flatfish (Marine)	0.04230
	Anchovy	0.03958*
	Pompano	0.03449*
	Whitefish (Freshwater)	0.02779*
	Whitefish (Marine)	0.02779*
	Mullet	0.02731*
	Octopus	0.02140*
	Smelts (Estuarine)	0.01899*
	Smelts (Marine)	0.01899*
	Clam (Estuarine)	0.01652
	Shark	0.01318*
	Roe	0.00318*
	Snails (Freshwater)	0.00292*
	Snails (Marine)	0.00292*
	Cisco	0.00277*
	Smelts, Rainbow (Estuarine)	0.00163*
	Smelts, Rainbow (Freshwater)	0.00163*
	Scallop (Estuarine)	0.00151*
	Salmon (Freshwater)	0.00147

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 5,434 individuals to the U.S. population of 84,210,339 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 12. UNCOOKED FISH CONSUMPTION ESTIMATES***

U.S. Population - Mean Consumption by Species within Habitat

Individuals of Age 18 and Older

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.64334
	Flounder	0.69945
	Catfish (Estuarine)	0.57431
	Flatfish (Estuarine)	0.42998
	Crab (Estuarine)	0.41927
	Perch (Estuarine)	0.21256
	Oyster	0.17409*
	Croaker	0.16936*
	Herring	0.15637*
	Trout, mixed sp. (Estuarine)	0.14568*
	Salmon (Estuarine)	0.05630
	Anchovy	0.05535
	Rockfish	0.05167
	Mullet	0.04295*
	Clam (Estuarine)	0.01724
	Smelts (Estuarine)	0.00838*
	Eel	0.00444*
	Scallop (Estuarine)	0.00139*
	Smelts, Rainbow (Estuarine)	0.00072*
	Sturgeon (Estuarine)	0.00017*
Freshwater	Catfish (Freshwater)	0.57431
	Trout	0.24140*
	Perch (Freshwater)	0.21256
	Carp	0.18153*
	Trout, mixed sp. (Freshwater)	0.14568*
	Pike	0.03827*
	Whitefish (Freshwater)	0.01246*
	Crayfish	0.01024*
	Snails (Freshwater)	0.00206*
	Cisco	0.00170*
	Salmon (Freshwater)	0.00112
	Smelts, Rainbow (Freshwater)	0.00072*
	Sturgeon (Freshwater)	0.00017*
Marine	Tuna	4.19936
	Salmon (Marine)	1.80697
	Cod	1.67819
	Clam (Marine)	0.87626
	Porgy	0.49466*
	Haddock	0.37401
	Whiting	0.30836
	Pollock	0.27864
	Lobster	0.25919*
Marine (con't.)	Scallop (Marine)	0.23770*
	Crab (Marine)	0.22015
	Squid	0.20948*
	Sardine	0.16675*
	Ocean Perch	0.15663*
	Mackerel	0.14560*
	Swordfish	0.12595*
	Sea Bass	0.12542*
	Pompano	0.11197*
	Mussels	0.09969*
	Octopus	0.08785*
	Flatfish (Marine)	0.04980
	Halibut	0.04224*
	Snapper	0.03624*
	Whitefish (Marine)	0.01246*
	Smelts (Marine)	0.00838*
	Shark	0.00581*
	Conch	0.00284*
	Snails (Marine)	0.00206*
	Roe	0.00140*
Unknown	Fish	0.47585
	Seafood	0.08182*
All Species	Tuna	4.19936
	Shrimp	2.64334
	Salmon (Marine)	1.80697
	Cod	1.67819
	Clam (Marine)	0.87626
	Flounder	0.69945
	Catfish (Estuarine)	0.57431
	Catfish (Freshwater)	0.57431
	Porgy	0.49466*
	Fish	0.47585
	Flatfish (Estuarine)	0.42998
	Crab (Estuarine)	0.41927
	Haddock	0.37401
	Whiting	0.30836
	Pollock	0.27864
	Lobster	0.25919*
	Trout	0.24140*
	Scallop (Marine)	0.23770*
	Crab (Marine)	0.22015
	Perch (Estuarine)	0.21256
All Species (con't.)	Perch (Freshwater)	0.21256
	Squid	0.20948*
	Carp	0.18153*
	Oyster	0.17409*
	Croaker	0.16936*
	Sardine	0.16675*
	Ocean Perch	0.15663*
	Herring	0.15637*
	Trout, mixed sp. (Estuarine)	0.14568*
	Trout, mixed sp. (Freshwater)	0.14568*
	Mackerel	0.14560*
	Swordfish	0.12595*
	Sea Bass	0.12542*
	Pompano	0.11197*
	Mussels	0.09969*
	Octopus	0.08785*
	Seafood	0.08182*
	Salmon (Estuarine)	0.05630
	Anchovy	0.05535
	Rockfish	0.05167
	Flatfish (Marine)	0.04980
	Mullet	0.04295*
	Halibut	0.04224*
	Pike	0.03827*
	Snapper	0.03624*
	Clam (Estuarine)	0.01724
	Whitefish (Freshwater)	0.01246*
	Whitefish (Marine)	0.01246*
	Crayfish	0.01024*
	Smelts (Estuarine)	0.00838*
	Smelts (Marine)	0.00838*
	Shark	0.00581*
	Eel	0.00444*
	Conch	0.00284*
	Snails (Freshwater)	0.00206*
	Snails (Marine)	0.00206*
	Cisco	0.00170*
	Roe	0.00140*
	Scallop (Estuarine)	0.00139*
	Salmon (Freshwater)	0.00112
	Smelts, Rainbow (Estuarine)	0.00072*
	Smelts, Rainbow (Freshwater)	0.00072*
	Sturgeon (Estuarine)	0.00017*
	Sturgeon (Freshwater)	0.00017*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 9,596 individuals to the U.S. population of 190,931,846 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.1.6 TABLE 13. UNCOOKED FISH CONSUMPTION ESTIMATES***
U.S. Population - Mean Consumption by Species within Habitat
All Individuals

Habitat	Species	Estimated Mean Grams/person/day
Estuarine	Shrimp	2.20919
	Flounder	0.59870
	Catfish (Estuarine)	0.49134
	Crab (Estuarine)	0.35744
	Flatfish (Estuarine)	0.35013
	Perch (Estuarine)	0.18300
	Oyster	0.14115*
	Croaker	0.13728*
	Trout, mixed sp. (Estuarine)	0.11991*
	Herring	0.11655*
	Rockfish	0.04410
	Salmon (Estuarine)	0.04403
	Anchovy	0.04328
	Mullet	0.03688*
	Clam (Estuarine)	0.01327
	Smelts (Estuarine)	0.00611*
	Eel	0.00324*
	Scallop (Estuarine)	0.00111
	Smelts, Rainbow (Estuarine)	0.00052*
	Sturgeon (Estuarine)	0.00013*
Freshwater	Catfish (Freshwater)	0.49134
	Trout	0.20401*
	Perch (Freshwater)	0.18300
	Carp	0.13288*
	Trout, mixed sp. (Freshwater)	0.11991*
	Pike	0.03316*
	Whitefish (Freshwater)	0.01024*
	Crayfish	0.00746*
	Snails (Freshwater)	0.00248*
	Cisco	0.00236*
	Salmon (Freshwater)	0.00087
	Smelts, Rainbow	0.00052*
	Sturgeon (Freshwater)	0.00013*
Marine	Tuna	3.63953
	Cod	1.47801
	Salmon (Marine)	1.41319
	Clam (Marine)	0.67411
	Porgy	0.38994*
	Haddock	0.32004
	Pollock	0.28210
	Whiting	0.26686
	Lobster	0.21067*
Marine (con't.)	Scallop (Marine)	0.19015
	Crab (Marine)	0.18769
	Squid	0.15294*
	Ocean Perch	0.14073*
	Sardine	0.12326*
	Sea Bass	0.12293*
	Mackerel	0.11553*
	Swordfish	0.10296*
	Pompano	0.09790*
	Mussels	0.07424*
	Octopus	0.06404*
	Flatfish (Marine)	0.04055
	Halibut	0.03227*
	Snapper	0.02756*
	Whitefish (Marine)	0.01024*
	Smelts (Marine)	0.00611*
	Shark	0.00424*
	Snails (Marine)	0.00248*
	Conch	0.00207*
	Roe	0.00102*
Unknown	Fish	0.58876
	Seafood	0.06067*
All Species	Tuna	3.63953
	Shrimp	2.20919
	Cod	1.47801
	Salmon (Marine)	1.41319
	Clam (Marine)	0.67411
	Flounder	0.59870
	Fish	0.58876
	Catfish (Estuarine)	0.49134
	Catfish (Freshwater)	0.49134
	Porgy	0.38994*
	Crab (Estuarine)	0.35744
	Flatfish (Estuarine)	0.35013
	Haddock	0.32004
	Pollock	0.28210
	Whiting	0.26686
	Lobster	0.21067*
	Trout	0.20401*
	Scallop (Marine)	0.19015
	Crab (Marine)	0.18769
	Perch (Estuarine)	0.18300
All Species (con't.)	Perch (Freshwater)	0.18300
	Squid	0.15294*
	Oyster	0.14115*
	Ocean Perch	0.14073*
	Croaker	0.13728*
	Carp	0.13288*
	Sardine	0.12326*
	Sea Bass	0.12293*
	Trout, mixed sp. (Estuarine)	0.11991*
	Trout, mixed sp. (Freshwater)	0.11991*
	Herring	0.11655*
	Mackerel	0.11553*
	Swordfish	0.10296*
	Pompano	0.09790*
	Mussels	0.07424*
	Octopus	0.06404*
	Seafood	0.06067*
	Rockfish	0.04410
	Salmon (Estuarine)	0.04403
	Anchovy	0.04328
	Flatfish (Marine)	0.04055
	Mullet	0.03688*
	Pike	0.03316*
	Halibut	0.03227*
	Snapper	0.02756*
	Clam (Estuarine)	0.01327
	Whitefish (Freshwater)	0.01024*
	Whitefish (Marine)	0.01024*
	Crayfish	0.00746*
	Smelts (Estuarine)	0.00611*
	(Marine)	0.00611*
	Shark	0.00424*
	Eel	0.00324*
	Snails (Freshwater)	0.00248*
	Snails (Marine)	0.00248*
	Cisco	0.00236*
	Conch	0.00207*
	Scallop (Estuarine)	0.00111
	Roe	0.00102*
	Salmon (Freshwater)	0.00087
	Smelts, Rainbow (Estuarine)	0.00052*
	Smelts, Rainbow (Frshwtr)	0.00052*
	Sturgeon (Estuarine)	0.00013*
	Sturgeon (Freshwater)	0.00013*

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Estimates are projected from a sample of 15,303 individuals to the U.S. population of 261,897,260 using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-96".
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

154

SECTION 5.2.1.1 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***

Consumers Only - Finfish and Shellfish (grams/person/day)

Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	242	48.51 (39.10-57.92)	118.03 (98.73-149.64)	189.81*(172.74-220.06)	305.10*(234.85-381.43)
15-44	336	73.60 (60.98-86.22)	165.50 (138.38-204.38)	266.21 (198.95-319.30)	502.53*(394.41-1,104.67)
45 and Older	457	64.51 (58.38-70.64)	160.79 (154.14-165.82)	202.16 (190.37-224.15)	391.92*(299.80-431.48)
All Ages	1,035	66.33 (59.57-73.09)	162.77 (153.19-185.09)	219.22 (198.47-241.30)	457.43*(381.43-507.80)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	225	65.63 (55.22-76.03)	173.34 (156.21-195.72)	280.08*(196.98-381.43)	381.41*(295.81-401.00)
15-44	362	91.60 (80.73-102.46)	235.52 (205.52-247.70)	301.63 (272.21-366.76)	495.51*(440.11-730.01)
45 and Older	555	90.55 (79.93-101.17)	220.46 (201.41-235.49)	295.39 (264.63-327.83)	561.26*(391.41-764.19)
All Ages	1,142	87.73 (80.32-95.14)	220.24 (200.21-235.69)	295.80 (262.45-334.04)	488.86*(431.48-642.53)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	467	57.18 (50.82-63.54)	156.28 (127.51-174.63)	200.87 (189.39-249.69)	381.20*(366.76-401.00)
15-44	698	82.97 (75.94-90.01)	205.40 (195.44-225.89)	289.02 (252.77-334.04)	504.00*(460.79-975.18)
45 and Older	1,012	77.32 (69.72-84.92)	190.48 (170.67-200.77)	244.19 (228.53-264.63)	411.23*(381.85-505.38)
All Ages	2,177	77.14 (71.65-82.63)	195.47 (182.11-204.18)	256.55 (241.30-294.50)	466.27 (424.52-581.93)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.2.1.1 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish (grams/person/day)
Marine: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	349	70.89 (64.52-77.27)	132.59 (118.25-165.10)	174.43 (149.39-205.13)	228.68*(208.75-378.75)
15-44	412	91.04 (84.82-97.26)	188.35 (168.81-213.33)	241.01 (226.80-262.41)	376.50*(346.84-391.49)
45 and Older	588	103.54 (94.00-113.07)	188.89 (173.64-196.00)	239.45 (226.80-290.24)	441.43*(358.71-647.17)
All Ages	1,349	93.15 (88.34-97.95)	182.35 (169.35-193.18)	232.35 (213.33-245.71)	384.88 (325.15-485.63)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	332	78.94 (66.74-91.14)	198.04 (140.30-226.20)	226.43 (201.38-307.36)	341.56*(259.53-392.00)
15-44	413	128.15 (118.04-138.25)	240.99 (222.67-252.87)	284.17 (269.82-333.80)	566.72*(501.28-646.84)
45 and Older	623	113.42 (106.57-120.26)	222.89 (214.14-239.69)	284.70 (255.95-323.77)	384.03*(371.47-480.00)
All Ages	1,368	114.00 (107.22-120.78)	226.78 (217.10-235.67)	277.25 (271.99-307.36)	483.28 (390.06-634.22)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	681	74.90 (66.16-83.63)	152.29 (132.58-200.62)	208.42 (200.62-229.68)	326.75*(229.68-392.00)
15-44	825	109.47 (102.29-116.66)	225.74 (217.10-232.76)	270.38 (245.71-279.31)	483.21*(391.49-524.48)
45 and Older	1,211	108.08 (101.71-114.45)	205.85 (194.60-223.64)	271.52 (250.35-296.56)	407.21*(373.74-647.17)
All Ages	2,717	103.23 (98.69-107.77)	215.30 (205.13-219.84)	259.27 (250.35-274.33)	406.48 (391.49-485.63)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.2.1.1 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish (grams/person/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	447	80.29 (73.39-87.19)	163.99 (150.53-190.14)	204.84 (180.05-220.06)	378.95*(234.65-381.43)
15-44	554	108.31 (97.94-118.68)	220.56 (198.36-233.82)	315.04 (275.06-381.43)	494.95*(390.06-507.80)
45 and Older	751	116.83 (108.87-124.79)	214.90 (200.85-225.98)	270.16 (247.99-294.15)	443.88*(425.20-817.24)
All Ages	1,752	107.53 (101.77-113.29)	207.63 (199.52-217.49)	277.27 (248.39-296.52)	452.96 (394.21-507.80)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	421	96.41 (85.14-107.68)	225.96 (194.65-295.81)	339.17 (226.80-354.88)	382.66*(355.76-401.00)
15-44	565	148.24 (140.33-156.15)	271.89 (254.85-325.19)	381.42 (334.04-430.80)	635.74*(606.35-646.84)
45 and Older	849	139.27 (131.95-146.59)	274.36 (254.42-303.60)	347.94 (317.33-373.74)	504.94*(439.35-693.23)
All Ages	1,835	136.49 (130.87-142.12)	267.12 (260.61-275.06)	354.70 (343.47-373.74)	594.85 (524.48-642.53)
Both Sexes					
Age	Sample Size*	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	868	88.38 (80.07-96.69)	194.99 (175.24-208.28)	252.67 (218.25-348.00)	381.13*(366.76-401.00)
15-44	1,119	128.32 (121.55-135.09)	254.81 (241.43-271.11)	362.16 (329.51-381.43)	608.61*(507.80-646.84)
45 and Older	1,600	127.50 (120.55-134.45)	243.73 (230.81-255.45)	317.33 (304.33-329.44)	476.38 (439.35-592.99)
All Ages	3,587	121.75 (116.79-126.71)	241.36 (231.52-248.41)	329.93 (304.33-362.30)	506.87 (468.07-621.99)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

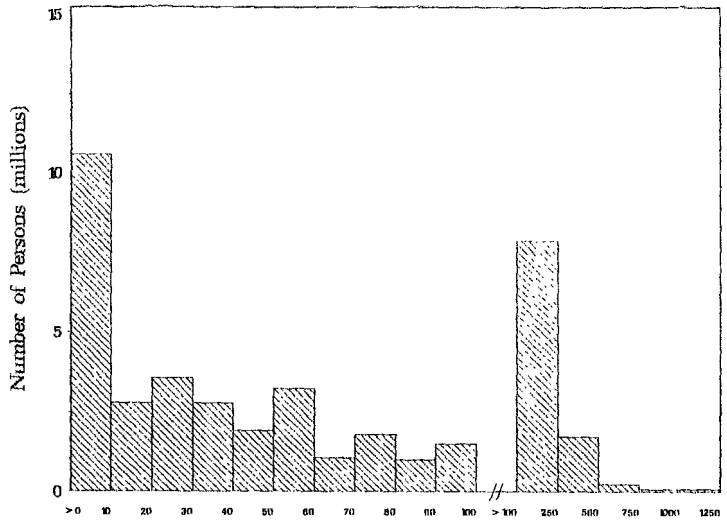
SECTION 5.2.1.1 TABLE 4. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish
Individuals of Age 18 and Older

		Grams/person/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	80.10	73.88	86.31
n = 1,654	50th %	46.81	39.14	51.46
N = 33,438,807	90th %	198.23	182.36	205.52
	95th %	269.24	241.30	295.46
	99th %	505.53	443.83	581.93
Marine	Mean	108.32	103.53	113.11
n = 1,979	50th %	83.43	80.24	90.77
N = 40,081,640	90th %	216.64	212.48	223.64
	95th %	269.82	250.35	280.50
	99th %	464.20	391.49	488.38
All Fish	Mean	127.81	122.41	133.20
n = 2,634	50th %	99.26	96.96	107.31
N = 53,184,336	90th %	248.40	236.25	264.07
	95th %	333.76	320.87	348.74
	99th %	518.76	507.80	634.22

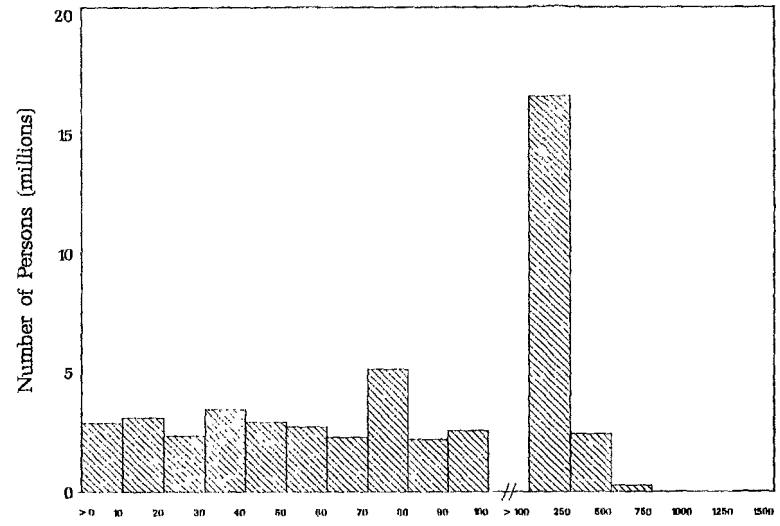
(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only of age 18 and older, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

Section 5.2.1.1 Figure 1. Histograms of Uncooked Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

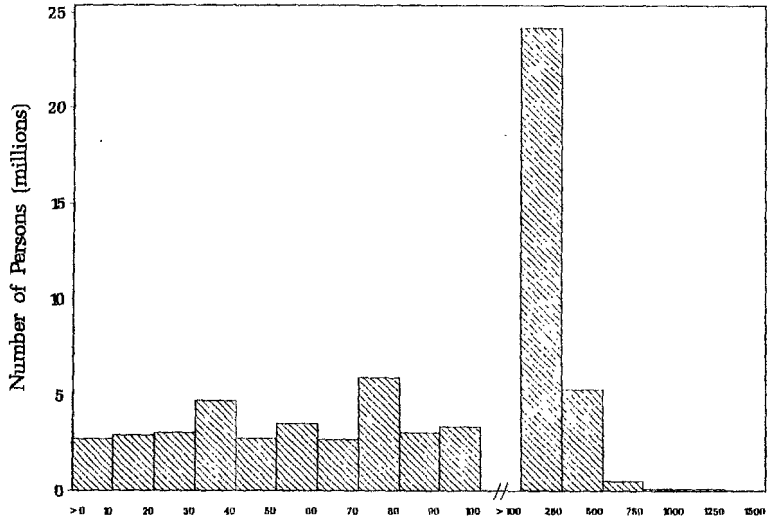
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



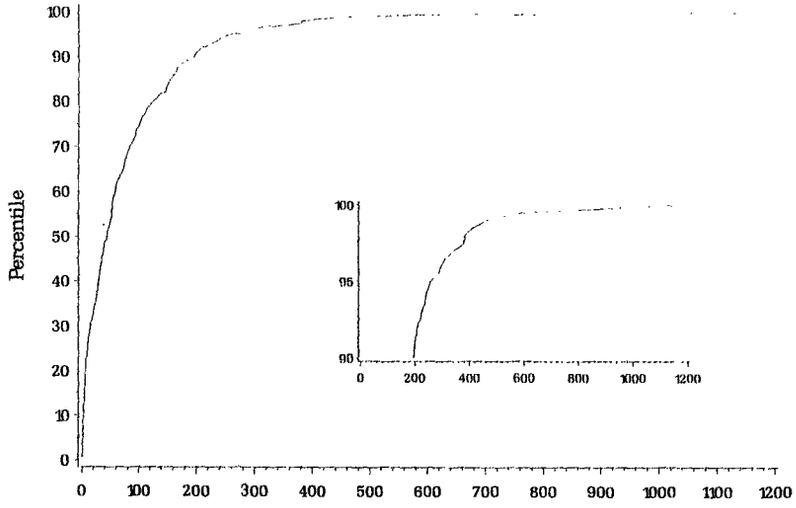
Total Finfish and Shellfish



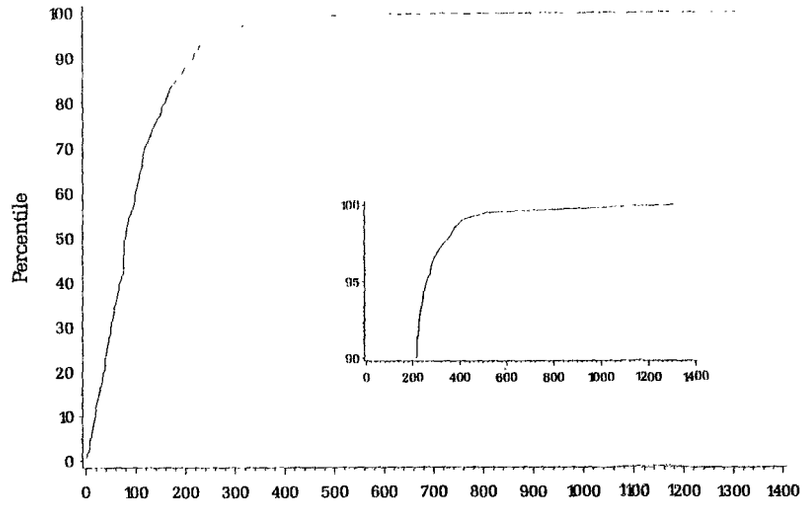
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.2.1.1 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

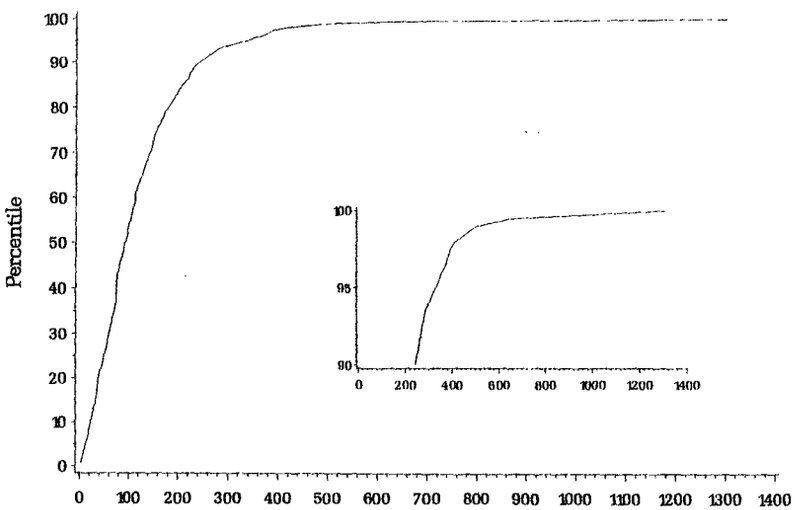
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



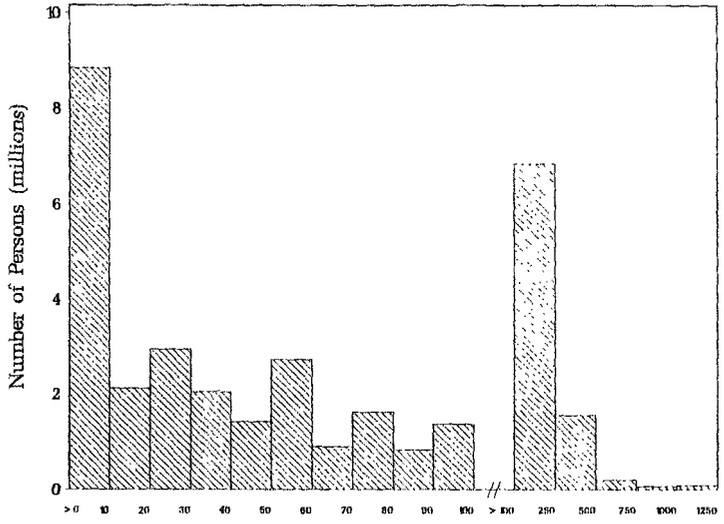
Total Finfish and Shellfish



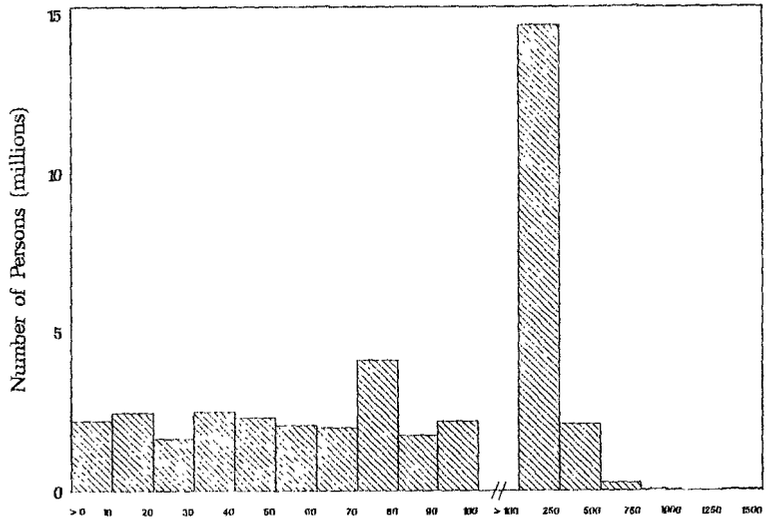
Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.2.1.1 Figure 3. Histograms of Uncooked Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

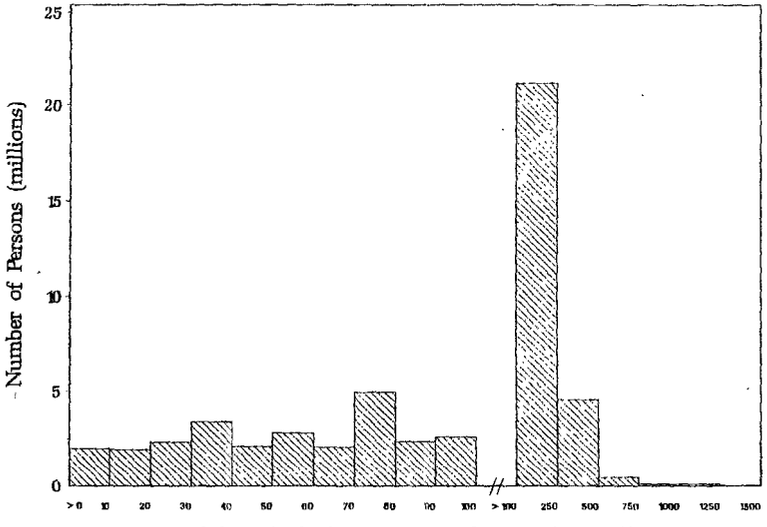
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



