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Chemical and Nutritional Composition of Finfishes, Whales, Crustaceans, Mollusks, and Their Products

Virginia D. Sidwell

January 1981

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service

NOAA Technical Memorandum NMFS

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VIRGINIA D. SIDWELL[1]

ABSTRACT

This report summarizes data from 1,204 publications referring to the composition of finfishes, whales, crustaceans, and mollusks and their products. Also it includes some data that were generated at the National Marine Fisheries Service College Park/Charleston Laboratory which were not previously published. It tends to be worldwide in scope since it reports work done by the scientists in foreign countries, as well as in the United States. The Systematic Index lists in alphabetical order the biological names of approximately 1,500 finfishes, whales, and shellfishes on which there are some composition data. This summary includes data on proximate composition, selected fatty acids, cholesterol, macroelements, microelements, and vitamin content of seafoods and their products.

INTRODUCTION

Sidwell et al. (1974) described the data bank on the chemical and nutritional composition of seafoods, which was established at the Southeast Fisheries Center's College Park/Charleston Laboratory of the National Marine Fisheries Service, NOAA. In that publication the investigators outlined the system employed for the management and retrieval of the data, as well as a summary of the data on protein, fat, moisture, ash, carbohydrate, energy (calories), and cholesterol. Three interim reports were published by Sidwell et al. (1977, 1978a, b), which summarized the data on the macroelement, microelement, and vitamin content of the raw (fresh or frozen) edible portion of seafoods.

The primary objectives of this project are: 1) to develop a comprehensive, systematic data retrieval system containing available information on the chemical and nutritional composition of fish and fishery products; 2) to publish as completely as possible information on the nutrients found in fishery products; and 3) to point out areas in chemical composition of finfishes, whales, and shellfishes, needing further investigations.

DISCUSSION

This paper covers the data recorded in 1,204 scientific publications and includes some data that were generated at the College Park Laboratory and not previously published. The paper also reviews work done by scientists in the United States and in foreign countries; therefore, it is worldwide in scope. The Systematic Index lists, alphabetically, the scientific names of approximately 1,500 species of finfish and shellfish for which there are some composition data.

Each investigator reported an average figure obtained either from several determinations on a composite sample of fish or fishery products or from a single determination on each of a number of fish. In the latter instance, the investigator reported the average and the range of the results obtained from the analyses. Both types of averages were used in this paper to calculate the overall average and range. The range of values for each constituent in the composition of a species of finfish or shellfish is sometimes quite large, as seen in Tables 1 through 24. A portion of this variation is undoubtedly due to seasonal and biological differences: size of animal, age, sex, degree of maturity, and environment. Also, a part of the variability may be associated with the differences in analytical methods applied by the various investigators to determine the amount of the component in fish. Many species of finfish and shellfish listed in Tables 1 through 24 have only one or two values associated with a specific constituent. In such cases, the limited number of values will give only an estimate of the amount of the component in seafoods; more data are needed to obtain a value that possesses any degree of reliability.

In each table, the finfishes, crustaceans, and mollusks are listed alphabetically by common name along with the scientific name. Sometimes the original data were identified by common and scientific family names and pooled under the family name. When the aquatic animal was listed by its common name only, the category was described as "unspecified." Although the common name of many species of finfishes, crustaceans, and mollusks varies with localities, the tables could not contain all the common names associated with a species; therefore, only the most commonly used names are listed in the General Index.

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The scientific names are listed alphabetically in the Systematic Index. The following references were used to identify the scientific names: Herre (1953), Smith (1961), Organisation For Economic Co-operation and Development (1968), Bailey et al. (1970), Love (1970), Abbott (1974), and Wheeler (1975).

With each set of data there is a brief description of the sample used in the analysis, e.g., muscle, raw; whole, raw; cooked; etc.

The data presented in the various tables were taken from the scientific papers listed in the bibliography.

Tables 1, 2, and 3 record the proximate composition of seafoods and their products. The variability in fat and moisture content, especially in raw seafood, is due mainly to natural seasonal variation, age, size, area of catch, and type of aquatic animal. The factors that influence the fat and moisture content do not cause much variation in protein and ash content, especially in the edible portion.

The carbohydrate content in the seafood was calculated by difference, i.e., the sum of the percentage of protein, fat, ash, and moisture subtracted from 100% equals percent carbohydrate. The carbohydrate content in fish flesh is known to be low.

The variability in the fat content is reflected in the energy values (calories) listed in the aforementioned tables. The values were calculated by the following formula: Estimated energy value = (protein × 4) + (fat × 9) + (carbohydrate × 4).

Ash content of the flesh of finfishes and crustaceans is about 1.0% ± 0.5%. Some of the variability may be associated with the bones or viscera that were not totally removed during the filleting or cleaning process. The ash values will be 2 or 3 times greater when the whole fish is used in the analyses. Additions of salt and removal of water during processing further increase the ash content. Oftentimes mollusks, e.g., oysters or mussels, are eaten whole, so the corresponding ash values will be at the high end of the range.

With few exceptions, the protein content of the raw flesh of finfish is about 20 ± 2%. It will be lower if the whole fish is used in the analysis due to higher fat and ash content. In some instances, for a few species of mollusks, like oysters or mussels, the protein will be notably lower than that in finfishes. The crustaceans, especially shrimp, are slightly higher than finfishes.

Amino acid profiles of some finfishes and shellfishes are tabulated in Tables 4, 5, and 6. They are reported as percent of the total protein (6.25 × N).

Selected fatty acids of the total fat of finfish and shellfish muscles are listed in Tables 7, 8, and 9. In this category the data on the composition of total fat are limited.

Cholesterol content, total and free, is listed in Tables 10, 11, and 12. In this paper the data are limited in scope. The following generalization can be made: Finfish muscle is low in total cholesterol, especially in the so-called "low-fat fish." In mollusks and crustaceans, cholesterol tends to be 2 to 3 times greater than found in finfishes. In general, these values should be considered as estimates since the variability associated with age, size, sex, season, and spawning is not identified.

Listed in Tables 13, 14, and 15 are the values for some of the nutritionally important macroelements—sodium, potassium, calcium, phosphorus, and magnesium. In general, raw fish flesh, especially that of freshwater finfish, is relatively low in sodium content. Shellfish tend to contain higher levels of sodium. Seafood is an excellent source of potassium. Fish can be a good source of calcium if, like sardines, they are consumed with bones. Phosphorus in the bones and/or flesh contributes significantly to a person's daily needs.

Magnesium is a nutritionally important element. The amount found in aquatic animals may be influenced largely by the amount present in the environment. The physiological need of the element by the aquatic animal has not been established. In the higher forms of terrestrial animals this element functions in the enzyme system active in carbohydrate metabolism. Most of the limited number of values fall between 20 and 40 mg/100 g of raw flesh.

Fish flesh contains many of the elements found in seawater. Some of these are nutritionally important, both to the animal and to the person who consumes the flesh of the animal; others may be a detriment. Listed in Tables 16 to 22 are 22 elements that are found in varying amounts in seafood flesh.

The literature we reviewed contains minimal information on: 1) the physiological need for microelements in fish muscle; 2) the physiological interrelationships between the elements; and 3) how much of an element can be expected to be naturally present in the fish muscle.

Excellent and reliable data on the microelement content of the flesh of commercially and recreationally important species harvested from the coastal waters of the United States, Hawaii, and Alaska can be found in the paper by Hall et al. (1978). These data (not included in this paper) were generated over a period of 5 yr at the College Park Laboratory. Hall et al. (1978) does not fill the gaps that are evident in this paper.

Listed in Tables 22, 23, and 24 are the following vitamins: Vitamin A, thiamine, riboflavin, niacin, ascorbic acid, folic acid, and vitamin B_{12}. More extensive coverage of the vitamin content of seafoods is in the fourth interim report by Sidwell et al. (1978b). Even from the limited and scattered data, we can assume that seafood is a good source of the vitamins: niacin, riboflavin, and vitamin B_{12}.

In conclusion, as to the relevancy of the data summarized in this publication, it is important for the reader to keep in mind the important biological, physiological, and geographical differences that are present for the various species of aquatic animals we have included. The animal under investigation should be clearly identified by the systematic name, place and time of catch, and physiological status (e.g., size, sex, state of spawning, length of time out of the water, etc.). Also, there should be a normal range of values corresponding to at least 1 yr of collections for at least two sizes and/or ages. The species of fish should be sampled at least once a month.

Such background information is necessary to obtain the most useful meaning out of the present data base. Clearly, such information is critical if we are to be able to deduce why differences occur in the composition of a single species of fish that is procured from different places and analyzed by different investigators.

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Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Ainame *Hexagrammos otakii*	Muscle Raw	79.8	17.5	1.1	1.4	0.2	86
Alewife *Alosa pseudoharengus*	Muscle Raw	73.9[3] 65.9-79.9[4] 85[5]	17.3[3] 11.7-20.4[4] 92[5]	6.8[3] 2.9-15.2[4] 95[5]	1.6[3] 1.2-2.7[4] 87[5]	0.4	132
	Whole Raw	71.6 64.4-79.0 14	14.0 11.3-16.1 14	11.6 6.1-18.8 14	2.8 1.7-3.9 14	0	160
	Canned	73.0	16.0	7.9	2.4	0.7	138
	Fishmeal	3.8	65.7	12.9	14.6	3.0	391
	Offal Raw	70.2	15.6	10.1	3.1	1.0	157
	Roe Raw	73.0	16.0	7.9	3.4	0	135
Alfoncino *Beryx splendens*	Muscle Raw	75.9	18.5	4.5	1.0	0	115
Amberjack, Greater *Seriola dumerili*	Muscle Raw	73.9 73.3-74.4 2	18.9 15.4-20.8 3	8.7 0.8-21.2 3	1.1 1.0-1.1 2	0	154
	Dried	14.1 12.2-15.0 3	54.6 54.0-54.9 3	4.6 4.5-4.6 3	28.4	0	260
Amberjack, King *Seriola dorsalis*	Muscle Raw	75.0 73.4-77.5 4	21.1 19.1-22.5 4	2.8 1.0-4.0 4	1.2 1.1-1.3 3	0	100
Amberjack, Philippine *Hynnis momsa*	Muscle Raw	75.6 74.4-76.3 3	21.3 21.0-21.6 3	1.0 .4-1.7 3	1.4 1.4-1.5 3	0.7	97
Amberjack, Yellowtail *Seriola quinqueradiata*	Muscle Raw	71.7 67.6-74.8 17	21.1 16.9-22.6 15	6.1 2.0-13.9 17	1.2 1.0-1.6 12	0	138
	Canned In Oil, Smoked	42.9	27.2	22.4	7.5	0	310
	Roe Raw	73.2 65.8-80.5 2	16.8 10.4-23.2 2	3.8 0.7-6.9 2	1.5 1.4-1.5 2	4.7	120
Anchoveta *Engraulis mysticetus*	Whole Fishmeal	6.4	64.5	11.4	16.9	0.8	363
Anchoveta *Engraulis ringens*	Whole Fishmeal	7.6 7.4-7.7 2	66.0 64.9-67.0 2	8.2 7.8-8.6 2	13.7 12.9-14.5 2	4.5	356
Anchovy *Engraulis mystax*	Muscle Raw	69.3	19.3	9.6	1.6	0	164

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Anchovy, Ca'Moi *Coilia lindmani*	Muscle Raw	77.3	20.6	0.2	1.0	0.9	88
Anchovy, European *Engraulis encrasicholus*	Muscle Raw	75.3 72.4-79.1 9	20.1 15.3-23.5 8	2.3 1.7-3.6 8	1.9 1.1-2.1 7	0.4	103
	Canned In Olive Oil	42.7	19.9	26.2	11.2	0	316
	Whole Raw	71.8 68.1-75.5 2	18.0 15.3-21.0 3	2.7 1.0-4.4 2	6.4 2.9-9.9 2	2.1	105
	Dried	22.7	50.4	4.9	23.2	0	259
	Dried & Smoked	20.2	55.8	7.8	16.2	0	293
	Salted	60.0	20.0	8.5	(11.5)[6/]	0	159
	Salted & Dried	11.5	61.9	4.4	22.2	0	287
	Salted & Fermented	48.0	28.8	1.3	(31.9)	0	127
Anchovy, Longjaw, Bilis *Stolephorus heterolubus*	Whole Raw	84.1	13.2	1.0	1.5	0	62
	Cooked Boiled	68.1	22.0	2.0	8.2	0	106
	Dried	30.7	45.8	4.0	17.2	2.3	228
Anchovy, Longjaw, Delis *Stolephorus commersonii*	Muscle Raw	79.5	18.2	0.7	1.2	0.4	81
	Whole Raw	76.3 73.7-81.0 5	18.3 15.7-20.7 5	1.2 0.8-1.4 5	2.9 2.4-3.6 5	1.3	89
	Dried	19.3 16.7-22.0 2	59.2 49.8-68.7 2	3.6 3.0-4.2 2	16.0 13.3-18.7 2	1.9	277
	Salted & Dried	14.8 9.1-18.7 3	70.2 62.0-83.9 3	2.1 1.5-2.6 2	13.5 13.3-13.7 2	0	300
	Salted & Fermented	64.3	14.3	1.0	20.6	0	66
	Fishmeal (extracted)	4.4 1.9-9.3 4	78.9 76.7-80.3 4	0.0 0.0-0.0 4	14.2 13.2-15.3 4	2.5	326
Anchovy, Mandali *Coilia dussumieri*	Muscle Raw	77.1	15.0 14.6-15.4 2	0.6	1.5	6.2	90
	Salted & Dried	31.1	52.6	5.4	(10.9)	0	259
Anchovy, Northern *Engraulis mordax*	Whole Raw	71.2 59.7-80.7 17	13.8 11.0-16.5 17	10.7 3.5-24.6 17	3.8 1.9-6.2 17	0	152
	Deboned Raw	72.4 59.2-82.8 16	12.9 10.5-14.4 16	12.7 3.9-26.7 16	2.6 1.5-3.4 16	0	166
	FPC[7/]	2.8 2.0-3.9 16	90.7 79.5-98.0 16	0.5 0.1-1.2 16	9.3 4.8-19.1 16	0	367

Table 1.--Proximate composition of finfishes , whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Anchovy, Pacific *Engraulis japonicus*	Muscle Raw						
	Dark meat	74.6	19.9	3.8	1.5	0.2	115
	Light meat	77.8	20.8	0.5	1.6	0	88
	Whole Raw	70.3 65.2-75.4 2	16.6 15.2-18.0 2	4.8 1.2-8.5 2	5.2 4.8-5.7 2	3.1	122
Anchovy, Striped *Anchoa hepsetus*	Whole Raw	76.6 74.2-78.1 24	17.3 16.2-18.9 24	2.8 1.6-4.6 23	3.3 2.5-4.1 23	0	94
Anchovy, Whitebait *Stolephorus tri*	Whole Raw	78.6 78.0-79.1 2	15.0 14.5-15.5 2	1.6 1.4-1.8 2	2.7 2.5-2.9 2	2.1	83
	Dried	26.0	45.9	3.0	(15.2)	9.9	250
Anchovy Engraulidae	Muscle Raw	75.2 73.1-76.9 4	19.6 16.7-21.8 4	3.1 0.4-6.0 4	2.2 1.7-2.6 3	0	106
	Dried	13.4	68.2	4.0	4.4	10.0	349
	Salted & Dried	20.7	67.5	3.3	8.4	0	400
	Whole Raw	76.5 75.9-77.1 2	17.1 16.4-17.7 2	2.9 2.2-3.5 2	3.5 3.5-3.6 2	0	95
	Dried	27.6 16.0-44.8 5	54.9 37.8-69.0 5	3.4 1.6-5.5 5	14.2 11.3-15.8 5	0	251
	Paste	55.7	20.6	12.1	7.1	4.5	210
	Salted	65.7 62.8-68.7 2	9.5 9.5-9.6 2	2.1 1.9-2.2 2	20.6 16.7-24.5 2	2.1	65
	Salted & Dried	27.8 24.8-30.9 2	39.6 36.1-43.1 2	4.6 2.3-6.8 2	28.9 27.0-30.8 2	0	200
	Fishmeal	6.8 3.1-8.2 6	64.7 50.3-71.4 7	7.8 3.3-13.4 8	17.1 14.5-26.1 7	3.6	343
Angelfish, Queen *Holacanthus ciliaris*	Muscle Raw	79.7	20.3	0.2	1.1	0	83
Angelfish, Sea Bat *Platax pinnatus*	Muscle Raw	79.9	18.6	0.5	1.0	0	79
Argentine, Atlantic *Argentina silus*	Whole Fishmeal	6.4	76.1	8.6	9.2	0	382
Bamboofish *Sarpa salpa*	Muscle Raw	74.5 72.1-76.1 6	19.7 19.1-21.3 7	2.8 0.8-4.6 7	2.0 1.0-4.5 7	1.0	108
Barbel, Southern *Barbus meridionalis*	Muscle Raw	81.2	16.7	1.4	1.1	0	79
Barracouta *Thyrsites atun*	Muscle Raw	71.9 65.6-85.0 9	21.9 21.0-22.4 8	5.0 2.5-6.7 9	1.7 1.3-1.9 8	0	132

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Dressed Raw	68.5 67.8-70.0 3	20.0 19.6-20.4 3	6.2 4.3-7.4 3	3.9 3.6-4.1 3	1.4	110
	Offal Raw	65.6 65.0-66.3 3	16.5 16.3-16.9 3	7.1 6.2-8.0 3	8.0 7.5-8.8 3	2.8	106
Barracuda Sphyraena japonica	Muscle Raw	77.9	18.6	3.5	1.5	0	106
Barracuda Sphyraena obtusata	Muscle Raw	77.5	19.0	1.1	1.1	1.3	91
	Dressed Raw	(73.5)	19.9	5.5	1.8	0	129
Barracuda Sphyraena vulgaris	Muscle Raw	75.8 74.8-76.8 2	21.0	1.4 0.6-2.1 2	1.6 1.4-1.7 2	0	97
Barracuda, Great Sphyraena barracuda	Muscle Raw	77.9	20.0	1.2	1.3	0	91
Barracuda, Guaguanche Sphyraena guachancho	Muscle Raw	78.0	20.5	0.5	1.0	0	87
	Whole Smoked	22.1	58.4	3.8	13.7	2.0	276
Barracuda, Pacific Sphyraena argentea	Muscle Raw	74.5 72.3-76.6 2	21.2 20.5-21.8 2	3.1 1.5-4.6 2	1.4	0	97
Barracuda, Red Sphyraena pinguis	Roe Raw	66.8	21.9	8.7	1.6	1.0	170
Barracuda, Striped Torcillo Sphyraena jello	Muscle Raw	77.2 75.6-79.4 5	19.3 18.4-20.6 5	0.9 0.2-1.4 5	1.6 1.2-1.8 5	1.0	89
	Dressed Raw	75.5	20.1	1.4	1.8	1.2	98
Barracuda Sphyraenidae	Muscle Raw	76.3 67.9-78.6 7	19.6 18.6-21.9 7	2.0 0.3-5.0 7	1.9 1.2-4.9 7	0	96
	Smoked	24.1	58.4	3.8	13.7	0	268
Bass, Sea Diplectrum radiale	Muscle Raw	80.8	18.0	0.3	1.1	0	75
Bass, Sea Paralabrax humeralis	Muscle Raw	78.8 78.3-79.2 2	18.0 16.8-19.2 2	1.5 1.4-1.6 2	1.2 1.1-1.3 2	0.5	88
	Salted	46.6	34.9	2.8	14.9	0	165