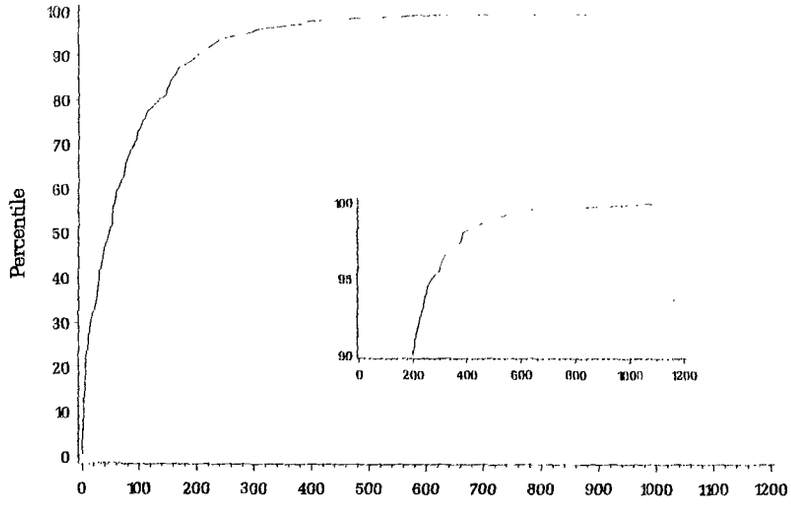
Total Finfish and Shellfish



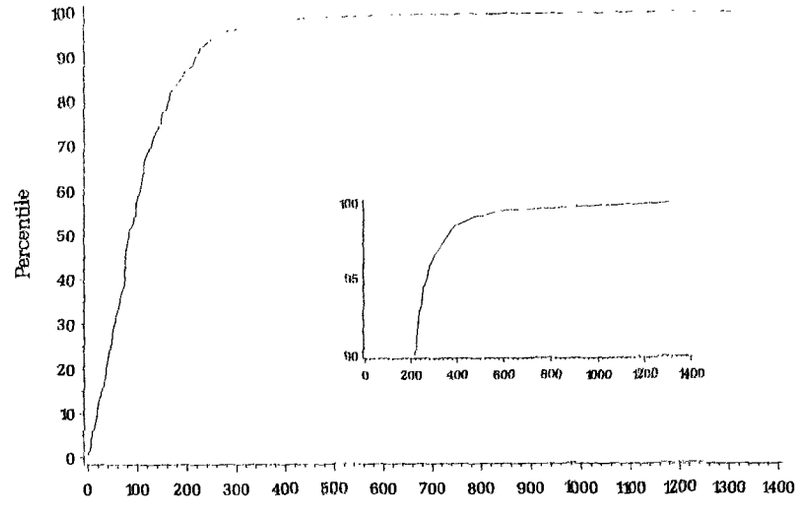
Source of data: 1994—1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

Section 5.2.1.1 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

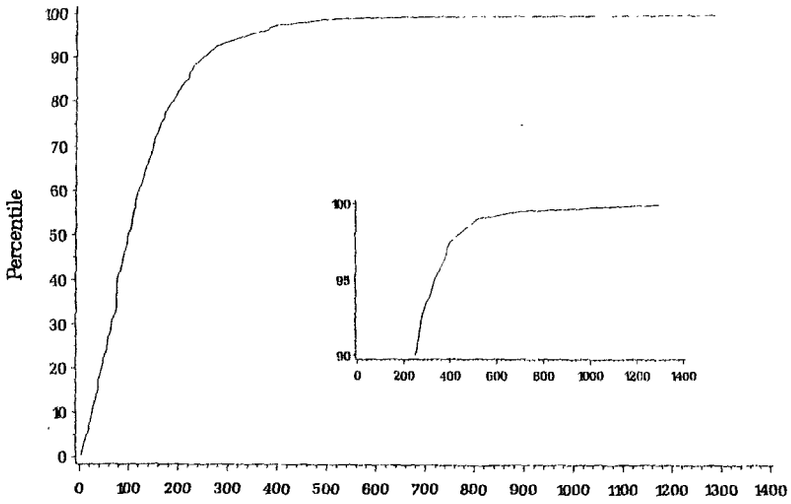
Freshwater/Estuarine Finfish and Shellfish



Marine Finfish and Shellfish



Total Finfish and Shellfish



Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

1602

SECTION 5.2.1.2 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Freshwater/Estuarine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	218	1,960.20 (1,543.20-2,377.20)	4,422.20 (4,130.29-4,933.54)	7,491.24*(6,762.56-10,933.25)	15,387.06*(11,771.43-18,670.16)
15-44	326	1,161.97 (947.63-1,376.31)	2,826.58 (2,243.87-3,265.99)	4,209.90 (3,265.99-6,205.27)	8,113.81*(6,205.27-20,620.25)
45 and Older	440	970.49 (869.16-1,071.82)	2,530.37 (2,299.26-2,859.57)	3,229.60 (3,034.37-3,715.88)	4,577.39*(4,049.45-9,900.08)
All Ages	984	1,185.70 (1,057.46-1,313.94)	2,873.14 (2,429.95-3,104.59)	4,048.65 (3,537.97-4,318.36)	9,725.70*(6,866.67-15,752.95)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	210	2,050.49 (1,727.65-2,373.34)	4,674.19 (4,256.73-5,070.77)	5,974.55*(5,521.64-11,877.48)	13,207.44*(9,688.25-16,803.15)
15-44	359	1,153.76 (1,016.29-1,291.23)	2,952.83 (2,593.52-3,519.98)	3,994.22 (3,553.99-4,441.41)	6,534.75*(5,456.55-8,577.35)
45 and Older	550	1,074.02 (949.93-1,198.10)	2,466.30 (2,288.89-2,640.48)	3,446.10 (3,004.07-3,848.85)	6,562.51*(5,282.20-9,351.29)
All Ages	1,119	1,247.50 (1,138.20-1,356.80)	3,094.39 (2,833.93-3,341.02)	4,224.84 (4,037.00-4,514.18)	8,453.08*(6,530.74-12,925.50)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	428	2,008.03 (1,806.71-2,209.35)	4,614.11 (4,130.29-4,989.91)	7,198.50 (5,521.64-10,933.25)	15,322.85*(11,756.48-16,803.15)
15-44	685	1,157.96 (1,050.58-1,265.35)	2,917.39 (2,662.86-3,132.35)	4,082.94 (3,691.94-4,441.41)	8,579.76*(6,721.26-9,338.99)
45 and Older	990	1,022.84 (931.49-1,114.20)	2,479.49 (2,312.96-2,692.81)	3,304.72 (3,044.82-3,506.38)	6,088.84*(4,744.32-8,254.35)
All Ages	2,103	1,217.62 (1,128.39-1,306.85)	2,915.08 (2,742.84-3,230.83)	4,091.83 (3,905.74-4,441.41)	8,893.36 (7,285.99-9,900.08)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.2.1.2 TABLE 2. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
Marine: Age by Gender and All Individuals

Females					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	324	2,855.86 (2,586.93-3,124.78)	5,598.37 (5,293.15-6,348.80)	7,382.89 (6,374.62-8,478.02)	9,774.11*(8,764.20-12,234.97)
15-44	403	1,478.43 (1,363.98-1,592.88)	3,103.79 (2,663.92-3,420.85)	3,934.93 (3,420.85-5,805.11)	6,491.63*(4,928.77-7,224.38)
45 and Older	568	1,579.85 (1,439.22-1,720.48)	3,027.62 (2,775.41-3,161.77)	3,916.83 (3,605.78-4,397.53)	7,415.79*(5,639.68-12,395.47)
All Ages	1,295	1,726.92 (1,642.23-1,811.62)	3,506.49 (3,214.40-3,769.38)	4,816.32 (4,510.24-5,293.15)	8,469.43 (7,224.38-10,072.29)
Males					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	320	2,706.03 (2,399.18-3,012.88)	5,912.42 (4,938.60-6,447.73)	7,444.09 (6,447.73-8,323.22)	11,145.57*(8,706.84-12,054.98)
15-44	410	1,599.32 (1,486.17-1,712.46)	3,071.69 (2,800.12-3,380.22)	3,796.77 (3,563.92-4,084.68)	7,097.29*(4,393.38-7,701.39)
45 and Older	621	1,413.55 (1,325.51-1,501.59)	2,811.94 (2,588.88-3,043.24)	3,723.68 (3,386.40-4,223.64)	5,503.98*(5,134.25-6,320.80)
All Ages	1,351	1,703.56 (1,607.97-1,799.14)	3,443.93 (3,178.42-3,683.21)	4,414.17 (3,986.78-4,982.40)	7,681.50 (7,130.73-8,658.74)
Both Sexes					
Age	**Sample Size**	**Mean (90% C.I.)**	**90th % (90% B.I.)****	**95th % (90% B.I.)****	**99th % (90% B.I.)****
14 and Younger	644	2,778.65 (2,549.32-3,007.97)	5,743.43 (5,192.40-6,374.62)	7,411.82 (6,536.38-8,355.02)	10,925.55*(9,250.26-11,628.75)
15-44	813	1,538.77 (1,452.77-1,624.77)	3,099.73 (2,872.12-3,317.91)	3,881.92 (3,563.92-4,246.93)	6,884.50*(5,422.31-7,360.98)
45 and Older	1,189	1,501.40 (1,416.93-1,585.87)	2,948.00 (2,663.71-3,231.73)	3,888.51 (3,486.45-4,030.41)	6,228.75*(5,409.10-9,759.38)
All Ages	2,646	1,715.45 (1,651.19-1,779.72)	3,462.91 (3,330.40-3,642.54)	4,692.85 (4,510.24-4,831.36)	8,240.91 (7,364.88-8,658.74)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

SECTION 5.2.1.2 TABLE 3. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish (milligrams/kilogram of body weight/day)
All Fish: Age by Gender and All Individuals

Females					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	413	3,258.96 (2,990.70-3,527.22)	6,632.41 (5,824.77-7,364.88)	8,803.09 (8,486.83-9,851.70)	15,524.59*(13,979.49-18,670.16)
15-44	541	1,735.01 (1,555.67-1,914.35)	3,437.54 (3,082.90-4,170.62)	5,044.11 (4,277.78-6,122.05)	8,117.00*(6,679.34-15,752.95)
45 and Older	725	1,777.77 (1,659.57-1,895.96)	3,422.45 (3,089.14-3,715.88)	4,109.51 (3,878.37-4,852.93)	8,003.94*(6,121.23-15,117.25)
All Ages	1,679	1,973.11 (1,869.20-2,077.02)	4,049.05 (3,719.99-4,328.01)	5,627.65 (5,169.92-6,020.90)	9,930.32 (8,970.49-13,979.49)
Males					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	397	3,229.55 (2,970.53-3,488.57)	7,269.53 (6,538.84-7,589.31)	8,679.61 (8,262.33-10,929.57)	13,403.67*(11,877.48-15,495.24)
15-44	561	1,859.94 (1,768.38-1,951.49)	3,599.77 (3,384.84-3,946.67)	4,463.51 (4,214.48-5,372.88)	7,621.28*(6,176.74-8,577.35)
45 and Older	842	1,705.00 (1,617.49-1,792.51)	3,395.46 (3,211.56-3,605.46)	4,253.00 (4,039.97-4,497.06)	6,376.22*(6,007.64-9,351.29)
All Ages	1,800	2,010.75 (1,921.79-2,099.71)	3,991.35 (3,832.92-4,254.73)	5,393.36 (4,884.23-5,972.27)	9,008.50 (8,520.49-10,205.40)
Both Sexes					
Age	Sample Size	Mean (90% C.I.)	90th % (90% B.I.)**	95th % (90% B.I.)**	99th % (90% B.I.)**
14 and Younger	810	3,243.87 (3,018.02-3,469.72)	7,110.77 (6,240.82-7,589.31)	8,702.42 (8,262.33-9,953.63)	13,980.15*(12,925.50-16,107.89)
15-44	1,102	1,798.12 (1,705.27-1,890.97)	3,549.64 (3,317.91-3,855.29)	4,805.90 (4,277.78-5,422.31)	7,936.47*(7,360.98-8,603.84)
45 and Older	1,567	1,742.62 (1,652.71-1,832.53)	3,415.94 (3,227.02-3,571.85)	4,260.74 (4,031.29-4,459.47)	6,852.58 (6,195.18-9,351.29)
All Ages	3,479	1,991.84 (1,911.12-2,072.56)	3,995.05 (3,855.29-4,175.95)	5,501.12 (5,072.30-6,012.89)	9,517.85 (8,752.05-10,397.33)

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
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(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
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**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

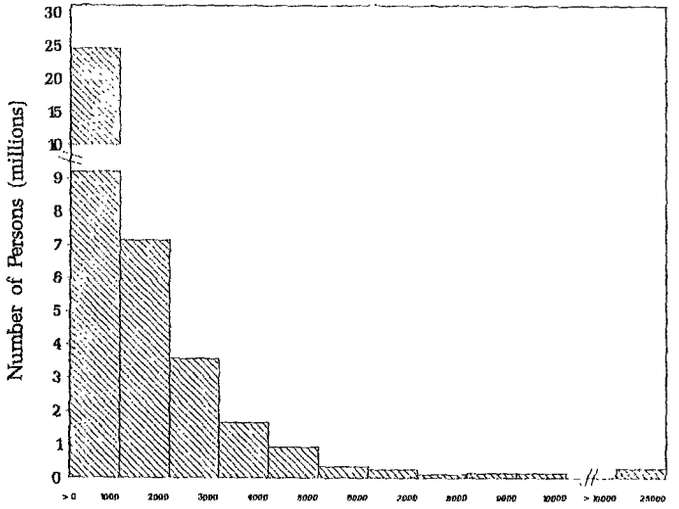
SECTION 5.2.1.2 TABLE 4. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish
Individuals of Age 18 and Older

		Milligrams/kilogram of body weight/day		
			90% Interval**	
Habitat	Statistic	Estimate	Lower Bound	Upper Bound
Freshwater/Estuarine	Mean	1,088.92	1,008.04	1,169.80
n = 1,620	50th %	601.68	544.94	644.95
N = 32,775,671	90th %	2,668.01	2,474.11	2,874.91
	95th %	3,715.43	3,349.32	4,036.52
	99th %	7,085.70	6,007.64	9,338.99
Marine	Mean	1,506.57	1,447.24	1,565.91
n = 1,945	50th %	1,199.22	1,139.63	1,263.71
N = 39,370,145	90th %	2,973.85	2,754.46	3,127.76
	95th %	3,781.13	3,537.65	4,030.41
	99th %	6,344.80	5,931.06	7,224.38
All Fish	Mean	1,763.30	1,692.97	1,833.62
n = 2,585	50th %	1,377.79	1,314.45	1,436.93
N = 52,207,649	90th %	3,438.58	3,302.80	3,584.23
	95th %	4,491.91	4,271.23	4,809.86
	99th %	7,510.36	6,679.34	8,603.84

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only of age 18 and older, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
(6) 448 individuals did not report body weight. They represent 6,343,682 individuals in the population.
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

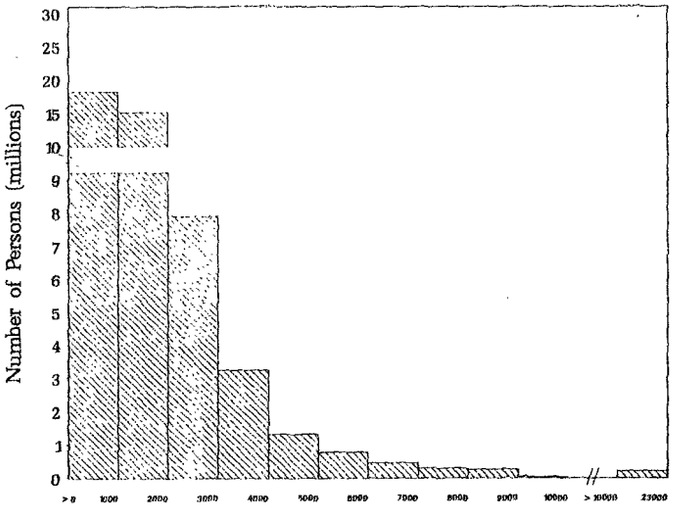
Section 5.2.1.2 Figure 1. Histograms of Uncooked Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



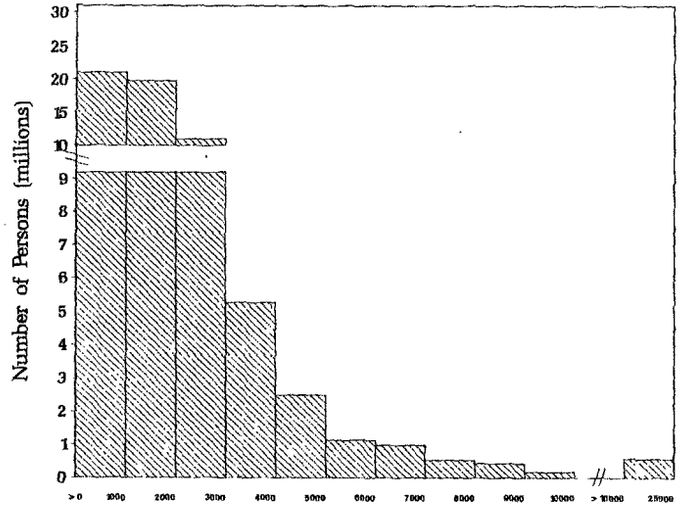
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish

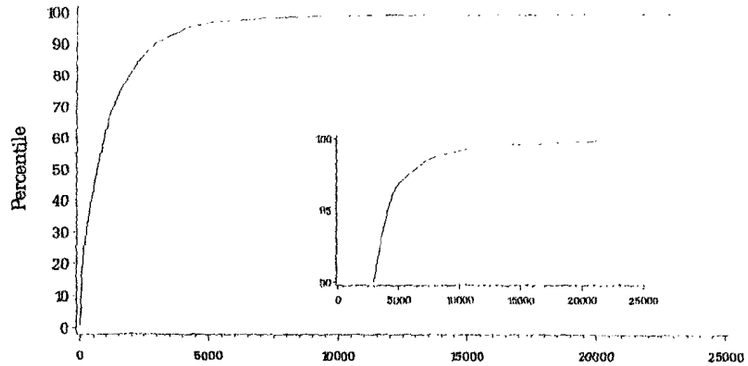


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

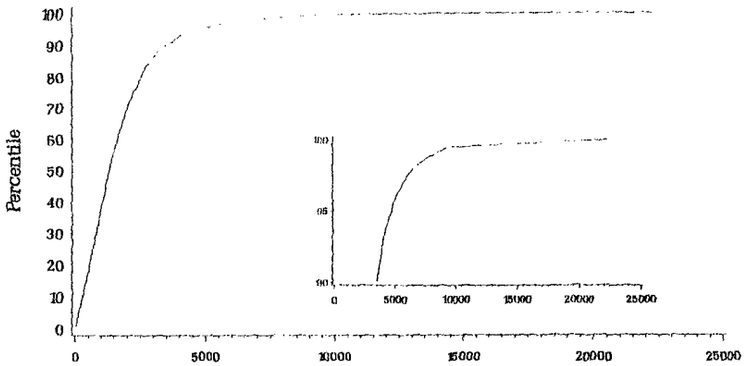
Section 5.2.1.2 Figure 2. Cumulative Distributions of Uncooked Fish Consumption for Consumers Only: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



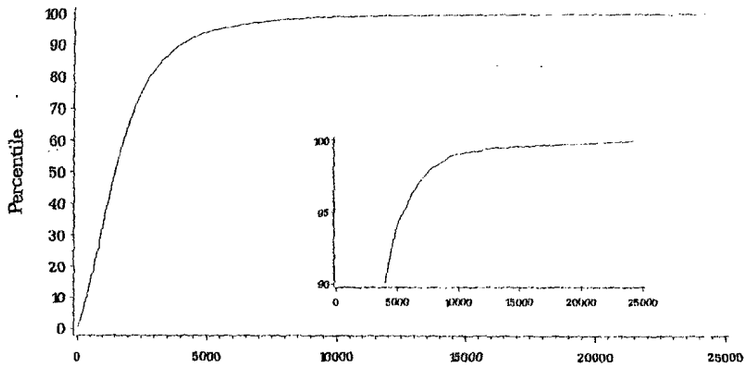
Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Total Finfish and Shellfish

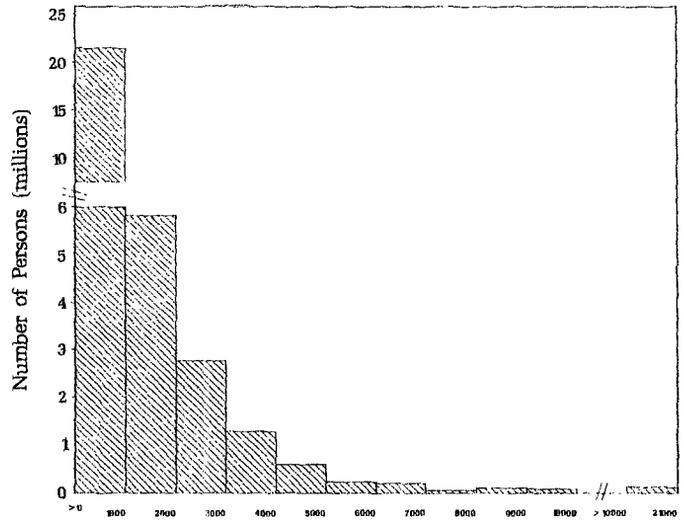


Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

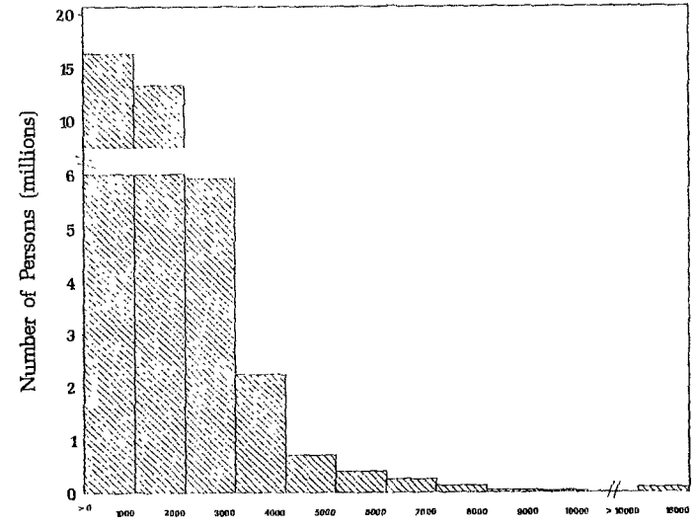
Section 5.2.1.2 Figure 3. Histograms of Uncooked Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



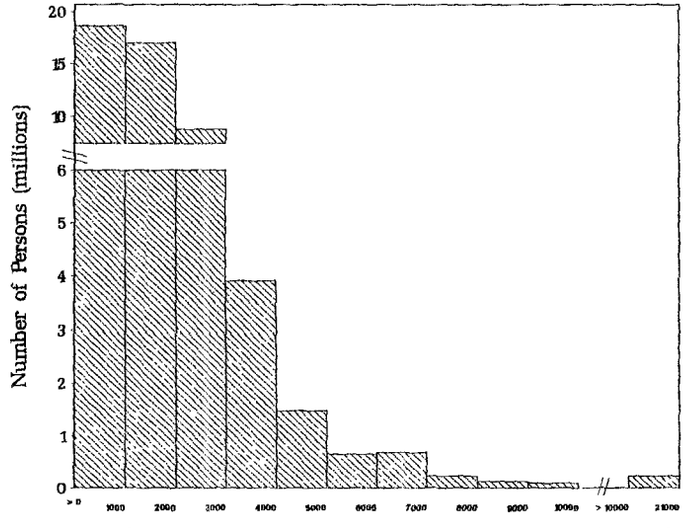
Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Total Finfish and Shellfish

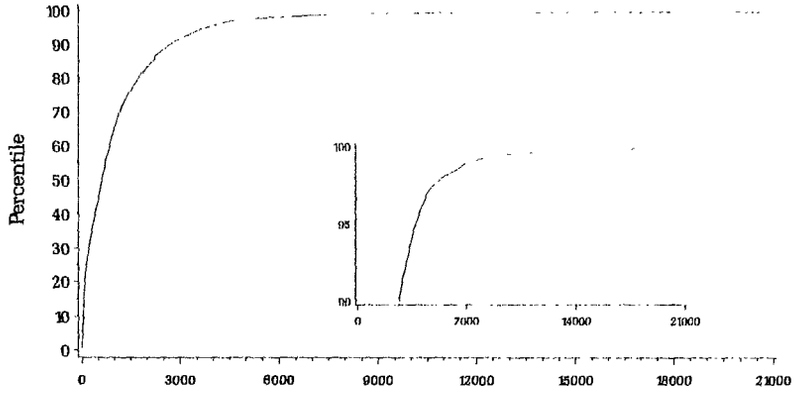


Finfish and Shellfish Consumed (milligrams/kilogram of body weight/day)

Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

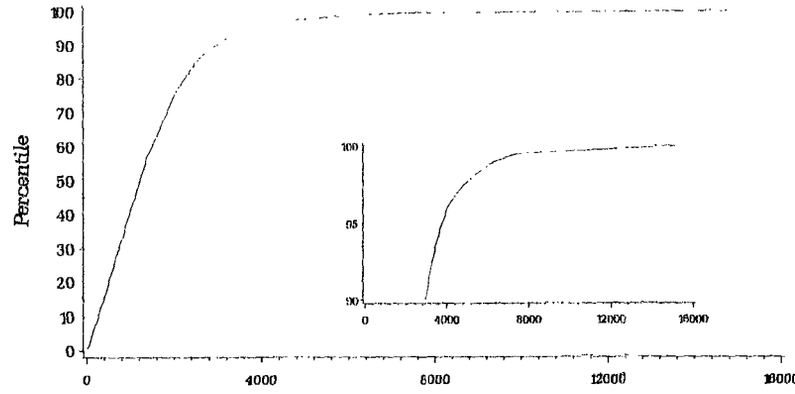
Section 5.2.1.2 Figure 4. Cumulative Distributions of Uncooked Fish Consumption for Consumers Only of Age 18 and Older: Freshwater/Estuarine, Marine, and Total Fish

Freshwater/Estuarine Finfish and Shellfish



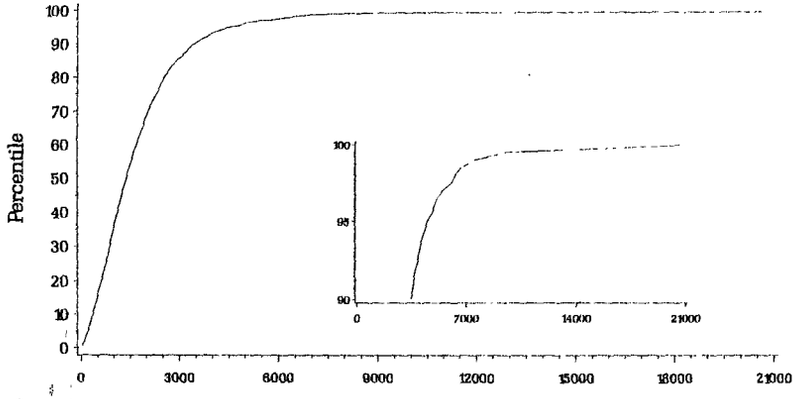
Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Marine Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Total Finfish and Shellfish



Finfish and Shellfish Consumed (milligram/kilogram of body weight/day)

Source of data: 1994–1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

SECTION 5.2.2 TABLE 1. UNCOOKED FISH CONSUMPTION ESTIMATES***
Consumers Only - Finfish and Shellfish
Alternate Habitat

Habitat	Statistic	Grams/person/day	90% Interval	
		Estimate	Lower Bound	Upper Bound
Freshwater	Mean	40.47	34.62	46.33
n = 887	50th %	7.04	6.08	8.31
N = 15,379,935	90th %	120.45	108.25	147.02
	95th %	190.38	158.61	190.72
	99th %	381.93*	287.85*	431.48*
Estuarine/Marine	Mean	114.43	109.74	119.12
n = 3,551	50th %	87.34	84.39	92.00
N = 64,336,846	90th %	226.98	221.37	234.85
	95th %	294.60	275.06	320.16
	99th %	491.18	439.35	519.79
All Fish	Mean	121.75	116.79	126.71
n = 3,587	50th %	92.47	90.67	97.40
N = 65,093,788	90th %	241.36	231.52	248.41
	95th %	329.93	304.33	362.30
	99th %	506.87	468.07	621.99

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day period.
n = sample size, N = population size
Estimates are projected from the sample to the population of consumers only in the United States, using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.
(5) Interval estimates may involve aggregation of variance estimation units when data are too sparse to support estimation of the variance.
*: The sample size does not meet minimum reporting requirements as described in the "Third Report on Nutrition Monitoring in the United States, 1994-1996."
**: Percentile intervals were estimated using the percentile bootstrap method with 1,000 bootstrap replications.
***: Amount of consumed fish recorded by survey respondents was converted to uncooked fish quantities using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

APPENDIX A

TABLE A-1. FRESHWATER/ESTUARINE RATIO FOR UNKNOWN FISH COMPONENTS A-1

TABLE A-2. LISTING OF FOOD CODES WITH HABITAT ASSIGNMENTS A-2

TABLE A-1. Freshwater/Estuarine Ratios for Unknown Fish Components

Sections 4. and 5.	Table	Sex	Age	As Consumed Ratio	Uncooked Ratio
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Females	14 and younger	0.34	0.33
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Females	15 to 44	0.39	0.38
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Females	45 and older	0.34	0.33
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Females	All ages	0.36	0.35
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Males	14 and younger	0.36	0.35
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Males	15 to 44	0.41	0.41
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Males	45 and older	0.42	0.41
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Males	All ages	0.41	0.41
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Both Sexes	14 and younger	0.35	0.34
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Both Sexes	15 to 44	0.40	0.40
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Both Sexes	45 and older	0.39	0.38
1.1.1, 1.1.2, 2.1.1, 2.1.2	1, 2, 3	Both Sexes	All ages	0.39	0.38
1.1.1, 1.1.2, 2.1.1, 2.1.2	4		18 and older	0.39	0.39
Sections 4. and 5.	**Table**	**Sex**	**Sample**	**As Consumed Ratio**	**Uncooked Ratio**
1.4	1, 2, 3		Low-Income	0.43	0.42
1.5, 2.2	1, 2, 3		Estuarine/Marine	0.92	0.92