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Bass, Sea, Bank *Centropristes ocyurus*	Whole Raw	76.3	17.3	1.5	5.8	0	72
Bass, Sea, Black *Centropristes striatus*	Muscle Raw	78.5 77.3-79.5 6	18.4 18.0-18.9 6	1.7 0.8-3.0 7	1.1 0.9-1.2 6	0	89
	Cooked Baked	52.9	16.2	15.8	3.7	11.4	253
	Whole Raw	74.3	14.3	6.1	3.2	2.1	121
	Offal Raw	69.8 66.3-73.2 4	16.4 15.6-17.4 4	7.2 5.3-9.5 4	6.3 2.9-8.4 4	0	130
	Roe Raw	76.5	16.9	3.8	1.6	1.2	107
Bass, Sea, Cabrilla *Paracentropristes cabrilla*	Muscle Raw	77.0 76.3-77.7 2	20.0 18.8-21.2 2	1.3 0.8-1.7 2	1.3 1.2-1.4 2	0	92
Bass, Sea, Cherlo *Acanthistius pictus*	Muscle Raw	76.2	18.8	3.1	1.5	0	93
Bass, Sea, Japanese *Lateolabrax japonicus*	Muscle Raw	75.9 74.0-77.4 4	18.4 18.0-19.0 3	3.2 0.8-6.6 5	1.2 1.1-1.2 4	1.3	108
Bass, Sea, Kelp *Paralabrax clathratus*	Muscle Raw	79.6	20.1	0.1	1.1	0	81
Bass, Sea Serranidae	Muscle Raw	78.3 74.5-80.8 9	19.1 15.0-21.0 8	1.6 0.4-3.7 9	1.3 1.2-1.5 7	0	90
	Cooked Baked With Shrimp	67.4	19.6	5.6	1.8	5.6	151
	Oven-fried	60.8	21.5	8.5	2.5	6.7	189
	Steamed	73.3	19.5	5.1	(2.1)	0	124
	Roe Raw	73.9	15.7	7.3	1.5	1.6	135
Bass, Temperate, Rabaliza *Morone labrax*	Muscle Raw	77.9 74.8-80.4 11	18.5 16.1-20.0 11	1.6 1.0-4.4 11	1.3 1.0-2.0 9	0.7	91
	Dark meat	70.1 60.6-78.2 4	13.4 12.6-14.3 4	6.8 4.7-24.0 4	1.1 1.1-1.2 4	8.6	163
	Whole Raw	71.9 70.2-73.6 2	15.5 15.2-15.8 2	4.6 3.3-5.9 2	4.7 4.6-4.8 2	3.3	117
Bass, Temperate, Striped *Morone punctata*	Muscle Raw	78.4 77.7-78.8 3	18.8 18.4-19.2 2	1.4 1.3-1.4 2	1.2 1.1-1.3 2	0	88

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Bass, Temperate, Striped Morone lineatus	Muscle Raw	77.2	19.6	3.3	1.3	0	108
Bass, Temperate, Striped Morone saxatilis	Muscle Raw	79.2 77.5-80.6 4	17.3 16.4-18.8 3	2.3 1.5-2.9 3	1.0 0.9-1.1 3	0	90
	Offal Raw	70.0 66.0-74.0 2	16.1 15.7-16.4 2	8.3 4.4-12.1 2	4.9	0.7	142
Bass, Temperate, White Morone chrysops	Muscle Raw	77.0 74.7-78.8 4	18.2 17.7-18.9 4	3.1 2.3-4.5 4	1.5 1.0-2.9 4	0.2	92
	Whole Raw	70.8 69.8-71.8 2	15.5 15.0-15.9 2	8.4 8.3-8.5 2	4.6 4.3-4.8 2	0.2	92
Bass, Temperate Percichthyidae	Muscle Raw	76.5 75.7-77.7 4	18.7 17.8-19.3 4	3.5 2.1-4.5 5	1.1 1.1-1.2 4	0	106
Batfish, Silvery Psettes sebae	Muscle Raw	76.0	20.7	2.0	1.3	0	101
Big-eye Scombrop boops	Muscle Raw	68.9	19.5	10.0	1.6	0	168
Blacktail Oblata melanura	Muscle Raw	76.0 75.6-76.4 2	20.0 18.9-21.0 2	3.1 1.3-4.8 2	1.4 1.3-1.4 2	0	108
Bleak Alburnus lucida	Muscle Raw	72.9	15.7	8.1	3.3	0	136
Bleeker Pseudorhombus neglectus	Muscle Raw	80.2 80.1-80.3 3	17.4 17.4-17.4 3	0.5 0.5-0.5 3	1.6 1.6-1.6 3	0	74
Blenny Enedrias nebulosus	Muscle Raw	75.1	19.0	2.4	3.4	0	98
Bloater Coregonus hoyi	Muscle Raw	66.7 64.0-69.3 2	19.0	14.0	2.0	0	202
	Canned	69.0	16.2	5.8	1.8	7.2	146
	Cooked Grilled	55.6	22.6	17.4	(4.4)	0	247
	Paste	55.6	20.1	12.0	6.7	5.6	211
Bluefish Pomatomus saltatrix	Muscle Raw	75.0 72.9-77.5 7	20.6 18.6-21.6 6	3.8 1.5-7.4 7	1.5 1.1-2.4 6	0	96
	Salted & Dried	12.0	58.9	2.3	26.8	0	256

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Bluefish Pomatomidae	Muscle Raw	76.8 69.0-81.4 6	19.2 19.1-19.4 2	3.3 1.2-7.4 3	1.4 1.3-1.4 3	0	107
	Cooked Baked	69.8 68.0-72.2 3	26.6 25.9-27.2 2	4.5 4.2-4.7 2	1.1 0.8-1.4 2	0	146
	Broiled	66.7	25.2	6.3	2.1	0	158
	Fried	60.8	22.7	9.8	2.0	4.7	200
	Steamed	73.0	19.7	4.5	1.9	1.0	125
	Unspecified[8/]	68.2	25.9	4.5	1.2	0	144
Bombay Duck Harpodon nehereus	Muscle Raw	89.6 89.1-90.3 3	8.8 8.4-9.1 3	4.0 3.5-4.5 2	0.7	0	71
	Dressed Dried	22.4 9.7-38.5 4	54.6 52.1-57.2 2	3.6 2.2-4.1 4	14.4	5.0	271
Bonito Auxis bisus	Muscle Raw	67.8	24.8	2.6	1.4	3.4	136
Bonito, Atlantic Sarda sarda	Muscle Raw	70.7 64.5-75.1 10	23.2 18.8-29.3 9	5.5 1.5-11.5 9	1.5 1.3-2.0 9	0	142
Bonito, Pacific Sarda chiliensis	Muscle Raw	68.6 65.8-73.7 5	22.9 22.6-23.5 5	6.8 2.6-10.2 4	1.5 1.4-1.6 4	0	159
	Salted & Dried	44.0	32.3	5.1	15.2	3.4	189
	Roe Raw	75.5	17.2	3.0	1.5	2.8	107
Bonito Scombridae	Muscle Raw	73.9 68.9-78.2 7	20.5 15.4-24.7 7	2.5 0.5-4.2 6	1.4 1.3-1.8 6	1.7	111
	Cooked Roasted	69.9 23.9	24.0 53.4	3.7 3.0	1.6 9.6	0.8 10.1	118 281
	Dried	13.8-44.0 3	32.3-74.5 2	1.9-5.1 3	4.0-15.2 2		
	Roe Raw	78.3	17.2	3.0	1.5	0	95
Bowfin, Mudfish Amia calva	Muscle Raw	77.1	20.1	1.4	1.4	1.5	99
	Whole Raw	76.2	15.5	1.5	3.6	3.2	88
Bream, Bronze Abramis brama	Muscle Raw	78.7 78.4-79.0 2	16.2 16.0-16.4 2	4.1 4.0-4.2 2	(1.0)	0	102
	Whole Fishmeal	12.4 11.8-13.1 2	72.2 67.7-76.6 2	7.2 1.9-12.5 2	(8.2)	0	354

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Bream, Gilthead *Chrysophrys aurata*	Muscle Raw	77.0 74.8-78.9 5	19.4 17.3-20.3 7	2.2 0.5-3.3 6	1.3 1.1-1.5 6	0	97
Bream, Mud *Acanthopagrus berda*	Muscle Raw	75.6 73.6-76.6 6	21.1 20.5-21.8 6	1.1 0.2-1.9 6	1.6 1.3-2.5 6	0.6	97
	Salted & Dried	43.1 42.8-43.8 3	34.3 34.3-34.3 3	6.2 6.2-6.2 3	15.7 15.7-15.7 3	0.7	195
Bream, Red *Beryx decadactylus*	Muscle Raw	78.5	17.9	2.2	1.2	0.2	92
Bream, Sea *Dentex canariensis*	Muscle Raw	77.9	18.7	1.2	2.1	0	86
Bream, Sea *Dentex maratanus*	Muscle Raw	78.8 77.6-80.0 2	18.7 18.6-18.7 2	2.5 2.2-2.8 2	1.4 1.3-1.5 2	0	97
Bream, Sea, Pagre *Pagrus pagrus*	Muscle Raw	76.6	20.3	1.5	1.5	0.1	95
Bream, Sea, Red *Chrysoshrys major*	Muscle Raw	77.0 70.4-80.6 6	18.8 13.6-22.7 7	2.2 0.2-4.3 6	1.3 1.2-1.5 4	0.7	98
	Roe Raw	74.6	18.0	4.8	1.4	1.2	120
Bream, Sea, Yellow *Taius tumifrons*	Muscle Raw	76.3 76.0-76.6 2	19.4	3.0	1.3	0	105
Bream, Southern *Stenotomus oculeatus*	Whole Raw	73.0	18.7	4.2	4.3	0	113
Bream, Tooched *Dentex vulgaris*	Muscle Raw	77.1 75.6-77.8 4	18.8 16.7-21.4 5	2.7 1.0-3.5 5	1.4 1.2-1.6 5	0	105
Bream, White, Sargo *Diplodus sargus*	Muscle Raw	73.9 66.1-77.6 4	19.5 17.3-20.8 5	3.6 0.8-9.6 5	2.1 1.5-3.5 5	0.9	114
	Salted & Dried	12.8 11.5-13.5 3	55.6 55.6-55.6 3	3.3 3.3-3.3 3	29.7 29.6-29.8 3	0	255
Brill *Rhombus laevis*	Muscle Raw	78.3 76.3-81.4 5	17.7 15.9-19.4 6	2.0 0.1-4.7 6	1.6 1.2-1.8 5	0.4	92
Brill, Rough Scaled *Pseudorhombus oligodon*	Muscle Raw	76.8 76.0-78.1 3	19.4 15.7-20.5 3	2.7 0.2-6.5 3	1.3 1.0-1.6 3	1.1	106
Bumper, Atlantic *Chloroscombrus chrysurus*	Whole Raw	72.8 70.0-79.1 3	18.4 18.0-19.1 3	5.1 0.4-11.0 2	4.1 3.9-4.2 4	0	120

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Burbot Lota lota	Muscle Raw	81.1 80.1-82.6 5	17.6 16.3-19.2 4	0.8 0.4-1.2 5	1.3 1.0-1.9 4	0	78
	Whole Raw	78.1	15.2	3.7	2.8	0.2	95
	Fishmeal	10.5	66.2	6.6	16.4	0.3	324
Butterfish Peprilus tricanthus	Muscle Raw	71.9 64.0-80.0 8	17.3 16.3-18.2 8	11.2 5.1-17.3 7	1.4 1.0-2.2 6	0	114
	Cooked Fishloaf	73.1	19.8	0.5	0.5	6.1	109
	Whole Raw	76.7 68.2-79.3 24	16.5 14.4-18.3 25	4.2 1.3-13.8 24	2.7 1.9-3.5 24	0	104
	Offal Raw	72.7 68.7-77.4 3	14.8 14.4-15.4 3	8.7 4.6-13.0 3	3.0 2.8-3.1 3	0.8	141
Butterfish, Black Stromateus niger	Muscle Raw	76.6 70.6-80.6 6	17.9 15.3-20.3 7	2.2 1.0-4.0 6	1.3 .4-2.2 6	2.0	99
Butterfish, Silver Stromateus cinereus	Muscle Raw	74.8 71.0-78.4 5	17.9 15.1-22.7 7	3.5 1.3-4.9 3	1.5	2.3	112
Butterfish Stromateidae	Muscle Raw	75.9 70.0-79.1 3	18.7 18.0-19.1 3	5.7 0.4-11.0 2	1.4 1.2-1.6 3	0	126
Butterflyfish, Ca Chix Coradion altiveltis	Muscle Raw	79.7	18.7	0.4	0.9	0.3	78
Butterflyfish Chaetodontidae	Muscle Raw	77.6 75.1-78.9 4	20.1 19.7-21.0 4	0.3 0.6-2.9 4	1.2 1.1-1.3 4	0.8	86
Caesio, Golden Caesio chrysozonus	Muscle Raw	78.9 78.7-79.4 5	19.4 19.2-19.5 5	0.7 0.6-1.0 5	1.3 1.2-1.4 5	0	84
	Dried	38.4	44.6	4.9	8.3	3.8	222
Caesio, Golden Caesio cuning	Muscle Raw	77.9 77.5-78.1 5	20.0 18.9-20.6 4	0.7 0.3-0.8 5	1.4 1.3-1.6 5	0	86
Caesio, Moon Caesio lunaris	Muscle Raw	77.7	19.4	0.6	1.3	1.0	78
Caesio, Sulid Caesio caerulaureus	Muscle Raw	80.0	17.4	0.9	1.5	0.2	74
Capelin Mallotus villosus	Muscle Raw	81.8	15.0	3.1 2.6-3.4 3	(0.6)	0	88

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Whole						
	Raw	80.0	14.1	4.1	2.1	0	93
		75.6-82.3	13.0-15.3	2.1-10.3	.1-3.2		
		28	25	29	21		
	Fishmeal	13.6	68.4	8.8	8.3	.8	353
Carp	Muscle						
Chela bacila	Raw	77.5	14.6	4.3	2.1	1.5	103
Carp	Muscle						
Cyprinus carpio	Raw	76.2	17.4	5.9	1.1	0	125
		67.3-80.7	12.3-20.9	1.3-14.8	1.0-1.5		
		33	31	30	25		
	Cooked						
	Boiled	75.2	16.2	6.5	1.1	1.0	128
	Whole						
	Raw	71.6	14.0	9.6	3.2	1.6	149
	Offal						
	Raw	64.0	16.1	14.3	6.7	0	193
		63.3-64.9	14.8-17.4	9.8-18.0	3.6-9.3		
		3	3	3	3		
Carp	Muscle						
Leuciscus souffia	Raw	78.9	19.2	1.0	1.3	0	86
Carp, Bata	Muscle						
Labeo bata	Raw	75.1	15.9	3.2	2.0	3.8	92
		67.3-79.9	14.1-19.4	.1-8.8	1.6-2.2		
		5	5	5	5		
Carp, Chevenne	Muscle						
Leuciscus cephalus	Raw	78.7	17.8	2.7	1.2	0	96
		77.9-79.1	15.6-19.0	1.3-5.4			
		3	3	3			
Carp, Crucian	Muscle						
Cyprinus carassius	Raw	79.2	15.8	2.4	2.6	0	95
		78.0-83.0	14.8-16.3	0.6-3.5	1.3-5.2		
		5	4	5	4		
Carp, Ghania	Muscle						
Labeo gonius	Raw	80.5	17.2	.3	1.7	0.3	71
		79.5-82.1	15.7-18.0	0.1-.5	1.3-2.0		
		3	3	3	3		
	Dried	20.4	63.3	2.4	12.2	1.7	282
Carp, Indian	Muscle						
Barbus putitora	Raw	78.0	19.4	1.2	1.3	0	88
Carp, Indian	Muscle						
Barbus stigma	Raw	79.2	14.2	1.3	1.1	4.2	85
Carp, Indian	Muscle						
Labeo rohita	Raw	78.1	17.7	2.1	1.1	1.0	74
		72.0-82.6	16.3-18.9	0.1-2.8	0.9-1.4		
		11	11	7	6		
	Whole						
	Fishmeal	6.1	74.4	3.1	10.4	6.0	349
		5.3-6.9	72.2-76.6	2.2-3.9	8.4-12.4		
		2	2	2	2		
	Roe						
	Raw	64.3	26.4	6.0	(3.3)	0	160
Carp, Indian, Puti	Muscle						
Barbus punitus sophore	Raw	77.9	18.0	2.8	1.4	0	97
		75.0-79.1	16.0-19.3	2.4-3.1	1.4-1.5		
		4	6	2	2		
	Dried & Smoked	30.0	40.2	8.2	9.8	11.8	282

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Carp, Indian, Puti Barbus sarana	Muscle Raw	79.0 77.4-81.3 3	16.4 14.4-19.7 3	0.8 0.3-1.2 2	1.3 1.2-1.4 3	2.5	83
	Whole Dried	17.1	61.4	4.0	15.0	2.5	292
Carp, Katla Catla catla	Muscle Raw	78.8 73.7-82.0 7	16.8 14.1-19.5 5	1.6 0.8-1.6 3	1.3 1.1-1.5 4	1.5	88
	Dried	19.7	66.3	4.3	7.1	2.6	314
	Whole Raw Fishmeal	70.0 7.2	19.2 73.5	2.5 12.3	(8.3) (7.0)	0 0	99 405
Carp, Mahasole Barbus tor	Muscle Raw	70.3	25.2	2.3	1.2	1.0	126
Carp, Mrigala Cirrhina mrigala	Muscle Raw	78.3 75.0-81.1 14	18.5 14.4-19.5 16	0.4 0.1-0.8 11	1.5 1.0-1.6 10	1.3	84
	Whole Raw Fishmeal	74.0 7.5	10.6 78.4	1.0 4.0	(14.4) (10.1)	0 0	51 350
Carp, Orange Fin Labeo calbasu	Muscle Raw	79.1 75.0-81.3 8	16.6 14.7-18.6 10	1.1 0.2-2.0 4	1.4 1.3-1.8 5	1.8	84
	Dried	16.3	68.6 68.4-68.7 2	5.4	6.6	3.1	335
Carp, Reba Cirrhina reba	Muscle Raw	79.4 77.0-83.1 3	16.2 12.8-19.7 3	1.3 0.3-2.3 2	1.3 1.1-1.5 3	1.8	84
Carp, Silver Hypophthalmichthys molitrix	Muscle Raw	76.1	18.9	2.5 1.2-3.8 2	1.2	1.3	103
Carp, Tribolodon Tribolodon haronensis	Muscle Raw	78.2 78.0-78.3 2	18.0	2.8 2.5-3.4 3	1.2	0	97
Carp Cyprinidae	Muscle Raw	76.4 64.5-80.4 19	17.8 15.4-22.4 22	2.5 0.7-9.0 30	1.2 0.5-1.7 15	2.1	102
	Dried Dried & Smoked	8.0 14.9	74.0 79.2	6.4 1.4	11.6 4.5	0 0	354 329
Catfish, Air-breathing Clarias fuscus	Muscle Raw	80.2	16.7	1.6	1.1	0.4	84
Catfish, Air-breathing Clarias magur	Muscle Raw	76.6 71.2-80.9 3	16.5 13.6-18.8 3	4.3 0.4-8.2 2	1.5 1.3-1.9 3	1.1	109

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Catfish, Air-breathing, Hito Clarias batrachus	Muscle Raw	77.7 76.3-79.9 8	17.5 15.0-19.7 9	2.8 0.4-4.8 7	1.4 1.1-2.1 7	0.6	98
Catfish, Air-breathing, Karmouth Clarias lazaiae	Muscle Raw	82.2	15.7	1.1	1.0	0	73
Catfish, Electric Malapterurus electricus	Muscle Raw	79.7	18.1	0.9	1.3	0	82
Catfish, Fresh Water Chrysichus nigrodigitatus	Muscle Smoked	43.9	32.9	19.6	4.7	0	308
Catfish, Fresh Water Neptuna thalassinus	Muscle Raw	72.9	19.6	5.8	1.4	0.3	132
Catfish, Fresh Water Pseudobagrus aurantiacus	Muscle Raw	78.4	16.7	3.8	1.4	0	101
Catfish, Fresh Water, Bacha Eutropiichthys vacha	Muscle Raw Dried	82.4 18.7	15.4 67.6	0.6 6.2	0.9 5.4	0.7 2.1	70 335
Catfish, Fresh Water, Bichua Pseudoentropius garus	Muscle Raw	73.2	14.7	8.0	1.3	2.8	142
Catfish, Fresh Water, Bullhead, Black Ictalurus melas	Muscle Raw Offal Raw	81.5 80.4-82.6 4 77.3 76.9-77.6 2	16.2 16.0-16.3 4 14.6 14.2-14.9 2	1.7 1.2-2.3 4 5.6 5.4-5.7 2	1.0 3.4 2.7-4.0 2	0 0	80 109
Catfish, Fresh Water, Butter, Pabda Callichrous bimaculatus	Muscle Raw	77.2	14.4	2.6	1.2	4.6	99
Catfish, Fresh Water, Channel Ictalurus punctatus	Muscle Raw	75.7 71.8-79.4 5	17.6 15.7-20.5 5	5.2 0.7-11.0 5	1.1 0.9-1.5 5	0.4	119
Catfish, Fresh Water, Dwarf Macrones cavasius	Muscle Raw	79.2 77.4-80.3 4	16.9 15.8-17.5 3	0.3 0.0-0.5 2	1.6 1.2-1.9 2	2.0	78
Catfish, Fresh Water, Gomna Rita rita	Muscle Raw	78.8	18.6	0.4	1.2	1.0	82
Catfish, Fresh Water, Kired Bagarius yarreli	Muscle Raw	77.2	13.7	2.1	1.0	6.0	78
Catfish, Fresh Water, Mulley Wallagonia attu	Muscle Raw	78.3 73.0-80.7 14	17.4 12.3-19.9 14	1.1 0.3-3.0 13	1.4 1.2-1.8 14	1.8	87
Catfish, Fresh Water, Pabda Callichrous pabda	Muscle Raw	81.2	12.3	1.5	1.0	4.0	79
Catfish, Fresh Water, Seenghara Macrones seenghala	Muscle Raw	78.9 75.5-80.4 10	17.3 15.3-19.3 10	0.3 0.1-0.5 9	1.5 1.2-1.8 10	2.0	80
Catfish, Fresh Water, Shengti Macrones gluilo	Muscle Dried	47.2	37.1	3.8	(11.9)	0	182

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Catfish, Fresh Water, Striped, Dwarf *Macrones vittalus*	Muscle Raw	80.6 80.0-81.2 2	14.1 13.9-14.3 2	(4.2)	1.1	0	94
Catfish, Fresh Water Ictaluridae	Muscle Raw	72.3 64.1-81.6 5	18.2 17.4-22.1 7	8.2 1.3-20.6 5	1.5 0.9-2.1 3	0	157
Catfish, Sea *Arius arius*	Whole Raw Fishmeal	68.0 4.9	20.5 77.9	2.2 10.9	(9.3) (6.3)	0 0	102 410
Catfish, Sea *Arius leiotetocephalus*	Muscle Raw	77.7 77.2-78.1 2	21.0 20.7-21.2 2	0.6 0.5-0.6 2	1.2 1.1-1.3 2	0	89
Catfish, Sea *Arius thalassinus*	Muscle Raw	79.3	18.2	0.8	1.2	0.5	82
Catfish, Sea *Bagre macracanthus*	Muscle Raw	80.0	18.2	0.4	1.2	0.2	77
Catfish, Sea, Hardhead *Arius felis*	Whole Raw	71.5 69.8-72.7 6	16.4 15.4-17.4 6	6.0 4.3-8.8 6	5.9 4.2-7.0 6	0.2	120
Catfish, Sea, Manila *Arius manillensis*	Muscle Raw Salted & Dried	77.0 38.3 36.7-39.8 2	18.2 45.3 45.1-45.4 2	1.5 2.0 1.2-2.8 2	1.3 15.4 15.0-15.7 2	2.0 0	94 199
Catfish, Sea, Shingal *Arius dussumieri*	Muscle Raw	73.6 61.0-79.7 4	17.5 12.7-20.9 4	1.9 0.6-3.1 4	1.1 0.9-1.2 3	5.9	111
Catfish, Sea Ariidae	Muscle Raw	78.6 74.5-81.1 7	17.6 16.1-19.3 7	3.6 0.2-16.8 7	1.2 1.0-1.5 7	0	103
	Cooked Fried Battered	61.9	18.8	10.5	(2.0)	(6.8)	197
	Steamed	73.6	20.4	3.7	(2.3)	0	115
	Dried	16.2 7.1-20.9 3	66.1 62.5-71.1 3	10.1 6.3-14.4 3	7.6 4.8-10.6 3	0	356
	Dried & Smoked	11.5	77.6	8.0	2.9	0	382
	Salted	36.0	37.6	5.4	21.0	0	199
	Salted & Dried	32.3 26.5-38.1 2	43.9 42.7-45.1 2	1.8 1.2-2.4 2	17.3 15.6-18.9 2	4.7	211
	Smoked	42.8	32.9	19.6	4.7	0	308
Catfish, Stinging *Saccobranchus fossilis*	Muscle Raw	75.5 72.0-82.9 5	18.5 14.5-22.8 7	1.0 0.6-1.3 3	1.5 1.3-1.7 3	3.5	97
	Whole Raw	76.0	16.0	1.1	(6.9)	0	88
	Fishmeal	6.9	81.4	7.0	(4.7)	0	389
Cavefish *Amblyopsis godonmola*	Whole Raw	72.0	18.0	4.1	3.3	2.6	119

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Characin *Prochilodus laticeps*	Muscle Raw	73.1 71.2-74.6 5	19.6 15.4-25.1 5	2.3 1.4-2.8 5	1.7 1.5-2.5 5	3.3	112
Chub, Sea, Striped Rudder *Kyphosus lembus*	Muscle Raw	75.9	21.1	2.0	1.1	0	102
Chub, Sea Kyphosidae	Muscle Raw	79.1	18.7	1.2	1.1	0	86
Chub, Utah *Gila atraria*	Muscle Raw	79.3	15.5	4.8	1.0	0	105
	Offal Raw	64.3	13.1	20.2	3.3	0	234
Cichlid Cichlidae	Muscle Raw	77.4 73.2-81.5 2	20.5 16.0-24.5 4	0.8 0.5-1.0 2	1.7 1.5-1.8 2	0	89
Cisco, Lake *Coregonus artedii*	Muscle Raw	76.4 71.7-81.3 8	19.4 17.1-20.8 7	3.2 1.5-6.8 7	1.2 1.0-1.5 10	0	106
	Whole Raw	74.0 72.9-75.1 2	17.4 16.6-18.2 2	6.8 5.6-8.0 2	2.3 2.2-2.4 2	0	97
	Fishmeal	9.8	68.3	7.8	12.8	1.3	349
	Offal Raw	74.9	15.9	7.2	2.8	0	127
Cisco, Longjaw *Coregonus alpenae*	Muscle Raw	73.3 71.2-76.3 3	15.3 12.4-16.9 3	10.3 10.0-10.8 3	1.1 1.0-1.1 3	0	154
	Offal Raw	63.8	13.3	21.5	2.7	0	247
Cisco, Shortjaw *Coregonus zenithicus*	Muscle Raw	72.6	17.8	9.0	1.2	0	152
Cisco, Shortnose *Coregonus reighardi*	Muscle Raw	71.2	15.5	13.1	1.1	0	180
Cisco Salmonidae	Muscle Raw	73.7 69.9-76.8 4	14.9 13.5-15.5 5	8.9 0.6-14.7 5	1.3 0.9-1.6 4	1.2	145
	Whole Raw	72.8	15.8	9.6	2.0	0	150
Citharinus *Citharinus citharinus*	Muscle Raw	70.3	23.8	3.7	2.2	0	129
	Dried & Smoked	14.4	75.1	5.7	4.8	0	352

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Cobia	Muscle						
Rachycentron canadus	Raw	74.9	18.9	5.4	1.3	0	124
		69.2-78.3	18.4-19.7	3.8-10.0			
		4	4	4			
Cod, Atlantic	Muscle						
Gadus morhua	Raw	80.9	16.9	0.6	1.7	0	73
		72.4-83.5	15.0-19.6	0.1-1.2	1.0-2.4		
		36	35	39	25		
	Cooked						
	Boiled, Salted						
	Dried	67.5	29.5	0.6	2.4	0	123
	Dried	15.6	79.2	1.4	3.8	0	329
		11.8-19.9	75.0-84.4	0.7-2.5	1.6-5.9		
		5	6	4	4		
	Salted & Dried	37.9	42.1	0.6	17.9	1.5	180
		11.8-54.8	19.0-78.0	0.3-2.5	8.4-24.7		
		9	8	8	7		
	Salted & Smoked	58.1	23.7	0.4	17.9	0	98
		50.5-65.7	20.3-27.1	0.3-0.4	13.6-22.1		
		2	2	2	2		
	Whole						
	Raw	79.4	16.4	0.7	3.7	0	72
		79.3-79.4	15.8-16.9	0.5-0.9	3.5-3.8		
		2	3	2	2		
	Offal						
	Raw	77.6	16.3	1.8	4.1	0	81
		76.3-78.5	15.9-16.8	0.3-4.3	3.4-4.6		
		3	3	3	3		
Cod, Pacific	Muscle						
Gadus macrocephalus	Raw	82.1	16.7	0.7	1.0	0	70
		81.1-83.2	14.6-17.9	0.1-2.0	0.7-1.2		
		5	6	7	4		
	Hard Dried	21.8	58.0	1.5	18.8	0	246
	Salted & Dried	51.1	39.7	0.9	15.3	0	167
		43.9-58.3	31.1-53.0	0.5-1.4	10.2-20.4		
		2	3	3	3		
	Offal						
	Raw	78.6	16.5	1.9	3.5	0	83
	Roe						
	Raw	73.9	21.4	2.0	1.4	1.3	104
Cod	Muscle						
Gadidae	Raw	81.0	17.4	0.5	1.3	0	74
		75.1-84.2	13.9-21.2	0.1-2.2	1.0-2.3		
		37	30	32	27		
	Canned						
	In Brine	54.3	26.4	0.3	21.9	0	112
		53.5-55.0	25.4-27.3	0.3-0.3	19.0-24.7		
		2	2	2	2		
	Cooked						
	Baked						
	In Spanish Sauce	74.9	19.3	1.4	1.9	0.5	97
	Fried						
	Battered	65.2	20.2	7.5	1.3	5.9	172
		60.9-69.4	19.6-20.7	4.7-10.3			
		2	2	2			
	Grilled						
	With Butter	64.6	27.0	5.3	(3.1)	0	168

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
	Kabob						
	With Bacon	71.8	17.4	6.3	1.8	2.7	134
	With Tomato Sauce	67.3	20.5	3.5	2.2	6.5	124
	Rice Loaf	72.6	14.7	2.7	2.1	7.9	92
	Steamed	76.8	20.2	0.8	(2.3)	0	97
		74.3-79.2	18.0-22.4	0.7-0.9	(1.9)-(2.6)		
		2	2	2	2		
	Dried						
	Moderately	29.6	59.1	1.7	12.5	0	302
		12.3-39.5	42.0-81.8	1.0-2.8	6.7-22.0		
		7	8	8	7		
	Moisture Free	0.0	89.9	2.5	5.4	(4.5)	404
			87.0-92.8	1.6-3.4	5.1-5.6		
			2	2	2		
	Fish Stick						
	Raw	67.7	15.8	0.4	(16.1)	0	132
		66.6-68.2	15.7-15.9	0.4-0.4	(15.5)-(17.3)		
		3	3	3	3		
	Fried	59.8	14.3	7.7	1.6	16.6	193
		56.2-63.2	13.2-15.6	6.6-8.3			
		4	4	5			
	Lightly Salted	71.7	21.0	0.6	7.2	0	118
		71.4-72.0	20.0-22.0	0.5-0.7			
		2	3	3			
	Salted & Dried	37.6	42.2	1.2	20.2	0	260
		17.0-53.5	25.4-72.0	0.3-2.5	8.3-24.7		
		12	17	18	12		
	FPC	5.1	91.5	0.2	5.0	0	388
		4.5-6.1	89.1-93.3	0.1-0.2	1.9-8.4		
		4	5	2	5		
	Whole						
	Dried	18.3	56.1	1.3	25.1	0	337
		2.2-34.1	44.7-66.8	0.5-2.2	20.0-35.4		
		4	4	4	4		
	Fishmeal	6.3	72.7	2.8	19.4	0	394
		2.8-11.7	67.4-77.5	0.9-3.9	16.6-25.3		
		3	4	4	4		
	FPC	4.9	77.5	0.2	17.4	0	381
		0.7-9.7	74.0-84.7	0.1-0.3	13.1-22.6		
		6	6	5	6		
	Offal						
	FPC	3.5	87.2	0.1	11.4	0	395
	Roe						
	Raw	72.5	22.3	1.9	1.5	1.8	112
		69.7-75.3	20.4-24.3	1.3-2.4	1.4-1.8		
		6	6	6	4		
	Cooked						
	Boiled & Fried	62.0	20.6	11.9	(5.5)	0	211
	In Vinegar	71.1	24.0	3.2	(1.7)	0	132
	Salted	58.7	17.8	5.9	10.0	7.6	164
		53.7-63.7	17.7-17.9	0.4-11.3	6.7-13.2		
		2	2	2	2		
Combtooth, Blenny	Muscle						
Blennius palmicornis	Raw	76.5	18.5	4.3	1.2	0	113
Combtooth, Blenny	Muscle						
Blennius pavo	Raw	77.0	19.7	2.8	1.0	0	104
Combtooth, Blenny	Muscle						
Blennius tentacularis	Raw	79.9	17.6	2.0	1.2	0	88
Combtooth, Butterfly Blenny	Muscle						
Blennius ocellaris	Raw	75.8	20.7	2.8	1.2	0	108

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Combtooth, Tompot Blenny *Blennius gattoruggine*	Muscle Raw	79.0	18.4	1.8	1.2	0	81
Coral Cod *Cephalopholis miniatus*	Muscle Raw	78.2	19.2	1.0	1.4	0	86
Coralfish, Goat Bream *Sargus annularis*	Muscle Raw	77.2	20.3	1.5	1.2	0	95
Crevalle *Caranx diedaba*	Muscle Dried	32.2	48.4	12.6	3.7	3.1	319
Crevalle, Jack *Carangoides ajax*	Muscle Cooked Fried	67.2	24.2	5.4	2.1	1.1	150
Crevalle, Jack *Caranx carangus*	Muscle Raw	77.2 77.0-77.4 2	18.8 18.5-19.1 2	1.9 1.1-2.7 2	1.7 1.5-1.8 2	0.4	94
	Whole Dried	12.5	40.5	14.3	22.9	9.8	330
Crevalle Carangidae	Muscle Raw	76.6 76.2-76.9 2	20.7 19.9-21.4 2	1.7 0.7-2.7 2	1.3 1.2-1.3 2	0	98
Croaker *Micropogon barretoi*	Whole Raw FPC	75.0 6.7	19.0 79.0	3.1 1.8	(2.9) (12.1)	0 (0.4)	104 334
Croaker *Micropogon opercularis*	Whole Raw	78.0	17.0	2.8	(2.2)	0	93
Croaker *Otolithus brachygnathus*	Muscle Raw	79.0	19.2	0.6	1.2	0	82
Croaker *Sciaena deliciosa*	Muscle Raw	75.9 74.5-76.5 4	18.6 16.0-19.7 4	2.0 1.0-3.1 3	1.4 1.2-1.5 3	2.1	92
	Salted & Dried	36.6 28.4-44.8 2	36.8 30.9-42.6 2	3.6 2.0-5.2 2	18.7 18.6-18.7 2	4.3	197
Croaker, Aba *Johnius belengeri*	Muscle Raw	79.5 76.8-80.9 4	17.4	1.7	1.5	0	75
Croaker, Atlantic *Micropogon undulatus*	Muscle Raw	78.4 72.5-84.3 5	17.5 14.1-19.4 5	1.5 0.4-2.9 5	1.1 0.9-1.3 5	1.5	90
	Whole Raw	75.3 69.9-77.2 11	16.1 15.2-17.8 11	3.8 1.3-8.6 11	4.7 2.7-6.2 11	0	99
	Offal Raw	73.7 69.8-77.5 2	15.0 14.3-15.7 2	4.2 0.4-8.0 2	6.4 5.7-7.1 2	0.7	101

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Croaker, Banded *Larimus fasciatus*	Whole Raw	74.6 74.1-75.6 3	17.7 17.6-17.8 3	3.7 2.3-4.4 3	4.0	0	104
Croaker, Black *Pogonias cromis*	Muscle Raw FPC	79.8 8.3	18.4 81.8	0.5 0.4	1.2 3.6	0 5.9	78 354
Croaker, Corvina *Micropogon furnjeri*	Muscle Raw	78.5	19.5	0.7	1.2	0	84
	Whole Raw	77.8 77.5-78.1 2	18.3 18.2-18.4 2	1.8 1.7-1.8 2	3.2 3.1-3.2 2	0	89
Croaker, Robalo *Sciaena starksei*	Muscle Raw	78.7 76.7-80.6 2	16.1 13.4-18.8 2	2.8	0.9	1.5	96
	Salted & Dried	12.2	53.7	2.2	30.7	1.2	239
Croaker, Roncador *Ophioscion venezuelae*	Muscle Raw	78.9 78.2-79.5 2	19.1 18.8-19.3 2	0.8 0.5-1.1 2	1.5 1.1-1.8 2	0	84
Croaker, Smooth Scaled *Pseudosciaena anea*	Muscle Raw Salted & Dried	78.8 37.2	19.1 39.3	0.4 6.1	1.0 17.1	0.7 0.3	83 212
Croaker, Smooth Scaled *Sciaena dussumieri*	Muscle Raw	75.5	18.9	2.0	1.4	3.2	106
Croaker, Verrugato *Sciaena ranchus*	Muscle Raw	79.6 79.1-80.0 2	17.2	0.9	1.0	1.2	81
Croaker, Whiskered *Umbrina russelle*	Muscle Raw	77.0 76.7-77.2 3	19.9 19.9-20.0 3	1.7 1.7-1.7 3	1.4 1.2-1.7 3	0	95
Croaker, White, Nibe *Argyrosomus argentata*	Muscle Raw	79.4 78.3-80.0 3	15.9 13.2-18.6 2	3.6 1.8-5.3 2	1.0 0.6-1.3 2	0	96
	Canned In Oil	34.5	30.9	12.3	17.7	4.6	253
Croaker, Yellow *Umbrina steindachneri*	Muscle Raw	77.3	19.7	2.7	1.2	0	103
Cusk *Brosme brosme*	Muscle Raw	80.5 77.8-82.6 8	18.5 16.9-20.0 10	0.6 0.2-1.8 6	1.2 0.8-1.5 4	0	79
	Cooked Baked Battered Steamed	65.8 74.3	19.3 22.4	4.3 0.7	(1.2) (2.6)	9.4 0	144 96

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Cusk-Eel *Lepophidium brevibarbe*	Muscle Raw	81.4	17.7	0.3	1.1	0	74
Cusk-Eel, Bearded Ophidium *Ophiodon barbatum*	Muscle Raw	78.0	20.1	0.4	1.7	0	84
Cusk-Eel, Congrio Colorado *Genypterus chiliensis*	Muscle Raw	80.7 80.0-81.3 2	15.5	0.2	1.1	2.5	74
Cusk-Eel, Congrio Negro *Genypterus maculatus*	Muscle Raw	80.3 77.6-83.0 2	17.6	2.1	1.7	0	89
Cusk-Eel, Kingklip *Genypterus capensis*	Muscle Raw	81.7	17.1	0.1	1.1	0	69
Cusk-Eel, Ling *Genypterus blacodes*	Muscle Raw	81.4	15.8	0.2	1.1	1.5	71
Cutlassfish *Lepidopus caudatus*	Muscle Raw	72.8	20.8	2.5	1.4	2.5	116
Cutlassfish *Trichiurus japonicus*	Muscle Raw	65.0 63.0-66.9 2	17.1 17.0-17.2 2	14.6 5.9-20.7 3	1.0	2.3	209
Cutlassfish *Trichiurus lepturus*	Whole Raw	77.0 75.4-78.8 6	17.3 16.3-18.1 6	3.4 2.6-4.3 6	2.6 2.3-3.5 6	0	100
Cutlassfish *Trichiurus savala*	Muscle Raw	75.7 74.7-76.6 2	20.1 18.1-22.0 2	2.0 0.8-3.2 2	1.7 1.5-1.9 2	0.5	100
	Salted & Dried	6.7	76.1	8.7	(8.5)	0	383
Cutlassfish, Ribbonfish *Trichiurus haumela*	Muscle Raw	79.3 77.1-81.5 3	17.9 16.8-19.1 3	1.2 0.3-2.1 2	1.4 0.9-1.7 3	0.2	83
	Dressed Dried	17.0	61.5	7.2	10.6	3.7	311
	Whole Dried	38.0	33.7	4.3	23.5	0.5	176
Cutlassfish Trichiuridae	Muscle Raw	75.4 74.0-76.7 2	18.3 17.4-19.4 3	5.3 4.6-6.0 2	1.4 1.3-1.5 2	0	120
	Salted	61.2	21.7	7.7	7.8	1.6	167
Dab *Limanda limanda*	Muscle Raw	81.9 77.9-85.8 2	15.1 12.1-18.0 2	2.1 0.4-3.8 6	1.1 1.0-1.3 2	0	84
Dab Pleuronectidae	Muscle Raw	77.9 76.3-79.4 2	16.0	2.1	1.9	2.1	91