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Abalone (1)				HABITAT=Marine						
26301110	0	Abalone, cooked, NS as to cooking method	15155	ABALONE,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26301140	0	Abalone, floured or breaded, fried	15155	ABALONE,MXD SP,RAW	480.04	453.60	94.49	453.60	85.0	94.49
26301160	0	Abalone, steamed or poached	15155	ABALONE,MXD SP,RAW	100.84	100.00	99.17	100.00	50.0	99.17
28351110	100423	Fish and vegetable soup, no potatoes (Sopa de pescado) W/ ABALONE	15155	ABALONE,MXD SP,RAW	1,995.64	453.60	22.73	453.60	85.0	22.73
SPECIES=Anchovy (4)				HABITAT=Estuarine						
26101110	0	Anchovy, cooked, NS as to cooking method	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	100.00	100.00	100.00	133.33	100.0	133.33
26101180	0	Anchovy, canned	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	100.00	100.00	100.00	133.33	100.0	133.33
27116400	0	Steak tartare (raw ground beef and egg)	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	100.00	1.60	1.60	2.13	100.0	2.13
27460510	0	Antipasto with ham, fish, cheese, vegetables	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	1,741.00	113.40	6.51	151.20	100.0	8.68
72116140	0	Caesar salad (with romaine)	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	694.43	24.00	3.46	32.00	100.0	4.61
75146000	0	Greek Salad	15002	ANCHOVY,EUROPEAN,CND,OIL,DRND	220.00	7.00	3.18	9.33	100.0	4.24
SPECIES=Barracuda (6)				HABITAT=Marine						
26103110	0	Barracuda, cooked, NS as to cooking method	15050	BARRACUDA, RAW	971.90	907.20	93.34	907.20	80.0	93.34
26103120	0	Barracuda, baked or broiled	15050	BARRACUDA, RAW	971.90	907.20	93.34	907.20	80.0	93.34
26103140	0	Barracuda, floured or breaded, fried	15050	BARRACUDA, RAW	480.04	453.60	94.49	453.60	85.0	94.49
26103160	0	Barracuda, steamed or poached	15050	BARRACUDA,RAW	100.00	100.00	100.00	100.00	79.0	100.00
SPECIES=Carp (18)				HABITAT=Freshwater						
26105110	0	Carp, cooked, NS as to cooking method	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105140	0	Carp, floured or breaded, fried	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105140	100582	Carp, floured or breaded, fried W/ CANOLA OIL	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105140	100867	Carp, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105140	101165	Carp, floured or breaded, fried W/ CORN OIL	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105140	203086	Carp, floured or breaded, fried W/ OLIVE OIL	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	805.25	626.00	77.74	626.00	79.4	77.74
26105120	0	Carp, baked or broiled	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	690.70	626.00	90.63	626.00	71.5	90.63
26105120	202727	Carp, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL)	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	689.75	626.00	90.76	626.00	71.5	90.76
26105120	203146	Carp, baked or broiled W/O FAT	15008	1 lb raw,dressed carp ylds 313g after ckg w/added	662.50	626.00	94.49	626.00	71.5	94.49
26105160	0	Carp, steamed or poached	15008	CARP,RAW	100.00	100.00	100.00	100.00	79.0	100.00
26105190	0	Carp, smoked	15008	CARP,RAW	101.00	100.00	99.01	100.00	63.4	99.01
27250060	0	Gefilte fish	15008	CARP,RAW	6,161.70	907.20	14.72	907.20	100.0	14.72
SPECIES=Catfish (19)				HABITAT=50% Freshwater, 50% Estuarine						
26107110	0	Catfish, cooked, NS as to cooking method	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107120	0	Catfish, baked or broiled	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	680.70	616.00	90.50	616.00	71.1	90.50
26107120	202363	Catfish, baked or broiled W/ BUTTER, NFS	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	680.88	616.00	90.47	616.00	71.1	90.47
26107120	202879	Catfish, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	679.75	616.00	90.62	616.00	71.1	90.62
26107120	203089	Catfish, baked or broiled W/O FAT	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	652.50	616.00	94.41	616.00	71.1	94.41
26107120	203382	Catfish, baked or broiled W/ CORN OIL	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	679.75	616.00	90.62	616.00	71.1	90.62
26107130	0	Catfish, breaded or battered, baked	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	879.85	616.00	70.01	616.00	73.1	70.01
26107130	100572	Catfish, breaded or battered, baked W/O FAT	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	73.1	77.46
26107130	201360	Catfish, breaded or battered, baked W/ BUTTER, NFS	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	880.38	616.00	69.97	616.00	73.1	69.97

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Catfish (19)				HABITAT=50% Freshwater, 50% Estuarine (continued)						
26107140	0	Catfish, floured or breaded, fried	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	100387	Catfish, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	100431	Catfish, floured or breaded, fried W/ LARD	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	100436	Catfish, floured or breaded, fried W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL)	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	100746	Catfish, floured or breaded, fried W/ OLIVE OIL	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	200942	Catfish, floured or breaded, fried W/ BACON GREASE	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107140	202918	Catfish, floured or breaded, fried W/ SOYBEAN OIL	15234	1 lb raw,dressed catfish ylds 308g after ckg w/add	795.25	616.00	77.46	616.00	79.2	77.46
26107150	0	Catfish, battered, fried	15234	CATFISH,CHANNEL,FARMED,RAW	100.00	67.00	67.00	67.00	83.3	67.00
26107150	201662	Catfish, battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15234	CATFISH,CHANNEL,FARMED,RAW	100.00	67.00	67.00	67.00	83.3	67.00
26107150	202685	Catfish, battered, fried W/ CANOLA OIL	15234	CATFISH,CHANNEL,FARMED,RAW	100.00	67.00	67.00	67.00	83.3	67.00
26107150	203695	Catfish, battered, fried W/ PEANUT OIL	15234	CATFISH,CHANNEL,FARMED,RAW	100.00	67.00	67.00	67.00	83.3	67.00
26107160	0	Catfish, steamed or poached	15234	CATFISH,CHANNEL,FARMED,RAW	100.00	100.00	100.00	100.00	80.0	100.00
27350310	100142	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce W/ ALL CATFISH	15234	CATFISH,CHANNEL,FARMED,RAW	1,381.60	226.80	16.42	226.80	80.0	16.42
27350310	100142	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce W/ ALL CATFISH	15234	CATFISH,CHANNEL,FARMED,RAW	1,381.60	113.40	8.21	113.40	80.0	8.21
27350310	100142	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce W/ ALL CATFISH	26107160	CATFISH, STEAMED OR POACHED	1,381.60	34.00	2.46	43.04	80.0	3.12
27350310	100142	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce W/ ALL CATFISH	26107160	CATFISH, STEAMED OR POACHED	1,381.60	113.40	8.21	143.54	80.0	10.39
SPECIES=Cisco (21)				HABITAT=Freshwater						
26100190	0	Fish, NS as to type, smoked	15014	CISCO,SMOKED	99.90	11.60	11.61	16.63	100.0	16.64
SPECIES=Clam (22)				HABITAT=1.93% Estuarine, 98.07% Marine						
26303100	0	Clams, raw	15157	CLAM,MXD SP,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26303110	0	Clams, cooked, NS as to cooking method	15157	CLAM,MXD SP,RAW	1,087.25	908.00	83.51	908.00	85.0	83.51
26303120	0	Clams, baked or broiled	15157	CLAM,MXD SP,RAW	242.40	226.80	93.56	226.80	80.0	93.56
26303140	0	Clams, floured or breaded, fried	15157	CLAM,MXD SP,RAW	1,085.75	908.00	83.63	908.00	85.0	83.63
26303140	100977	Clams, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15157	CLAM,MXD SP,RAW	1,085.75	908.00	83.63	908.00	85.0	83.63
26303150	0	Clams, battered, fried	15157	CLAM,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26303160	0	Clams, steamed or boiled	15157	CLAM,MXD SP,RAW	411.42	408.00	99.17	408.00	80.0	99.17
26303180	0	Clams, canned	15157	CLAM,MXD SP,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26303190	0	Clams, smoked, in oil	15157	CLAM,MXD SP,RAW	100.84	100.00	99.17	100.00	89.4	99.17
27250020	0	Clams, stuffed	15157	CLAM,MXD SP,RAW	855.04	453.60	53.05	453.60	80.0	53.05
27250270	0	Clams Casino	15157	CLAM,MXD SP,RAW	450.83	174.00	38.60	174.00	90.0	38.60
27250950	0	Shellfish mixture and noodles, tomato-based sauce (mixture)	15157	CLAM,MXD SP,RAW	742.00	56.70	7.64	56.70	100.0	7.64
27350020	0	Paella with seafood	15157	CLAM,MXD SP,RAW	2,281.18	232.00	10.17	232.00	90.0	10.17

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES-Clam (22) HABITAT-1.93% Estuarine, 98.07% Marine (continued)										
27350030	0	Seafood stew with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-base sauce	15157	CLAM,MXD SP,RAW	1,389.75	226.80	16.32	226.80	80.0	16.32
27350110	0	Bouillabaisse	15157	CLAM,MXD SP,RAW	4,392.60	226.80	5.16	226.80	80.0	5.16
27350310	0	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce	15157	CLAM,MXD SP,RAW	1,370.35	226.80	16.55	226.80	80.0	16.55
27360090	0	Paella, NFS	15157	CLAM,MXD SP,RAW	2,219.78	232.00	10.45	232.00	90.0	10.45
27450600	0	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-base sauce	15157	CLAM,MXD SP,RAW	910.10	113.40	12.46	113.40	88.0	12.46
27450610	0	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-base sauce	15157	CLAM,MXD SP,RAW	940.10	113.40	12.06	113.40	88.0	12.06
27450650	0	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), (mushroom) soup (mixture)	15157	CLAM,MXD SP,RAW	853.13	113.40	13.29	113.40	88.0	13.29
58155310	0	Paella, Valenciana style, with meat (Paella Valenciana)	15157	CLAM,MXD SP,RAW	2,708.13	360.00	13.29	360.00	61.9	13.29
58155320	0	Seafood paella, Puerto Rican style (Paella a la marinera)	15157	CLAM,MXD SP,RAW	1,771.00	120.00	6.78	120.00	67.4	6.78
27150140	0	Clam sauce, white	15160	CLAM,MXD SP,CND,DRND	347.10	226.80	65.34	302.40	95.0	87.12
27150140	100425	Clam sauce, white W/ BUTTER, NFS	15160	CLAM,MXD SP,CND,DRND	349.85	226.80	64.83	302.40	95.0	86.44
27250210	0	Clam cake or patty	15160	CLAM,MXD SP,CND,DRND	779.30	396.90	50.93	529.20	88.6	67.91
27450660	0	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), (mushroom) soup (mixture)	15160	CLAM,MXD SP,CND,DRND	891.68	160.00	17.94	213.33	100.0	23.92
28153010	0	Shrimp and clams in tomato-based sauce, with noodles (frozen meal)	15160	CLAM,MXD SP,CND,DRND	320.91	40.44	12.60	53.92	90.0	16.80
28355140	0	Clam chowder, New England, canned, reduced sodium, ready-to-serve	15160	CLAM,MXD SP,CND,DRND	100.20	7.60	7.58	10.13	100.0	10.11
58132800	0	Spaghetti with clam sauce, NS as to red or white	15160	CLAM,MXD SP,CND,DRND	767.10	226.80	29.57	302.40	100.0	39.42
58132810	0	Spaghetti with red clam sauce	15160	CLAM,MXD SP,CND,DRND	2,307.10	226.80	9.83	302.40	95.8	13.11
58132820	0	Spaghetti with white clam sauce	15160	CLAM,MXD SP,CND,DRND	767.10	226.80	29.57	302.40	100.0	39.42
58132820	101043	Spaghetti with white clam sauce W/ MARGARINE-LIKE SPREAD, STICK, SALTED	15160	CLAM,MXD SP,CND,DRND	770.35	226.80	29.44	302.40	100.0	39.25
58304350	0	Linguini with clam sauce (diet frozen meal)	15160	CLAM,MXD SP,CND,DRND	100.00	18.00	18.00	24.00	100.0	24.00
58304400	0	Linguini with vegetables and seafood in white wine sauce (diet frozen meal)	15160	CLAM,MXD SP,CND,DRND	269.27	32.28	11.99	43.04	100.0	15.98
28355140	0	Clam chowder, New England, canned, reduced sodium, ready-to-serve	15162	CLAM,MXD SP,CND,LIQ	100.20	0.50	0.50	0.67	100.0	0.67
28350210	0	Clam chowder, NS as to Manhattan or New England style	6027S	SOUP,MANHATTAN CLAM CHOWDER,CHUNKY,RTS	100.00	0.94	0.94	0.94	80.0	0.94
28350220	0	Clam chowder, Manhattan	6027S	SOUP,MANHATTAN CLAM CHOWDER,CHUNKY,RTS	200.00	7.50	3.75	7.50	100.0	3.75
28355120	0	Clam chowder, New England, prepared with milk	6030S	Need 1 can = 305 gm	602.00	22.88	3.80	22.88	100.0	3.80
28355120	100130	Clam chowder, New England, prepared with milk W/ 1% MILK	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	602.00	22.88	3.80	22.88	100.0	3.80
28355120	101014	Clam chowder, New England, prepared with milk MADE FROM CONDENSED W/ 1/3 CAN OF SKIM MILK	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	404.00	22.88	5.66	22.88	100.0	5.66
28355120	200270	Clam chowder, New England, prepared with milk W/ 2% MILK	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	602.00	22.88	3.80	22.88	100.0	3.80
28355120	200965	Clam chowder, New England, prepared with milk	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	602.00	22.88	3.80	22.88	100.0	3.80

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Clam (22)				HABITAT=1.93% Estuarine, 98.07% Marine					(continued)	
28355120	201749	W/ SKIM MILK Clam chowder, New England, prepared with milk W/ WHOLE MILK	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	602.00	22.88	3.80	22.88	100.0	3.80
28355120	202311	Clam chowder, New England, prepared with milk W/ HALF AND HALF CREAM	6030S	SOUP,CLAM CHOWDER,NEW ENG,CND,COND	602.00	22.88	3.80	22.88	100.0	3.80
28350210	0	Clam chowder, NS as to Manhattan or New Englan d style	6230S	SOUP,CLAM CHOWDER,NEW ENG,PREP W/MILK	100.00	3.75	3.75	3.75	80.0	3.75
28355110	0	Clam chowder, New England, NS as to prepared w ith water or milk	6230S	SOUP,CLAM CHOWDER,NEW ENG,PREP W/MILK	100.00	7.50	7.50	7.50	100.0	7.50
28350210	0	Clam chowder, NS as to Manhattan or New Englan d style	6428S	SOUP,CLAM CHOWDER,MANHATTAN,PREP W/H2O	100.00	0.94	0.94	0.94	80.0	0.94
28350220	0	Clam chowder, Manhattan	6428S	SOUP,CLAM CHOWDER,MANHATTAN,PREP W/H2O	200.00	7.50	3.75	7.50	100.0	3.75
28350210	0	Clam chowder, NS as to Manhattan or New Englan d style	6430S	SOUP,CLAM CHOWDER,NEW ENG,PREP W/H2O,COMM	100.00	1.88	1.88	1.88	80.0	1.88
28355130	0	Clam chowder, New England, prepared with water	6430S	SOUP,CLAM CHOWDER,NEW ENG,PREP W/H2O,COMM	100.00	7.50	7.50	7.50	100.0	7.50
SPECIES=Cod (23)				HABITAT=Marine						
26100100	0	Fish, NS as to type, raw	15015	COD,ATLANTIC,RAW	100.00	22.50	22.50	22.50	100.0	22.50
26100130	0	Fish, NS as to type, breaded or battered, bake d	15015	COD,ATLANTIC,RAW	1,171.58	204.10	17.42	204.10	80.0	17.42
26100140	0	Fish, NS as to type, floured or breaded, fried	15015	COD,ATLANTIC,RAW	1,086.45	204.10	18.79	204.10	88.0	18.79
26100140	100258	Fish, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15015	COD,ATLANTIC,RAW	1,086.45	204.10	18.79	204.10	88.0	18.79
26100140	100854	Fish, NS as to type, floured or breaded, fried W/ SOYBEAN OIL	15015	COD,ATLANTIC,RAW	1,086.45	204.10	18.79	204.10	88.0	18.79
26100150	0	Fish, NS as to type, battered, fried	15015	COD,ATLANTIC,RAW	133.00	22.50	16.92	22.50	88.0	16.92
26109190	0	Cod, smoked	15015	COD,ATLANTIC,RAW	101.00	100.00	99.01	100.00	100.0	99.01
27450740	0	Fish and vegetables (including carrots, brocco li, and/or dark-green leafy (no potatoes)), so y-based sauce (mixture)	15015	COD,ATLANTIC,RAW	1,306.75	907.20	69.42	907.20	90.0	69.42
27450750	0	Fish and vegetables (excluding carrots, brocco li, and dark-green leafy (no potatoes)), soy-b ased sauce (mixture)	15015	COD,ATLANTIC,RAW	1,431.75	907.20	63.36	907.20	90.0	63.36
28150000	0	Fish dinner, NFS (frozen meal)	15015	COD,ATLANTIC,RAW	159.80	55.00	34.42	55.00	100.0	34.42
28150110	0	Fish and chips (frozen meal)	15015	COD,ATLANTIC,RAW	159.80	55.00	34.42	55.00	100.0	34.42
28150120	0	Fish and chips (frozen meal, large portion)	15015	COD,ATLANTIC,RAW	272.40	93.20	34.21	93.20	100.0	34.21
28150350	0	Cod with vegetable (diet frozen meal)	15015	COD,ATLANTIC,RAW	251.33	100.53	40.00	100.53	76.0	40.00
28150510	0	Fish in lemon-butter sauce with starch item, v egetable (frozen meal)	15015	COD,ATLANTIC,RAW	333.80	80.00	23.97	80.00	100.0	23.97
28150620	0	Fish, batter-dipped, or fish cake, with vegeta ble, potatoes, dessert (frozen meal)	15015	COD,ATLANTIC,RAW	297.72	96.85	32.53	96.85	100.0	32.53
28350050	0	Fish chowder	15015	COD,ATLANTIC,RAW	1,395.85	453.60	32.50	453.60	80.0	32.50
28350050	203441	Fish chowder W/ HALF AND HALF CREAM	15015	COD,ATLANTIC,RAW	1,391.85	453.60	32.59	453.60	80.0	32.59
28351110	0	Fish and vegetable soup, no potatoes (Sopa de pescado)	15015	COD,ATLANTIC,RAW	1,995.64	453.60	22.73	453.60	85.0	22.73
28351120	0	Fish soup, with potatoes (Sopa de Pescado)	15015	COD,ATLANTIC,RAW	1,883.14	453.60	24.09	453.60	85.0	24.09
28355450	0	Seafood soup with potatoes and vegetables (inc luding carrots, broccoli, and/or dark-green le afy)	15015	COD,ATLANTIC,RAW	2,953.00	907.20	30.72	907.20	85.0	30.72
28355460	0	Seafood soup with potatoes and vegetables (exc luding carrots, broccoli, and dark-green leafy)	15015	COD,ATLANTIC,RAW	2,960.20	907.20	30.65	907.20	85.0	30.65

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Cod (23)				HABITAT=Marine					(continued)	
28355470	0	Seafood soup with vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes))	15015	COD,ATLANTIC,RAW	2,953.00	907.20	30.72	907.20	85.0	30.72
28355480	0	Seafood soup with vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes))	15015	COD,ATLANTIC,RAW	2,925.40	907.20	31.01	907.20	85.0	31.01
58117410	0	Codfish fritter, Puerto Rican style (Bacalaito)	15015	COD,ATLANTIC,RAW	1,230.30	645.00	52.43	645.00	64.5	52.43
26100110	0	Fish, NS as to type, cooked, NS as to cooking method	15016	COD,ATLANTIC,CKD,DRY HEAT	100.84	22.50	22.31	30.00	100.0	29.75
26100120	0	Fish, NS as to type, baked or broiled	15016	COD,ATLANTIC,CKD,DRY HEAT	972.08	204.10	21.00	272.13	100.0	28.00
26100120	200264	Fish, NS as to type, baked or broiled W/ BUTTER, NFS	15016	COD,ATLANTIC,CKD,DRY HEAT	972.08	204.10	21.00	272.13	100.0	28.00
26100120	200968	Fish, NS as to type, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15016	COD,ATLANTIC,CKD,DRY HEAT	970.95	204.10	21.02	272.13	100.0	28.03
26100120	200986	Fish, NS as to type, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS. ...)	15016	COD,ATLANTIC,CKD,DRY HEAT	970.95	204.10	21.02	272.13	100.0	28.03
28150360	0	Cod in cheese sauce with vegetable (diet frozen meal)	15016	COD,ATLANTIC,CKD,DRY HEAT	262.10	100.00	38.15	133.33	100.0	50.87
28152010	0	Seafood platter with fish cake, fish fillet, scallops, shrimp, potatoes (frozen meal)	15016	COD,ATLANTIC,CKD,DRY HEAT	240.00	20.30	8.46	27.07	100.0	11.28
27150010	0	Fish with cream or white sauce, not tuna or lobster (mixture)	15017	COD,ATLANTIC,CND	924.00	324.00	35.06	432.00	100.0	46.75
27250030	0	Codfish ball or cake	15017	COD,ATLANTIC,CND	898.15	396.90	44.19	529.20	88.0	58.92
27250050	0	Fish cake or patty, NS as to fish	15017	COD,ATLANTIC,CND	898.15	396.90	44.19	529.20	88.0	58.92
27250310	0	Haddock cake or patty	15017	COD,ATLANTIC,CND	898.15	396.90	44.19	529.20	88.0	58.92
27351010	0	Codfish with starchy vegetables, Puerto Rican style (Serenata de bacalao) (mixture)	15017	COD,ATLANTIC,CND	2,298.80	226.80	9.87	302.40	96.3	13.15
27351020	0	Codfish salad, Puerto Rican style (Gazpacho de bacalao)	15017	COD,ATLANTIC,CND	1,446.75	340.20	23.51	453.60	100.0	31.35
27351030	0	Stewed codfish, Puerto Rican style (Bacalao guisado)	15017	COD,ATLANTIC,CND	993.30	250.00	25.17	333.33	71.5	33.56
27351040	0	Biscayne codfish, Puerto Rican style (Bacalao a la Vizcaina)	15017	COD,ATLANTIC,CND	1,397.85	350.00	25.04	466.67	73.6	33.38
27351050	0	Codfish salad, Puerto Rican style (Ensalada de bacalao)	15017	COD,ATLANTIC,CND	2,535.60	635.00	25.04	846.67	100.0	33.39
27451070	0	Codfish salad, Puerto Rican style (Serenata)	15017	COD,ATLANTIC,CND	729.60	198.00	27.14	264.00	100.0	36.18
28351160	0	Codfish, rice, and vegetable soup, Puerto Rican style	15017	COD,ATLANTIC,CND	2,886.75	453.60	15.71	604.80	80.0	20.95
28351170	0	Codfish soup with noodles, Puerto Rican style	15017	COD,ATLANTIC,CND	2,957.35	453.60	15.34	604.80	80.0	20.45
58100900	101090	Enchilada with seafood, tomato-based sauce W/ COD	15017	COD,ATLANTIC,CND	1,367.14	384.00	28.09	512.00	90.0	37.45
26100170	0	Fish, NS as to type, dried	15018	COD,ATLANTIC,DRIED&SALTED	100.00	100.00	100.00	500.25	100.0	500.25
26109170	0	Cod, dried, salted	15018	COD,ATLANTIC,DRIED&SALTED	100.00	100.00	100.00	500.25	100.0	500.25
26109180	0	Cod, dried, salted, salt removed in water	15018	COD,ATLANTIC,DRIED&SALTED	100.00	28.50	28.50	142.57	100.0	142.57
27151070	0	Stewed codfish, Puerto Rican style	15018	COD,ATLANTIC,DRIED&SALTED	1,189.85	250.00	21.01	1,250.63	71.0	105.11
27150250	0	Fish moochim (Korean style), dried fish with soy sauce	15018	Need gwd for 1 C;recipe calls for 1 C.	74.11	42.00	56.67	210.11	100.0	283.52
26109110	0	Cod, cooked, NS as to cooking method	15019	COD,PACIFIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26109120	0	Cod, baked or broiled	15019	COD,PACIFIC,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26109120	202670	Cod, baked or broiled W/ BUTTER, NFS	15019	COD,PACIFIC,RAW	972.08	907.20	93.33	907.20	80.0	93.33
26109120	203510	Cod, baked or broiled W/ OLIVE OIL	15019	COD,PACIFIC,RAW	970.70	907.20	93.46	907.20	80.0	93.46

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Cod (23)				HABITAT=Marine (continued)						
26109130	0	Cod, breaded or battered, baked	15019	COD,PACIFIC,RAW	1,171.05	907.20	77.47	907.20	80.0	77.47
26109130	203682	Cod, breaded or battered, baked W/ SHORTENING, VEGETABLE	15019	COD,PACIFIC,RAW	1,163.33	907.20	77.98	907.20	80.0	77.98
26109140	0	Cod, floured or breaded, fried	15019	COD,PACIFIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26109140	101002	Cod, floured or breaded, fried W/ CANOLA OIL	15019	COD,PACIFIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26109150	0	Cod, battered, fried	15019	COD,PACIFIC,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26109150	101070	Cod, battered, fried W/ VEGETABLE OIL (INCLUDE OIL, NFS)	15019	COD,PACIFIC,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26109150	203652	Cod, battered, fried W/ PEANUT OIL	15019	COD,PACIFIC,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26109160	0	Cod, steamed or poached	15019	COD,PACIFIC,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26109120	200971	Cod, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS)	15019	Cod,Pacific,raw	970.95	907.20	93.43	907.20	80.0	93.43
26109120	201039	Cod, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15019	Cod,Pacific,raw	943.70	907.20	96.13	907.20	80.0	96.13
26109120	201359	Cod, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15019	Cod,Pacific,raw	970.95	907.20	93.43	907.20	80.0	93.43
26109120	201495	Cod, baked or broiled W/ PEANUT OIL	15019	Cod,Pacific,raw	970.70	907.20	93.46	907.20	80.0	93.46
26109130	201456	Cod, breaded or battered, baked W/ FAT FREE MARGARINE-LIKE SPREAD, TUB, SALTED (INCLUDE PROMISE ULTRA FAT FREE NONFAT MARGARINE)	15019	Cod,Pacific,raw	1,173.83	907.20	77.29	907.20	80.0	77.29
26109130	201574	Cod, breaded or battered, baked W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15019	Cod,Pacific,raw	1,086.45	907.20	83.50	907.20	80.0	83.50
26100100	0	Fish, NS as to type, raw	15066	POLLOCK,WALLEYE,RAW	100.00	48.20	48.20	48.20	100.0	48.20
26100130	0	Fish, NS as to type, breaded or battered, baked	15066	POLLOCK,WALLEYE,RAW	1,171.58	437.30	37.33	437.30	80.0	37.33
26100140	0	Fish, NS as to type, floured or breaded, fried	15066	POLLOCK,WALLEYE,RAW	1,086.45	437.30	40.25	437.30	88.0	40.25
26100140	100258	Fish, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15066	POLLOCK,WALLEYE,RAW	1,086.45	437.30	40.25	437.30	88.0	40.25
26100140	100854	Fish, NS as to type, floured or breaded, fried W/ SOYBEAN OIL	15066	POLLOCK,WALLEYE,RAW	1,086.45	437.30	40.25	437.30	88.0	40.25
26100150	0	Fish, NS as to type, battered, fried	15066	POLLOCK,WALLEYE,RAW	133.00	48.20	36.24	48.20	88.0	36.24
26100110	0	Fish, NS as to type, cooked, NS as to cooking method	15067	POLLOCK,WALLEYE,CKD,DRY HEAT	100.84	48.20	47.80	64.27	100.0	63.73
26100120	0	Fish, NS as to type, baked or broiled	15067	POLLOCK,WALLEYE,CKD,DRY HEAT	972.08	437.30	44.99	583.07	100.0	59.98
26100120	200264	Fish, NS as to type, baked or broiled W/ BUTTER, NFS	15067	POLLOCK,WALLEYE,CKD,DRY HEAT	972.08	437.30	44.99	583.07	100.0	59.98
26100120	200968	Fish, NS as to type, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15067	Pollock,walleye,cooked,dry heat	970.95	437.30	45.04	583.07	100.0	60.05
26100120	200986	Fish, NS as to type, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS. ...)	15067	Pollock,walleye,cooked,dry heat	970.95	437.30	45.04	583.07	100.0	60.05
58409000	0	Noodle soup, with fish ball, shrimp, and dark green leafy vegetable	27250030	CODFISH BALL OR CAKE	847.77	126.00	14.86	126.00	100.0	14.86
SPECIES=Conch (113)				HABITAT=Marine						
26304150	0	Conch, battered, fried	15250	CONCH,BKD/BRLD	133.00	100.00	75.19	133.33	101.0	100.25
26304200	0	Conch, baked or broiled	15250	CONCH,BKD/BRLD	100.00	100.00	100.00	133.33	100.0	133.33
SPECIES=Crab (24)				HABITAT=65.57% Estuarine, 34.43% Marine						
26305110	0	Crab, cooked, NS as to cooking method	15140	CRAB,BLUE,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
26305120	0	Crab, baked or broiled	15140	CRAB,BLUE,CKD,MOIST HEAT	242.40	226.80	93.56	302.40	100.0	124.75