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Dace Cyprinidae	Muscle Dried	11.2	54.6	20.1	9.1	5.0	419
Damselfish Chromis chromis	Muscle Raw	75.0	19.9	1.8	2.0	1.3	101
Dogfish, Cazon Carcharius aetholorus	Muscle Raw	74.3	24.5	0.2	1.1	0	100
Dogfish, Lesser Spotted Halaelurus burgerii	Muscle Raw	75.8	20.2	0.6	0.9	2.5	96
Dogfish, Smooth Mustelus canis	Muscle Raw	77.6	26.1 25.4-27.6 3	0.2	1.4 1.3-1.6 3	0	106
Dogfish, Spiny Squalus acanthias	Muscle Raw	72.8 69.5-75.1 6	17.6 16.2-19.6 6	9.5 4.8-15.3 10	1.3 0.8-1.8 4	0	156
	Cooked Fishloaf	67.3	18.6	11.9	0.2	2.0	190
	Roe Raw	48.4 46.8-50.0 2	25.0	24.3 23.5-25.0 2	0.9 0.8-1.0 2	1.4	324
Dogfish, White Mustelus dorsalis	Muscle Smoked	26.8	52.2	1.8	18.7	0.5	227
Dogfish Squalidae	Muscle Raw	74.4 72.0-81.2 7	19.6 16.2-22.4 8	5.2 0.2-10.0 5	1.4 1.2-1.5 4	0	131
	Roe Raw	50.0	25.0	23.5	1.0	0	316
	Tail Cooked Fried Battered	44.4	17.9	25.2	(1.4)	(11.1)	343
Dolphin, Dorado Aurata aurata	Muscle Raw	80.5 80.0-81.0 2	17.6 17.0-18.1 2	1.6 1.0-2.2 2	(0.3)	0	85
Dolphin, Mai Mai, Dorado Coryphaena hippurus	Muscle Raw	76.4 74.6-78.4 3	19.3 18.5-20.1 4	1.1 0.2-3.2 5	1.4 1.3-1.5 3	1.8	94
	Cooked Fried Breaded Broiled	57.5 69.8	15.8 26.3	8.6 0.4	1.5 2.0	16.6 1.3	207 114
Dolphin Coryphaenidae	Muscle Raw	75.4 72.8-78.0 2	18.6 16.8-20.4 2	3.2 0.6-8.1 3	2.2 1.3-3.3 2	6	106

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Dory, John *Zeus capensis*	Muscle Raw	78.0	18.3	3.4 1.2-6.3 4	1.2	0	104
Dory, John *Zeus faber*	Muscle Raw	78.3 73.8-80.3 4	17.8 15.6-21.0 4	1.4 0.5-3.3 7	1.4 1.0-1.9 4	1.1	88
Dory, John *Zeus japonicus*	Muscle Raw	77.6	21.0	0.6	1.3	0	89
Dory, John Zeidae	Muscle Cooked Steamed	76.7	19.9	1.4	(1.3)	0.7	95
Drepane *Drepane africana*	Muscle Raw	79.6	18.0	1.6	0.8	0.8	90
	Dressed Raw	71.3 70.8-72.2 4	19.6 19.3-20.3 4	3.1 2.4-3.7 4	5.2 4.6-6.2 4	0.8	110
Drepane, Concertinafish *Drepane punctata*	Muscle Raw	78.0 76.2-79.7 6	19.3 18.9-19.7 6	1.5 0.9-2.0 6	1.5 1.1-2.9 6	0	91
Drum *Cynoscion striatus*	Muscle Raw FPC	76.7 5.8	18.2 83.9	2.1 0.9	(3.0) 2.2	0 7.2	104 353
Drum, Corvina *Sciaena gilberti*	Muscle Raw	74.0 71.5-76.8 4	19.9 19.0-21.6 4	1.7 0.9-2.4 2	1.5 1.4-1.5 2	2.9	107
Drum, Dhoma *Sciaena glauca*	Muscle Raw	78.3	19.0	(1.8)	0.9	0	92
Drum, Fresh Water *Aplodinotus grunniens*	Muscle Raw	76.7 73.9-82.9 10	17.4 15.9-18.4 11	5.5 1.0-8.4 11	1.1 1.0-1.1 14	0	119
	Whole Raw	71.4 68.7-75.6 3	16.0 14.9-16.6 3	7.6 2.5-11.9 3	4.9 4.3-5.6 3	0	132
	Fishmeal	8.9	62.4	8.4	20.5	0	325
	Offal Raw	72.1	13.2	7.2	8.0	0	118
Drum, Oveva *Sciaena breviceps*	Muscle Raw	77.6	19.5	1.2	1.2	0.5	91
Drum, Popa *Sciaenoides pama*	Whole Raw	20.0	59.3	7.3	9.6	3.8	318
Drum, Red *Sciaenops occelata*	Muscle Raw	79.1	19.0	1.0	0.8	0	85
Drum, Star *Stellifer lanceolatus*	Whole Raw	76.0 75.7-76.3 2	15.5 15.0-16.0 2	3.7 3.6-3.8 2	4.2 4.1-4.3 2	0.6	98

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Drum	Muscle						
Sciaenidae	Raw	77.5	18.5	2.5	1.2	0.3	98
		70.0-80.6	13.5-21.6	0.3-6.0	1.0-1.6		
		20	19	20	18		
	FPC	5.6	94.0	0.2	2.8	0	378
	Whole						
	Dried	9.9	75.2	7.9	7.0	0	372
	Dried & Smoked	14.2	73.1	3.1	9.6	0	320
Eel, Barbel	Muscle						
Plotosus anguillaris	Raw	78.6	19.0	0.7	1.7	0	82
Eel, Conger	Muscle						
Conger conger	Raw	75.4	17.9	5.3	1.4	0	119
		69.9-79.5	15.4-21.0	1.3-11.4	1.1-2.2		
		7	8	8	7		
Eel, Conger	Muscle						
Conger myriaster	Raw	71.8	17.6	9.4	1.2	0	155
		71.6-72.0	16.1-19.0	8.0-10.7	1.0-1.4		
		2	2	2	2		
Eel, Conger, American	Muscle						
Conger oceanicus	Raw	74.8	18.5	11.6	0	0	178
Eel, Conger	Muscle						
Congridae	Raw	71.3	17.6	11.1	1.0	0	170
		56.2-79.9	15.3-19.5	3.3-11.2	1.0-1.1		
		5	6	5	4		
	Cooked						
	Fried						
	Battered	52.7	18.7	20.0	(1.0)	7.6	285
	Steamed	73.3	22.8	1.8	2.1	0	107
Eel, Fresh Water, American	Muscle						
Anguilla rostrata	Raw	67.0	18.2	13.3	1.3	1.5	199
		65.9-68.0	16.9-19.5	11.6-14.9	1.1-1.4		
		2	2	2	2		
Eel, Fresh Water, European	Muscle						
Anguilla anguilla	Raw	67.8	16.6	15.0	1.2	0	201
		60.0-76.8	8.1-21.0	2.9-25.9	0.7-1.9		
		10	12	14	8		
	Dried	54.0	41.6	18.4	2.3	0	232
Eel, Fresh Water, Japanese	Muscle						
Anguilla japonica	Raw	69.6	16.8	16.1	1.2	0	212
				12.4-19.7			
				2			
	Cooked						
	Broiled	49.1	21.4	20.0	2.9	6.6	292
Eel, Fresh Water	Muscle						
Anguillidae	Raw	62.9	16.4	19.0	1.6	0	237
		54.9-71.0	11.9-20.0	10.5-28.4	0.8-3.3		
		9	9	9	8		
	Cooked						
	Unspecified	64.0	15.0	20.0	1.0	0	240
		54.2-73.8	13.0-17.0	8.0-32.0	0.8-1.2		
		2	2	2	2		
	Dried & Smoked	24.0	42.5	28.7	3.5	1.3	434
				27.3-30.0			
				2			
	Salted & Dried	20.0	35.0	27.5	17.5	0	388
	Whole						
	Raw	81.8	12.6	2.2	(3.4)	0	70

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Eel, Moray Gymnothorax ocellata	Whole Raw	79.6	17.3	1.5	3.1	0	83
Eel, Moray, Greek Muraena helena	Muscle Raw	72.4 69.8-75.1 4	18.2 16.5-21.2 5	6.7 1.9-13.3 5	1.6 1.1-1.9 4	1.1	133
Eel, Moray Muraenidae	Muscle Raw	72.0	20.1	4.0	1.2	2.7	116
	Whole Raw	77.7	19.1	1.3	3.4	0	88
Eel, Pike Conger Muraenesox telabonoides	Muscle Raw	80.0	16.9	0.5	0.9	1.7	79
Eel, Pike Conger, Silver Muraenesox cinereus	Muscle Raw	77.3 65.9-81.8 10	18.1 14.4-21.5 10	5.4 0.2-27.8 10	1.4 0.6-2.0 9	0	121
	Cooked Stewed	49.2	17.7	32.4	(0.7)	0	362
	Roe Raw	67.9	21.5	7.4	0.8	2.4	162
Eel, Snake, Murrel Ophicephalus marulius	Muscle Raw	76.9 73.2-80.0 3	15.0 10.6-17.5 3	4.3 0.4-8.2 2	1.4 1.3-1.4 2	2.4	108
	Dried	12.9	74.2	3.2	4.8	4.9	345
Eel, Snake, Murrel Ophicephalus punctatus	Muscle Raw	78.4 74.0-81.1 16	17.1 14.5-20.6 18	0.7 0.1-2.1 13	1.5 1.3-2.6 14	2.3	84
Eel, Snake, Murrel Ophicephalus striatus	Muscle Raw	78.3 75.8-80.5 12	18.1 16.2-20.1 15	1.1 0.1-5.3 13	1.2 0.8-1.6 12	1.3	88
	Salted & Dried	30.7	47.8	1.9	16.5	3.1	221
Eel, Snake Ophichthidae	Muscle Raw	75.5 71.6-78.8 7	18.0 16.7-19.4 5	5.4 0.6-9.1 5	1.1 0.9-1.5 5	0	121
	Dried & Smoked	16.2	73.1	8.3	2.4	0	367
Eel, Snipe Avocettina infans	Whole Raw	80.7	7.3	2.8	3.7	5.5	76
Eel, Spiny Mastacembelus armatus	Muscle Raw	77.0 75.2-78.8 2	14.6 11.9-17.3 2	2.8 2.2-3.4 2	1.3 1.0-1.5 2	4.3	101
Eel, Spiny Mastacembelus favus	Muscle Raw	79.4	19.3	0.3	0.9	0	80
Eel, Spiny Notacanthus nasus	Muscle Raw	70.5 67.5-73.5 2	17.7 16.6-18.7 2	8.8 5.4-12.2 2	1.1	1.9	158

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Eel, Spiny Notacanthidae	Muscle Raw	76.9 74.7-79.0 2	18.1 17.3-18.8 2	0.8	1.4	2.8	91
Eel, Swamp, Field Fluta alba	Muscle Raw	82.0	16.5	0.7	0.8	0	72
Eel, Swamp, Palos Synbranches bengalensis	Muscle Raw	81.0 80.5-81.4 2	16.8 16.1-17.5 2	1.2 1.2-1.2 2	0.6 0.4-0.8 2	0.4	80
Emperor Lethrinus karwa	Muscle FPC	5.6	80.8	6.1	5.1	2.4	388
Emperor, Long-nosed Lethrinus miniatus	Muscle Raw	77.3	20.2	1.4	0.9	0.2	94
Emperor, Spangled Lethrinus nebulosus	Muscle Raw	76.4 75.2-77.8 4	19.6 17.6-20.8 4	0.8 0.2-2.0 4	1.3 1.2-1.3 3	1.9	93
Emperor Lethrinidae	Muscle Raw	79.5 78.0-81.8 3	12.4 16.2-20.4 3	1.8 0.5-4.1 3	1.0 1.0-1.1 3	5.3	87
Featherback Notopterus notopterus	Muscle Raw	76.8 73.0-80.5 3	16.5 10.3-19.8 4	0.8 0.1-1.3 3	1.6 1.0-2.5 3	4.3	90
Featherback, Chitala Notopterus chitala	Muscle Raw	77.3 70.0-79.9 6	16.4 11.3-18.6 5	1.3 0.2-2.3 5	1.0 1.0-1.1 5	4.0	93
Filefish Balistidae	Muscle Raw	78.6	19.4 18.5-20.2 3	0.3 0.2-0.4 3	1.5	0.2	81
Flathead, Deep Sea Platycephalus macrodon	Muscle Raw	81.1 79.1-83.0 2	18.7	1.2	1.0	0	86
Flathead, Indian Platycephalus indicus	Muscle Raw	78.4 77.4-80.0 7	19.4 17.6-20.6 8	1.2 0.2-2.0 7	1.4 1.0-1.9 7	0	88
	Whole Raw	79.9 79.3-80.4 2	9.7 8.5-10.8 2	0.7 0.6-0.8 2	5.7 4.6-6.8 2	4.0	68
Flathead Percophididae	Muscle Raw	77.1 75.0-79.2 2	20.9 20.0-21.7 2	1.1 0.2-2.0 2	1.1 1.0-1.1 2	0	94
Flounder Platichthys flesus	Muscle Raw	79.4 76.9-83.0 4	16.3 15.0-17.4 4	3.2 0.6-4.9 4	1.8 1.4-2.4 3	0	94

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Offal						
	Raw	72.5	15.4	8.7	4.5	0	140
		72.2-72.7	15.3-15.4	8.5-8.8	4.4-4.5		
		2	2	2	2		
Flounder, Gulf	Muscle						
Paralichthys albigutta	Raw	78.5	20.2	0.8	1.4	0	88
Flounder, Southern	Muscle						
Paralichthys lethostigma	Raw	79.6	18.9	1.2	1.2	0	86
Flounder, Starry	Muscle						
Platichthys stellatus	Raw	80.2	17.1	1.8	1.1	0	85
		77.6-82.5	16.1-17.9	0.8-3.5	1.0-1.1		
		3	4	3	4		
Flounder, Starry, Hirame	Muscle						
Paralichthys olivaceus	Raw	78.1	19.4	1.3	1.2	0	89
		76.8-79.4	17.6-20.9	0.2-2.2	1.2-1.3		
		4	6	8	3		
Flounder, Stone	Muscle						
Kareius bicoloratus	Raw	77.6	20.4	0.8	1.4	0	89
		76.0-79.2	18.4-22.3	0.4-1.3	1.3-1.5		
		2	2	2	2		
	Roe						
	Raw	69.1	24.8	2.5	1.3	2.3	131
Flounder, Summer	Muscle						
Paralichthys dentatus	Raw	78.8	20.0	0.4	1.1	0	84
		76.8-80.4	18.2-21.2	0.1-1.0	0.9-1.1		
		5	6	4	5		
	Offal						
	Raw	71.9	16.9	4.6	5.9	0.7	112
		67.1-76.6	15.7-18.0	2.2-6.9	4.8-6.9		
		2	2	2	2		
Flounder, Winter	Muscle						
Pseudopleuronectes americanus	Raw	80.1	18.0	0.6	1.2	0	77
		75.4-81.8	13.9-21.7	0.2-1.4	1.1-1.3		
		8	9	9	6		
	Offal						
	Raw	73.5	17.0	3.5	6.2	0	100
		67.5-77.0	16.3-18.1	1.1-7.4	5.1-7.4		
		4	4	4	4		
Flounder, Witch	Muscle						
Glyptocephalus cynoglossus	Raw	80.7	16.2	0.6	0.7	1.8	77
		79.1-82.2		0.1-1.0	0.2-1.1		
		2		3	2		
	Cooked						
	Fried	58.1	17.6	14.1	(10.2)	0	197
	Steamed	77.7	19.0	1.1	(2.2)	0	86
	Offal						
	Raw	80.9	14.1	1.2	3.8	0	67
Flounder, Yellowtail	Muscle						
Limanda ferruginea	Raw	80.4	19.9	0.3	1.2	0	87
		76.5-82.4	17.5-22.3	0.1-0.4	1.2-1.3		
		7	2	2	3		
	Offal						
	Raw	75.3	16.2	0.8	5.8	1.9	80

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Flounder Bothidae/Pleuronectidae	Muscle Raw	78.5 74.0-84.6 23	18.1 14.0-22.5 22	1.4 0.1-4.8 25	1.3 0.8-2.3 18	0.7	88
	Cooked Baked	58.1	30.0	8.2	2.2	1.5	200
	Baked-Stuffed	66.3	19.5	6.5	2.5	5.2	157
	Fried	61.5	17.0	12.9	(1.3)	(7.3)	213
	Salad	76.2	11.9	6.5	1.5	3.9	112
	Unspecified	68.5 62.5-74.4 2	20.5 19.9-21.1 2	6.0 3.3-8.7 2	5.0 0.8-2.1 2	0	156
	Offal Fishmeal	6.3	59.9	10.2	23.2	0.4	330
Flyingfish Cypselurus opisthopus	Muscle Raw	77.1 77.0-77.1 2	20.9 20.6-21.2 2	0.5 0.4-0.5 2	1.5	0	88
	Salted	67.3	27.3	1.3	9.0	0	121
Flyingfish, Small Scaled Cypselurus oligolepis	Muscle Raw	75.3	21.0	0.2	1.3	2.2	94
Flyingfish, Tropical Two-Winged Exocoetus volitans	Muscle Raw	74.7 71.8-77.0 3	21.2 19.2-23.5 5	0.9 0.6-1.1 3	1.5 1.4-1.6 3	1.7	100
Galjoen Dipteron saltator capensis	Muscle Raw	73.1 72.9-73.2 2	18.2 16.0-20.3 2	5.2 4.9-5.4 2	1.3	3.5	134
Garfish Belone acus	Muscle Raw	76.3 74.6-79.6 3	19.8 16.5-22.4 3	1.7 0.8-2.1 3	1.7 1.4-1.8 3	0.5	97
Garfish Tylosurus giganteus	Muscle Raw	70.4	26.6	0.9	1.7	0.4	121
Garfish, Foli Belone belone	Muscle Raw	74.7	20.9	2.5	1.9	0	106
Garfish, Houndfish Tylosurus crocodilus	Muscle Raw	74.0 70.8-77.2 2	23.9 21.1-26.6 2	0.8 0.6-0.9 2	1.4 1.1-1.7 2	0	108
Garfish Belonidae	Muscle Raw	78.0	19.0 17.3-20.6 2	0.4 0.3-0.5 2	1.4	1.2	84
Giant Perch Lates calcarifer	Muscle Raw	78.7 74.8-82.0 10	17.2 12.6-20.8 7	0.8 0.3-1.7 8	1.3 1.0-1.7 8	2.0	84
Glassfish Salangichthys microdon	Muscle Raw	86.1	11.5	1.0	1.4	0	55

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Goatfish Upeneus vittatus	Muscle Raw	75.1	23.3	0.4	0.6	0.6	99
Goatfish, Ca'phen Parupeneus indicus	Muscle Raw	80.3	17.4	0.4	0.9	1.0	77
Goatfish, Golden Banded Upeneus moluccensis	Muscle Raw	75.9 74.4-77.3 2	19.8 19.6-19.9 2	3.4 2.4-4.4 2	1.7 1.6-1.8 2	0	110
Goatfish, Kumu Parupeneus porphyreus	Muscle Cooked Broiled	71.6	23.1	2.2	2.1	1.0	116
Goatfish, Red Mullet Mullus barbatus	Muscle Raw	74.9 68.6-77.4 13	18.6 16.0-22.6 14	5.3 2.0-10.8 15	1.4 0.8-1.8 13	0	122
Goatfish, Red Mullet Mullus surmuletus	Muscle Raw	76.2 74.5-77.6 5	18.5 16.9-19.9 5	3.1 1.1-4.7 5	2.2 1.1-4.0 5	0	102
Goatfish, Red Mullet Upeneus tragula	Muscle Raw	76.5 75.4-77.5 2	19.4 19.2-19.6 2	1.4 0.6-2.2 2	1.6 1.5-1.6 2	1.1	95
Goatfish, Yellow Upeneoides sulphureus	Muscle Raw	78.0	18.7	1.3	1.2	0.8	90
Goatfish Mullidae	Muscle Raw	75.6 72.7-79.4 4	20.[illegible] 18.3-22.9 6	2.8 1.0-6.5 6	1.1 1.0-1.2 3	0	107
	Salted & Dried	43.1 42.6-43.6 2	36.9 33.1-40.7 2	5.4 4.1-6.7 2	13.9 12.4-15.3 2	0.7	199
Goby Gobionellus opthalmonen	Muscle Raw	81.8	15.4	1.1	1.9	0	72
Goby Gobius auratus	Muscle Raw	80.0	16.1	3.1	1.3	0	92
Goby Gobius minututus	Muscle Raw	78.8	18.2	2.3	1.3	0	94
Goby, Black Gobius niger	Muscle Raw	82.9	14.4	2.1	1.1	0	77
Goby, Chiozzo Gobius jozo	Muscle Raw	77.2	19.9	0.4	1.5	1.0	87
Goby, Flathead Glossogobius giuris	Muscle Raw	79.9 76.5-82.8 13	17.5 14.5-22.0 13	1.0 0.1-2.4 11	1.4 0.6-2.3 12	0	79
Goby, Goldspot Gnatholepis thompsoni	Muscle Raw	80.0	16.1	3.1	(0.8)	0	92
Goby, Gudgeon Gobius paganellus	Muscle Raw	78.4 77.0-79.8 2	16.5 16.4-16.6 2	1.8 1.0-2.6 2	2.1 1.2-2.9 2	1.2	91

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Goby, Long Tailed *Gobionellus longicaudus*	Muscle Raw	78.1	16.6	2.7	2.6	0	90
Goby, Mudskipper *Boleophthalmus dussumieri*	Muscle Raw	76.4	19.4	0.6	1.7	1.9	91
Goby, Round *Neogobius melanostomus*	Muscle Raw	80.3	17.9	0.4	1.2	0	75
Goby, Sea Trout, Merluzza *Macrodon ancylodon*	Muscle Raw	78.4	20.5	1.0	1.4	0	91
	Whole Raw	76.9 75.0-78.1 12	18.2 17.6-18.7 12	3.3 1.6-5.2 12	2.3 2.0-2.6 12	0	103
Goby, Yellowfin *Gobius (Acanthogobius) flavimanus*	Muscle Raw	78.2 76.9-79.5 2	18.7	0.7 0.3-1.1 2	1.7	0.7	84
Goby Gobiidae	Muscle Raw	79.2 78.2-80.6 5	18.0 16.3-18.7 5	1.4 0.9-2.5 4	1.4 0.8-1.7 4	0	85
	Cooked Boiled	78.2	19.0	1.0	1.8	0	92
	Salted & Fermented	66.4	12.5	1.9	16.1	3.1	80
Goldfish, Funa *Carassius auratus*	Muscle Raw	78.1 73.4-82.8 2	16.3 14.6-18.0 2	3.0 0.3-7.5 4	1.0 0.9-1.1 2	1.6	99
Goonch *Bagarius bagarius*	Muscle Raw	79.6 78.7-80.3 2	16.5 15.5-17.5 2	0.2 0.1-0.2 2	1.5 1.3-1.7 2	2.2	77
Goosefish, Monkfish *Lophius budegassa*	Muscle Raw	82.5 81.4-83.6 2	15.5 15.2-15.7 2	0.7 0.3-1.0 2	1.1 0.9-1.2 2	1.1	73
Goosefish, Monkfish *Lophius litulas*	Muscle Raw	85.0	12.8	0.6	0.9	0.7	59
Goosefish, Monkfish *Lophius piscatorius*	Muscle Raw	80.3 68.4-84.2 8	15.5 10.6-23.2 7	1.5 0.1-7.5 9	1.4 1.0-2.0 5	1.3	81
	Cooked Boiled	76.6	21.3	0.7	0.6	0.8	95
Goosefish, Monkfish *Lophius setigerus*	Muscle Raw	79.3	18.7	0.7 0.5-0.8 2	1.2	0	81
Goosefish, Monkfish Lophiidae	Muscle Raw	77.5 76.1-79.0 3	20.3 18.7-22.6 3	0.8	1.2	0	88
	Cooked Fried Battered	66.3	17.0	8.2	(2.5)	(16.7)	209
	Parboiled	78.8	18.7	0.3	0.9	1.3	83
	Steamed	75.4	21.8	0.9	(1.9)	0	95

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Greenling, Atka, Mackerel *Pleurogrammus azonus*	Muscle Raw	73.6 65.5-77.3 4	16.8 17.0-19.0 4	7.3 2.5-19.3 4	1.1 0.8-1.3 4	1.2	138
Grouper *Paracentropristis hepatus*	Muscle Raw	77.6 77.1-78.0 2	19.9 19.7-20.0 2	1.3 1.2-1.4 2	1.5 1.1-1.8 2	0	91
Grouper, Black *Mycteroperca bonaci*	Muscle Raw	78.2	20.4	0.7	1.2	0	88
Grouper, Merou *Epinephelus aeneus*	Muscle Raw	78.7	19.5	1.6	1.3	0	92
Grouper, Merou *Epinephelus goreensis*	Muscle Raw	79.3 78.8-79.8 2	18.1 18.1-18.2 2	0.8 0.2-1.4 2	1.4 0.9-1.8 2	0.4	81
Grouper, Merou Rouge *Epinephelus taeniops*	Muscle Raw	78.9	19.5	0.6	1.5	0	83
Grouper, Red *Epinephelus morio*	Muscle Raw	78.6 75.7-79.8 4	19.5 19.0-19.9 4	1.3 0.2-4.0 4	1.1	0	90
Grouper, Spotted *Epinephelus corallicola*	Muscle Raw	78.9 77.4-79.7 8	18.2 15.6-20.8 8	0.4 0.3-0.4 8	1.2 1.0-1.6 8	1.3	82
	Dried	40.7	38.9	2.0	5.3	13.1	226
Grouper, Yellowbelly *Epinephelus gigas*	Muscle Raw	78.3 77.5-79.2 5	19.1 18.6-19.8 5	1.0 0.7-1.3 5	1.3 0.9-1.8 5	0.3	87
Grouper Serranidae	Muscle Raw	78.0 76.3-79.2 4	20.1 19.4-20.9 4	1.0 0.7-1.3 4	1.4 1.1-1.7 4	0	89
Grunt *Anisotremus scapularis*	Muscle Raw	75.7 73.4-78.0 2	20.2 19.6-20.8 2	2.4 0.4-4.4 2	1.4 1.3-1.5 2	0.3	104
	Cooked Baked Dried	75.1 (0.4)	21.0 78.1	1.0 16.5	1.7 5.0	1.2 0	98 461
	Roe Raw	84.0	12.3	1.0	2.4	0.3	59
Grunt *Hapalogenys mucronatus*	Muscle Raw	79.9	17.6	1.4	1.2	0	83
Grunt *Parapristipoma trilineatum*	Muscle Raw	74.1 71.8-76.3 2	19.3 17.0-21.5 2	5.0 4.7-5.3 2	1.5 1.4-1.6 2	0	122
Grunt *Pristipoma jubelini*	Muscle Raw	76.8	21.0	1.1	1.1	0	94
	Whole Raw	70.6 70.1-71.3 4	19.7 19.5-20.0 4	2.4 2.0-2.8 4	6.0 5.6-6.4 4	1.3	106

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Grunt, Besugo, Bangoknok *Pomadasys argyreus*	Muscle Raw	76.5 75.6-77.8 5	18.3 17.7-19.2 5	0.9 0.7-1.3 5	2.6 1.3-3.5 5	1.7	88
Grunt, Bluestriped *Haemulon sciurus*	Muscle Raw	78.2	21.2	0.6	1.5	0	90
	Whole Raw	70.3 70.2-70.4 2	17.4 16.6-18.2 2	7.8 5.7-9.9 2	4.7 3.7-5.6 2	0	140
Grunt, Dorade *Parapristipoma mediterraneum*	Muscle Raw	78.7	17.7	1.9	1.7	0	88
Grunt, Mojaria *Anisotremus interruptus*	Muscle Raw	77.3	19.1	2.7	1.1	0	106
Grunt, Silver *Pomadasys hasta*	Muscle Raw	79.1 77.5-79.8 4	19.2 18.6-21.1 4	0.6 0.2-0.7 4	1.5 1.3-1.6 4	0	82
Grunt, White *Haemulon plumieri*	Muscle Raw	80.0	19.5	0.2	1.1	0	80
Grunt Pomadasyidae	Muscle Raw	78.7 76.0-80.6 4	17.6 15.9-19.9 3	2.5 0.8-5.3 4	1.3 1.3-1.4 3	0	93
	Whole Raw	72.4	19.6	2.3	5.7	0	99
	Roe Raw	66.6	25.7	5.4	1.5	0.8	155
Grunter, Red *Pagellus notalensis*	Muscle Raw	78.1	19.2	0.5	1.4	0.8	85
Guitarfish, Fiddlefish *Rhinobatus hynnicephalus*	Muscle Raw	76.2	16.2	6.4	1.2	0	122
Guitarfish, Guitarra *Rhinobatus planiceps*	Muscle Dried	27.9	64.9	0.9	4.5	1.8	268
Gurnard, Red *Chelidonichthys kumu*	Muscle Raw	77.7 76.2-79.2 2	18.8 17.6-19.9 2	1.7 0.3-2.8 2	1.2 1.1-1.2 2	0.6	93
Haddock *Melanogrammus aeglefinnus*	Muscle Raw	80.6 78.5-82.7 60	18.2 15.4-20.4 51	0.5 0.1-1.0 39	1.3 1.1-2.7 33	0	77
	Cooked Baked Stuffed	62.2	19.5	9.9	2.7	5.7	190
	Fish Sticks	53.1	15.8	11.0	10.1	10.0	202
	Fried Battered & Breaded	65.6 65.1-66.0 2	20.2 20.0-20.4 2	7.1 5.9-8.3 2	(2.3)	4.8	164

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
	In Oven	66.1	17.2	5.0	1.9	9.8	153
	Unspecified	67.7	20.2	6.0	1.9	4.2	152
	In Mustard Sauce	74.5	16.2	5.5	1.8	2.0	126
	Steamed						
	Smoked	71.6	22.3	0.9	(5.2)	0	97
	Unspecified	77.2	20.9	0.8	(1.1)	0	91
		75.1-79.3	19.9-22.0				
		2	2				
	Smoked	72.9	23.1	0.3	3.6	0	95
		72.5-73.5	23.0-23.3	0.2-0.3			
		3	3	3			
	FPC	9.3	86.2	2.4	4.3	0	361
		5.9-12.5	76.8-90.3	0.2-7.8	3.1-4.9		
		4	4	4	4		
	Offal						
	Fishmeal	(10.4)	62.9	1.8	25.1	0	268
		(8.6)-(12.1)	61.8-64.0	1.3-2.2	24.8-25.3		
		2	2	2	2		
Hake, Chilian	Muscle						
Merluccius gayi	Raw	80.6	17.3	0.4	1.4	0.3	73
	Whole						
	Dried	9.2	73.8	9.4	11.7	0	380
			71.3-76.3	6.5-12.2	7.5-15.9		
			2	2	2		
	Fishmeal	9.8	70.0	6.8	13.7	0	341
	FPC	5.6	77.5	1.0	17.7	0	319
		4.0-7.1	75.5-79.5	0.2-1.7	16.2-19.1		
		2	2	2	2		
Hake, European	Muscle						
Merluccius merluccius	Raw	79.9	17.0	1.4	1.3	0.4	82
		72.8-84.9	13.7-18.8	0.2-6.0	0.9-1.8		
		18	14	15	11		
	Whole						
	Fishmeal	2.4	86.7	3.2	7.5	0.2	376
	Roe						
	Raw	72.8	17.3	6.0	1.8	2.1	132
Hake, Pacific	Muscle						
Merluccius productus	Raw	81.2	16.6	1.7	1.2	0	82
		80.1-81.7	16.1-18.4	0.7-2.5	1.1-1.3		
		6	7	6	6		
	Whole						
	Raw	79.4	14.5	3.6	3.1	0	90
		72.9-82.7	12.3-16.0	1.4-6.0	2.8-3.4		
		18	18	18	18		
	Fishmeal	7.3	68.0	12.9	13.6	0	388
		4.5-8.5	64.2-74.6	5.7-18.4	11.4-15.2		
		5	5	5	5		
Hake, Silver, Whiting	Muscle						
Merluccius bilinearis	Raw	80.3	16.6	1.3	1.2	7.2	107
		78.7-82.4	15.2-16.9	0.2-2.4	1.0-1.4		
		12	11	11	12		
	Dried	9.2	76.3	6.6	7.5	0.4	365
	Whole						
	Fishmeal	5.6	81.5	9.7	5.3	0	413

Table 1.--Proximate composition of finfishes, whales and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Offal						
	Raw	77.7	14.5	2.7	4.3	0.8	85
		75.4-79.7	13.3-15.5	0.3-4.7	3.5-5.9		
		3	3	3	3		
Hake, Spotted	Whole						
Urophycis regius	Raw	83.4	12.8	0.8	3.0	0	58
Hake, Squirrel	Muscle						
Urophycis chuss	Raw	82.0	16.4	0.5	1.2	0	70
			15.9-16.7	0.4-0.6			
			3	3			
	Whole						
	Raw	80.8	16.2	0.8	3.9	0	68
	Dried	3.4	76.6	14.7	12.8	0	437
		2.5-4.7	74.5-77.4	14.1-15.3	12.4-13.4		
		4	4	4	4		
	FPC	4.6	85.8	0.3	14.1	0	346
			82.3-88.9	0.1-0.5	12.0-14.8		
			13	13	13		
	Offal						
	Raw	71.6	14.1	5.3	3.0	6.0	128
Hake	Muscle						
Gadidae	Raw	79.3	17.0	1.2	1.5	1.0	83
		72.3-83.2	15.2-20.7	0.3-2.7	0.9-3.4		
		12	11	11	11		
	Cooked						
	Fried						
	Battered & Breaded	62.0	19.3	11.4	(1.5)	5.8	180
	Steamed	76.1	18.5	3.3	(2.1)	0	104
	Whole						
	Raw	69.8	21.8	5.4	3.0	0	136
	Dried	14.8	78.5	1.4	5.9	0	333
	Fishmeal	5.9	80.4	2.1	16.8	0	340
	Roe						
	Raw	70.0	23.4	1.8	5.2	0	110
Halfbeak	Muscle						
Hemiramphus intermedius	Raw	76.8	21.0	0.9	1.3	0	92
Halfbeak	Muscle						
Hemiramphus sajori	Raw	78.0	18.6	2.3	1.9	0	95
				2.1-2.4			
				2			
Halfbeak, Burguing	Muscle						
Hemiramphus far	Raw	78.6	18.9	1.3	1.0	0.2	88
		76.8-80.3	17.2-20.6	1.2-1.4	0.6-1.4		
		2	2	2	2		
Halfbeak, Non-spotted	Muscle						
Hemiramphus georgii	Raw	80.3	17.1	1.4	0.6	0.6	83
Halfbeak	Muscle						
Exocoetidae	Raw	77.4	20.6	0.9	1.3	0	91
		76.1-78.9	18.6-21.0	0.4-1.6	0.9-1.7		
		6	6	7	6		
Halibut, Atlantic	Muscle						
Hippoglossus hippoglossus	Raw						
	Dark meat	74.3	18.4	6.2	1.1	0	129
		71.7-76.9	18.0-18.8	3.9-8.5			
		2	2	2			

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Light meat	78.7 77.2-79.9 3	19.6 19.0-20.1 2	0.8 0.4-1.1 3	0.9	0	86
	Unspecified	77.7 75.0-82.9 9	18.0 17.1-18.5 3	2.7 0.6-8.3 11	1.1	0.5	98
	Smoked & Salted	49.5	20.8 20.5-21.0 2	15.0	2.0	12.7	269
Halibut, Pacific Hippoglossus stenolepis	Muscle						
	Raw						
	Cheeks	79.8 79.5-80.7 4	19.2 18.5-19.4 4	0.7 0.7-0.8 4	1.2 1.1-1.3 4	0	83
	Dark meat	71.6 67.2-75.2 4	16.9 15.4-18.2 4	10.6 5.7-16.7 4	1.2 1.0-1.3 4	0	163
	Unspecified	78.0 69.1-81.8 21	19.9 15.0-23.6 19	1.3 0.4-6.0 22	1.3 1.2-1.4 17	0	91
Halibut Pleuronectidae	Muscle						
	Raw	74.6 67.3-79.7 10	18.7 15.0-23.5 9	4.3 0.4-13.2 11	1.1 1.0-1.2 4	1.3	119
	Cooked						
	A La Mexicana	73.1	12.4	7.1	1.7	5.7	136
	Broiled	66.6	25.2	7.0	1.7	0	164
	In Olive Roll	69.8	10.0	6.5	2.3	11.4	144
	Piquante	66.9	19.9	10.9	1.6	0.7	180
	Rarebit						
	Casserole	69.6	10.2	4.7	1.9	13.6	138
	Steamed	70.9	22.7	4.0	(2.4)	0	127
	Salted, Smoked and Dried	49.4	20.7	15.0	15.0	0	218
Harvestfish Peprilus alepidotus	Whole						
	Raw	76.6 76.3-76.8 2	15.9 15.1-16.7 2	4.4 3.8-4.9 2	2.7 2.5-2.8 2	0.4	104
Hatchetfish Argyropelecus affinis	Whole						
	Raw	77.9	8.0	6.1	4.1	3.9	103
Herring Ilisha africana	Muscle						
	Raw	79.1	18.6	1.2	1.1	0	85
Herring, Anchova Temnodon saltator	Whole						
	Dried	12.5	58.9	2.3	26.8	0	256
Herring, Atlantic Clupea harengus	Muscle						
	Raw	74.3 70.1-78.0 5	18.0 17.0-18.9 4	9.8 2.4-20.2 44	1.6 1.5-1.7 2	0	160
	Whole						
	Raw	70.8	17.2 16.4-18.0 2	16.4 12.8-20.0 2	2.4	0	216
	Canned						
	In mustard	68.6	19.9 19.7-20.0 2	9.9 7.9-11.8 2	3.6 3.5-3.7 2	0	169
	In oil	60.2 55.1-62.6 4	17.4 17.5-23.9 5	16.4 12.1-17.5 5	3.4 2.9-3.9 5	2.6	228