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Crab (24)				HABITAT=65.57% Estuarine, 34.43% Marine					(continued)	
26305120	101036	Crab, baked or broiled W/O FAT	15140	CRAB,BLUE,CKD,MOIST HEAT	228.30	226.80	99.34	302.40	100.0	132.46
26305120	202233	Crab, baked or broiled W/ OLIVE OIL	15140	CRAB,BLUE,CKD,MOIST HEAT	241.80	226.80	93.80	302.40	100.0	125.06
26305160	0	Crab, hard shell, steamed	15140	CRAB,BLUE,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
27150020	0	Crab, deviled	15140	CRAB,BLUE,CKD,MOIST HEAT	963.38	453.60	47.08	604.80	95.0	62.78
27150020	100802	Crab, deviled W/ BUTTER, NFS	15140	CRAB,BLUE,CKD,MOIST HEAT	963.91	453.60	47.06	604.80	95.0	62.74
27150030	0	Crab imperial	15140	CRAB,BLUE,CKD,MOIST HEAT	790.38	453.60	57.39	604.80	90.4	76.52
27150130	0	Seafood newburg	15140	CRAB,BLUE,CKD,MOIST HEAT	929.58	113.40	12.20	151.20	80.0	16.27
27151040	0	Crabs in tomato-based sauce, Puerto Rican style (mixture) (Salmorejo de jueyes)	15140	CRAB,BLUE,CKD,MOIST HEAT	329.63	227.00	68.87	302.67	89.4	91.82
27250040	0	Crab cake	15140	CRAB,BLUE,CKD,MOIST HEAT	551.80	453.60	82.20	604.80	80.0	109.60
27250250	0	Flounder with crab stuffing	15140	CRAB,BLUE,CKD,MOIST HEAT	1,445.40	226.80	15.69	302.40	80.0	20.92
27250410	0	Shrimp with crab stuffing	15140	CRAB,BLUE,CKD,MOIST HEAT	1,808.90	741.20	40.98	988.27	89.0	54.63
27363000	0	Gumbo with rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra, rice)	15140	CRAB,BLUE,CKD,MOIST HEAT	3,864.33	67.50	1.75	90.00	77.1	2.33
27450010	0	Crab salad	15140	CRAB,BLUE,CKD,MOIST HEAT	357.05	226.80	63.52	302.40	100.0	84.69
27450010	100412	Crab salad W/ TOFU MAYONNAISE (INCLUDE NAYONAISE)	15140	CRAB,BLUE,CKD,MOIST HEAT	358.30	226.80	63.30	302.40	100.0	84.40
27450010	203402	Crab salad W/ REAL MAYONNAISE	15140	CRAB,BLUE,CKD,MOIST HEAT	353.30	226.80	64.19	302.40	100.0	85.59
27464000	0	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra)	15140	CRAB,BLUE,CKD,MOIST HEAT	3,548.33	67.50	1.90	90.00	75.0	2.54
27464000	100414	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra) W/ BUTTER, NFS	15140	CRAB,BLUE,CKD,MOIST HEAT	3,550.01	67.50	1.90	90.00	75.0	2.54
27550110	0	Crab cake sandwich, on bun	15140	CRAB,BLUE,CKD,MOIST HEAT	1,044.90	453.60	43.41	604.80	92.5	57.88
28350110	0	Crab soup, NS as to tomato-base or cream style	15140	CRAB,BLUE,CKD,MOIST HEAT	1,217.10	270.00	22.18	360.00	90.0	29.58
28350120	0	Crab soup, tomato-base	15140	CRAB,BLUE,CKD,MOIST HEAT	2,050.85	453.60	22.12	604.80	90.0	29.49
28355210	0	Crab soup, prepared with milk	15140	CRAB,BLUE,CKD,MOIST HEAT	1,698.05	453.60	26.71	604.80	90.0	35.62
28355210	202154	Crab soup, prepared with milk W/ 1% MILK	15140	CRAB,BLUE,CKD,MOIST HEAT	1,698.05	453.60	26.71	604.80	90.0	35.62
58115210	0	Taco with crab meat, Puerto Rican style (Taco de jueye)	15140	CRAB,BLUE,CKD,MOIST HEAT	1,656.61	453.60	27.38	604.80	85.0	36.51
58148140	0	Macaroni salad with crab meat	15140	CRAB,BLUE,CKD,MOIST HEAT	751.63	101.25	13.47	135.00	100.0	17.96
58148140	100659	Macaroni salad with crab meat W/ SOUR CREAM	15140	CRAB,BLUE,CKD,MOIST HEAT	749.75	101.25	13.50	135.00	100.0	18.01
58148140	200570	Macaroni salad with crab meat W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	15140	CRAB,BLUE,CKD,MOIST HEAT	759.50	101.25	13.33	135.00	100.0	17.77
58148140	201317	Macaroni salad with crab meat W/ REAL MAYONNAISE	15140	CRAB,BLUE,CKD,MOIST HEAT	746.00	101.25	13.57	135.00	100.0	18.10
77230510	0	Cassava pie stuffed with crab meat, Puerto Rican style (Empanada de jueyes)	15140	CRAB,BLUE,CKD,MOIST HEAT	1,796.13	226.80	12.63	302.40	49.4	16.84
26307140	0	Crab, soft shell, floured or breaded, fried	15140	Need yield for 1 crab after cooking;need 12 crabs	1,245.20	845.20	67.88	1,126.93	83.5	90.50
26305180	0	Crab, canned	15141	CRAB,BLUE,CND	100.00	100.00	100.00	133.33	100.0	133.33
27250550	0	Seafood souffle	15141	CRAB,BLUE,CND	599.32	44.96	7.50	59.94	94.0	10.00
27450080	0	Seafood salad	15141	CRAB,BLUE,CND	529.77	100.00	18.88	133.33	100.0	25.17
27450080	101095	Seafood salad W/ REAL MAYONNAISE	15141	CRAB,BLUE,CND	530.77	100.00	18.84	133.33	100.0	25.12
27450180	0	Seafood garden salad with seafood, vegetables excluding tomato and carrots, no dressing	15141	CRAB,BLUE,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450190	0	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing	15141	CRAB,BLUE,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450190	100116	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing W/ ALL CRAB	15141	CRAB,BLUE,CND	100.00	15.00	15.00	20.00	100.0	20.00

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Crab (24)				HABITAT=65.57% Estuarine, 34.43% Marine (continued)						
27450190	100116	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing W/ ALL CRAB	15141	CRAB,BLUE,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450200	0	Seafood garden salad with seafood, eggs, vegetables excluding tomato and carrots, no dressing	15141	CRAB,BLUE,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450210	0	Seafood garden salad with seafood, eggs, tomato and/or carrots, other vegetables, no dressing	15141	CRAB,BLUE,CND	110.00	15.00	13.64	20.00	100.0	18.18
58101540	0	Taco or tostada with fish, lettuce, tomato, salsa	15141	CRAB,BLUE,CND	76.99	15.00	19.48	20.00	100.0	25.98
58134310	0	Stuffed shells, with fish and/or shellfish, with tomato sauce	15141	CRAB,BLUE,CND	1,547.61	135.00	8.72	180.00	100.0	11.63
75414020	201920	Mushrooms, stuffed W/ CRABMEAT AND W/ BUTTER, NFS	26305110	CRAB, COOKED, NS AS TO COOKING METHOD	828.85	35.00	4.22	46.67	65.0	5.63
75414020	202767	Mushrooms, stuffed W/ CRABMEAT	26305110	CRAB, COOKED, NS AS TO COOKING METHOD	828.50	35.00	4.22	46.67	65.0	5.63
58408010	100177	Won ton soup W/ SHRIMP AND CRAB MEAT	26305160	CRAB, HARD SHELL, STEAMED	3,697.15	235.00	6.36	297.47	100.0	8.05
SPECIES=Crayfish (26)				HABITAT=Freshwater						
26309140	0	Crayfish, floured or breaded, fried	15145	CRAYFISH,MXD SP,WILD,RAW	901.40	680.40	75.48	680.40	88.0	75.48
26309160	0	Crayfish, boiled or steamed	15146	CRAYFISH,MXD SP,WILD,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
SPECIES=Croaker (27)				HABITAT=Estuarine						
26111110	0	Croaker, cooked, NS as to cooking method	15020	1 lb raw,dressed croaker ylds 268g after ckg w/add	715.25	536.00	74.94	536.00	76.8	74.94
26111130	0	Croaker, breaded or battered, baked	15020	CROAKER,ATLANTIC,RAW	1,171.58	907.20	77.43	907.20	80.0	77.43
26111140	0	Croaker, floured or breaded, fried	15020	CROAKER,ATLANTIC,RAW	705.45	526.20	74.59	526.20	76.8	74.59
26111140	100455	Croaker, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15020	CROAKER,ATLANTIC,RAW	705.45	526.20	74.59	526.20	76.8	74.59
26111140	101109	Croaker, floured or breaded, fried W/ SOYBEAN OIL (INCLUDE WESSON OIL, NFS...)	15020	CROAKER,ATLANTIC,RAW	705.45	526.20	74.59	526.20	76.8	74.59
26111140	101127	Croaker, floured or breaded, fried W/ PEANUT OIL	15020	CROAKER,ATLANTIC,RAW	705.45	526.20	74.59	526.20	76.8	74.59
26111160	0	Croaker, steamed or poached	15020	CROAKER,ATLANTIC,RAW	100.00	100.00	100.00	100.00	79.0	100.00
27451010	0	Fish a la creole, Puerto Rican style (Pescado frito con mojo)	15020	CROAKER,ATLANTIC,RAW	3,798.90	1,814.40	47.76	1,814.40	75.2	47.76
26111120	0	Croaker, baked or broiled	15020	Need 2 lbs raw croaker in recipe;42%refuse factor.	590.90	526.20	89.05	526.20	67.1	89.05
26111120	101027	Croaker, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL...)	15020	Need 2 lbs raw croaker in recipe;42%refuse factor.	589.95	526.20	89.19	526.20	67.1	89.19
26111120	201441	Croaker, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15020	Need 2 lbs raw croaker in recipe;42%refuse factor.	589.95	526.20	89.19	526.20	67.1	89.19
26111120	201442	Croaker, baked or broiled W/ OLIVE OIL	15020	Need 2 lbs raw croaker in recipe;42%refuse factor.	589.70	526.20	89.23	526.20	67.1	89.23
SPECIES=Eel (33)				HABITAT=Estuarine						
26113110	0	Eel, cooked, NS as to cooking method	15025	EEL,MXD SP,RAW	972.70	907.20	93.27	907.20	85.0	93.27
26113160	0	Eel, steamed or poached	15025	EEL,MXD SP,RAW	100.00	100.00	100.00	100.00	79.0	100.00
26113190	0	Eel, smoked	15025	EEL,MXD SP,RAW	100.00	100.00	100.00	100.00	63.7	100.00

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Fish (35)				HABITAT=Unknown						
26100210	0	Fish stick, patty, or fillet, NS as to type, c ooked, NS as to cooking method	15027	FISH PORTIONS & STK,FRZ,REHTD	100.00	100.00	100.00	133.33	100.0	133.33
26100220	0	Fish stick, patty, or fillet, NS as to type, b aked or broiled	15027	FISH PORTIONS & STK,FRZ,REHTD	100.00	100.00	100.00	133.33	100.0	133.33
26100230	0	Fish stick, patty, or fillet, NS as to type, b readed or battered, baked	15027	FISH PORTIONS & STK,FRZ,REHTD	100.00	100.00	100.00	133.33	100.0	133.33
28150610	0	Fish, batter-dipped or fish cake, with vegetab le, potatoes (frozen meal)	26100150	FISH, NS AS TO TYPE, BATTERED, FRIED	224.80	121.40	54.00	137.95	100.0	61.37
28150650	0	Fish, breaded, or fish sticks, with pasta, veg etable and dessert (frozen meal)	26100230	FISH STICK/FILLET, NS TYPE, BREADED/BATTERED, BAKE	100.00	18.20	18.20	24.27	100.0	24.27
28152010	0	Seafood platter with fish cake, fish fillet, s callops, shrimp, potatoes (frozen meal)	27250050	FISH CAKE OR PATTY, NS AS TO FISH	240.00	76.20	31.75	76.20	100.0	31.75
28152030	0	Seafood newburg with rice, vegetable (frozen m eal)	27250500	KAMABOKO (JAPANESE FISH CAKE)	296.68	35.64	12.01	35.64	100.0	12.01
58149210	0	Somen salad	27250500	KAMABOKO (JAPANESE FISH CAKE)	422.05	70.00	16.59	70.00	100.0	16.59
27150210	0	Fish sauce (bagoong)	6179S	SAUCE,FISH,RTS	100.00	7.50	7.50	7.50	100.0	7.50
28310330	0	Beef and rice noodle soup, Oriental style (Vie tnamese Pho Bo)	6179S	SAUCE,FISH,RTS	5,455.88	6.72	0.12	6.72	71.9	0.12
72308000	0	Dark-green leafy vegetable soup with meat, Ori ental style	6179S	SAUCE,FISH,RTS	1,319.63	2.52	0.19	2.52	100.0	0.19
SPECIES=Flatfish (37)				HABITAT=89.62% Estuarine, 10.38% Marine						
26100100	0	Fish, NS as to type, raw	15028	FLATFISH,RAW	100.00	15.30	15.30	15.30	100.0	15.30
26100130	0	Fish, NS as to type, breaded or battered, bake d	15028	FLATFISH,RAW	1,171.58	138.80	11.85	138.80	80.0	11.85
26100140	0	Fish, NS as to type, floured or breaded, fried	15028	FLATFISH,RAW	1,086.45	138.80	12.78	138.80	88.0	12.78
26100140	100258	Fish, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	1,086.45	138.80	12.78	138.80	88.0	12.78
26100140	100854	Fish, NS as to type, floured or breaded, fried W/ SOYBEAN OIL	15028	FLATFISH,RAW	1,086.45	138.80	12.78	138.80	88.0	12.78
26100150	0	Fish, NS as to type, battered, fried	15028	FLATFISH,RAW	133.00	15.30	11.50	15.30	88.0	11.50
27150050	0	Fish timbale or mousse	15028	FLATFISH,RAW	884.69	453.60	51.27	453.60	96.0	51.27
27150310	0	Fish with tomato-based sauce (mixture)	15028	FLATFISH,RAW	694.50	453.60	65.31	453.60	80.0	65.31
27150310	100997	Fish with tomato-based sauce (mixture) W/ BUTT ER, NFS	15028	FLATFISH,RAW	694.59	453.60	65.30	453.60	80.0	65.30
27150310	101137	Fish with tomato-based sauce (mixture) W/ CANO LA OIL	15028	FLATFISH,RAW	694.03	453.60	65.36	453.60	80.0	65.36
27150310	203262	Fish with tomato-based sauce (mixture) W/O FAT	15028	FLATFISH,RAW	680.40	453.60	66.67	453.60	80.0	66.67
27150310	203761	Fish with tomato-based sauce (mixture) W/ VEGE TABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	694.03	453.60	65.36	453.60	80.0	65.36
27450700	0	Fish and vegetables (including carrots, brocco li, and/or dark-green leafy (no potatoes)), to mato-based sauce (mixture)	15028	FLATFISH,RAW	1,604.65	907.20	56.54	907.20	90.0	56.54
27450710	0	Fish and vegetables (excluding carrots, brocco li, and dark- green leafy (no potatoes)), toma to-based sauce (mixture)	15028	FLATFISH,RAW	1,619.65	907.20	56.01	907.20	90.0	56.01
27460100	0	Lau lau (pork and fish wrapped in taro or spin ach leaves)	15028	FLATFISH,RAW	1,925.53	680.40	35.34	680.40	100.0	35.34
27550000	0	Fish sandwich, on bun, with spread	15028	FLATFISH,RAW	148.60	57.60	38.76	57.60	94.5	38.76
27550000	100254	Fish sandwich, on bun, with spread W/ TARTAR S AUCE	15028	FLATFISH,RAW	148.60	57.60	38.76	57.60	94.5	38.76
27550000	100769	Fish sandwich, on bun, with spread REMOVED SPR	15028	FLATFISH,RAW	133.60	57.60	43.11	57.60	94.5	43.11

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Flatfish (37)				HABITAT=89.62% Estuarine, 10.38% Marine (continued)						
		EAD								
58151130	0	Sushi, with vegetables and fish	15028	FLATFISH,RAW	2,394.40	302.55	12.64	302.55	90.0	12.64
26100110	0	Fish, NS as to type, cooked, NS as to cooking method	15029	FLATFISH (FLOUNDER & SOLE SP),CKD,DRY HEAT	100.84	15.30	15.17	20.40	100.0	20.23
26100120	0	Fish, NS as to type, baked or broiled	15029	FLATFISH (FLOUNDER & SOLE SP),CKD,DRY HEAT	972.08	138.80	14.28	185.07	100.0	19.04
26100120	200264	Fish, NS as to type, baked or broiled W/ BUTTER, NFS	15029	FLATFISH (FLOUNDER & SOLE SP),CKD,DRY HEAT	972.08	138.80	14.28	185.07	100.0	19.04
26100120	200968	Fish, NS as to type, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15029	Flatfish,cooked,dry heat	970.95	138.80	14.30	185.07	100.0	19.06
26100120	200986	Fish, NS as to type, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS. ...)	15029	Flatfish,cooked,dry heat	970.95	138.80	14.30	185.07	100.0	19.06
SPECIES=Flounder (38)				HABITAT=Estuarine						
26115000	0	Flounder, raw	15028	FLATFISH,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26115110	0	Flounder, cooked, NS as to cooking method	15028	FLATFISH,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26115120	0	Flounder, baked or broiled	15028	FLATFISH,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26115120	100464	Flounder, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15028	FLATFISH,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26115120	200314	Flounder, baked or broiled W/ CORN OIL	15028	FLATFISH,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26115120	200995	Flounder, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26115120	201280	Flounder, baked or broiled W/ OLIVE OIL	15028	FLATFISH,RAW	970.70	907.20	93.46	907.20	80.0	93.46
26115120	201381	Flounder, baked or broiled W/ BUTTER, NFS	15028	FLATFISH,RAW	972.08	907.20	93.33	907.20	80.0	93.33
26115130	0	Flounder, breaded or battered, baked	15028	FLATFISH,RAW	1,171.58	907.20	77.43	907.20	80.0	77.43
26115130	100680	Flounder, breaded or battered, baked W/ OLIVE OIL	15028	FLATFISH,RAW	1,167.45	907.20	77.71	907.20	80.0	77.71
26115130	101015	Flounder, breaded or battered, baked W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	1,168.20	907.20	77.66	907.20	80.0	77.66
26115130	202708	Flounder, breaded or battered, baked W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	80.0	83.50
26115140	0	Flounder, floured or breaded, fried	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115140	100244	Flounder, floured or breaded, fried W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS)	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115140	100459	Flounder, floured or breaded, fried W/ OLIVE OIL	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115140	100824	Flounder, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115140	100907	Flounder, floured or breaded, fried W/ SOYBEAN OIL	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115140	101072	Flounder, floured or breaded, fried W/ BACON GREASE	15028	FLATFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26115150	0	Flounder, battered, fried	15028	FLATFISH,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26115150	201594	Flounder, battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15028	FLATFISH,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26115160	0	Flounder, steamed or poached	15028	FLATFISH,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26115190	0	Flounder, smoked	15028	FLATFISH,RAW	100.50	100.00	99.50	100.00	41.4	99.50
27250250	0	Flounder with crab stuffing	15028	FLATFISH,RAW	1,445.40	907.20	62.76	907.20	80.0	62.76
28150220	0	Flounder with chopped broccoli (diet frozen meal)	15028	FLATFISH,RAW	326.21	113.40	34.76	113.40	100.0	34.76
28150370	0	Flounder in cream sauce with potatoes, carrots (diet frozen meal)	26115160	FLOUNDER, STEAMED OR POACHED	279.48	85.20	30.49	107.85	100.0	38.59

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
---------- SPECIES=Haddock (41) ---------- HABITAT=Marine ----------										
26117110	0	Haddock, cooked, NS as to cooking method	15033	HADDOCK,RAW	972.95	907.20	93.24	907.20	80.0	93.24
26117120	0	Haddock, baked or broiled	15033	HADDOCK,RAW	972.95	907.20	93.24	907.20	80.0	93.24
26117120	100291	Haddock, baked or broiled W/ MARGARINE-LIKE SP READ, TUB, SALTED (INCLUDE I CAN'T BELIEVE IT' S NOT BUTTER....)	15033	HADDOCK,RAW	973.38	907.20	93.20	907.20	80.0	93.20
26117120	100596	Haddock, baked or broiled W/O FAT OR W/ NONSTI CK SPRAY (INCLUDE PAM...)	15033	HADDOCK,RAW	944.75	907.20	96.03	907.20	80.0	96.03
26117120	201554	Haddock, baked or broiled W/ VEGETABLE OIL, NF S (INCLUDE OIL, NFS)	15033	HADDOCK,RAW	972.00	907.20	93.33	907.20	80.0	93.33
26117120	201747	Haddock, baked or broiled W/ BUTTER, NFS	15033	HADDOCK,RAW	973.13	907.20	93.23	907.20	80.0	93.23
26117120	202548	Haddock, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS...)	15033	HADDOCK,RAW	972.00	907.20	93.33	907.20	80.0	93.33
26117120	203383	Haddock, baked or broiled W/ MARGARINE-LIKE SP READ, LIQUID, SALTED (INCLUDE PARKAY SQUEEZE S PREAD...)	15033	HADDOCK,RAW	973.13	907.20	93.23	907.20	80.0	93.23
26117130	0	Haddock, breaded or battered, baked	15033	HADDOCK,RAW	1,171.58	907.20	77.43	907.20	80.0	77.43
26117130	202751	Haddock, breaded or battered, baked W/O FAT	15033	HADDOCK,RAW	1,086.45	907.20	83.50	907.20	80.0	83.50
26117130	203691	Haddock, breaded or battered, baked W/ BUTTER, NFS	15033	HADDOCK,RAW	1,171.58	907.20	77.43	907.20	80.0	77.43
26117140	0	Haddock, floured or breaded, fried	15033	HADDOCK,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26117140	100866	Haddock, floured or breaded, fried W/ VEGETABL E OIL, NFS (INCLUDE OIL, NFS)	15033	HADDOCK,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26117150	0	Haddock, battered, fried	15033	HADDOCK,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26117150	201691	Haddock, battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15033	HADDOCK,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26117160	0	Haddock, steamed or poached	15033	HADDOCK,RAW	100.00	100.00	100.00	100.00	79.0	100.00
28150210	0	Haddock with chopped spinach (diet frozen meal)	15033	HADDOCK,RAW	273.88	113.40	41.41	113.40	100.0	41.41
26117190	0	Haddock, smoked	15035	HADDOCK,SMOKED	100.00	100.00	100.00	111.81	100.0	111.81
27550100	0	Fish sandwich, on bun, with cheese and spread	26117140	HADDOCK, FLOURED OR BREADED, FRIED	100.00	40.00	40.00	45.45	100.0	45.45
---------- SPECIES=Halibut (43) ---------- HABITAT=Marine ----------										
26100160	0	Fish, NS as to type, steamed	15036	HALIBUT,ATLANTIC&PACIFIC,RAW	100.00	100.00	100.00	100.00	79.0	100.00
27350110	0	Bouillabaisse	15036	HALIBUT,ATLANTIC&PACIFIC,RAW	4,392.60	453.60	10.33	453.60	80.0	10.33
58151100	0	Sushi, NFS	15036	HALIBUT,ATLANTIC&PACIFIC,RAW	1,345.35	113.40	8.43	113.40	100.0	8.43
28150230	0	Turbot with vegetable (diet frozen meal)	15038	HALIBUT,GREENLAND,RAW	199.00	95.00	47.74	95.00	100.0	47.74
---------- SPECIES=Herring (44) ---------- HABITAT=Estuarine ----------										
26119120	0	Herring, baked or broiled	15039	1 lb raw,dressed herring ylds 231g after ckg w/add	757.70	693.00	91.46	693.00	71.1	91.46
26119120	200993	Herring, baked or broiled W/ OLIVE OIL	15039	1 lb raw,dressed herring ylds 231g after ckg w/add	756.50	693.00	91.61	693.00	71.1	91.61
26119120	201099	Herring, baked or broiled W/ VEGETABLE OIL, NF S (INCLUDE OIL, NFS)	15039	1 lb raw,dressed herring ylds 231g after ckg w/add	756.75	693.00	91.58	693.00	71.1	91.58
26119120	202972	Herring, baked or broiled W/O FAT	15039	1 lb raw,dressed herring ylds 231g after ckg w/add	729.50	693.00	95.00	693.00	71.1	95.00
26119120	203215	Herring, baked or broiled W/ CORN OIL	15039	1 lb raw,dressed herring ylds 231g after ckg w/add	756.75	693.00	91.58	693.00	71.1	91.58
26119100	0	Herring, raw	15039	HERRING,ATLANTIC,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26119140	0	Herring, floured or breaded, fried	15039	HERRING,ATLANTIC,RAW	787.05	607.80	77.23	607.80	79.2	77.23
26139170	0	Sardines, dried	15040	sardine	100.00	100.00	100.00	100.00	100.0	100.00
26119110	0	Herring, cooked, NS as to cooking method	15041	HERRING,ATLANTIC,PICKLED	100.00	100.00	100.00	117.37	100.0	117.37
26119160	0	Herring, pickled, in cream sauce	15041	HERRING,ATLANTIC,PICKLED	1,137.20	907.20	79.77	1,064.79	100.0	93.63
26119180	0	Herring, pickled	15041	HERRING,ATLANTIC,PICKLED	100.00	100.00	100.00	117.37	100.0	117.37
26119170	0	Herring, dried, salted	15042	HERRING,ATLANTIC,KIPPERED	100.00	100.00	100.00	111.48	54.0	111.48

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Herring (44)				HABITAT=Estuarine (continued)						
26119190	0	Herring, smoked, kippered	15042	HERRING,ATLANTIC,KIPPERED	100.00	100.00	100.00	111.48	100.0	111.48
26139190	0	Sardines, skinless, boneless, packed in water	15042	Sardines,cnd	100.00	100.00	100.00	133.33	100.0	133.33
SPECIES=Lobster (47)				HABITAT=Marine						
26311140	0	Lobster, floured or breaded, fried	15147	LOBSTER,NORTHERN,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
27350110	0	Bouillabaisse	15147	LOBSTER,NORTHERN,RAW	4,392.60	226.80	5.16	226.80	80.0	5.16
27451030	0	Lobster creole, Puerto Rican style (Langosta a la criolla)	15147	LOBSTER,NORTHERN,RAW	806.23	340.20	42.20	340.20	69.5	42.20
58155320	0	Seafood paella, Puerto Rican style (Paella a l a marinera)	15147	LOBSTER,NORTHERN,RAW	1,771.00	226.80	12.81	226.80	67.4	12.81
26311110	0	Lobster, cooked, NS as to cooking method	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
26311120	0	Lobster, baked or broiled	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	235.59	227.00	96.35	302.67	100.0	128.47
26311130	0	Lobster, without shell, steamed or boiled	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
26311150	0	Lobster, battered, fried	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	133.00	100.00	75.19	133.33	88.0	100.25
26311160	0	Lobster, steamed or boiled	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
26311180	0	Lobster, canned	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	100.84	100.00	99.17	133.33	100.0	132.22
27150060	0	Lobster newburg	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	929.58	340.20	36.60	453.60	80.0	48.80
27150070	0	Lobster with butter sauce (mixture)	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	187.56	145.00	77.31	193.33	100.0	103.08
27150130	0	Seafood newburg	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	929.58	113.40	12.20	151.20	80.0	16.27
27250260	0	Lobster with bread stuffing, baked	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	330.76	226.80	68.57	302.40	100.0	91.43
27450020	0	Lobster salad	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	1,431.50	290.00	20.26	386.67	100.0	27.01
27450080	0	Seafood salad	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	529.77	100.00	18.88	133.33	100.0	25.17
27450080	101095	Seafood salad W/ REAL MAYONNAISE	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	530.77	100.00	18.84	133.33	100.0	25.12
28152030	0	Seafood newburg with rice, vegetable (frozen m eal)	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	296.68	2.97	1.00	3.96	100.0	1.33
28355250	0	Lobster bisque	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	1,429.23	340.20	23.80	453.60	90.0	31.74
28355250	202683	Lobster bisque W/ SKIM MILK	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	1,433.23	340.20	23.74	453.60	90.0	31.65
28355260	0	Lobster gumbo	15148	LOBSTER,NORTHERN,CKD,MOIST HEAT	2,106.80	226.80	10.77	302.40	82.6	14.35
SPECIES=Mackerel (49)				HABITAT=Marine						
26121100	0	Mackerel, raw	15046	MACKEREL,ATLANTIC,RAW	99.00	33.00	33.33	33.00	100.0	33.33
26121110	0	Mackerel, cooked, NS as to cooking method	15046	MACKEREL,ATLANTIC,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	0	Mackerel, baked or broiled	15046	MACKEREL,ATLANTIC,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	100145	Mackerel, baked or broiled W/ CORN OIL	15046	MACKEREL,ATLANTIC,RAW	971.40	302.55	31.15	302.55	80.0	31.15
26121120	203649	Mackerel, baked or broiled W/ BUTTER, NFS	15046	MACKEREL,ATLANTIC,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	203744	Mackerel, baked or broiled W/ OLIVE OIL	15046	MACKEREL,ATLANTIC,RAW	971.15	302.55	31.15	302.55	80.0	31.15
26121140	0	Mackerel, floured or breaded, fried	15046	MACKEREL,ATLANTIC,RAW	1,086.90	302.55	27.84	302.55	88.0	27.84
26121160	0	Mackerel, pickled	15046	MACKEREL,ATLANTIC,RAW	467.20	453.60	97.09	453.60	80.0	97.09
26121180	0	Mackerel, canned	15048	MACKEREL,JACK,CND,DRND	100.00	100.00	100.00	133.33	100.0	133.33
27250300	0	Mackerel cake or patty	15048	MACKEREL,JACK,CND,DRND	954.85	453.60	47.50	604.80	80.1	63.34
26121100	0	Mackerel, raw	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	99.00	33.00	33.33	33.00	100.0	33.33
26121110	0	Mackerel, cooked, NS as to cooking method	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	0	Mackerel, baked or broiled	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	100145	Mackerel, baked or broiled W/ CORN OIL	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	971.40	302.55	31.15	302.55	80.0	31.15
26121120	203649	Mackerel, baked or broiled W/ BUTTER, NFS	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	203744	Mackerel, baked or broiled W/ OLIVE OIL	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	971.15	302.55	31.15	302.55	80.0	31.15
26121140	0	Mackerel, floured or breaded, fried	15050	MACKEREL,PACIFIC&JACK,MXD SP,RAW	1,086.90	302.55	27.84	302.55	88.0	27.84
26121100	0	Mackerel, raw	15051	MACKEREL,SPANISH,RAW	99.00	33.00	33.33	33.00	100.0	33.33
26121110	0	Mackerel, cooked, NS as to cooking method	15051	MACKEREL,SPANISH,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	0	Mackerel, baked or broiled	15051	MACKEREL,SPANISH,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	100145	Mackerel, baked or broiled W/ CORN OIL	15051	MACKEREL,SPANISH,RAW	971.40	302.55	31.15	302.55	80.0	31.15