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	In tomato sauce	67.9 65.3-70.4 2	16.8 15.8-17.7 2	12.4 10.5-14.2 2	3.1 2.8-3.3 2	0	179
	Unspecified	64.0 59.7-62.8 3	19.8 17.0-21.6 5	13.4 12.3-15.1 4	3.1 2.3-3.9 4	0	200
	Smoked	55.0 46.0-64.0 2	22.5 21.5-23.5 2	13.6 11.5-15.2 4	(8.9)	0	212
	Fishmeal	8.8 7.0-10.5 3	74.1 72.6-75.5 3	14.9 12.6-17.1 3	10.3 10.2-10.4 2	0	430
	Defatted	6.0 4.6-9.5 4	79.4 76.2-80.8 4	(4.0) (3.3)-(5.3) 4	10.7 10.5-11.2 4	0	354
Herring Atlantic Thread Opisthonema oglinum	Muscle Raw	74.9 74.7-75.1 2	21.3 21.1-21.4 2	2.4 2.3-2.4 2	1.8	0	107
	Whole Raw	70.4 68.1-74.4 5	18.5 17.8-19.4 5	7.1 3.5-10.4 5	3.6 3.2-4.6 5	0.4	138
Herring, Bachiva, Bacha Clupisoma garua	Muscle Raw	77.9 76.4-79.3 2	18.5 18.1-18.8 2	2.8 1.2-4.4 2	1.3	0	99
Herring, Bleeker, Tunsoy Harengula moluccensis	Muscle Raw	79.4	16.4	2.5	1.6	0	88
Herring, Deep Bodied Sardinella perforata	Muscle Raw	75.6 73.8-77.3 2	18.8 18.3-19.3 2	2.5 0.3-4.6 2	2.0 1.7-2.3 2	1.1	98
Herring, Fimbriated, Tunsoy Sardinella fimbriata	Muscle Raw	76.2 75.1-77.8 8	19.6 18.3-21.8 8	1.6 0.3-2.9 7	2.0 1.3-3.5 8	0.6	95
	Dried	26.8 10.8-42.7 2	44.8 38.0-51.5 2	10.8 19.1-2.4 2	16.2 13.8-18.6 2	1.4	282
	Dried & Smoked	22.7	54.0	9.8	13.5	0	304
	Salted & Dried	44.3 42.7-45.8 2	38.0	2.4	13.8	1.5	180
	Whole Raw	74.7 71.3-78.0 2	19.4 18.3-20.4 2	2.6 1.6-3.6 2	2.8 2.1-3.4 2	0.5	103
Herring Indian Pellona brachysoma	Muscle Raw	72.8	20.3	3.2	1.5	2.2	119
Herring, Machete Ethmidium chilcae	Muscle Raw	73.6 72.1-75.2 4	18.2 15.2-19.5 4	4.7 2.0-6.1 3	1.3 1.2-1.4 3	2.2	124
	Salted, Smoked and Dried	15.4	52.9	20.2	10.1	1.4	399

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Herring, Pacific Clupea pallasi	Muscle						
	Raw	72.8 69.0-76.6 5	18.3 16.0-25.2 5	8.5 2.6-12.5 6	1.3 1.2-1.3 5	0	150
	Canned	69.9 68.9-70.9 2	19.2 17.6-20.8 2	7.5 5.1-9.9 2	2.3 1.9-2.6 2	1.1	149
	Dried	26.3 18.0-36.0 3	52.4 44.5-67.8 3	14.3 7.8-24.0 4	4.8 3.4-6.5 3	0	338
	Salted	62.5 58.1-66.8 2	18.5 17.4-19.6 2	10.2 9.0-11.3 2	9.4 6.8-12.0 2	0	166
	Smoked	40.0	32.8	18.5	7.7	1.0	302
	Whole						
	Raw	70.1 57.7-80.2 37	15.7 10.2-17.8 37	13.6 4.1-24.4 37	2.4 1.6-2.8 37	0	185
	Roe						
	Raw	77.5 77.1-77.8 3	17.1 16.3-18.0 3	1.6 0.5-2.7 3	2.1 1.4-3.4 3	1.7	90
	Dried	57.4	29.0	11.5	1.9	0.2	220
Herring, Round Dussumieria acuta	Muscle Raw	76.1	19.2	1.4	2.0	1.3	95
Herring, Round Etrumeus micropus	Muscle Raw	71.7	21.8	5.5	1.6	0	137
Herring, Round Etrumeus teres	Muscle						
	Raw	76.5	19.1	2.7	1.4	0.3	102
	Raw Dark meat	61.6	16.5	9.6	2.2	10.1	193
	Whole						
	Raw	74.6 73.8-75.3 2	18.8 18.7-18.9 2	2.7 2.4-3.0 2	3.8 3.7-3.8 2	0	100
Herring, Skipjack Alosa chrysochloris	Whole Raw	73.6	19.6	3.2	2.5	3.6	122
Herring, Wolf Chirocentrus dorab	Muscle Raw	75.8 75.2-76.5 4	20.7 19.8-21.6 4	0.9 0.2-2.2 4	1.5 0.9-1.9 4	1.1	91
Herring Clupeidae	Muscle Raw	71.5 62.8-81.2 31	17.7 6.8-21.5 29	2.8 1.3-19.2 37	1.6 0.8-2.1 23	6.4	122
	Canned In tomato sauce	66.7	16.7 15.8-17.6 2	12.8 11.2-14.4 2	2.6	1.2	187
	Unspecified	50.2 34.6-65.8 2	27.9 18.8-36.9 2	14.4 12.9-15.8 3	8.2 3.1-13.2 2	0	241
	Cooked Baked	58.7	23.2	11.4	(6.7)	0	195

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Dried	25.9 12.9-34.6 3	50.3 36.9-67.6 4	20.9 6.5-40.5 4	9.5 5.2-13.2 4	0	389
	Kippered	53.1 34.5-62.3 4	26.0 20.0-36.3 5	11.0 3.2-15.8 5	5.1 1.6-9.2 4	4.8	222
	Salted & Dried	45.5 42.0-49.0 2	35.7	9.4 6.0-12.7 2	15.4 14.3-16.4 2	0	227
	Whole						
	Raw	73.0 66.9-78.2 6	17.6 16.4-19.1 4	7.4 2.6-15.1 6	2.8 2.3-3.7 4	0	137
	Cooked						
	Baked						
	In Vinegar	67.5	16.9	12.9	(2.7)	0	184
	Fried	58.7	21.8	15.1	(4.4)	0	223
	Salted	64.8	18.2 17.5-18.9 2	9.0	8.5	0	154
	Smoked	42.8 36.6-48.2 6	31.9 19.0-53.3 8	8.6 1.5-18.5 7	7.3 6.0-8.3 4	9.4	243
	Fishmeal	6.8 0.2-14.7 31	73.0 52.1-83.8 34	8.9 2.9-23.7 36	11.5 8.9-17.0 19	0	372
	FPC	8.2	87.2 84.2-89.7 4	0.4 0.1-0.5 3	7.8 6.8-10.2 4	0	352
	Roe						
	Raw	71.6 65.8-82.2 5	20.0 15.1-25.2 4	4.0 2.4-6.8 6	1.7 1.3-2.8 4	2.7	127
	Cooked						
	Fried						
	Floured	52.3	23.4	15.8	(1.7)	(6.8)	236
	Dried	18.0	67.5	10.7	3.4	0.4	368
Hottentot *Caranthus blochii*	Muscle Raw	77.0	18.9	2.0	1.4	0.7	96
Jacopever *Sebastichthys capensis*	Muscle Raw	78.4	19.5	0.3	1.2	0.6	83
	Whole Raw	74.5	17.3	3.5	4.8	0	101
Jewfish *Pseudosciaena coiber*	Muscle Raw	77.8 77.3-78.3 2	19.0 18.8-19.2 2	1.5 0.8-2.2 2	1.6 1.3-1.9 2	0	90
	Salted & Dried	14.5	46.2	5.8	21.8	11.7	284
Jewfish *Sciaena antarctica*	Muscle Raw	80.2	18.1	(0.3)	1.5	0	74
Jewfish *Sciaena sina*	Muscle Raw	73.6 69.7-77.4 2	17.9 17.3-18.4 2	0.7 0.4-0.9 2	1.9 1.4-2.4 2	5.9	102
Jewfish, California *Stereolepis gigas*	Muscle Raw	81.8	18.0	0.1	1.1	0	73

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Jumper *Lactarias lactarias*	Muscle Raw	73.3	19.4	5.8	1.4	0	130
Kabeljou *Sciaena hololepidotus*	Muscle Raw	77.5 76.9-78.1 2	19.2 18.6-19.8 2	2.3 1.4-3.0 4	1.1 0.9-1.3 2	0	98
	Salted & Dried	6.8	57.2	6.4	29.6	0	286
Katsuo *Euthynnus (Katsuwonus) vagans*	Muscle Raw	72.3 71.3-73.2 2	25.5 25.2-25.8 2	1.3 0.2-2.3 2	1.3	0	114
Kingfish, Cavalla *Caranx speciosus*	Muscle Raw	77.6	21.3	0.2	1.9	0	87
Kingfish, Whiting *Menticirrhus americanus*	Muscle Raw	77.3 75.3-79.2 2	18.3 17.7-18.9 2	3.1 0.9-5.2 2	1.3 1.2-1.3 2	0	101
	Whole Raw	76.3	15.5	6.1	2.2	0	117
Kingfish Carangidae	Muscle Raw	76.8	19.2	1.5	1.4	1.1	95
Kiyi *Coregonus kiyi*	Muscle Raw	74.5	15.8	8.7	1.1	0	142
Ladyfish *Elops saurus*	Muscle Raw	79.2	19.4	0.3 0.3-0.4 2	1.4	0	80
Lampfish, Mexican *Triphoturus mexicanus*	Whole Raw	71.3	9.2	13.0	2.7	3.8	169
Lamprey *Entosphenus japonicus*	Muscle Raw	60.3	21.0	14.2 7.4-18.0 4	0.7	3.8	227
	Dried	36.3	33.3	29.0	1.2	2.5	404
Lamprey, River *Lampetra ayresi*	Muscle Raw	71.1	15.0	13.0	(0.9)	0	177
Lamprey Petromyzontidae	Muscle Raw	66.2 60.0-71.1 3	16.0 13.1-21.0 4	15.5 13.0-18.8 7	0.7	1.6	204
	Canned	63.3	16.9	12.2	4.0	3.6	192
	Dried	22.3 8.5-36.0 2	35.2 33.3-37.0 2	41.2 29.0-53.3 2	1.7 1.2-2.1 2	0	512
Lance, Sand *Ammodytes langeolatus*	Muscle Raw	78.5 78.0-79.0 2	18.2 17.9-18.5 2	0.9 0.3-1.5 2	2.8	2.4	91
Lance, Sand *Ammodytes personatus*	Muscle Dried	12.1	62.3	9.6	13.7	2.3	345

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Lanternfish *Lampanyctus regalis*	Whole Raw	86.3	5.7	2.9	2.5	2.6	59
Lanternfish *Lampanyctus ritteri*	Whole Raw	70.6	11.6	11.8	1.9	4.1	169
Lanternfish, Blue *Tarletonbeania crenularis*	Whole Raw	77.1	12.0	3.4	4.5	3.0	91
Lanternfish, California Headlightfish *Diaphus theta*	Whole Raw	66.1	12.2	19.5	3.1	0	224
Lanternfish, Northern *Stenobrachius leucopsarus*	Whole Raw	66.8	10.6	13.1	3.4	6.1	185
Leatherjacket *Lichia glauca*	Muscle Raw	75.9 75.4-76.3 2	19.9 19.8-19.9 2	1.6 0.8-2.3 2	1.5 1.4-1.5 2	1.4	100
	Dried	21.5 17.9-25.0 2	56.5 56.0-57.0 2	3.2 2.6-3.8 2	20.5 19.6-21.3 2	0	255
Leatherjacket, Yellow *Scomber lyson*	Muscle Raw	76.3 75.8-76.9 6	19.8 15.5-22.7 6	2.4 0.5-6.4 6	1.8 1.2-2.1 6	0	101
Leerfish *Lichia amia*	Muscle Dried	23.5	39.4	5.1	22.8	9.2	240
Levovangan *Monotaxes grandoculis*	Muscle Raw	78.1 77.0-79.2 4	18.8 17.1-20.0 4	1.1 0.6-1.8 4	1.2 0.8-1.4 4	0.3	88
Lightfish *Cyclothone acclinidens*	Whole Raw	79.4	8.7	6.1	3.5	2.3	99
Ling *Molva molva*	Muscle Raw	79.2 77.7-81.7 3	18.9 16.1-21.0 7	0.4 0.1-0.7 5	1.1 0.5-1.5 3	0.4	81
	Cooked Fried Battered & Breaded	55.2	16.8	12.4	(1.1)	(4.5)	179
	Steamed	74.6	22.4	0.8	2.2	0	97
Lingcod *Ophiodon elongatus*	Muscle Raw	79.5 78.4-81.1 4	18.0 16.7-19.4 6	0.9 0.5-1.3 6	1.2	0.4	82
	Offal Raw	75.0	15.6	5.7	4.2	0	114
Lizardfish *Saurida argyrophanes*	Muscle Raw	79.6 77.5-81.7 2	18.9 16.7-21.0 2	1.3	1.2	0	87
Lizardfish *Saurida gracilis*	Muscle Raw	77.6	20.0 19.4-20.6 2	0.5 0.2-0.7 2	1.3 1.1-1.4 2	0.6	87
Lizardfish *Saurida tumbil*	Muscle Raw	78.2 77.9-78.4 2	19.4 18.8-20.0 2	0.4 0.1-0.6 2	1.4	0.6	84

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Dressed						
	Raw	(77.1)	19.4	1.8	1.7	0	94
			17.4-23.5	0.7-3.4	1.4-2.2		
			26	27	26		
Lizardfish	Muscle						
Saurus lacerta	Raw	75.4	21.1	0.2	1.6	8.7	121
Lizardfish	Whole						
Synodus foetens	Raw	76.0	18.7	1.3	4.3	0	87
		74.5-77.5	18.6-18.7	0.8-1.7	3.9-4.7		
		2	2	2	2		
Lizardfish, Spotted Tail	Muscle						
Saurida undosquamis	Raw	(68.1)	19.2	1.0	1.7	0	86
			17.3-21.0	0.8-1.1	1.6-1.7		
			2	2	2		
Lizardfish	Muscle						
Synodontidae	Raw	78.2	19.5	1.1	1.4	0	88
		77.7-79.2	19.0-20.3	0.5-1.5	1.2-1.5		
		4	4	4	3		
	Dried	20.6	62.5	6.3	10.6	0	307
Loach, Weatherfish	Muscle						
Misgurnus anguillicaudatus	Raw	78.9	15.7	2.3	2.6	0.5	86
		77.8-79.9	15.0-16.4	1.8-2.7	2.4-2.8		
		2	2	2	2		
Loach	Muscle						
Cobitidae	Raw	76.0	19.3	1.9	2.5	0.3	96
Longaray	Muscle						
Ambassidae	Raw	79.3	19.5	0.4	1.2	0	82
Lookdown	Muscle						
Selene vomer	Raw	75.4	20.7	1.8	2.7	0	99
Lumpfish	Muscle						
Cyclopteridae	Raw	85.4	7.7	5.7	0.8	0.4	84
		85.4-85.4	6.3-9.1	3.7-7.6	0.7-0.8		
		2	2	2	2		
	Roe						
	Raw	79.5	13.6	3.6	0.9	2.4	96
Maasbanker, Mackerel, Jack	Muscle						
Trachurus trachurus	Raw	76.0	19.5	2.5	1.6	0.4	102
		72.0-79.4	16.7-20.9	0.2-5.2	1.2-2.7		
		11	11	11	10		
	Canned	67.0	23.2	3.8	3.5	2.5	137
	Dried	25.3	49.1	6.9	8.4	10.3	300
		12.5-38.0	46.0-52.1				
		2	2				
	Whole						
	Raw	76.6	16.2	3.5	3.8	0	96
		73.0-80.5	12.8-17.6	1.4-6.1	3.3-4.4		
		4	5	5	5		
	Fishmeal	1.0	80.5	8.8	9.4	0.3	402
Mackerel	Muscle						
Scomber microlepidotus	Raw	75.4	18.6	1.5	1.4	5.1	108
		73.9-77.7	13.5-22.8	0.9-2.0	1.1-1.7		
		3	3	2	2		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Mackerel, Atlantic Scomber scombrus	Muscle Raw	61.6 57.0-78.6 19	19.6 15.1-24.1 21	9.6 0.7-24.0 37	1.5 0.9-2.5 16	8.2	198
	Dark Meat	59.7	18.6	11.8 8.7-18.3 7	1.0	8.9	216
	Canned	65.9 62.9-74.0 4	18.1 17.0-19.4 4	13.5 3.3-18.6 4	3.0 2.7-3.2 4	0	206
	Cooked Fish Loaf	61.9	21.6	13.4	0.3	2.8	218
	Offal Raw	64.3 61.6-65.2 3	14.7 13.3-15.7 3	17.7 15.5-19.4 3	3.5 3.1-3.9 3	0	218
Mackerel, Frigate Auxis tapernosoma	Muscle Raw	73.0 72.3-73.7 3	23.2 21.5-24.8 4	1.9 0.7-3.1 3	1.4	0.5	112
Mackerel, Frigate Auxis thazard	Muscle Raw	71.5 70.2-72.7 4	23.0 18.5-25.8 4	2.4 1.3-4.1 4	1.5 1.3-1.7 4	1.6	120
	Fully Dried	16.6	76.1	4.5	3.1	0	345
	Half Dried	68.2	22.8	2.3	6.0	0.7	115
Mackerel, Horse Caranx lutecens	Muscle Raw	73.0	21.1	4.4	1.4	0	124
Mackerel, Horse Caranx melampygus	Muscle Raw	76.9	21.2	1.6	1.3	0	99
Mackerel, Horse Caranx ronchus	Muscle Raw	77.1 76.9-77.2 2	19.3 19.0-19.5 2	1.8	2.5 2.3-2.7 2	0	93
Mackerel, Horse Trachurus capensis	Muscle Salted & Dried	14.0	60.9	5.4	25.4	0	292
Mackerel, Horse Carangidae	Muscle Canned	71.1 69.4-72.7 2	21.4 21.3-21.5 2	6.2 4.1-8.2 2	1.4 1.1-1.7 2	0	141
	Salted & Dried	38.0	35.3	1.8	(24.8)	0	157
Mackerel, Indian Rastrelliger neglectus	Muscle Raw	72.0	20.7	6.5	1.7	0	141
Mackerel, Jack Trachurus japonicus	Muscle Raw	77.6 75.6-79.5 4	19.1 18.1-20.0 4	1.8 0.9-3.2 3	1.2	0.3	94
	Canned	67.0	23.2	3.8	3.6	2.4	137
	Dried	34.4 30.1-38.7 2	50.0 46.0-54.0 2	6.3 5.6-6.9 2	9.3 8.4-10.1 2	0	257
Mackerel, King Scomberomorus cavalla	Muscle Raw	72.7	23.0	4.6	1.3	0	133

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Mackerel, King, Seer	Muscle						
Scomberomorus commersonii	Raw	75.6	18.9	1.4	1.5	2.6	99
		63.0-82.1	15.9-25.0	0.2-4.9	1.3-1.6		
		9	9	8	8		
	Salted & Dried	46.9	34.8	4.0	14.6	0	175
		40.4-54.5	26.2-43.1	2.3-5.8	14.4-14.7		
		3	3	3	2		
Mackerel, King	Muscle						
Scombridae	Raw	75.7	20.4	2.7	1.3	0	106
Mackerel, Long-Jawed	Muscle						
Rastrelliger canagurta	Raw	76.6	18.8	2.5	1.4	0.7	100
		73.3-79.3	16.6-21.4	0.5-4.3	1.1-1.8		
		8	8	10	8		
	Dried	23.7	74.3	6.1	5.6	0	352
	Salted & Dried	29.8	55.4	11.1	14.5	0	322
		24.5-39.5	42.8-68.4	5.2-15.2	11.0-17.3		
		6	6	6	6		
Mackerel, Pacific Chub	Muscle						
Scomber japonicus/colias	Raw	70.8	20.6	6.6	2.0	0	142
		61.5-78.4	15.8-25.3	0.3-15.9	1.1-8.2		
		29	24	26	20		
	Canned						
	In Oil	62.1	24.8	14.0	0	0	225
	Unspecified	69.4	21.3	6.5	2.8	0	144
		66.4-72.3	18.7-24.0	2.7-10.0	2.4-3.5		
		5	5	5	5		
	Dried	16.5	72.4	7.4	3.7	0	356
	Salted	65.2	25.2	4.9	4.7	0	164
	Salted & Dried	52.1	20.9	16.1	(10.9)	0	229
	Whole						
	Raw	69.7	21.3	1.1	8.2	0	95
	Roe						
	Raw	67.2	23.0	5.2	1.6	3.0	151
		65.8-68.5	20.8-25.1	5.1-5.2	1.5-1.7		
		2	2	2	2		
Mackerel, Short-Bodied, Hasa Hasa	Muscle						
Rastrelliger brachysomus	Raw	75.9	19.6	1.9	1.6	1.0	100
		75.1-76.7	17.2-20.9	0.7-4.1	1.1-2.2		
		3	3	3	3		
	Smoked	61.9	30.4	1.7	5.8	0.2	137
Mackerel, Spanish	Muscle						
Scomberomorus maculatus	Raw	73.5	19.8	5.9	1.2	0	132
		65.6-78.3	17.6-21.5	0.6-14.4	0.9-1.5		
		8	8	8	9		
	Cooked						
	Unspecified	68.9	23.7	6.5	1.4	0	153
	Offal						
	Raw	67.4	16.0	12.4	3.6	0.6	178
Mackerel, Spotted Spanish	Muscle						
Scomberomorus guttatus	Raw	70.7	21.2	7.7	1.5	0	154
		68.7-72.7	19.8-22.5	1.7-15.5	1.4-1.5		
		2	2	4	2		
Mackerel, West African, Spanish	Muscle						
Scomberomorus tritor	Raw	73.6	19.8	4.8	1.7	0	122
		71.6-75.6	19.5-20.0	2.8-6.8	1.6-1.8		
		2	2	2	2		
	Dried	18.4	74.5	2.4	4.7	0	320

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Mackerel Scombridae	Muscle Raw	71.1 63.1-80.6 30	19.5 16.4-25.3 26	9.9 0.1-17.7 30	1.8 1.2-3.1 22	0	167
	Canned In Oil	52.8 43.3-58.3 4	20.1 17.2-25.4 4	22.4 14.1-28.5 4	2.5 1.2-4.1 4	2.2	291
	In Tomato Sauce	66.1	16.9	13.7	2.2	1.1	195
	Marinated	70.6	20.8	4.6	2.5	1.5	131
	Unspecified	67.1 64.3-74.3 7	19.4 18.5-21.4 7	10.0 5.4-20.2 12	2.2 1.3-3.5 7	1.3	173
	Cooked Broiled	65.3 61.6-68.9 2	22.8 21.8-23.7 2	12.7 6.5-15.8 3	1.5 1.4-1.6 2	0	206
	Fried	52.7 47.8-57.5 2	21.1 20.0-22.1 2	12.2 11.3-13.0 2	1.9	12.1	243
	Salad	68.6	11.9	14.3	1.8	3.4	190
	Dried	15.5	72.4	7.4	3.7	1.0	360
	Salted	62.7 60.3-65.0 2	23.5 18.3-27.0 3	7.2 4.0-13.0 4	4.7 4.7-4.7 2	1.9	166
	Salted & Dried	41.4 37.7-43.4 4	25.6 17.3-42.0 4	19.2 5.2-26.4 4	10.7 2.5-14.2 4	3.1	275
	Smoked	61.6 61.1-62.1 2	26.0 21.5-30.4 2	9.2 1.7-15.2 3	5.8 5.8-5.8 2	0	187
	Fishmeal	8.3 7.0-9.7 3	67.0 58.6-75.3 2	9.1 7.9-10.7 3	14.9 8.8-21.0 2	0.7	353
	FPC	6.8 6.6-7.0 2	89.9 89.5-90.3 2	1.2 0.5-1.9 2	2.4 0.8-3.9 2	0	370
Marlin, Black Makaira indica	Muscle Raw	76.4	22.6	0.6	1.3	0	96
Marlin, Blue Makaira nigricans	Muscle Raw	73.0	23.1	3.2	1.0	0	121
Marlin, Striped Makaira audax	Muscle Raw	75.6 74.0-77.2 2	21.1 21.0-21.2 2	2.7 0.3-5.0 2	1.1	0	109
Menhaden, Atlantic Brevoortia tyrannus	Muscle Canned	67.9	18.7	10.2	3.8	0	167
	Whole Fishmeal	6.0 3.1-7.6 3	63.5 62.1-66.3 3	12.5 11.1-13.8 2	17.4 16.8-18.3 3	0.6	369
Menhaden, Gulf Brevoortia patronus	Whole Raw	68.9 63.3-76.7 4	15.5 14.6-17.7 4	11.8 2.1-17.8 4	3.5 3.4-3.7 4	0.3	169

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Menhaden	Whole						
Clupeidae	Raw	75.8	15.9	4.2	4.5	0	101
	Fishmeal	8.1	61.0	10.8	18.0	2.1	350
		3.3-10.6	51.1-66.8	4.4-17.0	15.2-20.8		
		14	16	12	14		
Milkfish	Muscle						
Chanos chanos	Raw	72.5	20.5	5.3	1.3	0.5	132
		71.2-73.8	19.2-21.4	3.5-6.2	1.1-1.5		
		6	6	6	6		
	Cooked						
	Roasted	64.9	30.3	3.8	1.6	0	155
	Dried	15.2	52.2	11.8	12.7	8.1	347
	Salted & Dried	13.0	45.0	14.0	28.0	0	306
	Smoked	61.9	28.7	7.7	2.0	1.7	191
		60.5-63.6	27.5-29.3	6.6-8.3	1.9-2.2		
		3	3	3	3		
	Roe						
	Salted	87.2	5.8	2.1	2.4	2.5	52
Minnow, Common	Muscle						
Zacco platypus	Raw	82.8	13.5	2.8	1.5	0	79
Minnow	Muscle						
Cyprinidae	Raw	81.2	15.9	1.0	1.4	0.5	75
Mojarra	Muscle						
Diapterus evermanni	Raw	78.3	18.6	1.2	1.4	0.5	87
Mojarra, Spotted	Muscle						
Gerres filamentosus	Raw	78.6	18.6	1.3	1.7	0	86
		78.4-78.9	17.7-19.6		1.2-2.2		
		3	3		3		
Mojarra	Muscle						
Gerreidae	Raw	76.2	21.2	1.2	1.4	0	96
Moonfish, Atlantic	Muscle						
Vomer setapinnis	Dried	38.3	35.8	7.3	18.7	0	209
		38.1-38.4	35.7-35.8				
		2	2				
Moonfish, Pacific	Muscle						
Vomer declivifrons	Raw	72.9	24.4	2.1	1.3	0	117
Mosquitofish	Whole						
Gambusia affinis	Raw	78.0	13.5	4.5	4.0	0	95
Mullet	Muscle						
Mugil oeur	Raw	69.9	19.1	7.8	1.1	2.1	155
Mullet, Bhangar	Muscle						
Mugil tade	Raw	78.4	16.4	0.6	1.4	3.2	84
		76.3-80.4	14.0-18.9		1.2-1.6		
		2	2		2		
Mullet, Black Fin	Muscle						
Mugil melinopterus	Raw	74.5	19.8	3.2	1.3	0	108
	Dried	43.5	32.0	5.3	16.0	3.2	189
Mullet, Ca'Doi	Muscle						
Mugil affinos	Raw	67.6	21.3	10.0	1.0	0	175

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Mullet, Green-Backed Mugil dussumierii	Muscle Raw Dried	 72.3 43.5	 20.5 32.0	 3.6 5.3	 1.8 16.0	 1.8 3.2	 121 189
Mullet, Grey Mugil auratus	Muscle Raw	 78.2	 17.9	 2.9	 1.3	 0	 98
Mullet, Grey, Boi Mugil speigleri	Muscle Raw	 73.0	 17.8	 0.5	 1.0	 7.7	 107
Mullet, Grey Harder Mugil capito	Muscle Raw	 71.6	 21.2	 6.2 5.3-7.1 2	 1.3	 0	 141
Mullet, Indian Mugil corsula	Muscle Raw Dried	 77.2 14.1	 17.7 61.4	 0.7 6.5	 1.1 12.0	 3.3 6.0	 90 328
Mullet, Kechki Mugil cascasia	Muscle Raw	 78.4 70.8-86.0 2	 14.9 12.3-17.6 2	 0.4	 1.7	 4.6	 82
	Whole Dried	 15.9	 69.3	 1.8	 10.5	 2.5	 303
Mullet, Long-Finned Mugil vaigiensis	Muscle Raw	 74.0 73.2-74.7 2	 20.6 20.4-20.8 2	 2.1 1.5-2.6 2	 2.0 1.3-2.6 2	 1.3	 107
	Roe Raw	 55.5	 25.2	 13.9	 2.4	 3.0	 238
Mullet, Parsey Mugil parsia	Muscle Raw	 70.8 69.3-72.3 2	 17.5 16.6-18.4 2	 4.6 3.0-5.9 3	 1.5 0.9-2.1 2	 5.9	 135
Mullet, Striped Mugil cephalus	Muscle Raw	 72.4 59.5-79.9 37	 19.2 15.7-22.8 34	 6.0 0.7-20.2 37	 1.3 1.0-1.8 33	 1.1	 135
	Dressed Raw	 63.7 58.5-72.7 8	 16.9 15.5-19.2 7	 14.6 3.4-22.4 8	 3.9 3.5-4.6 7	 0.9	 203
	Offal Raw	 60.6 50.2-72.0 6	 16.8 14.5-18.4 5	 15.2 1.2-26.7 6	 6.6 5.0-8.6 5	 0.8	 207
Mullet Mugilidae	Muscle Raw	 74.4 69.7-79.3 18	 20.1 17.7-22.6 21	 4.6 1.2-7.8 18	 1.2 1.0-1.3 13	 0	 122
	Cooked Boiled & Steamed	 71.1 69.1-72.7 3	 22.7 21.4-25.0 3	 4.3 4.0-4.5 3	 1.4	 0.5	 132
	Fried In Oil Salted & Dried	 19.2 31.8 19.0-44.5 2	 26.9 41.6 40.7-42.5 2	 46.7 26.0 4.1-11.0 2	 6.7 20.0 12.4-27.5 2	 0.5 0	 530 400

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Smoked	61.0	27.6	8.8	2.7	0	190
		60.5-61.5	26.5-28.6	8.4-9.2	1.5-3.8		
		2	2	2	2		
	Whole						
	Raw	75.5	15.7	5.1	3.6	0	109
	Dried	33.5	41.6	14.8	10.1	0	300
	Fishmeal	2.4	82.8	9.7	6.0	0	419
	Roe						
	Salted & Dried	23.0	40.0	26.0	6.4	4.6	412
Nemipterid, Long-Tailed	Muscle						
Nemipterus japonicus	Raw	78.8	17.8	1.0	2.1	0.3	81
		78.2-79.4	17.2-18.3	0.3-1.5	1.3-3.4		
		3	4	4	4		
Nemipterid, Ribbon-Finned	Muscle						
Nemipterus taenipterus	Raw	77.8	18.4	1.0	1.4	1.4	88
		76.4-79.2	17.6-19.3	0.9-1.2	1.3-1.4		
		3	3	3	3		
	Dried	40.6	34.6	2.9	18.7	3.2	177
Nemipterid, Roncador	Muscle						
Nemipterus virgatus	Raw	77.4	17.8	2.7	1.2	0.9	99
		76.5-78.2					
		2					
Nemipterid	Muscle						
Nemipteridae	Raw	78.4	17.7	1.9	1.9	0	88
Pandora, Sea Bream	Muscle						
Pagellus erythrinus	Raw	79.0	17.2	2.0	1.7	0	87
		75.7-80.9	15.6-21.3	0.4-2.7	1.3-2.4		
		7	8	9	7		
Parrotfish	Muscle						
Oplegnathus fasciata	Raw	79.2	17.1	2.7	1.3	0	79
		78.6-79.8	16.1-18.0	2.3-3.1	1.1-1.5		
		2	2	2	2		
Parrotfish	Muscle						
Scarus mechipunctatus	Raw	79.7	19.2	0.4	1.1	0	80
		79.2-80.2					
		2					
Parrotfish, Loro	Muscle						
Sparisoma squalidum	Raw	80.0	18.9	0.4	1.4	0	79
Parrotfish	Muscle						
Scaridae	Raw	75.1	20.5	2.0	1.5	0.9	104
		74.4-75.8	20.0-21.0				
		2	2				
Perch, Blue, Walleye	Muscle						
Stizostedion vitreum glaucus	Raw	79.8	18.9	1.1	1.2	0	86
		79.6-79.9	18.6-19.1	0.9-1.5	1.1-1.2		
		2	3	3	3		
	Offal						
	Raw	69.6	16.9	8.8	6.0	0	147
		66.8-71.2	15.9-17.8	7.5-10.7	5.1-7.0		
		4	4	4	4		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Perch, Climbing Anabas testudenicus	Muscle Raw	75.2 70.0-78.6 8	18.1 14.8-20.1 9	4.5 1.6-8.8 5	1.5 0.9-2.0 6	0.7	116
	Whole Raw	71.0	14.6	8.8	(5.6)	0	138
Perch, Climbing, Gourami Trichogaster fasciata	Muscle Raw	75.0	16.1	3.9	1.9	3.1	112
Perch, Climbing, Gourami Trichogaster pectoralis	Muscle Raw	78.9 76.9-80.9 2	18.0 17.2-18.8 2	0.8	1.1	1.2	80
Perch, Climbing, Gourami Trichogaster trichopterus	Muscle Raw	76.3 74.4-78.3 2	19.3 18.8-19.8 2	0.3	1.0	3.1	92
	Dried	38.3 28.5-48.0 2	34.1 29.6-38.5 2	9.4 4.6-14.2 2	16.3	18.2	294
Perch, Climbing Anabantidae	Muscle Raw	76.0 70.0-81.5 6	17.7 14.6-20.4 7	4.6 2.0-7.1 2	1.2 1.0-1.6 3	0.5	114
	Dried	48.0	29.6	4.6	16.4	1.4	165
Perch, Golden, Callop Plectroplites ambiguus	Muscle Raw	78.2	18.0	2.1	1.4	0.3	91
Perch, Ocean, Pacific Sebastes alutus	Muscle Raw	79.1 78.4-79.8 5	18.5 17.2-19.2 6	1.4 1.2-1.5 5	1.2 1.0-1.3 6	0	91
	Offal Raw	70.4	16.3	7.8	6.5	0	135
Perch, Sand Psammoperca waigiensis	Muscle Raw	77.2	20.8	0.7	1.3	0	90
Perch, Silver Bairdella chrysura	Whole Raw	75.5 74.8-76.9 4	16.9 16.4-17.2 4	3.2 2.2-3.9 4	4.6 4.0-5.7 4	0	96
Perch, Yellow Perca flavescens	Muscle Raw	78.9 75.5-81.1 14	18.8 17.3-20.0 15	1.1 0.5-4.0 16	1.2 1.1-1.4 11	0	85
	Whole Raw	74.5 71.7-76.3 5	16.6 15.8-17.5 5	4.4 2.5-7.5 5	4.3 3.7-5.3 5	0.2	107
	Offal Raw	70.5 68.5-74.3 3	17.0 16.3-17.7 3	7.6 5.0-9.2 3	6.4 4.5-7.5 3	0	136
Perch Percidae	Muscle Raw	82.6	14.9	0.7 0.6-0.8 3	1.0	0.8	69

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Whole						
	FPC	7.5	78.7	7.8	6.6	0	385
Picarel	Muscle						
Maena zebra	Raw	75.4	19.8	1.4	1.4	2.0	100
	Dressed						
	Raw	79.0	16.2	0.9	2.5	1.4	76
Picarel	Muscle						
Smaris vulgaris	Raw	67.7	28.1	3.3	2.0	0	142
		64.6-70.8	24.9-31.2		2.0-2.1		
		2	2		2		
Picarel	Muscle						
Centracantidae	Raw	76.1	18.6	0.3	1.4	3.6	92
		72.5-79.7					
		2					
Pigfish, Grunt	Whole						
Orthopristis chrysoptera	Raw	74.3	16.7	5.1	4.1	0	113
Pike	Muscle						
Hepsetus odoe	Raw	79.2	18.8	0.7	1.3	0	82
	Dried & Smoked	11.2	80.2	4.2	4.4	0	359
Pike, Muskellunge	Muscle						
Esox masquinongy	Raw	76.3	20.2	2.5	1.6	0	103
Pike, Northern	Muscle						
Esox lucius	Raw	79.7	18.7	0.9	1.2	0	93
		78.5-80.2	18.2-19.7	0.5-1.2	1.1-1.3		
		4	4	4	2		
	Offal						
	Raw	71.8	16.5	5.3	4.7	1.7	114
Pike	Muscle						
Esocidae	Raw	78.9	18.3	0.7	1.2	0.9	83
		76.7-80.8	17.9-18.7	0.5-0.9	1.1-1.3		
		5	3	5	4		
Pilchard, Australian	Whole						
Sardinops neopilchardus	Raw	77.1	16.3	1.0	4.5	1.1	79
		75.9-78.9	14.8-17.5	0.3-1.2	4.3-4.9		
		6	6	6	6		
Pilchard, European	Muscle						
Clupea pilchardus	Raw	71.7	19.5	5.9	2.3	0.6	134
		59.6-81.8	14.4-25.4	1.5-17.4	1.0-6.7		
		27	29	29	28		
	Canned						
	In Oil	54.8	21.7	22.6	3.5	0.9	294
		54.0-55.5	20.0-25.0	13.5-32.7			
		2	3	3			
	Whole						
	Fishmeal	2.2	65.2	26.9	5.5	0.2	504
Pilchard, Japanese	Muscle						
Sardinops melanosticta	Raw	72.3	18.2	6.3	2.3	0.9	133
		69.0-76.6	16.2-21.1	0.7-11.0	1.2-5.4		
		8	6	8	6		
	Canned						
	In Oil	54.8	21.7	20.0	3.2	0.3	268
	In Tomato	68.0	22.2	5.4	2.9	1.5	143

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Unspecified	69.0 64.5-72.4 3	18.5 15.5-20.6 3	6.1 4.8-7.7 3	3.9 3.5-4.3 2	2.5	108
	Salted	63.8	23.3	5.7	7.2	0	116
	Salted & Dried	40.7 29.0-52.4 2	40.0 25.8-54.1 2	6.7 3.3-10.0 2	12.8	0	220
	Whole Dried	30.3 18.2-42.4 2	55.2	10.4 6.9-13.8 2	12.8	0	314
Pilchard, Pacific Sardinops (Sardina) caerulea	Muscle Raw	67.4 63.4-76.2 7	19.2 18.1-22.6 8	12.1 3.1-15.6 8	3.1	0	186
	Canned In Tomato Sauce	65.8 64.6-67.4 4	18.5 17.8-19.7 5	12.3 10.4-14.8 5	2.7 2.6-2.8 5	0.7	188
	Unspecified	61.9 56.1-65.2 7	16.8 15.9-17.7 7	17.9 13.7-26.2 6	1.7 1.1-2.9 7	1.7	228
Pilchard Clupeidae	Muscle Canned	64.8 60.7-68.2 3	17.6 15.8-21.9 4	13.9 10.8-14.9 4	1.8 1.6-1.9 2	1.9	70
	Whole Fishmeal	7.1 5.9-8.3 2	65.7 61.9-68.3 3	3.6 3.5-3.7 2	16.5 12.8-20.9 3	7.0	295
Pintadilla Cheilodactylus variegatus	Muscle Raw	74.8	19.1	1.8	1.4	2.9	104
Plaice, American Hippoglossoides platessoides	Muscle Raw	81.6 77.5-85.5 11	15.9 13.1-18.1 10	0.8 0.1-4.8 10	1.2	0.5	73
	Offal Raw	75.5 74.7-76.3 2	16.5 15.7-17.2 2	2.5 2.2-2.8 2	5.1 4.7-5.5 2	0.6	91
Plaice, American Pleuronectes platessa	Muscle Raw	80.0 79.1-80.0 2	17.2 16.8-17.7 3	1.5 0.3-2.3 5	1.3	0	82
	Whole	78.3 76.8-79.9 2	15.9 14.8-17.3 3	3.2 0.9-5.4 2	(2.6)	0	92
Plaice, Solla Platessa platessa	Muscle Raw	78.0	17.3	2.6	2.0	0	93
Plaice Pleuronectidae	Muscle Raw	80.1 79.2-81.0 4	15.9 15.3-16.4 4	1.6 1.4-1.8 2	1.4 1.2-1.6 2	1.0	82
	Cooked Fried	58.5	18.0	14.4	(2.1)	0	202
	Steamed	78.0	18.1	1.9	(2.0)	0	90