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Mackerel (49)				HABITAT=Marine						(continued)
26121120	203649	Mackerel, baked or broiled W/ BUTTER, NFS	15051	MACKEREL,SPANISH,RAW	972.53	302.55	31.11	302.55	80.0	31.11
26121120	203744	Mackerel, baked or broiled W/ OLIVE OIL	15051	MACKEREL,SPANISH,RAW	971.15	302.55	31.15	302.55	80.0	31.15
26121140	0	Mackerel, floured or breaded, fried	15051	MACKEREL,SPANISH,RAW	1,086.90	302.55	27.84	302.55	88.0	27.84
26121190	0	Mackerel, smoked	15201	MACKEREL,PACIFIC &JACK,MXD SP,CKD,DRY HEAT	100.75	100.00	99.26	125.94	100.0	125.01
26121130	0	Mackerel, salted	83110	FISH,MACKEREL,SALTED	100.00	100.00	100.00	142.86	100.0	142.86
26121170	0	Mackerel, dried	83110	FISH,MACKEREL,SALTED	100.00	100.00	100.00	142.86	100.0	142.86
SPECIES=Mullet (52)				HABITAT=Estuarine						
26123100	0	Mullet, raw	15055	MULLET,STRIPED,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26123140	100501	Mullet, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15055	MULLET,STRIPED,RAW	787.05	607.80	77.23	607.80	79.2	77.23
26123160	0	Mullet, steamed or poached	15055	MULLET,STRIPED,RAW	100.00	100.00	100.00	100.00	79.0	100.00
26123140	0	Mullet, floured or breaded, fried	15055	Need gwd for 1 lb raw ylds x; recipe calls for 2 l	787.05	607.80	77.23	607.80	79.2	77.23
26123140	100806	Mullet, floured or breaded, fried W/ CANOLA, SOYBEAN, AND SUNFLOWER OIL	15055	Need gwd for 1 lb raw ylds x; recipe calls for 2 l	787.05	607.80	77.23	607.80	79.2	77.23
26123120	0	Mullet, baked or broiled	15055	Need gwd for 1 lb raw ylds..;recipe calls for 2lbs	672.50	607.80	90.38	607.80	71.1	90.38
26123110	0	Mullet, cooked, NS as to cooking method	15055	Need gwd for 1 lb.raw ylds x;recipe calls for 2 lb	787.05	607.80	77.23	607.80	79.2	77.23
SPECIES=Mussels (53)				HABITAT=Marine						
26313100	0	Mussels, raw	15164	MUSSEL,BLUE,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26313110	0	Mussels, cooked, NS as to cooking method	15164	MUSSEL,BLUE,RAW	484.80	453.60	93.56	453.60	80.9	93.56
26313110	100863	Mussels, cooked, NS as to cooking method W/ CANOLA OIL	15164	MUSSEL,BLUE,RAW	483.85	453.60	93.75	453.60	80.9	93.75
26313110	203495	Mussels, cooked, NS as to cooking method W/ BUTTER, NFS	15164	MUSSEL,BLUE,RAW	484.98	453.60	93.53	453.60	80.9	93.53
26313160	0	Mussels, steamed or poached	15164	MUSSEL,BLUE,RAW	100.84	100.00	99.17	100.00	50.0	99.17
27150330	0	Mussels with tomato-based sauce (mixture)	15164	MUSSEL,BLUE,RAW	125.00	100.00	80.00	100.00	80.0	80.00
27350110	0	Bouillabaisse	15164	MUSSEL,BLUE,RAW	4,392.60	226.80	5.16	226.80	80.0	5.16
SPECIES=Ocean Perch (54)				HABITAT=Marine						
26125100	0	Ocean perch, raw	15057	OCEAN PERCH,ATLANTIC,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26125110	0	Ocean perch, cooked, NS as to cooking method	15057	OCEAN PERCH,ATLANTIC,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26125120	0	Ocean perch, baked or broiled	15057	OCEAN PERCH,ATLANTIC,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26125120	201950	Ocean perch, baked or broiled W/ BUTTER, NFS	15057	OCEAN PERCH,ATLANTIC,RAW	972.08	907.20	93.33	907.20	80.0	93.33
26125120	202334	Ocean perch, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15057	OCEAN PERCH,ATLANTIC,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26125120	203091	Ocean perch, baked or broiled W/ OLIVE OIL	15057	OCEAN PERCH,ATLANTIC,RAW	970.70	907.20	93.46	907.20	80.0	93.46
26125130	0	Ocean perch, breaded or battered, baked	15057	OCEAN PERCH,ATLANTIC,RAW	1,128.75	907.20	80.37	907.20	80.0	80.37
26125140	0	Ocean perch, floured or breaded, fried	15057	OCEAN PERCH,ATLANTIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26125140	100975	Ocean perch, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15057	OCEAN PERCH,ATLANTIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26125150	0	Ocean perch, battered, fried	15057	OCEAN PERCH,ATLANTIC,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26125160	0	Ocean perch, steamed or poached	15057	OCEAN PERCH,ATLANTIC,RAW	100.00	100.00	100.00	100.00	80.0	100.00
SPECIES=Octopus (55)				HABITAT=Marine						
26205110	0	Octopus, cooked, NS as to cooking method	15166	OCTOPUS,COMMON,RAW	1,086.45	907.20	83.50	907.20	85.0	83.50
26205160	0	Octopus, steamed	15166	OCTOPUS,COMMON,RAW	100.84	100.00	99.17	100.00	50.0	99.17
26205170	0	Octopus, dried	15166	OCTOPUS,COMMON,RAW	100.30	100.00	99.70	100.00	26.3	99.70
26205190	0	Octopus, smoked	15166	OCTOPUS,COMMON,RAW	100.00	100.00	100.00	100.00	58.7	100.00

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Octopus (55)				HABITAT=Marine					(continued)	
27451060	0	Octopus salad, Puerto Rican style (Ensalada de pulpo)	15166	OCTOPUS,COMMON,RAW	516.30	226.80	43.93	226.80	72.3	43.93
26205180	0	Octopus, dried, boiled	15230	OCTOPUS,COMMON,CKD,MOIST HEAT	100.30	100.00	99.70	133.33	100.0	132.93
SPECIES=Oyster (59)				HABITAT=Estuarine						
26315100	0	Oysters, raw	15167	OYSTER,EASTERN,WILD,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26315110	0	Oysters, cooked, NS as to cooking method	15167	OYSTER,EASTERN,WILD,RAW	589.20	504.00	85.54	504.00	80.0	85.54
26315120	0	Oysters, baked or broiled	15167	OYSTER,EASTERN,WILD,RAW	242.40	226.80	93.56	226.80	100.0	93.56
26315130	0	Oysters, steamed	15167	OYSTER,EASTERN,WILD,RAW	100.84	100.00	99.17	100.00	80.0	99.17
26315140	0	Oysters, floured or breaded, fried	15167	OYSTER,EASTERN,WILD,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26315150	0	Oysters, battered, fried	15167	OYSTER,EASTERN,WILD,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26315190	0	Oysters, smoked	15167	OYSTER,EASTERN,WILD,RAW	100.84	100.00	99.17	100.00	61.6	99.17
27250220	0	Oyster fritter	15167	OYSTER,EASTERN,WILD,RAW	783.90	400.00	51.03	400.00	90.0	51.03
27350200	0	Oyster pie	15167	OYSTER,EASTERN,WILD,RAW	830.84	200.00	24.07	200.00	82.0	24.07
27363000	0	Gumbo with rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra, rice)	15167	OYSTER,EASTERN,WILD,RAW	3,864.33	186.00	4.81	186.00	77.1	4.81
27450250	0	Oysters Rockefeller	15167	OYSTER,EASTERN,WILD,RAW	786.68	336.00	42.71	336.00	90.0	42.71
27464000	0	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra)	15167	OYSTER,EASTERN,WILD,RAW	3,548.33	186.00	5.24	186.00	75.0	5.24
27464000	100414	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra) W/ BUTTER, NFS	15167	OYSTER,EASTERN,WILD,RAW	3,550.01	186.00	5.24	186.00	75.0	5.24
28355310	0	Oyster stew	15167	OYSTER,EASTERN,WILD,RAW	1,538.01	496.00	32.25	496.00	94.0	32.25
28355310	100152	Oyster stew W/ SKIM MILK	15167	OYSTER,EASTERN,WILD,RAW	1,542.01	496.00	32.17	496.00	94.0	32.17
28355310	201647	Oyster stew W/ WHOLE MILK	15167	OYSTER,EASTERN,WILD,RAW	1,538.01	496.00	32.25	496.00	94.0	32.25
28355310	202979	Oyster stew W/ WHOLE MILK AND W/ MARGARINE, NFS	15167	OYSTER,EASTERN,WILD,RAW	1,538.51	496.00	32.24	496.00	94.0	32.24
58128210	0	Dressing with oysters	15167	OYSTER,EASTERN,WILD,RAW	969.73	248.00	25.57	248.00	100.0	25.57
26315180	0	Oysters, canned	15170	OYSTER,EASTERN,CND	100.00	100.00	100.00	133.33	92.0	133.33
27150200	0	Oyster sauce (white sauce-based)	15170	OYSTER,EASTERN,CND	501.80	248.00	49.42	330.67	100.0	65.90
32105020	100663	Egg omelet or scrambled egg, with fish W/ OYSTERS	26315120	OYSTERS, BAKED OR BROILED (INCLUDE SAUTEED)	84.58	12.00	14.19	16.00	91.0	18.92
SPECIES=Perch (60)				HABITAT=50% Freshwater, 50% Estuarine						
26127140	0	Perch, floured or breaded, fried	15060	Need gram wt.descr for 1 lb raw ylds...;recipe cal	732.65	553.40	75.53	553.40	77.7	75.53
26127140	100350	Perch, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15060	Need gram wt.descr for 1 lb raw ylds...;recipe cal	732.65	553.40	75.53	553.40	77.7	75.53
26127140	100829	Perch, floured or breaded, fried W/ CORN OIL (INCLUDE MAZOLA OIL, NFS; MAZOLA CORN OIL)	15060	Need gram wt.descr for 1 lb raw ylds...;recipe cal	732.65	553.40	75.53	553.40	77.7	75.53
26127140	100892	Perch, floured or breaded, fried W/ OLIVE OIL	15060	Need gram wt.descr for 1 lb raw ylds...;recipe cal	732.65	553.40	75.53	553.40	77.7	75.53
26127140	100971	Perch, floured or breaded, fried W/ CANOLA OIL	15060	Need gram wt.descr for 1 lb raw ylds...;recipe cal	732.65	553.40	75.53	553.40	77.7	75.53
26127110	0	Perch, cooked, NS as to cooking method	15060	Need grm wt.descr.for 1 lb raw ylds...;recipe call	732.65	553.40	75.53	553.40	77.7	75.53
26127120	0	Perch, baked or broiled	15060	PERCH,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26127120	200860	Perch, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15060	PERCH,MXD SP,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26127120	201707	Perch, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS)	15060	PERCH,MXD SP,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26127120	203094	Perch, baked or broiled W/ OLIVE OIL	15060	PERCH,MXD SP,RAW	970.70	907.20	93.46	907.20	80.0	93.46
26127120	203332	Perch, baked or broiled W/O FAT	15060	PERCH,MXD SP,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26127120	203610	Perch, baked or broiled W/ BUTTER, NFS	15060	PERCH,MXD SP,RAW	972.08	907.20	93.33	907.20	80.0	93.33

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Perch (60)				HABITAT=50% Freshwater, 50% Estuarine (continued)						
26127130	0	Perch, breaded or battered, baked	15060	PERCH,MXD SP,RAW	1,128.75	907.20	80.37	907.20	80.0	80.37
26127130	100568	Perch, breaded or battered, baked W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15060	PERCH,MXD SP,RAW	1,127.33	907.20	80.47	907.20	80.0	80.47
26127130	203003	Perch, breaded or battered, baked W/O FAT	15060	PERCH,MXD SP,RAW	1,086.45	907.20	83.50	907.20	80.0	83.50
26127150	0	Perch, battered, fried	15060	PERCH,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26127150	100862	Perch, battered, fried W/ CANOLA OIL	15060	PERCH,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26127150	202977	Perch, battered, fried W/ SOYBEAN OIL (INCLUDE WESSON SOYBEAN OIL...)	15060	PERCH,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26127160	0	Perch, steamed or poached	15060	PERCH,MXD SP,RAW	100.00	100.00	100.00	100.00	80.0	100.00
27350030	0	Seafood stew with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-base sauce	15060	PERCH,MXD SP,RAW	1,389.75	113.40	8.16	113.40	80.0	8.16
27350310	0	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce	15060	PERCH,MXD SP,RAW	1,370.35	113.40	8.28	113.40	80.0	8.28
SPECIES=Pike (63)				HABITAT=Freshwater						
26129110	0	Pike, cooked, NS as to cooking method	15062	PIKE,NORTHERN,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26129120	0	Pike, baked or broiled	15062	PIKE,NORTHERN,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26129120	201172	Pike, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15062	PIKE,NORTHERN,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26129140	0	Pike, floured or breaded, fried	15062	PIKE,NORTHERN,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26129150	0	Pike, battered, fried	15062	PIKE,NORTHERN,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26129160	0	Pike, steamed or poached	15062	PIKE,NORTHERN,RAW	100.00	100.00	100.00	100.00	79.0	100.00
27250060	0	Gefilte fish	15062	PIKE,NORTHERN,RAW	6,161.70	2,268.00	36.81	2,268.00	100.0	36.81
SPECIES=Pollock (64)				HABITAT=Marine						
26100240	0	Fish stick, patty, or fillet, NS as to type, floured or breaded, fried	15065	POLLOCK,ATLANTIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26100240	101130	Fish stick, patty, or fillet, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15065	POLLOCK,ATLANTIC,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26100250	0	Fish stick, patty, or fillet, NS as to type, battered, fried	15065	POLLOCK,ATLANTIC,RAW	133.00	100.00	75.19	100.00	88.0	75.19
27250500	0	Kamaboko (Japanese fish cake)	15065	POLLOCK,ATLANTIC,RAW	148.00	100.00	67.57	100.00	100.0	67.57
27250510	0	Fish cake (Kamaboko) tempura	15065	POLLOCK,ATLANTIC,RAW	752.34	453.60	60.29	453.60	95.0	60.29
27250520	0	Seafood restructured	15065	POLLOCK,ATLANTIC,RAW	148.00	100.00	67.57	100.00	100.0	67.57
28150050	0	Fish parmesan (frozen meal)	15065	POLLOCK,ATLANTIC,RAW	1,687.93	680.40	40.31	680.40	80.0	40.31
28150410	0	Fish and chips with vegetable, potatoes, tomatoes (frozen meal)	15065	POLLOCK,ATLANTIC,RAW	255.80	100.00	39.09	100.00	93.8	39.09
SPECIES=Pompano (65)				HABITAT=Marine						
26131110	0	Pompano, cooked, NS as to cooking method	15068	Need grm wt.descr for 1 lb raw ylds...;recipe call	672.50	607.80	90.38	607.80	70.7	90.38
26131120	0	Pompano, baked or broiled	15068	Need grm wt.descr for 1 lb raw ylds..;recipe calls	672.50	607.80	90.38	607.80	70.7	90.38
26131120	202069	Pompano, baked or broiled W/ BUTTER, NFS	15068	Need grm wt.descr for 1 lb raw ylds..;recipe calls	672.68	607.80	90.36	607.80	70.7	90.36
26131120	202612	Pompano, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL...)	15068	Need grm wt.descr for 1 lb raw ylds..;recipe calls	671.55	607.80	90.51	607.80	70.7	90.51
26131120	203073	Pompano, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15068	Need grm wt.descr for 1 lb raw ylds..;recipe calls	671.55	607.80	90.51	607.80	70.7	90.51

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Pompano (65)				HABITAT=Marine (continued)						
26131140	0	Pompano, floured or breaded, fried	15068	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	787.05	607.80	77.23	607.80	79.2	77.23
26131140	100951	Pompano, floured or breaded, fried W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL)	15068	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	787.05	607.80	77.23	607.80	79.2	77.23
26131100	0	Pompano, raw	15068	POMPANO,FLORIDA,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26131150	0	Pompano, battered, fried	15068	POMPANO,FLORIDA,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26131160	0	Pompano, steamed or poached	15068	POMPANO,FLORIDA,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26131190	0	Pompano, smoked	15068	POMPANO,FLORIDA,RAW	100.67	100.00	99.33	100.00	85.0	99.33
27350110	0	Bouillabaisse	15068	POMPANO,FLORIDA,RAW	4,392.60	453.60	10.33	453.60	80.0	10.33
SPECIES=Porgy (66)				HABITAT=Marine						
26133120	0	Porgy, baked or broiled	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	590.90	526.20	89.05	526.20	67.1	89.05
26133120	100976	Porgy, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	589.95	526.20	89.19	526.20	67.1	89.19
26133120	200192	Porgy, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL)	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	589.95	526.20	89.19	526.20	67.1	89.19
26133120	202615	Porgy, baked or broiled W/ OLIVE OIL	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	589.70	526.20	89.23	526.20	67.1	89.23
26133120	202974	Porgy, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	562.70	526.20	93.51	526.20	67.1	93.51
26133120	203252	Porgy, baked or broiled W/ BUTTER, NFS	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	591.08	526.20	89.02	526.20	67.1	89.02
26133140	0	Porgy, floured or breaded, fried	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	705.45	526.20	74.59	526.20	76.8	74.59
26133140	100567	Porgy, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	705.45	526.20	74.59	526.20	76.8	74.59
26133140	100810	Porgy, floured or breaded, fried W/ CANOLA, SOYBEAN AND SUNFLOWER OIL	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	705.45	526.20	74.59	526.20	76.8	74.59
26133140	101048	Porgy, floured or breaded, fried W/ SOYBEAN OIL	15090	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	705.45	526.20	74.59	526.20	76.8	74.59
26133130	0	Porgy, breaded or battered, baked	15090	Need grm wt.descr.for 1 lb.raw ylds..;recipe calls	790.05	526.20	66.60	526.20	80.0	66.60
26133130	100163	Porgy, breaded or battered, baked W/ CORN OIL	15090	Need grm wt.descr.for 1 lb.raw ylds..;recipe calls	787.20	526.20	66.84	526.20	80.0	66.84
26133130	200501	Porgy, breaded or battered, baked W/ CANOLA OIL	15090	Need grm wt.descr.for 1 lb.raw ylds..;recipe calls	787.20	526.20	66.84	526.20	80.0	66.84
26133100	0	Porgy, raw	15090	SCUP,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26133110	0	Porgy, cooked, NS as to cooking method	15090	SCUP,RAW	705.45	526.20	74.59	526.20	76.8	74.59
26133150	0	Porgy, battered, fried	15090	SCUP,RAW	91.00	58.00	63.74	58.00	81.5	63.74
26133150	101117	Porgy, battered, fried W/ CANOLA OIL	15090	SCUP,RAW	91.00	58.00	63.74	58.00	81.5	63.74
26133160	0	Porgy, steamed or poached	15090	SCUP,RAW	100.00	100.00	100.00	100.00	80.0	100.00
27450750	100467	Fish and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture) W/ PORGY (INCLUDE SNAPPER ...)	26133100	PORGY, RAW	1,431.75	907.20	63.36	907.20	90.0	63.36
SPECIES=Ray (69)				HABITAT=Marine						
26135140	0	Ray, floured or breaded, fried	15095	Need gwd for 1 lb raw yields x;recipe calls for 2	787.05	607.80	77.23	607.80	79.2	77.23
26135110	0	Ray, cooked, NS as to cooking method	15095	Ray,raw	976.60	911.90	93.37	911.90	70.7	93.37
26135120	0	Ray, baked or broiled	15095	Ray,raw	976.60	911.90	93.37	911.90	70.7	93.37
26135160	0	Ray, steamed or poached	15095	Ray,raw	100.00	100.00	100.00	100.00	79.0	100.00

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Rockfish (72)				HABITAT=Estuarine						
26100100	0	Fish, NS as to type, raw	15070	ROCKFISH,PACIFIC,MXD SP,RAW	100.00	7.10	7.10	7.10	100.0	7.10
26100130	0	Fish, NS as to type, breaded or battered, bake d	15070	ROCKFISH,PACIFIC,MXD SP,RAW	1,171.58	64.40	5.50	64.40	80.0	5.50
26100140	0	Fish, NS as to type, floured or breaded, fried	15070	ROCKFISH,PACIFIC,MXD SP,RAW	1,086.45	64.40	5.93	64.40	88.0	5.93
26100140	100854	Fish, NS as to type, floured or breaded, fried W/ SOYBEAN OIL	15070	ROCKFISH,PACIFIC,MXD SP,RAW	1,086.45	64.40	5.93	64.40	88.0	5.93
26100150	0	Fish, NS as to type, battered, fried	15070	ROCKFISH,PACIFIC,MXD SP,RAW	133.00	7.10	5.34	7.10	88.0	5.34
26100140	100258	Fish, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15070	rockfish, pacific, mixed species, raw	1,086.45	64.40	5.93	64.40	88.0	5.93
26100110	0	Fish, NS as to type, cooked, NS as to cooking method	15071	ROCKFISH,PACIFIC,MXD SP,CKD,DRY HEAT	100.84	7.10	7.04	9.47	100.0	9.39
26100120	0	Fish, NS as to type, baked or broiled	15071	ROCKFISH,PACIFIC,MXD SP,CKD,DRY HEAT	972.08	64.40	6.63	85.87	100.0	8.83
26100120	200264	Fish, NS as to type, baked or broiled W/ BUTTER, NFS	15071	ROCKFISH,PACIFIC,MXD SP,CKD,DRY HEAT	972.08	64.40	6.63	85.87	100.0	8.83
26100120	200968	Fish, NS as to type, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15071	Rockfish,Pacific,mixed species,cooked,dry heat	970.95	64.40	6.63	85.87	100.0	8.84
26100120	200986	Fish, NS as to type, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS. ...)	15071	Rockfish,Pacific,mixed species,cooked,dry heat	970.95	64.40	6.63	85.87	100.0	8.84
SPECIES=Roe (73)				HABITAT=Marine						
26207110	0	Roe, shad, cooked	15072	ROE,MXD SP,RAW	745.10	680.40	91.32	680.40	80.0	91.32
26209100	0	Roe, herring	15072	ROE,MXD SP,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26212100	0	Roe, sea urchin	42026	SEA URCHIN,ROE	100.00	100.00	100.00	100.00	100.0	100.00
SPECIES=Salmon (75)				HABITAT=0.06% Freshwater, 3.02% Estuarine, 96.92% Marine						
26100190	0	Fish, NS as to type, smoked	15077	SALMON,CHINOOK,SMOKED	99.90	74.90	74.97	78.84	100.0	78.92
26137190	0	Salmon, smoked	15077	SALMON,CHINOOK,SMOKED	100.00	100.00	100.00	105.26	100.0	105.26
26137180	0	Salmon, canned	15080	SALMON,CHUM,CND,DRND W/BONE	100.00	5.00	5.00	6.67	100.0	6.67
27250070	0	Salmon cake or patty	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27250070	100581	Salmon cake or patty W/ CANOLA OIL	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27250070	100601	Salmon cake or patty W/ SUNFLOWER OIL	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27250070	100813	Salmon cake or patty W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27250070	100890	Salmon cake or patty W/ CANOLA, SOYBEAN, AND SUNFLOWER OIL	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27250070	101058	Salmon cake or patty W/ SOYBEAN OIL (INCLUDE WESSON SOYBEAN OIL...)	15080	SALMON,CHUM,CND,DRND W/BONE	957.85	453.60	47.36	604.80	88.0	63.14
27450030	0	Salmon salad	15080	SALMON,CHUM,CND,DRND W/BONE	927.60	33.60	3.62	44.80	100.0	4.83
27450030	100335	Salmon salad W/O EGGS AND W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NON FAT MAYONNAISE DRESSING: KRAFT MIRACLE WHIP FREE NONFAT DRESSING..)	15080	SALMON,CHUM,CND,DRND W/BONE	795.60	33.60	4.22	44.80	100.0	5.63
27450030	100859	Salmon salad W/ REDUCED CALORIE CREAMY DRESSING, MADE WITH SOUR CREAM AND/OR BUTTERMILK AND OIL	15080	SALMON,CHUM,CND,DRND W/BONE	940.10	33.60	3.57	44.80	100.0	4.77
27450030	201395	Salmon salad W/ ITALIAN DRESSING (INCLUDE OIL AND VINEGAR)	15080	SALMON,CHUM,CND,DRND W/BONE	935.10	33.60	3.59	44.80	100.0	4.79
27450030	202267	Salmon salad W/ REDUCED CALORIE OR DIET, CHOLESTEROL-FREE MAYONNAISE (INCLUDE KRAFT LIGHT...)	15080	SALMON,CHUM,CND,DRND W/BONE	933.10	33.60	3.60	44.80	100.0	4.80

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Salmon (75)				HABITAT=0.06% Freshwater, 3.02% Estuarine, 96.92% Marine (continued)						
27450030	202962	Salmon salad W/ MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP)	15080	SALMON,CHUM,CND,DRND W/BONE	935.10	33.60	3.59	44.80	100.0	4.79
26137100	0	Salmon, raw	15081	SALMON,COHO,WILD,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26137120	0	Salmon, baked or broiled	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	844.90	780.20	92.34	780.20	76.9	92.34
26137120	200202	Salmon, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26137120	200265	Salmon, baked or broiled W/ BUTTER, NFS	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	845.08	780.20	92.32	780.20	76.9	92.32
26137120	201145	Salmon, baked or broiled W/ OLIVE OIL	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	843.70	780.20	92.47	780.20	76.9	92.47
26137120	201437	Salmon, baked or broiled W/O FAT OR W/ NONSTIC K SPRAY (INCLUDE PAM...)	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	816.70	780.20	95.53	780.20	76.9	95.53
26137120	202595	Salmon, baked or broiled W/ BACON GREASE	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	842.50	780.20	92.61	780.20	76.9	92.61
26137120	203550	Salmon, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN OIL...)	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26137120	203736	Salmon, baked or broiled W/ MARGARINE-LIKE SPR EAD, TUB, SALTED (INCLUDE SHEDD'S SPREAD COUNT RY CROCK, PARKAY...)	15083	Need grm wt.descr.for 1 lb raw yld..;recipe calls	845.33	780.20	92.30	780.20	76.9	92.30
26137140	0	Salmon, floured or breaded, fried	15083	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26137140	100833	Salmon, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15083	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26137140	100891	Salmon, floured or breaded, fried W/ SOYBEAN O IL (INCLUDE WESSON SOYBEAN OIL...)	15083	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26137140	100932	Salmon, floured or breaded, fried W/ CANOLA, S OYBEAN, AND SUNFLOWER OIL	15083	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26137150	0	Salmon, battered, fried	15083	SALMON,PINK,RAW	133.00	100.00	75.19	100.00	88.0	75.19
26137160	0	Salmon, steamed or poached	15083	SALMON,PINK,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26137170	0	Salmon, dried	15083	SALMON,PINK,RAW	100.00	100.00	100.00	100.00	80.0	100.00
32105020	0	Egg omelet or scrambled egg, with fish	15084	Need gwd for 1 Tbsp;recipe calls for 1 Tbsp.	84.58	12.00	14.19	16.00	91.0	18.92
26100180	0	Fish, NS as to type, canned	15084	SALMON,PINK,CND,W/BONE &LIQ	100.00	19.40	19.40	25.87	100.0	25.87
26137180	0	Salmon, canned	15084	SALMON,PINK,CND,W/BONE &LIQ	100.00	75.00	75.00	100.00	100.0	100.00
27250080	0	Salmon loaf	15084	SALMON,PINK,CND,W/BONE &LIQ	981.25	454.00	46.27	605.33	80.0	61.69
27250080	202992	Salmon loaf W/O FAT	15084	SALMON,PINK,CND,W/BONE &LIQ	938.95	454.00	48.35	605.33	80.0	64.47
27251010	0	Stewed salmon, Puerto Rican style (Salmon guis ado)	15084	SALMON,PINK,CND,W/BONE &LIQ	1,050.50	453.60	43.18	604.80	77.5	57.57
27450030	0	Salmon salad	15084	SALMON,PINK,CND,W/BONE &LIQ	927.60	454.00	48.94	605.33	100.0	65.26
27450030	100335	Salmon salad W/O EGGS AND W/ FAT FREE MAYONNAI SE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NON FAT MAYONNAISE DRESSING: KRAFT MIRACLE WHIP FR EE NONFAT DRESSING..)	15084	SALMON,PINK,CND,W/BONE &LIQ	795.60	454.00	57.06	605.33	100.0	76.09
27450030	100859	Salmon salad W/ REDUCED CALORIE CREAMY DRESSIN G, MADE WITH SOUR CREAM AND/OR BUTTERMILK AND OIL	15084	SALMON,PINK,CND,W/BONE &LIQ	940.10	454.00	48.29	605.33	100.0	64.39
27450030	201395	Salmon salad W/ ITALIAN DRESSING (INCLUDE OIL AND VINEGAR)	15084	SALMON,PINK,CND,W/BONE &LIQ	935.10	454.00	48.55	605.33	100.0	64.73
27450030	202267	Salmon salad W/ REDUCED CALORIE OR DIET, CHOLE STEROL-FREE MAYONNAISE (INCLUDE KRAFT LIGHT...)	15084	SALMON,PINK,CND,W/BONE &LIQ	933.10	454.00	48.66	605.33	100.0	64.87
27450030	202962	Salmon salad W/ MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP)	15084	SALMON,PINK,CND,W/BONE &LIQ	935.10	454.00	48.55	605.33	100.0	64.73
27450310	0	Lomi salmon	15084	SALMON,PINK,CND,W/BONE &LIQ	1,298.60	453.60	34.93	604.80	100.0	46.57
28355350	0	Salmon soup, cream style	15084	SALMON,PINK,CND,W/BONE &LIQ	1,004.28	453.60	45.17	604.80	90.0	60.22
32105020	100563	Egg omelet or scrambled egg, with fish W/ BUTT ER, NFS	15084	on-line says 1 Tb,sheet says 1 Tb=12 gm	84.59	12.00	14.19	16.00	91.0	18.91

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Salmon (75)				HABITAT=0.06% Freshwater, 3.02% Estuarine, 96.92% Marine (continued)						
26100180	0	Fish, NS as to type, canned	15087	SALMON,SOCKEYE,CND,DRND W/BONE	100.00	5.50	5.50	7.33	100.0	7.33
26137180	0	Salmon, canned	15087	SALMON,SOCKEYE,CND,DRND W/BONE	100.00	20.00	20.00	26.67	100.0	26.67
26137110	0	Salmon, cooked, NS as to cooking method	15247	SALMON,COHO,WILD,CKD,DRY HEAT	100.00	100.00	100.00	133.33	100.0	133.33
SPECIES=Sardine (77)				HABITAT=Marine						
26139110	0	Sardines, cooked	15088	SARDINE,ATLANTIC,CND,OIL,DRND W/BONE	100.00	100.00	100.00	133.33	100.0	133.33
26139180	0	Sardines, canned in oil	15088	SARDINE,ATLANTIC,CND,OIL,DRND W/BONE	100.00	100.00	100.00	133.33	100.0	133.33
27550510	0	Sardine sandwich, with lettuce and spread	15088	SARDINE,ATLANTIC,CND,OIL,DRND W/BONE	1,225.25	425.25	34.71	567.00	100.0	46.28
27150350	0	Sardines with tomato-based sauce (mixture)	15089	SARDINE,PACIFIC,CND,TOMATO SAU,DRND W/BONE	100.00	100.00	100.00	133.33	100.0	133.33
27150370	0	Sardines with mustard sauce (mixture)	15089	SARDINE,PACIFIC,CND,TOMATO SAU,DRND W/BONE	100.00	100.00	100.00	133.33	100.0	133.33
27250610	100389	Tuna noodle casserole with cream or white sauce W/ TUNA AND SARDINES	26139180	SARDINES, CANNED IN OIL	1,140.59	160.00	14.03	213.33	90.0	18.70
27250830	100966	Fish and rice with (mushroom) soup W/ SARDINES	26139190	SARDINES, SKINLESS, BONELESS, PACKED IN WATER	854.55	167.00	19.54	222.67	90.0	26.06
SPECIES=Scallop (79)				HABITAT=0.58% Estuarine, 99.42% Marine						
26317110	0	Scallops, cooked, NS as to cooking method	15172	SCALLOP,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26317120	0	Scallops, baked or broiled	15172	SCALLOP,MXD SP,RAW	706.05	680.40	96.37	680.40	80.0	96.37
26317120	200497	Scallops, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15172	SCALLOP,MXD SP,RAW	705.34	680.40	96.46	680.40	80.0	96.46
26317120	200876	Scallops, baked or broiled W/ BUTTER, NFS	15172	SCALLOP,MXD SP,RAW	706.18	680.40	96.35	680.40	80.0	96.35
26317120	202359	Scallops, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15172	SCALLOP,MXD SP,RAW	684.90	680.40	99.34	680.40	80.0	99.34
26317130	0	Scallops, steamed or boiled	15172	SCALLOP,MXD SP,RAW	941.40	907.20	96.37	907.20	100.0	96.37
26317140	0	Scallops, floured or breaded, fried	15172	SCALLOP,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26317140	101020	Scallops, floured or breaded, fried W/ CORN OIL	15172	SCALLOP,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26317150	0	Scallops, battered, fried	15172	SCALLOP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
27250950	0	Shellfish mixture and noodles, tomato-based sauce (mixture)	15172	SCALLOP,MXD SP,RAW	742.00	56.70	7.64	56.70	100.0	7.64
27350110	0	Bouillabaisse	15172	SCALLOP,MXD SP,RAW	4,392.60	453.60	10.33	453.60	80.0	10.33
28150810	0	Scallops with potatoes, vegetable (frozen meal)	15172	SCALLOP,MXD SP,RAW	242.80	108.90	44.85	108.90	93.6	44.85
28152010	0	Seafood platter with fish cake, fish fillet, scallops, shrimp, potatoes (frozen meal)	26317140	SCALLOPS, FLOURED OR BREADED, FRIED	240.00	15.20	6.33	17.27	100.0	7.20
27150510	0	Scallops with cheese sauce (mixture)	90240	Need gwd for 1 C;recipe calls for 1 C.	241.50	120.00	49.69	151.90	100.0	62.90
27250110	0	Scallops and noodles with cheese sauce (mixture)	90240	SCALLOPS,STEAMED	1,215.40	453.60	37.32	574.18	90.0	47.24
58304400	0	Linguini with vegetables and seafood in white wine sauce (diet frozen meal)	90240	SCALLOPS,STEAMED	269.27	32.28	11.99	40.86	100.0	15.17
SPECIES=Sea Bass (82)				HABITAT=Marine						
26141180	0	Sea bass, pickled (Mero en escabeche)	15091	Need gram wt.descr.for 1 slice=..;recipe calls for	2,097.73	1,362.00	64.93	1,362.00	91.5	64.93
26141120	0	Sea bass, baked or broiled	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	844.90	780.20	92.34	780.20	76.9	92.34
26141120	200874	Sea bass, baked or broiled W/ BUTTER, NFS	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	845.08	780.20	92.32	780.20	76.9	92.32
26141120	200913	Sea bass, baked or broiled W/ CORN OIL	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26141120	201674	Sea bass, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26141120	203065	Sea bass, baked or broiled W/ BUTTER, STICK, UNSALTED	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	845.08	780.20	92.32	780.20	76.9	92.32
26141120	203326	Sea bass, baked or broiled W/O FAT OR W/ NON-S	15091	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	816.70	780.20	95.53	780.20	76.9	95.53

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
		TICK SPRAY (INCLUDE PAM...)								
26141110	0	Sea bass, cooked, NS as to cooking method	15091	Need grm wt.descr.for 1 lb.raw ylds...;recipe call	844.90	780.20	92.34	780.20	76.9	92.34
26141140	0	Sea bass, floured or breaded, fried	15091	Need gwd for 1 lb raw ylds..;recipe calls for 2 lb	959.45	780.20	81.32	780.20	83.0	81.32
26141140	100856	Sea bass, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15091	Need gwd for 1 lb raw ylds..;recipe calls for 2 lb	959.45	780.20	81.32	780.20	83.0	81.32
26141130	0	Sea bass, breaded or battered, baked	15091	SEA BASS,MXD SP,RAW	1,128.75	907.20	80.37	907.20	80.0	80.37
26141140	100355	Sea bass, floured or breaded, fried W/ PEANUT OIL	15091	SEA BASS,MXD SP,RAW	959.45	780.20	81.32	780.20	83.0	81.32
26141140	100741	Sea bass, floured or breaded, fried W/ CANOLA OIL	15091	SEA BASS,MXD SP,RAW	959.45	780.20	81.32	780.20	83.0	81.32
26141160	0	Sea bass, steamed or poached	15091	SEA BASS,MXD SP,RAW	100.00	100.00	100.00	100.00	80.0	100.00
58106900	0	Pizza with seafood, NS as to type of crust	15138	CRAB,ALASKA KING,IMITN,FROM SURIMI	581.88	49.61	8.53	49.61	75.0	8.53
58106910	0	Pizza with seafood, thin crust	15138	CRAB,ALASKA KING,IMITN,FROM SURIMI	581.88	49.61	8.53	49.61	75.0	8.53
58106920	0	Pizza with seafood, thick crust	15138	CRAB,ALASKA KING,IMITN,FROM SURIMI	915.63	49.61	5.42	49.61	75.0	5.42
27450130	0	Crab salad made with imitation crab	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	357.05	226.80	63.52	226.80	100.0	63.52
27450130	100551	Crab salad made with imitation crab W/ REAL MAYONNAISE	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	353.30	226.80	64.19	226.80	100.0	64.19
27450130	202453	Crab salad made with imitation crab W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	362.30	226.80	62.60	226.80	100.0	62.60
27450130	203191	Crab salad made with imitation crab W/ LOW CAL ORIE OR DIET MAYONNAISE	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	360.80	226.80	62.86	226.80	100.0	62.86
27550000	100344	Fish sandwich, on bun, with spread W/ RESTRUCTURED SEAFOOD	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	148.60	57.60	38.76	57.60	94.5	38.76
58111200	0	Puffs, fried, crab meat and cream cheese filled	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	892.90	163.80	18.34	163.80	76.0	18.34
58148140	203037	Macaroni salad with crab meat W/ IMITATION CRAB	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	744.88	94.50	12.69	94.50	100.0	12.69
58148550	203165	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ RESTRUCTURED SEAFOOD (INCLUDE IMITATION CRAB MEAT) AND W/ LOW CALORIE OR DIET MAYONNAISE (INCLUDE LOWFAT MAYONNAISE)	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	959.03	83.58	8.72	83.58	100.0	8.72
58148550	203165	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ RESTRUCTURED SEAFOOD (INCLUDE IMITATION CRAB MEAT) AND W/ LOW CALORIE OR DIET MAYONNAISE (INCLUDE LOWFAT MAYONNAISE)	27250520	SEAFOOD, RESTRUCTURED (INCL IMITATION CRABMEAT)	959.03	63.00	6.57	63.00	100.0	6.57
27350040	0	Shad creole, with rice	15094	SHAD,AMERICAN,RAW	1,971.54	907.20	46.01	907.20	88.9	46.01
26143110	0	Shark, cooked, NS as to cooking method	15095	SHARK,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26143120	0	Shark, baked or broiled	15095	SHARK,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26143160	0	Shark, steamed or poached	15095	SHARK,MXD SP,RAW	100.00	100.00	100.00	100.00	79.0	100.00

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Shrimp (88)				HABITAT=Estuarine						
27250450	0	Shrimp toast, fried	15149	.247 lb EP from .5 lb AP (AH8-15 yield=.494)	334.01	112.04	33.54	112.04	105.0	33.54
27363000	0	Gumbo with rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra, rice)	15149	Need gwd for 1 C;recipe calls for .5 C.	3,864.33	64.00	1.66	64.00	77.1	1.66
27464000	0	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra)	15149	Need gwd for 1 C;recipe calls for .5 C.	3,548.33	64.00	1.80	64.00	75.0	1.80
27464000	100414	Gumbo, no rice (New Orleans type with shellfish, pork, and/or poultry, tomatoes, okra) W/ BUTTER, NFS	15149	RECIPE SHEET	3,550.01	64.00	1.80	64.00	75.0	1.80
26319110	0	Shrimp, cooked, NS as to cooking method	15149	SHRIMP,MXD SP,RAW	100.84	100.00	99.17	100.00	73.0	99.17
26319120	0	Shrimp, baked or broiled	15149	SHRIMP,MXD SP,RAW	941.40	907.20	96.37	907.20	80.0	96.37
26319120	100113	Shrimp, baked or broiled W/ CORN OIL	15149	SHRIMP,MXD SP,RAW	940.45	907.20	96.46	907.20	80.0	96.46
26319120	100155	Shrimp, baked or broiled W/ PEANUT OIL	15149	SHRIMP,MXD SP,RAW	940.20	907.20	96.49	907.20	80.0	96.49
26319120	200498	Shrimp, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15149	SHRIMP,MXD SP,RAW	940.45	907.20	96.46	907.20	80.0	96.46
26319120	200875	Shrimp, baked or broiled W/ BUTTER, NFS	15149	SHRIMP,MXD SP,RAW	941.58	907.20	96.35	907.20	80.0	96.35
26319120	202678	Shrimp, baked or broiled W/ SESAME OIL	15149	SHRIMP,MXD SP,RAW	940.45	907.20	96.46	907.20	80.0	96.46
26319120	202863	Shrimp, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15149	SHRIMP,MXD SP,RAW	913.20	907.20	99.34	907.20	80.0	99.34
26319120	203272	Shrimp, baked or broiled W/ OLIVE OIL	15149	SHRIMP,MXD SP,RAW	940.20	907.20	96.49	907.20	80.0	96.49
26319130	0	Shrimp, steamed or boiled	15149	SHRIMP,MXD SP,RAW	100.84	100.00	99.17	100.00	76.0	99.17
26319140	0	Shrimp, floured, breaded, or battered, fried	15149	SHRIMP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26319140	100180	Shrimp, floured, breaded, or battered, fried W/ CANOLA OIL	15149	SHRIMP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26319140	100708	Shrimp, floured, breaded, or battered, fried W/ CORN OIL	15149	SHRIMP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26319140	201330	Shrimp, floured, breaded, or battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15149	SHRIMP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
26319140	203183	Shrimp, floured, breaded, or battered, fried W/ SOYBEAN OIL	15149	SHRIMP,MXD SP,RAW	902.90	680.40	75.36	680.40	88.0	75.36
27150410	0	Shrimp teriyaki (shrimp with soy-based sauce) (mixture)	15149	SHRIMP,MXD SP,RAW	677.76	453.60	66.93	453.60	76.0	66.93
27151050	0	Shrimp in garlic sauce, Puerto Rican style (mixture) (Camarones al ajillo)	15149	SHRIMP,MXD SP,RAW	531.90	348.00	65.43	348.00	78.7	65.43
27250410	0	Shrimp with crab stuffing	15149	SHRIMP,MXD SP,RAW	1,808.90	680.40	37.61	680.40	89.0	37.61
27350020	0	Paella with seafood	15149	SHRIMP,MXD SP,RAW	2,281.18	48.00	2.10	48.00	90.0	2.10
27350110	0	Bouillabaisse	15149	SHRIMP,MXD SP,RAW	4,392.60	226.80	5.16	226.80	80.0	5.16
27360090	0	Paella, NFS	15149	SHRIMP,MXD SP,RAW	2,219.78	56.00	2.52	56.00	90.0	2.52
27420200	0	Pork hash, Hawaiian style-ground pork, vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce	15149	SHRIMP,MXD SP,RAW	331.10	21.00	6.34	21.00	100.0	6.34
27450410	0	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture)	15149	SHRIMP,MXD SP,RAW	771.30	98.00	12.71	98.00	88.0	12.71
27450410	100694	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture) W/ CANOLA OIL	15149	SHRIMP,MXD SP,RAW	771.68	98.00	12.70	98.00	88.0	12.70
27450410	100865	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture) W/ OLIVE OIL	15149	SHRIMP,MXD SP,RAW	771.30	98.00	12.71	98.00	88.0	12.71
27450410	203621	Shrimp and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-based sauce (mixture) W/O FAT	15149	SHRIMP,MXD SP,RAW	730.80	98.00	13.41	98.00	88.0	13.41

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Shrimp (88) HABITAT=Estuarine (continued)										
27450420	0	Shrimp and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-based sauce (mixture)	15149	SHRIMP,MXD SP,RAW	741.30	98.00	13.22	98.00	88.0	13.22
27450600	0	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), soy-base sauce	15149	SHRIMP,MXD SP,RAW	910.10	113.40	12.46	113.40	88.0	12.46
27450610	0	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), soy-base sauce	15149	SHRIMP,MXD SP,RAW	940.10	113.40	12.06	113.40	88.0	12.06
27450650	0	Shellfish mixture and vegetables (including carrots, broccoli, and/or dark-green leafy (no potatoes)), (mushroom) soup (mixture)	15149	SHRIMP,MXD SP,RAW	853.13	113.40	13.29	113.40	88.0	13.29
27450660	0	Shellfish mixture and vegetables (excluding carrots, broccoli, and dark-green leafy (no potatoes)), (mushroom) soup (mixture)	15149	SHRIMP,MXD SP,RAW	891.68	113.40	12.72	113.40	100.0	12.72
28150910	0	Shrimp with potatoes, vegetable (frozen meal)	15149	SHRIMP,MXD SP,RAW	242.30	97.00	40.03	97.00	93.7	40.03
28355450	101018	Seafood soup with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy) W/ SHRIMP	15149	SHRIMP,MXD SP,RAW	2,953.00	907.20	30.72	907.20	85.0	30.72
58112510	0	Dumpling, steamed, filled with meat, poultry, or seafood	15149	SHRIMP,MXD SP,RAW	818.84	151.05	18.45	151.05	120.0	18.45
58136130	0	Lo mein with shrimp	15149	SHRIMP,MXD SP,RAW	1,101.43	226.80	20.59	226.80	95.0	20.59
58155310	0	Paella, Valenciana style, with meat (Paella Valenciana)	15149	SHRIMP,MXD SP,RAW	2,708.13	72.00	2.66	72.00	61.9	2.66
58155320	0	Seafood paella, Puerto Rican style (Paella a la marinera)	15149	SHRIMP,MXD SP,RAW	1,771.00	340.20	19.21	340.20	67.4	19.21
58156110	0	Fried rice, Puerto Rican style (arroz frito)	15149	SHRIMP,MXD SP,RAW	1,221.80	226.80	18.56	226.80	86.7	18.56
32110150	0	Shrimp-egg patty (Torta de Cameron seco)	15151	DRIED SHRIMP-also flg3-recipe says 2-1/2 c=320 gm	898.94	320.00	35.60	426.67	64.0	47.46
27150130	0	Seafood newburg	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	929.58	113.40	12.20	151.20	80.0	16.27
27250130	0	Shrimp and noodles with cheese sauce (mixture)	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	1,215.40	453.60	37.32	604.80	90.0	49.76
27250130	203697	Shrimp and noodles with cheese sauce (mixture) W/ OLIVE OIL	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	1,213.60	453.60	37.38	604.80	90.0	49.84
27350030	0	Seafood stew with potatoes and vegetables (excluding carrots, broccoli, and dark-green leafy), tomato-base sauce	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	1,389.75	113.40	8.16	151.20	80.0	10.88
27350310	0	Seafood stew with potatoes and vegetables (including carrots, broccoli, and/or dark-green leafy), tomato-base sauce	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	1,370.35	113.40	8.28	151.20	80.0	11.03
28153050	0	Shrimp and noodles in tomato-based sauce, with vegetable and fruit dessert (diet frozen meal)	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	100.00	12.70	12.70	16.93	100.0	16.93
58106900	0	Pizza with seafood, NS as to type of crust	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	581.88	49.61	8.53	66.15	75.0	11.37
58106910	0	Pizza with seafood, thin crust	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	581.88	49.61	8.53	66.15	75.0	11.37
58106920	0	Pizza with seafood, thick crust	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	915.63	49.61	5.42	66.15	75.0	7.22
58409000	0	Noodle soup, with fish ball, shrimp, and dark green leafy vegetable	15151	SHRIMP,MXD SP,CKD,MOIST HEAT	847.77	22.00	2.60	29.33	100.0	3.46
14620120	0	Shrimp dip, cream cheese base	15152	SHRIMP,MXD SP,CND	434.58	113.40	26.09	151.20	100.0	34.79
26319170	0	Shrimp, dried	15152	SHRIMP,MXD SP,CND	100.00	100.00	100.00	133.33	39.5	133.33
26319180	0	Shrimp, canned	15152	SHRIMP,MXD SP,CND	100.00	100.00	100.00	133.33	100.0	133.33
27150100	0	Shrimp, curried	15152	SHRIMP,MXD SP,CND	936.94	340.20	36.31	453.60	90.0	48.41
27150110	0	Shrimp cocktail (shrimp with cocktail sauce)	15152	SHRIMP,MXD SP,CND	690.95	340.20	49.24	453.60	100.0	65.65
27150160	0	Shrimp with lobster sauce (mixture)	15152	SHRIMP,MXD SP,CND	960.93	453.60	47.20	604.80	80.0	62.94
27150170	0	Sweet and sour shrimp	15152	SHRIMP,MXD SP,CND	174.23	38.40	22.04	51.20	95.0	29.39

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES-Shrimp (88)				HABITAT-Estuarine						(continued)
27150230	0	Shrimp scampi	15152	SHRIMP,MXD SP,CND	156.38	128.00	81.85	170.67	100.0	109.14
27150230	101055	Shrimp scampi W/ OLIVE OIL	15152	SHRIMP,MXD SP,CND	155.00	128.00	82.58	170.67	100.0	110.11
27250400	0	Shrimp cake or patty	15152	SHRIMP,MXD SP,CND	954.85	453.60	47.50	604.80	88.0	63.34
27250400	100693	Shrimp cake or patty W/ CANOLA OIL	15152	SHRIMP,MXD SP,CND	954.85	453.60	47.50	604.80	88.0	63.34
27250550	0	Seafood souffle	15152	SHRIMP,MXD SP,CND	599.32	42.62	7.11	56.83	94.0	9.48
27250950	0	Shellfish mixture and noodles, tomato-based sauce (mixture)	15152	SHRIMP,MXD SP,CND	742.00	56.70	7.64	75.60	100.0	10.19
27350050	0	Shrimp chow mein or chop suey with noodles	15152	SHRIMP,MXD SP,CND	502.97	96.00	19.09	128.00	89.0	25.45
27350060	0	Shrimp creole, with rice	15152	SHRIMP,MXD SP,CND	1,842.44	680.40	36.93	907.20	85.9	49.24
27351060	0	Shrimp and pasta garden salad (shrimp, pasta salad, tomato and/or carrots, other vegetables), no dressing	15152	SHRIMP,MXD SP,CND	261.00	42.00	16.09	56.00	100.0	21.46
27360080	0	Chow mein or chop suey, NS as to type of meat, with noodles	15152	SHRIMP,MXD SP,CND	968.88	55.00	5.68	73.33	90.0	7.57
27450040	0	Shrimp chow mein or chop suey, no noodles	15152	SHRIMP,MXD SP,CND	449.37	96.00	21.36	128.00	87.9	28.48
27450070	0	Shrimp salad	15152	SHRIMP,MXD SP,CND	548.53	340.20	62.02	453.60	100.0	82.69
27450070	100623	Shrimp salad W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	15152	SHRIMP,MXD SP,CND	557.53	340.20	61.02	453.60	100.0	81.36
27450080	0	Seafood salad	15152	SHRIMP,MXD SP,CND	529.77	100.00	18.88	133.33	100.0	25.17
27450080	101095	Seafood salad W/ REAL MAYONNAISE	15152	SHRIMP,MXD SP,CND	530.77	100.00	18.84	133.33	100.0	25.12
27450110	0	Shrimp garden salad (shrimp, eggs, tomato and/or carrots, other vegetables), no dressing	15152	SHRIMP,MXD SP,CND	185.80	63.30	34.07	84.40	100.0	45.43
27450120	0	Shrimp garden salad (shrimp, eggs, vegetables excluding tomato and carrots), no dressing	15152	SHRIMP,MXD SP,CND	147.90	63.30	42.80	84.40	100.0	57.07
27450150	0	Fish, tofu, and vegetables, tempura, Hawaiian style (mixture)	15152	SHRIMP,MXD SP,CND	542.92	32.00	5.89	42.67	80.0	7.86
27450180	0	Seafood garden salad with seafood, vegetables excluding tomato and carrots, no dressing	15152	SHRIMP,MXD SP,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450190	0	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing	15152	SHRIMP,MXD SP,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450200	0	Seafood garden salad with seafood, eggs, vegetables excluding tomato and carrots, no dressing	15152	SHRIMP,MXD SP,CND	100.00	15.00	15.00	20.00	100.0	20.00
27450210	0	Seafood garden salad with seafood, eggs, tomato and/or carrots, other vegetables, no dressing	15152	SHRIMP,MXD SP,CND	110.00	15.00	13.64	20.00	100.0	18.18
27450450	0	Shrimp creole, no rice	15152	SHRIMP,MXD SP,CND	1,317.44	680.40	51.65	907.20	85.9	68.86
28151010	0	Shrimp chow mein with egg rolls, pepper oriental (frozen meal)	15152	SHRIMP,MXD SP,CND	367.40	20.10	5.47	26.80	100.0	7.29
28151030	0	Shrimp creole with rice, peppers (diet frozen meal)	15152	SHRIMP,MXD SP,CND	283.01	22.64	8.00	30.19	100.0	10.67
28152030	0	Seafood newburg with rice, vegetable (frozen meal)	15152	SHRIMP,MXD SP,CND	296.68	23.76	8.01	31.68	100.0	10.68
28152050	0	Shrimp with rice, vegetable (frozen meal)	15152	SHRIMP,MXD SP,CND	311.48	29.64	9.52	39.52	100.0	12.69
28153010	0	Shrimp and clams in tomato-based sauce, with noodles (frozen meal)	15152	SHRIMP,MXD SP,CND	320.91	28.82	8.98	38.43	90.0	11.97
28154010	0	Shrimp and vegetables in sauce with noodles (diet frozen meal)	15152	SHRIMP,MXD SP,CND	314.16	43.68	13.90	58.24	100.0	18.54
28355420	0	Shrimp soup, cream of, prepared with milk	15152	SHRIMP,MXD SP,CND	1,423.23	340.20	23.90	453.60	90.0	31.87
28355440	0	Shrimp gumbo	15152	SHRIMP,MXD SP,CND	2,106.20	226.80	10.77	302.40	90.0	14.36
32105230	0	Shrimp egg foo yung	15152	SHRIMP,MXD SP,CND	507.20	64.00	12.62	85.33	88.0	16.82

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Shrimp (88)				HABITAT=Estuarine						(continued)
32105230	201815	Shrimp egg foo yung W/O FAT	15152	SHRIMP,MXD SP,CND	466.70	64.00	13.71	85.33	88.0	18.28
54406200	0	Shrimp chips (tapioca base)	15152	SHRIMP,MXD SP,CND	100.00	25.00	25.00	33.33	78.0	33.33
58100900	0	Enchilada with seafood, tomato-based sauce	15152	SHRIMP,MXD SP,CND	1,367.14	384.00	28.09	512.00	90.0	37.45
58101540	0	Taco or tostada with fish, lettuce, tomato, salsa	15152	SHRIMP,MXD SP,CND	76.99	15.00	19.48	20.00	100.0	25.98
58110120	0	Egg roll, with shrimp	15152	SHRIMP,MXD SP,CND	1,142.04	64.00	5.60	85.33	76.0	7.47
58112110	0	Dim sum, meat filled (egg roll-type)	15152	SHRIMP,MXD SP,CND	1,489.47	226.80	15.23	302.40	130.0	20.30
58134310	0	Stuffed shells, with fish and/or shellfish, with tomato sauce	15152	SHRIMP,MXD SP,CND	1,547.61	128.00	8.27	170.67	100.0	11.03
58148150	0	Macaroni salad with shrimp	15152	SHRIMP,MXD SP,CND	746.38	96.00	12.86	128.00	100.0	17.15
58148150	100831	Macaroni salad with shrimp W/ REAL MAYONNAISE	15152	SHRIMP,MXD SP,CND	740.75	96.00	12.96	128.00	100.0	17.28
58150510	0	Rice, fried, with shrimp	15152	SHRIMP,MXD SP,CND	1,028.48	64.00	6.22	85.33	90.0	8.30
58407050	0	Instant soup, noodle with egg, shrimp or chicken	15152	SHRIMP,MXD SP,CND	99.00	1.00	1.01	1.33	85.0	1.35
72306000	0	Watercress broth with shrimp	15152	SHRIMP,MXD SP,CND	1,536.05	128.00	8.33	170.67	100.0	11.11
58148550	100301	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ TURKEY AND SHRIMP, AND W/ REDUCED CALORIE OR DIET, CHOLESTEROL FREE MAYONNAISE (INCLUDE KRAFT LIGHT)	26319120	SHRIMP, BAKED OR BROILED (INCL SAUTEED; PRAWN)	954.45	84.00	8.80	112.00	100.0	11.73
58148550	101031	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ ALL SHRIMP AND W/ LIGHT SOUR CREAM	26319120	SHRIMP, BAKED OR BROILED (INCL SAUTEED; PRAWN)	967.53	83.58	8.64	111.44	100.0	11.52
58148550	101031	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ ALL SHRIMP AND W/ LIGHT SOUR CREAM	26319120	SHRIMP, BAKED OR BROILED (INCL SAUTEED; PRAWN)	967.53	72.50	7.49	96.67	100.0	9.99
58148550	101089	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ ALL SHRIMP AND W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT)	26319120	SHRIMP, BAKED OR BROILED (INCL SAUTEED; PRAWN)	959.53	83.58	8.71	111.44	100.0	11.61
58148550	101089	Pasta salad with meat (macaroni or noodles, vegetables, meat, dressing) W/ ALL SHRIMP AND W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT)	26319120	SHRIMP, BAKED OR BROILED (INCL SAUTEED; PRAWN)	959.53	72.50	7.56	96.67	100.0	10.07
58408010	100177	Won ton soup W/ SHRIMP AND CRAB MEAT	26319130	SHRIMP, STEAMED OR BOILED	3,697.15	235.00	6.36	297.47	100.0	8.05
58408010	100858	Won ton soup W/ BEEF AND SHRIMP	26319130	SHRIMP, STEAMED OR BOILED	3,697.15	235.00	6.36	297.47	100.0	8.05
28152010	0	Seafood platter with fish cake, fish fillet, scallops, shrimp, potatoes (frozen meal)	26319140	SHRIMP, BREADED OR BATTERED, FRIED	240.00	15.20	6.33	17.27	100.0	7.20
28355410	0	Shrimp soup, cream of, NS as to prepared with milk or water	6256S	SOUP,CRM OF SHRIMP,PREP W/MILK,COMM	597.50	22.58	3.78	22.58	100.0	3.78
28355410	0	Shrimp soup, cream of, NS as to prepared with milk or water	6456S	SOUP,CRM OF SHRIMP,PREP W/H2O,COMM	597.50	22.24	3.72	22.24	100.0	3.72
28355430	0	Shrimp soup, cream of, prepared with water	6456S	SOUP,CRM OF SHRIMP,PREP W/H2O,COMM	100.00	7.50	7.50	7.50	100.0	7.50
SPECIES=Smelts (91)				HABITAT=50% Estuarine, 50% Marine						
26145120	0	Smelt, baked or broiled	15099	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	672.50	607.80	90.38	607.80	70.7	90.38
26145140	0	Smelt, floured or breaded, fried	15099	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	787.05	607.80	77.23	607.80	79.2	77.23
26145140	100738	Smelt, floured or breaded, fried W/ CANOLA OIL	15099	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	787.05	607.80	77.23	607.80	79.2	77.23
26145110	0	Smelt, cooked, NS as to cooking method	15099	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	787.05	607.80	77.23	607.80	79.2	77.23

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Smelts, Rainbow (115) -------- HABITAT=50% Freshwater, 50% Estuarine										
26145150	0	Smelt, battered, fried	15099	SMELT,RAINBOW,RAW	100.00	67.00	67.00	67.00	83.3	67.00
26145160	0	Smelt, steamed or poached	15099	SMELT,RAINBOW,RAW	100.00	100.00	100.00	100.00	79.0	100.00
SPECIES=Snails (92) ---------- HABITAT=50% Freshwater, 50% Marine										
26321160	0	Snails, steamed or poached	15177	WHELK,UNSPEC,RAW	100.84	100.00	99.17	100.00	50.0	99.17
26321110	0	Snails, cooked, NS as to cooking method	90560	SNAIL,RAW	467.79	453.60	96.97	453.60	80.0	96.97
SPECIES=Snapper (93) ---------- HABITAT=Marine										
27151030	0	Marinated fish (Ceviche)	15101	SNAPPER,MXD SP,RAW	636.50	339.00	53.26	339.00	97.8	53.26
27350110	0	Bouillabaisse	15101	SNAPPER,MXD SP,RAW	4,392.60	453.60	10.33	453.60	80.0	10.33
27450710	101049	Fish and vegetables (excluding carrots, broccoli, and dark- green leafy (no potatoes)), tomato-based sauce (mixture) W/ SNAPPER	15101	SNAPPER,MXD SP,RAW	1,619.65	907.20	56.01	907.20	90.0	56.01
58155320	0	Seafood paella, Puerto Rican style (Paella a la marinera)	15101	SNAPPER,MXD SP,RAW	1,771.00	226.80	12.81	226.80	67.4	12.81
SPECIES=Sole (94) ---------- HABITAT=Marine										
28150240	0	Sole with vegetable (diet frozen meal)	15028	FLATFISH,RAW	215.20	113.40	52.70	113.40	80.0	52.70
SPECIES=Squid (97) ---------- HABITAT=Marine										
26213100	0	Squid, raw	15175	SQUID,MXD SP,RAW	100.00	100.00	100.00	100.00	100.0	100.00
26213120	0	Squid, baked, broiled	15175	SQUID,MXD SP,RAW	706.05	680.40	96.37	680.40	80.0	96.37
26213120	201481	Squid, baked, broiled W/ OLIVE OIL	15175	SQUID,MXD SP,RAW	705.15	680.40	96.49	680.40	80.0	96.49
26213120	202157	Squid, baked, broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15175	SQUID,MXD SP,RAW	705.34	680.40	96.46	680.40	80.0	96.46
26213140	0	Squid, breaded, fried	15175	SQUID,MXD SP,RAW	1,086.45	907.20	83.50	907.20	85.0	83.50
26213140	101162	Squid, breaded, fried W/ OLIVE OIL	15175	SQUID,MXD SP,RAW	1,086.45	907.20	83.50	907.20	85.0	83.50
26213160	0	Squid, steamed or boiled	15175	SQUID,MXD SP,RAW	100.84	100.00	99.17	100.00	86.5	99.17
26213170	0	Squid, dried	15175	SQUID,MXD SP,RAW	100.30	100.00	99.70	100.00	26.3	99.70
26213180	0	Squid, pickled	15175	SQUID,MXD SP,RAW	1,183.20	907.20	76.67	907.20	80.0	76.67
26213190	0	Squid, canned	15175	SQUID,MXD SP,RAW	100.60	100.00	99.40	100.00	86.5	99.40
58155910	0	Rice with squid, Puerto Rican style (arroz con calamares)	15175	SQUID,MXD SP,RAW	814.58	226.80	27.84	226.80	69.1	27.84
SPECIES=Sturgeon (98) ---------- HABITAT=50% Freshwater, 50% Estuarine										
26211100	0	Roe, sturgeon	15012	CAVIAR,BLACK/RED,GRANULAR	100.00	100.00	100.00	100.00	100.0	100.00
26147110	0	Sturgeon, cooked, NS as to cooking method	15104	STURGEON,MXD SP,RAW	100.84	100.00	99.17	100.00	80.0	99.17
26147130	0	Sturgeon, steamed	15104	STURGEON,MXD SP,RAW	100.84	100.00	99.17	100.00	80.0	99.17
26147140	0	Sturgeon, floured or breaded, fried	15104	STURGEON,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26147120	0	Sturgeon, baked or broiled	15105	STURGEON,MXD SP,CKD,DRY HEAT	100.00	100.00	100.00	133.33	100.0	133.33
26147190	0	Sturgeon, smoked	15106	STURGEON,MXD SP,SMOKED	100.00	100.00	100.00	118.34	100.0	118.34
SPECIES=Swordfish (100) ---------- HABITAT=Marine										
26149110	0	Swordfish, cooked, NS as to cooking method	15110	Need grm wt.desc.for 1 lb raw ylds..;recipe calls	844.90	780.20	92.34	780.20	76.9	92.34
26149120	0	Swordfish, baked or broiled	15110	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	844.90	780.20	92.34	780.20	76.9	92.34
26149120	200638	Swordfish, baked or broiled W/ OLIVE OIL	15110	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	843.70	780.20	92.47	780.20	76.9	92.47
26149120	201748	Swordfish, baked or broiled W/ BUTTER, NFS	15110	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	845.08	780.20	92.32	780.20	76.9	92.32

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Swordfish (100)				HABITAT=Marine (continued)						
26149120	203119	Swordfish, baked or broiled W/ CANOLA OIL	15110	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26149120	203287	Swordfish, baked or broiled W/ VEGETABLE OIL (INCLUDE OIL, NFS)	15110	Need grm wt.desc.for 1 lb.raw ylds..;recipe calls	843.95	780.20	92.45	780.20	76.9	92.45
26149140	0	Swordfish, floured or breaded, fried	15110	SWORDFISH,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26149160	0	Swordfish, steamed or poached	15110	SWORDFISH,RAW	100.00	100.00	100.00	100.00	79.0	100.00
SPECIES=Trout (103)				HABITAT=Freshwater						
26151110	0	Trout, cooked, NS as to cooking method	15240	Need grm wt.desc.for 1 lb.raw ylds..; recipe calls	844.90	780.20	92.34	780.20	76.9	92.34
26151120	0	Trout, baked or broiled	15240	TROUT,RAINBOW,FARMED,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26151120	100792	Trout, baked or broiled W/ BUTTER, NFS	15240	TROUT,RAINBOW,FARMED,RAW	972.08	907.20	93.33	907.20	80.0	93.33
26151120	200348	Trout, baked or broiled W/ OLIVE OIL	15240	TROUT,RAINBOW,FARMED,RAW	970.70	907.20	93.46	907.20	80.0	93.46
26151120	201266	Trout, baked or broiled W/ CANOLA, SOYBEAN AND SUNFLOWER OIL	15240	TROUT,RAINBOW,FARMED,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26151120	202336	Trout, baked or broiled W/ CORN OIL (INCLUDE M AZOLA CORN OIL; MAZOLA OIL, NFS; WESSON CORN O IL....)	15240	TROUT,RAINBOW,FARMED,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26151120	202836	Trout, baked or broiled W/O FAT	15240	TROUT,RAINBOW,FARMED,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26151160	0	Trout, steamed or poached	15240	TROUT,RAINBOW,FARMED,RAW	100.00	100.00	100.00	100.00	79.0	100.00
SPECIES=Trout, mixed sp. (114)				HABITAT=50% Freshwater, 50% Estuarine						
26151140	0	Trout, floured or breaded, fried	15114	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26151140	100337	Trout, floured or breaded, fried W/ CORN OIL	15114	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26151140	101083	Trout, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS...)	15114	Need grm wt.descr.for 1 lb raw ylds..;recipe calls	959.45	780.20	81.32	780.20	83.0	81.32
26151130	0	Trout, breaded or battered, baked	15114	TROUT,MXD SP,RAW	1,086.45	907.20	83.50	907.20	80.0	83.50
26151150	0	Trout, battered, fried	15114	TROUT,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26151150	202740	Trout, battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15114	TROUT,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26151190	0	Trout, smoked	15114	TROUT,MXD SP,RAW	100.50	100.00	99.50	100.00	55.8	99.50
SPECIES=Tuna (104)				HABITAT=Marine						
26153170	0	Tuna, fresh, dried	15117	TUNA,FRESH,BLUEFIN,RAW	100.00	100.00	100.00	100.00	80.0	100.00
26155180	0	Tuna, canned, oil pack	15119	TUNA,LT,CND,OIL,DRND	100.00	100.00	100.00	133.33	100.0	133.33
27150120	0	Tuna with cream or white sauce (mixture)	15119	TUNA,LT,CND,OIL,DRND	911.85	311.85	34.20	415.80	100.0	45.60
27250150	0	Tuna loaf	15119	TUNA,LT,CND,OIL,DRND	974.25	438.00	44.96	584.00	80.0	59.94
27250160	0	Tuna cake or patty	15119	TUNA,LT,CND,OIL,DRND	981.25	480.00	48.92	640.00	88.0	65.22
27250160	100608	Tuna cake or patty W/ MARGARINE-LIKE SPREAD, T UB, SALTED (INCLUDE PARKAY SPREAD; SHEDD'S SPR EAD COUNTRY CROCK,.....)	15119	TUNA,LT,CND,OIL,DRND	981.25	480.00	48.92	640.00	88.0	65.22
27250160	100905	Tuna cake or patty W/ OLIVE OIL	15119	TUNA,LT,CND,OIL,DRND	981.25	480.00	48.92	640.00	88.0	65.22
27250610	0	Tuna noodle casserole with cream or white sauc e	15119	TUNA,LT,CND,OIL,DRND	1,140.59	320.00	28.06	426.67	90.0	37.41
27250610	100389	Tuna noodle casserole with cream or white sauc e W/ TUNA AND SARDINES	15119	TUNA,LT,CND,OIL,DRND	1,140.59	160.00	14.03	213.33	90.0	18.70
27250610	200943	Tuna noodle casserole with cream or white sauc e W/ 2% MILK AND W/ BUTTER, NFS	15119	TUNA,LT,CND,OIL,DRND	1,140.94	320.00	28.05	426.67	90.0	37.40
27250610	202688	Tuna noodle casserole with cream or white sauc e W/ WHOLE MILK AND W/ BUTTER, NFS	15119	TUNA,LT,CND,OIL,DRND	1,140.94	320.00	28.05	426.67	90.0	37.40
27250610	203555	Tuna noodle casserole with cream or white sauc e W/O FAT	15119	TUNA,LT,CND,OIL,DRND	1,084.19	320.00	29.52	426.67	90.0	39.35

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Tuna (104) HABITAT=Marine (continued)										
27250630	0	Tuna noodle casserole with (mushroom) soup	15119	TUNA,LT,CND,OIL,DRND	1,149.20	320.00	27.85	426.67	90.0	37.13
27250630	201273	Tuna noodle casserole with (mushroom) soup W/ 2% MILK AND W/ BUTTER, NFS	15119	TUNA,LT,CND,OIL,DRND	1,149.38	320.00	27.84	426.67	90.0	37.12
27250630	202216	Tuna noodle casserole with (mushroom) soup W/ WATER AND W/O FAT	15119	TUNA,LT,CND,OIL,DRND	1,117.50	320.00	28.64	426.67	90.0	38.18
27250630	202584	Tuna noodle casserole with (mushroom) soup W/ 2% MILK	15119	TUNA,LT,CND,OIL,DRND	1,149.20	320.00	27.85	426.67	90.0	37.13
27250630	202593	Tuna noodle casserole with (mushroom) soup W/ SKIM MILK AND W/O FAT	15119	TUNA,LT,CND,OIL,DRND	1,121.50	320.00	28.53	426.67	90.0	38.04
27250630	202723	Tuna noodle casserole with (mushroom) soup W/ WHOLE MILK	15119	TUNA,LT,CND,OIL,DRND	1,149.20	320.00	27.85	426.67	90.0	37.13
27250630	203749	Tuna noodle casserole with (mushroom) soup W/ WHOLE MILK AND W/O FAT	15119	TUNA,LT,CND,OIL,DRND	1,121.00	320.00	28.55	426.67	90.0	38.06
27250710	0	Tuna and rice with (mushroom) soup (mixture)	15119	TUNA,LT,CND,OIL,DRND	871.55	160.00	18.36	213.33	90.0	24.48
27350070	0	Tuna pot pie	15119	TUNA,LT,CND,OIL,DRND	842.85	155.93	18.50	207.90	91.0	24.67
27350080	0	Tuna noodle casserole with vegetables, cream o r white sauce	15119	TUNA,LT,CND,OIL,DRND	1,139.68	184.28	16.17	245.70	90.0	21.56
27350080	100388	Tuna noodle casserole with vegetables, cream o r white sauce W/ CARROTS	15119	TUNA,LT,CND,OIL,DRND	1,139.68	184.28	16.17	245.70	90.0	21.56
27350410	0	Tuna noodle casserole with vegetables and (mus hroom) soup	15119	TUNA,LT,CND,OIL,DRND	1,229.20	292.00	23.76	389.33	90.0	31.67
27350410	200066	Tuna noodle casserole with vegetables and (mus hroom) soup W/ 1% MILK	15119	TUNA,LT,CND,OIL,DRND	1,229.20	292.00	23.76	389.33	90.0	31.67
27350410	203442	Tuna noodle casserole with vegetables and (mus hroom) soup W/ 2% MILK	15119	TUNA,LT,CND,OIL,DRND	1,229.20	292.00	23.76	389.33	90.0	31.67
27450510	0	Tuna casserole with vegetables and (mushroom) soup, no noodles	15119	TUNA,LT,CND,OIL,DRND	909.20	292.00	32.12	389.33	90.0	42.82
58140310	0	Macaroni with tuna, Puerto Rican style (Macarr ones con atun)	15119	TUNA,LT,CND,OIL,DRND	743.76	127.58	17.15	170.10	91.4	22.87
58145120	0	Macaroni or noodles with cheese and tuna	15119	TUNA,LT,CND,OIL,DRND	1,102.09	188.81	17.13	251.75	90.0	22.84
58145120	100521	Macaroni or noodles with cheese and tuna W/ 2% MILK	15119	TUNA,LT,CND,OIL,DRND	1,102.09	188.81	17.13	251.75	90.0	22.84
58145120	200545	Macaroni or noodles with cheese and tuna W/ SK IM MILK	15119	TUNA,LT,CND,OIL,DRND	1,102.59	188.81	17.12	251.75	90.0	22.83
58145120	201431	Macaroni or noodles with cheese and tuna W/ 1% MILK	15119	TUNA,LT,CND,OIL,DRND	1,102.09	188.81	17.13	251.75	90.0	22.84
58145120	203026	Macaroni or noodles with cheese and tuna W/ WH OLE MILK	15119	TUNA,LT,CND,OIL,DRND	1,102.09	188.81	17.13	251.75	90.0	22.84
26100180	0	Fish, NS as to type, canned	15121	TUNA,LT,CND,H2O,DRND	100.00	61.40	61.40	81.87	100.0	81.87
26155110	0	Tuna, canned, NS as to oil or water pack	15121	TUNA,LT,CND,H2O,DRND	100.00	100.00	100.00	133.33	100.0	133.33
26155190	0	Tuna, canned, water pack	15121	TUNA,LT,CND,H2O,DRND	100.00	100.00	100.00	133.33	100.0	133.33
27250550	0	Seafood souffle	15121	TUNA,LT,CND,H2O,DRND	599.32	49.00	8.18	65.33	94.0	10.90
27250810	0	Fish and rice with tomato-based sauce	15121	TUNA,LT,CND,H2O,DRND	854.55	167.00	19.54	222.67	90.0	26.06
27250820	0	Fish and rice with cream sauce	15121	TUNA,LT,CND,H2O,DRND	852.24	167.00	19.60	222.67	90.0	26.13
27250830	0	Fish and rice with (mushroom) soup	15121	TUNA,LT,CND,H2O,DRND	854.55	167.00	19.54	222.67	90.0	26.06
27250900	0	Fish and noodles with (mushroom) soup	15121	TUNA,LT,CND,H2O,DRND	877.05	186.50	21.26	248.67	100.0	28.35
27350090	0	Fish, noodles, and vegetables (including carro ts, broccoli, and/or dark green leafy), cheese sauce (mixture)	15121	TUNA,LT,CND,H2O,DRND	1,745.50	462.00	26.47	616.00	95.0	35.29
27350100	0	Fish, noodles, and vegetables (excluding carro ts, broccoli, and dark-green leafy), cheese sa uce (mixture)	15121	TUNA,LT,CND,H2O,DRND	1,685.50	438.00	25.99	584.00	95.0	34.65
27450060	0	Tuna salad	15121	TUNA,LT,CND,H2O,DRND	413.97	223.97	54.10	298.62	100.0	72.14

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Tuna (104) HABITAT=Marine (continued)										
27450060	100008	Tuna salad W/ REAL MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	410.22	223.97	54.60	298.62	100.0	72.80
27450060	100321	Tuna salad W/ ITALIAN DRESSING (INCLUDE VINEGAR AND OIL)	15121	TUNA,LT,CND,H2O,DRND	413.97	223.97	54.10	298.62	100.0	72.14
27450060	200020	Tuna salad W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSSING (INCLUDE MIRACLE WHIP LIGHT..)	15121	TUNA,LT,CND,H2O,DRND	413.22	223.97	54.20	298.62	100.0	72.27
27450060	200099	Tuna salad W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	15121	TUNA,LT,CND,H2O,DRND	419.22	223.97	53.42	298.62	100.0	71.23
27450060	200449	Tuna salad W/ REDUCED CALORIE OR DIET, CHOLESTEROL-FREE MAYONNAISE (INCLUDE KRAFT LIGHT; HELLMANN'S CHOLESTEROL-FREE REDUCED CALORIE...)	15121	TUNA,LT,CND,H2O,DRND	412.97	223.97	54.23	298.62	100.0	72.31
27450060	200685	Tuna salad W/ LOW CALORIE OR DIET MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	417.72	223.97	53.62	298.62	100.0	71.49
27450060	201412	Tuna salad W/ CREAMY DRESSING WITH SOUR CREAM AND/OR BUTTERMILK AND OIL (INCLUDE RANCH DRESSING)	15121	TUNA,LT,CND,H2O,DRND	413.97	223.97	54.10	298.62	100.0	72.14
27450060	202153	Tuna salad W/O SALAD DRESSING	15121	TUNA,LT,CND,H2O,DRND	355.22	223.97	63.05	298.62	100.0	84.07
27450060	203270	Tuna salad W/ REDUCED CALORIE, FAT FREE, CHOLESTEROL FREE, CREAMY DRESSING MADE WITH SOUR CREAM AND BUTTERMILK AND/OR OIL	15121	TUNA,LT,CND,H2O,DRND	421.22	223.97	53.17	298.62	100.0	70.89
27450090	0	Tuna salad with cheese	15121	TUNA,LT,CND,H2O,DRND	485.35	223.97	46.14	298.62	100.0	61.53
27450090	100140	Tuna salad with cheese W/ REAL MAYONNAISE, W/ NATURAL CHEDDAR OR AMERICAN TYPE CHEESE AND W/ SALSA	15121	TUNA,LT,CND,H2O,DRND	481.67	223.97	46.50	298.62	100.0	62.00
27450090	100275	Tuna salad with cheese W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT)	15121	TUNA,LT,CND,H2O,DRND	484.42	223.97	46.23	298.62	100.0	61.65
27450100	0	Tuna salad with egg	15121	TUNA,LT,CND,H2O,DRND	478.65	223.97	46.79	298.62	100.0	62.39
27450100	100026	Tuna salad with egg W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT)	15121	TUNA,LT,CND,H2O,DRND	477.72	223.97	46.88	298.62	100.0	62.51
27450100	100039	Tuna salad with egg W/ REAL MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	473.97	223.97	47.25	298.62	100.0	63.00
27450100	100224	Tuna salad with egg W/ TOMATOES AND W/O DRESSING	15121	TUNA,LT,CND,H2O,DRND	405.22	223.97	55.27	298.62	100.0	73.69
27450100	100614	Tuna salad with egg W/ CREAMY DRESSING WITH SOUR CREAM AND/OR BUTTERMILK AND OIL (INCLUDE RANCH DRESSING....)	15121	TUNA,LT,CND,H2O,DRND	478.65	223.97	46.79	298.62	100.0	62.39
27450100	100959	Tuna salad with egg W/ REAL MAYONNAISE AND W/ EGG WHITES	15121	TUNA,LT,CND,H2O,DRND	473.97	223.97	47.25	298.62	100.0	63.00
27450100	100970	Tuna salad with egg W/ REDUCED-CALORIE OR DIET, CHOLESTEROL FREE, MAYONNAISE (INCLUDE KRAFT LIGHT...)	15121	TUNA,LT,CND,H2O,DRND	477.40	223.97	46.91	298.62	100.0	62.55
27450100	200455	Tuna salad with egg W/ CHOLESTEROL-FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP CHOLESTEROL FREE...)	15121	TUNA,LT,CND,H2O,DRND	479.90	223.97	46.67	298.62	100.0	62.23
27450100	201154	Tuna salad with egg W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	15121	TUNA,LT,CND,H2O,DRND	485.22	223.97	46.16	298.62	100.0	61.54
27450100	201509	Tuna salad with egg W/ REDUCED CALORIE CREAMY DRESSING W/ SOUR CREAM AND/OR BUTTERMILK AND OIL (INCLUDE LIGHT RANCH DRESSING)	15121	TUNA,LT,CND,H2O,DRND	481.78	223.97	46.49	298.62	100.0	61.98

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Tuna (104) HABITAT=Marine (continued)										
27450100	202694	Tuna salad with egg W/ LOW CALORIE OR DIET MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	483.34	223.97	46.34	298.62	100.0	61.78
27550710	0	Tuna salad sandwich, with lettuce	15121	TUNA,LT,CND,H2O,DRND	167.26	57.75	34.53	77.00	100.0	46.04
27550710	100003	Tuna salad sandwich, with lettuce W/ REDUCED CALORIE AND/OR HIGH FIBER WHEAT OR CRACKED WHEAT BREAD AND W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT...)	15121	TUNA,LT,CND,H2O,DRND	171.06	57.75	33.76	77.00	100.0	45.01
27550710	200508	Tuna salad sandwich, with lettuce W/ PITA BREAD	15121	TUNA,LT,CND,H2O,DRND	160.26	57.75	36.03	77.00	100.0	48.05
27550720	0	Tuna salad sandwich	15121	TUNA,LT,CND,H2O,DRND	157.26	57.75	36.72	77.00	100.0	48.96
27550720	100053	Tuna salad sandwich W/ 100% WHOLE WHEAT BREAD	15121	TUNA,LT,CND,H2O,DRND	161.26	57.75	35.81	77.00	100.0	47.75
27550720	100054	Tuna salad sandwich W/ 100% WHOLE WHEAT BREAD AND W/ FAT FREE MAYONNAISE-TYPE SALAD DRESSING (INCLUDE KRAFT FREE NONFAT MAYONNAISE DRESSING; KRAFT MIRACLE WHIP FREE NONFAT DRESSING...)	15121	TUNA,LT,CND,H2O,DRND	162.56	57.75	35.52	77.00	100.0	47.37
27550720	100241	Tuna salad sandwich W/ WHOLE WHEAT ROLL, NS AS TO 100%	15121	TUNA,LT,CND,H2O,DRND	148.26	57.75	38.95	77.00	100.0	51.93
27550720	100466	Tuna salad sandwich W/ WHEAT OR CRACKED WHEAT BREAD	15121	TUNA,LT,CND,H2O,DRND	155.26	57.75	37.19	77.00	100.0	49.59
27550720	100844	Tuna salad sandwich W/ REAL MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	156.36	57.75	36.93	77.00	100.0	49.24
27550720	200109	Tuna salad sandwich W/ WHOLE WHEAT BREAD, OTHER THAN 100%, OR NS AS TO 100% AND W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT...)	15121	TUNA,LT,CND,H2O,DRND	157.06	57.75	36.77	77.00	100.0	49.02
27550720	200949	Tuna salad sandwich W/ REDUCED CALORIE OR DIET CHOLESTEROL-FREE MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	157.16	57.75	36.75	77.00	100.0	48.99
27550720	201529	Tuna salad sandwich W/ WHOLE WHEAT BREAD, OTHER THAN 100% OR NS AS TO 100%	15121	TUNA,LT,CND,H2O,DRND	157.26	57.75	36.72	77.00	100.0	48.96
27550720	202074	Tuna salad sandwich W/ RYE BREAD	15121	TUNA,LT,CND,H2O,DRND	157.26	57.75	36.72	77.00	100.0	48.96
27550720	202823	Tuna salad sandwich W/ RYE BREAD AND W/ REAL MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	156.36	57.75	36.93	77.00	100.0	49.24
27570310	0	Hors d'oeuvres, with spread	15121	TUNA,LT,CND,H2O,DRND	631.03	184.28	29.20	245.70	100.0	38.94
58120110	0	Crepes, filled with meat, fish, or poultry, with sauce	15121	TUNA,LT,CND,H2O,DRND	1,559.07	167.00	10.71	222.67	90.0	14.28
58120110	101081	Crepes, filled with meat, fish, or poultry, with sauce W/ ALL TUNA	15121	TUNA,LT,CND,H2O,DRND	1,559.07	140.00	8.98	186.67	90.0	11.97
58120110	101081	Crepes, filled with meat, fish, or poultry, with sauce W/ ALL TUNA	15121	TUNA,LT,CND,H2O,DRND	1,559.07	140.00	8.98	186.67	90.0	11.97
58120110	101081	Crepes, filled with meat, fish, or poultry, with sauce W/ ALL TUNA	15121	TUNA,LT,CND,H2O,DRND	1,559.07	167.00	10.71	222.67	90.0	14.28
58134310	0	Stuffed shells, with fish and/or shellfish, with tomato sauce	15121	TUNA,LT,CND,H2O,DRND	1,547.61	154.00	9.95	205.33	100.0	13.27
58148130	0	Macaroni salad with tuna	15121	TUNA,LT,CND,H2O,DRND	765.88	115.50	15.08	154.00	100.0	20.11
58148130	202070	Macaroni salad with tuna W/ REAL MAYONAISE	15121	TUNA,LT,CND,H2O,DRND	760.25	115.50	15.19	154.00	100.0	20.26
58148130	202491	Macaroni salad with tuna W/ LOW CALORIE OR DIET MAYONNAISE-TYPE SALAD DRESSING (INCLUDE MIRACLE WHIP LIGHT)	15121	TUNA,LT,CND,H2O,DRND	764.75	115.50	15.10	154.00	100.0	20.14
58148160	0	Macaroni salad with tuna and egg	15121	TUNA,LT,CND,H2O,DRND	996.75	167.00	16.75	222.67	100.0	22.34
58148160	201511	Macaroni salad with tuna and egg W/ REAL MAYONNAISE	15121	TUNA,LT,CND,H2O,DRND	989.25	167.00	16.88	222.67	100.0	22.51
26100180	0	Fish, NS as to type, canned	15126	TUNA,CND,H2ODRND,WHITE MEAT	100.00	13.70	13.70	18.27	100.0	18.27
26153100	0	Tuna, fresh, raw	15127	TUNA,YELLOWFIN,RAW	100.00	100.00	100.00	100.00	100.0	100.00

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Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Tuna (104) HABITAT=Marine (continued)										
26153110	0	Tuna, fresh, cooked, NS as to cooking method	15127	TUNA,YELLOWFIN,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26153120	0	Tuna, fresh, baked or broiled	15127	TUNA,YELLOWFIN,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26153120	100869	Tuna, fresh, baked or broiled W/ SOYBEAN OIL	15127	TUNA,YELLOWFIN,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26153120	200865	Tuna, fresh, baked or broiled W/ CORN OIL	15127	TUNA,YELLOWFIN,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26153120	201598	Tuna, fresh, baked or broiled W/ OLIVE OIL	15127	TUNA,YELLOWFIN,RAW	970.70	907.20	93.46	907.20	80.0	93.46
26153120	202429	Tuna, fresh, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15127	TUNA,YELLOWFIN,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26153120	203213	Tuna, fresh, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15127	TUNA,YELLOWFIN,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26153140	0	Tuna, fresh, floured or breaded, fried	15127	TUNA,YELLOWFIN,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26153160	0	Tuna, fresh, steamed or poached	15127	TUNA,YELLOWFIN,RAW	100.00	100.00	100.00	100.00	79.0	100.00
26153190	0	Tuna, fresh, smoked	15201	Tuna,fresh,smoked	100.00	100.00	100.00	125.94	100.0	125.94
58151130	100733	Sushi, with vegetables and fish W/ TUNA	26153100	TUNA, FRESH, RAW	2,394.40	302.55	12.64	302.55	90.0	12.64
27450190	100411	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing W/ ALL TUNA	26155110	TUNA, CANNED, NS AS TO OIL OR WATER PACK	100.00	15.00	15.00	20.00	100.0	20.00
27450190	100411	Seafood garden salad with seafood, tomato and/or carrots, other vegetables, no dressing W/ ALL TUNA	26155110	TUNA, CANNED, NS AS TO OIL OR WATER PACK	100.00	15.00	15.00	20.00	100.0	20.00
58301130	0	Tuna lasagna (diet frozen meal)	26155190	TUNA, CANNED, WATER PACK	340.18	34.02	10.00	45.36	100.0	13.33
27550750	0	Tuna salad submarine sandwich, on roll, with lettuce	27450060	TUNA SALAD	213.00	104.00	48.83	104.00	100.0	48.83
27550750	203516	Tuna salad submarine sandwich, on roll, with lettuce W/ WHOLE WHEAT ROLL, NS AS TO 100%	27450060	TUNA SALAD	213.00	104.00	48.83	104.00	100.0	48.83
SPECIES=Whitefish (109) HABITAT=50% Freshwater, 50% Marine										
27250060	0	Gefilte fish	15130	WHITEFISH,MXD SP,RAW	6,161.70	2,268.00	36.81	2,268.00	100.0	36.81
26100190	0	Fish, NS as to type, smoked	15131	WHITEFISH,MXD SP,SMOKED	99.90	13.40	13.41	14.14	100.0	14.15
SPECIES=Whiting (110) HABITAT=Marine										
26100100	0	Fish, NS as to type, raw	15132	WHITING,MXD SP,RAW	100.00	6.90	6.90	6.90	100.0	6.90
26100130	0	Fish, NS as to type, breaded or battered, baked	15132	WHITING,MXD SP,RAW	1,171.58	62.60	5.34	62.60	80.0	5.34
26100140	0	Fish, NS as to type, floured or breaded, fried	15132	WHITING,MXD SP,RAW	1,086.45	62.60	5.76	62.60	88.0	5.76
26100140	100258	Fish, NS as to type, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15132	WHITING,MXD SP,RAW	1,086.45	62.60	5.76	62.60	88.0	5.76
26100140	100854	Fish, NS as to type, floured or breaded, fried W/ SOYBEAN OIL	15132	WHITING,MXD SP,RAW	1,086.45	62.60	5.76	62.60	88.0	5.76
26100150	0	Fish, NS as to type, battered, fried	15132	WHITING,MXD SP,RAW	133.00	6.90	5.19	6.90	88.0	5.19
26157110	0	Whiting, cooked, NS as to cooking method	15132	WHITING,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26157120	0	Whiting, baked or broiled	15132	WHITING,MXD SP,RAW	971.90	907.20	93.34	907.20	80.0	93.34
26157120	200509	Whiting, baked or broiled W/ CORN OIL	15132	WHITING,MXD SP,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26157120	201895	Whiting, baked or broiled W/O FAT OR W/ NONSTICK SPRAY (INCLUDE PAM...)	15132	WHITING,MXD SP,RAW	943.70	907.20	96.13	907.20	80.0	96.13
26157120	202454	Whiting, baked or broiled W/ BUTTER, NFS	15132	WHITING,MXD SP,RAW	972.08	907.20	93.33	907.20	80.0	93.33
26157120	203222	Whiting, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15132	WHITING,MXD SP,RAW	970.95	907.20	93.43	907.20	80.0	93.43
26157130	0	Whiting, breaded or battered, baked	15132	WHITING,MXD SP,RAW	1,171.05	907.20	77.47	907.20	80.0	77.47
26157140	0	Whiting, floured or breaded, fried	15132	WHITING,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26157140	100494	Whiting, floured or breaded, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15132	WHITING,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50

203

TABLE A-2. Listing of FOODCODEs with HABITAT Assignments

Food Code	Mod code	Food Name	Ingredient Code	Ingredient Name	Recipe Weight (grams)	Fish Weight (grams)	% of Prepared Fish in Recipe	Unprocessed Fish Weight (grams)	% Yield	% of Unprocessed Fish in Recipe
SPECIES=Whiting (110)				HABITAT=Marine					(continued)	
26157140	100603	Whiting, floured or breaded, fried W/ CANOLA, SOYBEAN, AND SUNFLOWER OIL	15132	WHITING,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26157140	202630	Whiting, floured or breaded, fried W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS)	15132	WHITING,MXD SP,RAW	1,086.45	907.20	83.50	907.20	88.0	83.50
26157150	0	Whiting, battered, fried	15132	WHITING,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26157150	100778	Whiting, battered, fried W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS;...)	15132	WHITING,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26157150	203463	Whiting, battered, fried W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15132	WHITING,MXD SP,RAW	133.00	100.00	75.19	100.00	85.0	75.19
26157160	0	Whiting, steamed or poached	15132	WHITING,MXD SP,RAW	100.00	100.00	100.00	100.00	79.0	100.00
26100110	0	Fish, NS as to type, cooked, NS as to cooking method	15133	WHITING,MXD SP,CKD,DRY HEAT	100.84	6.90	6.84	9.20	100.0	9.12
26100120	0	Fish, NS as to type, baked or broiled	15133	WHITING,MXD SP,CKD,DRY HEAT	972.08	62.60	6.44	83.47	100.0	8.59
26100120	200264	Fish, NS as to type, baked or broiled W/ BUTTER, NFS	15133	WHITING,MXD SP,CKD,DRY HEAT	972.08	62.60	6.44	83.47	100.0	8.59
26100120	200968	Fish, NS as to type, baked or broiled W/ VEGETABLE OIL, NFS (INCLUDE OIL, NFS)	15133	Whiting,mixed species,cooked,dry heat	970.95	62.60	6.45	83.47	100.0	8.60
26100120	200986	Fish, NS as to type, baked or broiled W/ CORN OIL (INCLUDE MAZOLA CORN OIL; MAZOLA OIL, NFS. ...)	15133	Whiting,mixed species,cooked,dry heat	970.95	62.60	6.45	83.47	100.0	8.60

204

APPENDIX B

STATISTICAL METHODS

Appendix B
Statistical Methods

This appendix describes the statistical methods used to generate point and interval estimates of daily average per capita fish consumption. Point estimates include the mean, 90th, 95th, and 99th percentiles. Mean estimates were generated using ratio estimation techniques. The variance of the mean was estimated using a Taylor series approximation of the deviation of estimates from their expected values. The Taylor series approximations were applied to ultimate clusters, which resulted in an overall estimate of the variance instead of estimating variance components due to sample–design stages. This appendix reports the statistical formulae for generating both the mean estimate and the estimate of the confidence interval about the mean. The estimation of potential bias in the mean estimate is also shown. Methods for generating percentile estimates and 90–percent bootstrap intervals about the percentile estimates are also detailed in this appendix.

Estimation of the Mean and Variance of the Mean

All three CSFII surveys are multistage, stratified–cluster samples with primary sampling units (PSUs) sampled with replacement. Sample weights, which project the data from a sampled individual to the population, are based on the probability of an individual being sampled at each stage of the sampling design. As mentioned in Section 1 of this report, the sample weights associated with each individual reporting two days of consumption data were adjusted to correct for nonresponse bias. These adjusted sample weights, which are recorded in the CSFII data in the variable SAM_WT, record the number of individuals the sampled person represents in the population. For example, a sample weight valued as 22 projects the data from the individual with that sample weight to 22 individuals in the U.S. population.

The ultimate cluster is considered the aggregate of the sampled individuals within a PSU. The ultimate cluster method is supported by the survey design. It is also necessary for estimating the variance of the mean. Because the sample design contains multiple levels, such as stratum and PSU, specific information is necessary to partition the variance–of–the–mean estimate into components. That is, specification of the sample size and population size within each level of sampling is required. However, this information is not inherent in the CSFII data. Rather, CSFII surveys report an adjusted sample weight for each individual who reported two days of consumption data during the survey. As discussed in Section 1 of this report, these survey weights were adjusted to correct for nonresponse bias. Given that only the adjusted weight is available, and not the specific sample and population size in each phase, it was necessary to estimate the mean using ratio estimation techniques and the variance of the mean using the ultimate cluster methodology, which does not partition the variance into sample design components.

The mean, daily average per capita fish consumption for a given habitat type was estimated as the ratio of total fish for given habitat type consumed by the population or

subpopulation, divided by the estimate of the total number of individuals in the population or subpopulation.

Let R_t designate the mean, daily average per capita fish consumption for the tth habitat type. The values of the index "t" are described in Section 2. Then R_t is estimated as

$$\hat{R}_t = \frac{\hat{Y}_t}{\hat{X}} \quad .$$

To estimate the numerator,

$\hat{Y}_t$, or the total daily average fish consumption for the tth habitat type, let

h=stratum	h=1,2,3, ..., 43
l=PSU within stratum	l=1,2
j=individual	j=1,2,3, ..., n_{hi}

and y_{thij} be the daily average "as consumed" (or "uncooked") fish consumption, in grams, from the tth habitat type by the jth individual sampled from the lth PSU in the hth stratum. The survey weight for the jth individual in the lth PSU from the hth stratum is designated w_{hij}.

To estimate

$$\hat{X},$$

the total number of individuals in the population or subpopulation, the variable x_{hij} is valued as 1 if the jth person is in the lth PSU in the hth stratum. Otherwise, x_{hij} is valued as zero.

Then

$$\hat{Y}_t = \sum_{h=1}^{43} \sum_{i=1}^{2} \sum_{j=1}^{n_{hi}} w_{hij} y_{thij}$$

and

$$\hat{X} = \sum_{h=1}^{43} \sum_{i=1}^{2} \sum_{j=1}^{n_{hi}} w_{hij} x_{hij}.$$

To estimate the variance of the mean ($V(R_t)$), first define the linearized variable,

$$\hat{Z}_{thij} ,$$

as

$$\hat{Z}_{thij} = \frac{w_{hij}(y_{thij} - \hat{R}_t)}{\hat{X}} .$$

Thus, the value

$$\hat{Z}_{thij}$$

is the weighted difference between the daily average fish consumption for the jth individual and the estimated mean, daily average per capita fish consumption for the population.

Then, as the first component of the cluster, the values of

$$\hat{z}_{thij}$$

are summed across the n_{thi} sampled individuals in the lth PSU from the hth stratum. That is,

$$\hat{Z}_{thi} = \sum_{j=1}^{n_{thi}} \hat{z}_{thij} .$$

This calculation was performed for each of the two PSUs sampled from a given stratum. The mean of the PSU weighted deviations for each stratum was then determined as

$$\bar{Z}_{th} = \frac{\hat{Z}_{th1} + \hat{Z}_{th2}}{2} .$$

The ultimate cluster variance of the mean was calculated as

$$V(\hat{R}_t) \approx V(\hat{Z}_t)) = \sum_{h=1}^{43} 2[(\hat{Z}_{th1} - \bar{Z}_{th})^2 + (\hat{Z}_{th2} - \bar{Z}_{th})^2].$$

A 90–percent confidence interval about the estimated mean, daily average per capita consumption of fish from the tth habitat was estimated as

$$C.I._{90} = \hat{R}_t \pm 1.645 * (V(\hat{R}_t))^{1/2} .$$

Estimation of the Variance of the Mean Using a Taylor Series Approximation Applied to Ultimate Clusters

To demonstrate that the variance of the mean was estimated using a Taylor Series approximation applied to ultimate clusters, define the function g(X,Y) as Y/X, where Y is the estimated total of the daily average consumption of fish by the population or subpopulation, and X is the estimated population or subpopulation. Notice that the function g(X,Y) is the estimator for the mean, daily average per capita fish consumption, as defined earlier. Let μ_y and μ_x, respectively, be the expected values of the variables Y and X. Then, the function F(X,Y) can be expanded in a Taylor series about these expected values such that

$$F(X,Y) = F(\mu_x,\mu_y)+\partial F_x(\mu_x,\mu_y)(X-\mu_x)+\partial F_y(\mu_x,\mu_y)(Y-\mu_y) + \textit{higher order terms.}$$

$\partial F_x(\mu_x,\mu_y)$ is the first order partial derivative of F with respect to X evaluated at the expected value of X, and $\partial F_y(\mu_x,\mu_y)$ is the first order partial derivative of F with respect to Y evaluated at the expected value of Y. If F(X,Y) is defined as E(g(X,Y)), then

$$E(\frac{\hat{Y}}{\hat{X}}) = \frac{\mu_y}{\mu_x}$$

since $E(X-\mu_x)=0$ and $E(Y-\mu_y)=0$. Therefore, if the higher order terms of the series are considered negligible, the national mean estimator is unbiased.

Define the variance of the estimated mean as V(F(X,Y)). If F(X,Y) is defined as E(g(X,Y)), then

$$V(F(X,Y)) = E[F(X,Y) - F(\mu_x,\mu_y)]^2.$$

Thus, the variance of the mean can be calculated as

$$V(F(X,Y)) = (\partial F_x)^2E(X-\mu_x)^2+(\partial F_y)^2E(Y-\mu_y)^2+2(\partial F_x)(\partial F_y)E(X-\mu_x)(Y-\mu_y) ,$$

which is equivalent to

$$V(F(X,Y)) = (\partial F_x)^2V(X)+(\partial F_y)^2V(Y)+2(\partial F_x)(\partial F_y)Cov(X,Y) .$$

Based on a method suggested by Woodruff (Woodruff 1971), which creates a synthetic variable from the variable portion of the Taylor series variance estimate, the Taylor series variance estimate can be approximated as

$$V(F(X,Y)) = V(Z_i) ,$$

where the synthetic variable is

$$Z_i = \partial F_x(X,Y)x_i + \partial F_y(X,Y)y_i \ .$$

If F(X,Y) is defined as E(g(X,Y)), which in this case is

$$E(\frac{\hat{Y}_t}{\hat{X}}) = \frac{\sum_{h=1}^{43}\sum_{i=1}^{2}\sum_{j=1}^{n_{hi}} w_{hij}Y_{thij}}{\sum_{h=1}^{43}\sum_{i=1}^{2}\sum_{j=1}^{n_{hi}} w_{hij}X_{hij}} \ ,$$

then Z_i becomes Z_{thij} in keeping with the sample design, and

$$Z_{thij} = \frac{-(\sum_{h=1}^{43}\sum_{i=1}^{2}\sum_{j=1}^{n_{hi}} w_{hij}Y_{thij}) * w_{hij}X_{hij}}{(\sum_{h=1}^{43}\sum_{i=1}^{2}\sum_{j=1}^{n_{hi}} w_{hij}X_{hij})^2} + \frac{w_{hij}Y_{thij}}{\sum_{h=1}^{43}\sum_{i=1}^{2}\sum_{j=1}^{n_{hi}} w_{hij}X_{hij}} .$$

After collecting like terms and substituting the estimators for the summations, the previous equation becomes

$$\hat{Z}_{thij} = \frac{w_{hij}(y_{thij} - \hat{R}_t x_{hij})}{\hat{X}} \ .$$

Since X_{hij} is 1 if the jth individual is in the sample, and 0 otherwise, the estimator for Z_{thij} can be expressed as

$$\hat{Z}_{thij} = \frac{w_{hij}(y_{thij} - \hat{R}_t)}{\hat{X}} \ .$$

Notice that this expression of

$$\hat{Z}_{thij}$$

is the weighted difference between the daily average fish consumption for the jth individual and the estimated mean, daily average per capita consumption for the population, as defined previously.

Estimates presented in this report were generated by coding the formulae in SAS, the statistical computing language. The linear approximation to the Taylor series estimate of the variance was used.

Using the synthetic variable Z when there is sampling with replacement at the first stage of the sample design, estimates the variance as defined as

$$Var(Z) = \sum_{h=1}^{H} n_h S^2_h$$

where

$$S^2_h = \sum_{i=1}^{n_h} [z_{hi} - \bar{z}_h]^2 / [n_h - 1]$$

with

$$z_{hi} = \sum_{j=1}^{m_{hi}} z_{hij}$$

and

$$\bar{z}_h = \sum_{i=1}^{n_h} z_{hi} / n_h \ .$$

Notice that if the value 2—for the two PSUs sampled from each stratum with replacement—is substituted for n_h in the previous four equations, then the estimator becomes the ultimate cluster estimator (Shah 1996).

Estimator for the Variance of Mean Consumption

The estimator for the variance of mean consumption presented above calculates the variance of the estimated mean from ultimate cluster estimates using a synthetic variable. This section shows that the variance of the mean, calculated from ultimate cluster estimates using a synthetic variable, is equivalent to the estimator for the variance of the combined ratio estimator for a stratified, multistage, ultimate cluster sample with replacement.

The multistage, ultimate cluster variance estimator for the mean, designated V(R), is

$$V(\hat{R}) \approx \sum_{h=1}^{H} \sum_{i=1}^{n_h} n_h \frac{(z_{hi} - \bar{z}_h)^2}{(n_h - 1)} \qquad (1)$$

where h indexes strata and I indexes the PSUs within strata. In the case of the CSFII surveys, there are two PSUs per stratum.

The variable Z_{hi} designates the ultimate cluster. Therefore, the variance is estimated as a linear combination of the squared deviation of ultimate cluster values from the mean of the ultimate clusters. Ultimate cluster values are estimated as the sum of the synthetic variable Z_{hij} across units within the cluster. In the case of the CSFII surveys, the units within ultimate clusters are the individuals within a PSU. These individuals are indexed by j. Incorporating the definition of the synthetic variable resulting from the Taylor series linearization, the ultimate cluster can be expressed as

$$Z_{hi} = \sum_{j=1}^{m_{hi}} \frac{w_{hij}(y_{hij} - \hat{R}x_{hij})}{\sum_{h=1}^{H}\sum_{i=1}^{n_h}\sum_{j=1}^{m_{hi}} w_{hij}x_{hij}} .$$

Substituting this definition of Z_{hi} into the first equation yields

$$\hat{v}(\hat{R}) = \sum_{h=1}^{H} n_h \sum_{i=1}^{n_h} \frac{1}{n_h - 1}\left[\frac{\sum_{j=1}^{m_{hi}} w_{hij}(y_{hij} - \hat{R}x_{hij})}{\sum_{h=1}^{H}\sum_{i=1}^{n_h}\sum_{j=1}^{m_{hi}} w_{hij}x_{hij}} - \frac{1}{n_h}\sum_{i=1}^{n_h} \frac{\sum_{j=1}^{m_{hi}} w_{hij}(y_{hij} - \hat{R}\ x_{hij})}{\sum_{h=1}^{H}\sum_{i=1}^{n_h}\sum_{j=1}^{m_{hij}} w_{hij}x_{hij}}\right]^2 .$$

Define

$$\hat{X} = \sum_{h=1}^{H}\sum_{i=1}^{n_h}\sum_{j=1}^{m_{hi}} w_{hij}x_{hij}$$

and

$$y_{hi} = \sum_{j=1}^{m_{hi}} w_{hij}y_{hij} \qquad x_{hi} = \sum_{j=1}^{m_{hi}} w_{hij}x_{hij}$$

$$\bar{y}_h = \frac{\sum_{i=1}^{n_h} y_{hi}}{n_h} \qquad \bar{x}_h = \frac{\sum_{i=1}^{n_h} x_{hi}}{n_h} .$$

Applying these definitions to the equation for V(R) and redistributing terms yields

$$\hat{v}(\hat{R}) = \sum_{h=1}^{H} \frac{n_h}{\hat{X}^2} \left[\sum_{i=1}^{n_h} \frac{(y_{hi}-\bar{y}_h)^2}{n_h-1} - \frac{2\hat{R}\sum_{i=1}^{n_h}(y_{hi}-\bar{y}_h)(x_{hi}-\bar{x}_h)}{n_h-1} + \frac{\hat{R}^2\sum_{i=1}^{n_h}(x_{hi}-\bar{x}_h)^2}{n_h-1} \right].$$

Hence,

$$\hat{v}(\hat{R}) = \sum_{h=1}^{H} \frac{n_h}{\hat{X}^2} \left[\hat{s}_{y_h}^2 - 2\hat{R}\hat{s}_{xy_h} + \hat{R}^2 \hat{s}_{x_h}^2 \right] \qquad (2)$$

In order to show equation (1), it is sufficient to show (2).

Since

$$(\hat{R}-R) = \frac{\hat{Y}-R\hat{X}}{\hat{X}}, \quad \text{where} \quad \hat{R} = \frac{\sum_{h=1}^{H}\hat{Y}}{\sum_{h=1}^{H}\hat{X}}$$

$$\text{then} \quad V(\hat{R}) = E(\hat{R}-R)^2 \cong \frac{1}{\hat{X}^2} E\left[\sum_{h=1}^{H}\sum_{i=1}^{n_h} (y_{hi}-R\,x_{hi}) \right]^2$$

$$= \frac{1}{\hat{X}^2} E\left[\sum_{h=1}^{H}\sum_{i=1}^{n_h} [(y_{hi}-\bar{Y}_h)-R(x_{hi}-\bar{X}_h)] \right]^2.$$

Because the strata are independent, the previous equation becomes

$$= \frac{1}{\hat{X}^2} \sum_{h=1}^{H} E\left[\sum_{i=1}^{n_h} (y_{hi}-\bar{Y}_h) - R\sum_{i=1}^{n_h} (x_{hi}-\bar{X}_h) \right]^2.$$

Expanding this equation yields

$$= \frac{1}{\hat{X}^2} \sum_{h=1}^{H} \left[E\left[\sum_{i=1}^{n_h} (y_{hi} - \bar{Y}_h) \right]^2 - 2R E\left[\sum_{i=1}^{n_h} (y_{hi} - \bar{Y}_h)(x_{hi} - \bar{X}_h) \right] + R^2 E\left[\sum_{i=1}^{n_h} (x_{hi} - \bar{X}_h) \right]^2 \right]$$

where

$$E\left[\sum_{i=1}^{n_h} (y_{hi} - \bar{Y}_h) \right]^2$$

$$= \sum_{sample \, \varepsilon h} \left[\sum_{i=1}^{n_h} (y_{hi} - \bar{Y}_h) \right]^2 P(sample \, \varepsilon h)$$

which can be rewritten as

$$= \sum_{sample \, \varepsilon h} \left[\sum_{i=1}^{n_h} (y_{hi} - \bar{Y}_h)^2 + \sum_{i \neq i'}^{n_h} (y_{hi} - \bar{Y}_h)(y_{hi'} - \bar{Y}_h) \right] P(sample \, \varepsilon h).$$

Because the PSUs were sampled with replacement, the previous equation can be stated as

$$= \sum_{i=1}^{N_h} \frac{n_h}{N_h} \left[(y_{hi} - \bar{Y}_h)^2 \right] + \sum_{i \neq i'}^{N_h} \frac{n_h}{N_h} \left[(y_{hi} - \bar{Y}_h)(y_{hi'} - \bar{Y}_h) \right]$$

$$= n_h \left[\sum_{i=1}^{N_h} \frac{(y_{hi} - \bar{Y}_h)^2}{N_h} + \sum_{i \neq i'}^{N_h} \frac{(y_{hi} - \bar{Y}_h)(y_{hi'} - \bar{Y}_h)}{N_h} \right].$$

Further, the PSUs sampled with replacement are independent, yielding

$$n_h \left[\sum_{i=1}^{N_h} \frac{(y_{hi} - \bar{Y}_h)^2}{N_h} + 0 \right],$$

which can be expressed as

$$n_h s_{yh}^2 .$$

Likewise,

$$E\left[\sum_{i=1}^{n_h}(x_{hi}-\bar{X}_h)\right]^2 = n_h s_{x_h}^2, \qquad E\left[\sum_{i=1}^{n_h}(x_{hi}-\bar{X}_h)(y_{hi}-\bar{Y}_h)\right] = n_h s_{xy_h} .$$

Hence,

$$V(\hat{R}) = \frac{1}{\hat{X}^2}\sum_{h=1}^{H} n_h\left[s_{y_h}^2 - 2Rs_{xy_h}^2 + R^2 s_{x_h}^2\right].$$

Thus, as an estimate of

$$V(\hat{R}) ,$$

substituting

$$s_{yh}^2 \rightarrow \hat{s}_{yh}^2, \qquad s_{xh}^2 \rightarrow \hat{s}_{xh}^2, \qquad s_{xyh}^2 \rightarrow \hat{s}_{xyh}^2 ,$$

yields

$$\hat{v}(\hat{R}) \rightarrow V(\hat{R}) .$$

Estimation of Potential Bias in the Mean Estimate

The ratio estimate of the mean was unbiased, provided that the higher order terms in the Taylor series expansion were considered negligible. To assess the validity of this assumption, a bias correction using a second order Taylor series expansion was performed and estimates were compared to the uncorrected estimates.

Again, if F(X,Y) is defined as E(g(X,Y)), then

$$E(g(x,y)) = \frac{\mu_y}{\mu_x} - \frac{COV(\hat{X},\hat{Y})}{E(\hat{X})^2} + \frac{V(\hat{X})E(\hat{Y})}{E(\hat{X})^3} .$$

Thus, bias–corrected means were calculated as

$$\hat{R}_t + \frac{Cov(\hat{X},\hat{Y})}{E(\hat{X})^2} - \frac{V(\hat{X})E(\hat{Y})}{E(\hat{X})^3} .$$

Both uncorrected and bias–corrected mean estimates from the combined USDA 1994, 1995, and 1996 CSFII are listed in Table B.1 and Table B.2. The bias correction was inconsequential for the estimates from the United States population. This was likely due to the large sample sizes. The bias–corrected mean estimates for "consumers only" differed slightly from the uncorrected mean estimates; however, the difference was in the second decimal place. Given that the consumption data were recalled, this difference in the second decimal place was considered inconsequential. Therefore, uncorrected mean estimates were reported in the document.

Percentile Estimates

Denote the pth percentile of the distribution F as θ_p. Define θ_p as

$$\theta_p = \inf\{F(Y) \geq p\}.$$

The cumulative distribution, F(Y), is estimated as

$$F(\hat{Y}) = \sum_{h=1}^{43} \sum_{i=1}^{2} \sum_{j=1}^{n_{hi}} w_{hij}^{*} a_{hij}$$

with

$$w_{hij}^{*} = \frac{w_{hij}}{\sum_{h=1}^{43} \sum_{i=1}^{2} \sum_{j=1}^{n_{hij}} w_{hij}} = \frac{w_{hij}}{\hat{X}}$$

and $a_{hij} = 1$ if $y_{hij} \leq y$; 0 otherwise.

Thus, the pth percentile is estimated as

$$\hat{F}^{-1}(p),\ 0<p<1 .$$

TABLE B.1. BIAS–CORRECTED AND UNCORRECTED ESTIMATES OF MEAN AS CONSUMED FISH CONSUMPTION

Population	Fish Type	Habitat	Uncorrected Estimate (grams/person/day)	Bias–Corrected Estimate (grams/person/day)	Difference (grams/person/day)
U.S.	Finfish	Freshwater/Estuarine	2.87	2.87	0.00
		Marine	6.90	6.90	0.00
		All	9.77	9.77	0.00
U.S.	Shellfish	Freshwater/Estuarine	2.12	2.12	0.00
		Marine	1.26	1.26	0.00
		All	3.37	3.37	0.00
U.S.	Finfish and Shellfish	Freshwater/Estuarine	4.99	4.99	0.00
		Marine	8.16	8.16	0.00
		All	13.15	13.14	0.01
Consumers Only	Finfish and Shellfish	Freshwater/Estuarine	60.78	60.78	0.00
		Marine	79.57	79.59	0.02
		All	94.66	94.65	0.01

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).

(2) Estimates are based on 2-day averages.

(3) Consumers only = Individuals who consumed fish at least once during the 2-day reporting period.
Estimates are projected from the sample to the U.S. population (or population of consumers only) using 3-year combined survey weights.

(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

TABLE B.2. BIAS–CORRECTED AND UNCORRECTED ESTIMATES OF MEAN UNCOOKED FISH CONSUMPTION

Population	Fish Type	Habitat	Uncorrected Estimate (grams/person/day)	Bias–Corrected Estimate (grams/person/day)	Difference (grams/person/day)
U.S.	Finfish	Freshwater/Estuarine	3.58	3.58	0.00
		Marine	8.98	8.98	0.00
		All	12.56	12.55	0.01
U.S.	Shellfish	Freshwater/Estuarine	2.76	2.75	0.01
		Marine	1.60	1.60	0.00
		All	4.35	4.35	0.00
U.S.	Finfish and Shellfish	Freshwater/Estuarine	6.33	6.33	0.00
		Marine	10.58	10.58	0.00
		All	16.91	16.91	0.00
Consumers Only	Finfish and Shellfish	Freshwater/Estuarine	77.14	77.14	0.00
		Marine	103.23	103.25	0.02
		All	121.75	121.74	0.01

(1) Source of data: 1994-1996 USDA Continuing Survey of Food Intakes by Individuals (CSFII).
(2) Estimates are based on 2-day averages.
(3) Consumers only = Individuals who consumed fish at least once during the 2-day reporting period.
Estimates are projected from the sample to the U.S. population (or population of consumers only) using 3-year combined survey weights.
(4) The fish component of foods containing fish was calculated using data from the recipe file of the USDA's Nutrient Data Base for Individual Food Intake Surveys.

Computationally, y_{hij} is arranged in ascending order across all values of the indices. The survey weights associated with the arranged y_{hij} are summed until the first instance when the value of p is exceeded.

Bootstrap Intervals for Percentile Estimates

In addition to point estimates of the median and upper percentiles of the empirical distributions of daily average fish consumption, Sections 4 and 5 report 90–percent interval estimates for the 90th, 95th, and 99th percentiles. Reported interval estimates are nonparametric estimates resulting from bootstrapping techniques reported by Efron (Efron 1982).

The reported bootstrap intervals do not result from direct estimates of the standard deviation of the point estimate. Rather, the bootstrap estimates result from the percentile method, which estimates the lower and upper bounds for the interval estimate by the 100α percentile and $100(1-\alpha)$ percentile estimates from the nonparametric distribution of the given point estimate. This distribution of the observed values of the given point estimate is determined from repeated resampling of the empirical data.

Resampling was conducted, with replacement, in accordance with the structure of the sampling data. In the case of all three CSFII surveys, resampling was conducted at the stratum*PSU level. For each bootstrap sampling iteration, the n_{hij} daily average consumption values in a stratum*PSU were resampled with replacement until the resample contained n_{hij} observations. The frequency of a given consumption value from the stratum*PSU in the resample is determined by either a Poisson or binomial random number generator. If the number of observations remaining to be drawn for the resample at the kth draw, where $0<k\leq n_{hij}$, is greater than 50, and the ratio of the number of observations remaining to be drawn to the number of draws remaining is less than five, then the random number for the frequency the given observation appears in the resample results from a Poisson distribution. The mean of the Poisson distribution is the ratio of the number of observations remaining to be drawn to the number of draws remaining. If the number of observations remaining to be included in the resample is less than or equal to 50, the frequency for the given observation results from a binomial random number generator. The binomial distribution for the random generator has an n equal to the number of remaining draws and a p of one divided by the number of remaining draws. This method is an adaptation of a method provided by Ahrens and Dieter (Kennedy 1980).

As an illustration of the resampling algorithm, suppose there are 129 observations in a given stratum*PSU. At the initiation of the bootstrap resampling, the ratio of the number of

observations remaining to be drawn in the resample to the number of draws remaining is 1. Therefore, a number is generated from a Poisson random number generator with the mean of 1. The number from the random generator determines the number of times the value of the first observation from the original sample is included in the bootstrap resample. Further, suppose that after the 99th draw from the sample, 101 observations were included in the bootstrap resample. For the 100th draw, there are 28 (129–101) observations remaining to be included in the resample. After the 99th draw, there are 30 draws remaining to be conducted. Therefore, the frequency with which the 100th observation in the original sample will appear in the resample is determined from a binomial random generator with n=28 and p=1/30.

One thousand resamples were drawn from each stratum*PSU. For each complete set of strata*PSUs, the given point estimate was calculated as described above. Therefore, if ($x^*_1, x^*_2, x^*_3, \ldots, x^*_{1000}$) represents the 1,000 bootstrap resamples, then let ($p^*_1, p^*_2, p^*_3, \ldots, p^*_{1000}$) represent the resulting estimates of the pth percentile from the 1,000 resamples. The value of the 5th percentile of the empirical distribution of the given percentile estimate from the bootstrap resamples ($p^*_{5\%}$) is the lower bound for the 90–percent bootstrap interval estimate. Likewise, the value of the 95th percentile from the distribution of bootstrap estimates ($p^*_{95\%}$) is the upper bound estimate for the 90–percent interval estimate. The central point of the estimated 90–percent interval is not necessarily the reported value of the pth percentile estimate; this is due to the asymmetry of the distribution of the percentile estimates.

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