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
	Whole						
	Raw	76.2	18.4	1.4	4.6	0	86
Pollock	Muscle						
Pollachius pollachius	Raw	78.7	18.4	0.4	1.6	0.9	81
		77.4-80.3	17.5-19.2	0.3-0.7	1.3-2.0		
		5	6	6	5		
Pollock, Saithe, Coalfish	Muscle						
Pollachius virens	Raw	78.9	19.2	0.8	1.4	0	84
		72.9-82.1	17.0-24.3	0.2-2.0	1.2-1.9		
		7	11	9	5		
	Canned	72.9	24.3	1.5	1.9	0	111
	Cooked						
	Riceloaf	74.0	12.7	2.2	2.5	8.6	105
	Steamed	74.8	22.6	0.6	(2.0)	0	96
	Offal						
	Raw	70.7	16.5	8.1	3.7	1.0	143
		70.1-71.3	16.1-17.0	6.6-9.6	3.4-4.0		
		3	3	3	3		
Pollock, Walleye	Muscle						
Theragra chalcogramma	Raw	81.2	16.7	0.8	1.1	0	74
		80.3-83.0	14.7-18.9	0.2-1.0	1.0-1.3		
		15	17	17	15		
	Dried	16.3	65.5	3.2	7.5	7.5	321
	Salted & Dried	34.3	56.0	2.0	7.7	0	242
	Whole						
	Raw	79.3	16.0	2.4	3.4	0	86
		79.1-79.6	15.3-17.2	1.2-3.0	3.3-3.5		
		3	3	3	3		
	Fishmeal	11.9	53.8	7.5	23.8	3.0	295
	Offal						
	Raw	79.7	15.7	1.8	4.3	0	79
			14.1-17.2	1.0-2.6			
			2	2			
	Roe						
	Raw	66.4	25.3	2.0	4.3	2.0	127
		65.1-67.6	24.2-26.4	1.9-2.1	2.2-6.4		
		2	2	2	2		
Pollock	Muscle						
Gadidae	Raw	78.7	19.7	1.3	1.5	0	91
		75.9-80.4	16.3-21.7	0.8-2.5	1.1-1.8		
		6	5	5	5		
	Cooked						
	Cakes	58.5	11.9	16.8	2.5	10.3	240
	Creamed	74.7	13.9	5.9	1.5	4.0	125
	Fried						
	Almond Sauce	71.9	18.5	5.9	2.3	1.4	133
	Battered & Breaded	67.5	16.5	6.9	(1.5)	(7.6)	158
	Loaf	69.8	15.2	4.1	2.3	8.6	132
	Salad	69.2	15.5	10.9	2.3	2.1	169
	Shortcake	67.1	12.8	5.1	2.3	12.7	148
	Roe						
	Raw	68.9	24.9	1.0	8.0	0	109
		64.0-73.8					
		2					
Pomfret, Atlantic	Muscle						
Brama brama	Raw	77.3	19.7	0.8	1.2	0	86
		73.7-78.9	18.4-20.5	0.3-1.9	1.1-1.3		
		4	4	4	4		
	FPC	1.2	93.7	2.4	3.0	0	396

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Pomfret, Silver *Pampus argenteus*	Muscle Raw	75.7 69.3-81.0 3	19.2 15.1-25.6 3	3.8 1.0-5.2 4	1.1 0.7-1.5 3	0.2	112
Pomfret, Silver *Pampus chinensis*	Muscle Raw	76.0	20.9	1.6	1.1	0.4	100
Pomfret Bramidae	Muscle FPC	8.4	84.4	0.6	8.1	0	343
Pompano *Caranx ignobilis*	Muscle Raw	74.6 72.9-76.3 2	21.1 19.9-22.2 2	3.3 0.9-5.6 2	(1.0)	0	114
Pompano *Caranx stellatus*	Muscle Raw	75.9 74.3-77.4 3	20.9 20.2-21.5 3	1.6 0.6-3.4 3	1.2	0.4	100
Pompano *Trachinotus palometus*	Muscle Raw	77.4	20.5	0.8	1.2	1.1	94
Pompano, Indian *Alectis indicus*	Muscle Raw	77.0 77.7-80.4 7	20.2 17.6-21.6 7	0.9 0.2-1.7 7	1.3 0.4-1.5 7	0.6	91
Pompano, Pacific *Neptomenus crassus*	Muscle Raw	76.1 73.1-78.3 3	19.1 17.2-20.2 3	2.0 0.7-3.3 2	1.3 1.0-1.5 2	1.5	100
Pompano, Talakitok *Caranx malabaricus*	Muscle Raw	75.8 73.3-76.9 4	17.2 16.3-18.5 4	2.5 1.1-6.3 4	1.5 1.2-1.7 4	3.0	103
Pompano Carangidae	Muscle Raw	74.6 72.5-76.5 5	19.5 18.7-21.0 5	4.1 0.9-7.9 5	1.2 0.9-1.5 5	0.6	115
	Dried	7.1	77.7	7.5	7.7	0	378
Porgy, Aligote *Pagellus acarne*	Muscle Raw	77.1 73.6-80.5 2	18.0 16.8-19.2 2	2.2 1.1-3.3 2	1.3 1.2-1.3 2	1.4	97
Porgy, Bisugo *Pagellus cantabricus*	Muscle Raw	79.3 77.8-80.3 5	17.0 16.4-17.4 5	2.3 1.1-4.4 5	1.4 1.1-1.6 5	0	89
Porgy, Bogue *Sarpa (Box) boops*	Muscle Raw	69.3	18.6	10.1	2.1	0	165
Porgy, Large Eyed Dentex *Dentex macrophthalmus*	Muscle Salted & Dried	28.0	60.6	4.9	21.9	0	287
Porgy, Longspine *Stenotomus caprinus*	Whole Raw	73.3 73.3-73.4 3	17.5 17.2-17.6 3	2.4 1.9-2.6 3	6.7 6.4-7.4 3	0	92
Porgy, Panga *Pagrus laniarius*	Muscle Raw	77.0	20.4	0.6	1.3	0.7	90

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Porgy, Pargo	Muscle						
Pagrus ehrenbergii	Raw	76.9	20.5	2.2	1.8	0	102
	Salted & Dried	10.5	62.6	4.0	31.0	0	285
Porgy, Redfin	Muscle						
Argyrops spinifer	Raw	77.2	19.8	0.8	1.4	0.8	90
Porgy, Red Roman	Muscle						
Pagrus laticeps	Raw	77.5	19.9	0.8	1.5	0.3	88
Porgy	Muscle						
Sparidae	Raw	77.6	18.3	3.2	1.4	0	92
		69.4-83.0	13.2-24.5	0.6-7.0	1.1-1.6		
		22	18	24	16		
	Cooked						
	Steamed	75.0	18.8	3.5	(2.7)	0	107
		73.5-76.5	17.8-19.7	3.0-4.0			
		2	2	2			
	Dried	23.4	64.0	4.9	7.7	0	300
	Roe						
	Raw	76.3	16.0	5.8	1.5	0.4	118
		75.7-76.9	13.6-18.3	4.3-7.3	1.4-1.6		
		2	2	2	2		
	Salted	60.9	21.6	2.2	14.8	0.5	102
Pout, Fanica	Muscle						
Gadus luscus	Raw	78.6	18.9	0.8	1.7	0	83
		75.5-80.1	17.7-21.4	0.6-1.0	1.4-2.1		
		4	4	4	4		
Puffer, Swellfish	Muscle						
Sphoeroides maculatus	Cooked						
	Boiled	74.2	23.2	0.7	1.0	0.9	103
Puffer, Swellfish	Muscle						
Sphoeroides porphyreus	Raw	79.7	18.6	0.4	1.4	0	78
Puffer, Swellfish	Muscle						
Tetraodontidae	Raw	78.9	19.1	1.3	0.7	0	88
		78.3-80.1	16.2-20.2	0.1-2.5	0.8-1.6		
		6	5	7	5		
	Salted & Dried	17.3	64.3	1.0	18.8	0	266
Puntazzo	Muscle						
Puntazzo puntazzo	Raw	77.9	17.3	3.9	1.4	0	104
Queenfish, Leatherjacket	Muscle						
Chorinemus tol	Raw	76.6	20.2	1.1	1.7	0.4	94
		72.7-78.6	19.1-21.2	0.1-2.4	1.5-2.4		
		5	5	4	5		
Rabbitfish	Muscle						
Siganus (Teuthis) javis	Raw	78.2	19.2	1.5	1.0	0	90
		74.4-80.1	17.4-20.9	0.6-3.8	0.3-1.4		
		5	5	5	5		
	Dried	42.7	38.2	1.8	14.9	2.4	179
	Salted & Fermented	60.0	10.6	1.7	22.8	4.9	77
Rabbitfish, Spiny	Muscle						
Siganus oramin	Raw	78.4	18.9	0.5	2.2	0	80
Rabbitfish	Muscle						
Siganidae	Raw	76.8	21.0	0.7	1.5	0	90

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Ratfish *Chimaera monstrosa*	Muscle Raw	81.6	12.3	0.7	1.1	4.3	73
Ratfish *Hydrolagus colliei*	Muscle Raw	76.1 69.6-83.4 3	14.9 11.6-18.1 3	9.8 0.7-18.1 3	1.4 1.2-1.6 2	0	148
Ray, Eagle *Actobatus peruvianus*	Muscle Raw	75.6	21.0	0.9	2.0	0.5	94
	Cooked Baked	65.9	31.1	0.4	1.4	1.2	133
Ray, Eagle *Rhinoptera seweli*	Muscle Raw	73.6	20.9	0.5	1.2	3.8	103
Ray, Electric *Torpedo (ocellata) torpedo*	Muscle Raw	77.3 75.6-79.1 2	16.3 12.1-20.5 2	0.8 0.4-1.2 2	1.6 1.1-2.0 2	0.4	74
Razorfish, Shrimpfish *Aeoliscus punctulatus*	Muscle Dried & Smoked	10.0	81.2	5.6	3.2	0	375
Redfish *Sebastes mentella*	Muscle Raw	75.8 74.2-78.2 8	18.5 16.8-19.7 9	4.8 3.3-7.1 8	1.1 1.0-1.5 8	0	117
	Whole Fishmeal	6.0	73.0 57.0-85.0 5	5.7 0.9-11.7 5	18.5 16.1-23.0 5	0	343
Redfish, Ocean Perch *Sebastes marinus*	Muscle Raw	77.7 72.6-80.5 16	18.4 17.4-21.7 16	3.1 0.6-8.4 18	1.2 0.8-1.5 14	0	102
	Cooked Baked In Spanish Sauce	78.7	14.5	3.4	1.5	1.9	96
	Unspecified	69.3	24.0	5.1	1.8	0	142
	Chowder	77.9	10.1	4.9	1.7	5.4	106
	Fried	59.0	18.9	11.5 8.3-13.3 3	1.9	8.7	214
	Kabobs	70.0	21.4	5.8	2.3	0.5	140
	Kabobs & Mushrooms	76.8	13.7	5.2	2.2	2.1	110
	Molded	75.1	10.8	6.1	1.9	6.1	123
	Whole Raw	75.4 74.4-76.4 2	17.3 17.1-17.4 2	2.2 2.0-2.3 2	6.0 5.4-6.6 2	0	89
	Fishmeal	3.6 1.2-6.0 2	58.6 57.1-60.0 2	10.6 8.1-13.0 2	25.3 25.3-25.4 2	1.9	337
	Offal Raw	70.0 67.4-73.6 4	16.3 15.9-17.0 4	6.8 4.0-8.5 4	6.5 6.3-6.7 4	0.4	128
Roach *Rutilus rutilus*	Muscle Raw	77.9	15.6	3.7 1.9-5.4 2	(2.8)	0	116

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Whole Fishmeal Defatted	11.5 11.4-11.6 2	73.2 67.1-79.4 2	7.7 2.0-13.4 2	(7.5)	0	262
Roach Cyprinidae	Muscle Raw	80.5	16.4	1.1	1.2	0.8	79
Rockfish, Black Sebastes melanops	Muscle Raw	81.0	17.9 17.5-18.7 3	1.3 1.0-1.8 3	1.3 1.2-1.3 2	0	83
Rockfish, Boccaccio Sebastes paucispinus	Muscle Raw	79.5 78.5-80.0 3	18.9 18.6-19.5 3	1.5 1.0-2.5 3	1.2 1.2-1.3 3	0	89
Rockfish, Canary Sebastes pinniger	Muscle Raw	79.3 78.7-79.6 5	18.4 17.2-18.8 6	2.3 0.4-6.0 6	1.3 1.2-1.6 4	0	94
Rockfish, Chilipepper Sebastes goodei	Muscle Raw	76.6	20.8	2.4	1.1	0	105
Rockfish, Dark Blotched Sebastes crameri	Muscle Raw	77.4	19.8	2.2	1.2	0	99
Rockfish, Flag Sebastes rubivinctus	Muscle Raw	78.9	18.2	1.8	1.1	0	89
Rockfish, Greenstriped Sebastes elongatus	Muscle Raw	78.8 78.5-79.1 2	20.2 20.0-20.3 2	0.7 0.7-0.7 2	1.2 1.0-1.3 2	0	87
Rockfish, Idiot Sebastes alascanus	Muscle Raw	80.7	17.3	1.7	1.1	0	85
Rockfish, Mebara Sebastes inermis	Muscle Raw	75.8 75.1-77.4 3	21.0	1.6	1.4	0	98
Rockfish, Osaga Sebastes iracundus	Muscle Raw	77.5	18.3	3.9	1.7	0	108
Rockfish, Red Sebastes matsubarae	Muscle Raw	76.3	17.4 16.4-18.4 2	3.4 0.8-6.0 2	1.3	1.6	107
Rockfish, Red Sebastes ruberrimus	Muscle Raw	79.8	17.6 17.2-17.9 2	0.2	1.2 1.0-1.3 3	1.2	77
Rockfish, Rosy Sebastes rosaceus	Muscle Raw	79.1	19.3	0.8	1.1	0	84
Rockfish, Rougheye Sebastes aleutianus	Muscle Raw	79.6	19.3	1.3	1.6	0	89
Rockfish, Yellowtail Sebastes flavidus	Muscle Raw	79.4	18.9	1.6	1.2 1.1-1.2 3	0	90

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Rockfish	Muscle						
Scorpaenidae	Raw	80.8	16.2	1.0	1.2	0.8	76
		75.9-86.7	12.5-19.8	0.5-1.4	0.7-1.5		
		3	4	3	3		
	Cooked						
	Baked & Stuffed	70.1	21.3	3.4	1.6	3.6	116
	Cocktail	74.6	15.9	0.9	2.4	6.2	96
	Steamed	75.4	18.1	2.5	2.1	1.9	102
	Offal						
	Raw	72.0	16.5	6.4	5.4	0	124
		71.3-73.4	16.2-16.8	5.7-7.1	4.8-6.0		
		2	2	2	2		
Runner, Blue	Muscle						
Caranx crysos	Raw	75.2	21.5	2.2	1.5	0	96
		73.7-76.6	20.8-22.2	1.2-3.1	1.4-1.6		
		2	2	2	2		
	Whole	35.7	40.0	3.7	19.6	1.0	197
	Dried	34.6-36.7					
		2					
Runner, Rainbow	Muscle						
Elagatis bipinnulata	Raw	75.2	21.7	1.5	1.5	0	100
		72.9-78.6	19.5-23.6	0.6-3.0	1.2-1.9		
		5	5	5	5		
Sablefish	Muscle						
Anoplopoma fimbria	Raw	71.5	12.9	15.2	1.0	0	188
	Offal						
	Raw	71.0	12.9	14.7	1.2	0.2	185
		61.7-80.1	10.8-17.8	0.4-25.0	0.8-2.4		
		5	8	7	5		
Sailfish	Muscle						
Istiophorus platypterus	Raw	75.1	20.4	2.1	1.0	1.4	101
		72.4-79.8	13.5-23.8	0.8-3.6	0.6-1.3		
		4	5	5	4		
Salmon, Atlantic	Muscle						
Salmo salar	Raw	74.5	17.2	5.5	1.1	1.7	125
		66.6-84.8	11.7-22.5	0.2-14.5	1.0-1.2		
		9	8	14	6		
	Canned	65.2	21.1	11.6	1.2	0.9	192
		64.3-68.0	20.8-21.1	9.0-12.5			
		4	4	4			
Salmon, Australian	Whole						
Arripis trutta	Raw	72.5	20.7	2.8	4.3	0	108
	Dressed						
	Raw	68.8	20.9	5.8	3.9	0.6	138
		67.3-70.0	20.3-21.4	5.3-6.6	3.7-4.0		
		3	3	3	3		
Salmon, Cherry	Muscle						
Oncorhynchus masou	Raw	74.5	20.5	3.8	1.4	3.6	131
		73.0-75.9		2.4-5.4			
		2		4			
	Canned	84.5	10.0	4.6	1.4	0	81
	Salted	68.4	22.7	5.9	3.1	0	144
Salmon, Chinook	Muscle						
Oncorhynchus tshawytscha	Raw	68.0	17.9	11.6	1.0	1.5	182
		61.3-79.9	14.1-25.6	2.2-19.0	0.8-1.3		
		16	21	19	13		

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Canned	62.8	19.3	14.8	1.5	1.6	217
		55.6-68.9	17.6-20.3	3.7-24.1	1.0-2.6		
		20	20	23	20		
	Cooked Fishloaf	61.9	24.9	10.8	0.2	2.2	206
Salmon, Chum	Muscle						
Oncorhynchus keta	Raw	73.5	20.4	4.6	1.4	0	123
		68.9-78.3	17.7-24.5	1.3-7.9	1.2-1.7		
		11	15	18	9		
	Canned	68.9	20.8	6.6	1.5	1.3	148
		63.7-71.4	18.9-21.5	5.2-15.2	1.0-2.6		
		10	11	13	10		
	Whole						
	Raw	81.7	14.8	0.8	(2.3)	0	66
	Roe						
	Raw	57.5	18.4	12.4	1.6	10.1	226
		54.5-60.9		10.2-17.0	1.4-1.7		
		3		4	2		
Salmon, Coho	Muscle						
Oncorhynchus kisutch	Raw	72.3	21.1	5.7	1.5	0	136
		67.0-75.3	19.9-22.0	1.3-9.9	1.1-2.5		
		19	20	24	15		
	Canned	68.6	20.7	7.6	1.6	1.5	157
		65.4-74.4	19.4-21.7	3.4-11.3	1.2-2.6		
		9	10	15	9		
	Salted	62.9	22.5	5.5	9.1	0	140
		61.4-64.4	21.8-23.2	5.1-5.8	8.2-10.0		
		2	2	2	2		
	Smoked & Salted	40.5	35.5	9.7	13.5	0.8	133
	Roe						
	Raw	56.4	18.4	11.2	2.9	11.1	219
			9.1-27.7	10.9-11.4			
			2	2			
Salmon, Longtooth	Muscle						
Otolithus ruber	Raw	78.1	18.3	1.8	2.6	0	89
		76.3-80.9	17.4-20.0	1.5-2.2	1.5-4.8		
		3	3	3	3		
	Salted & Dried	23.9	48.8	2.9	24.4	0	221
Salmon, Pink	Muscle						
Oncorhynchus gorbuscha	Raw	74.6	20.1	4.8	1.2	0	124
		69.9-77.4	17.5-22.0	1.8-12.5	1.2-1.3		
		10	10	2	9		
	Canned	72.5	19.3	6.4	1.6	0.2	136
		68.2-78.3	12.5-22.0	2.0-17.1	0.9-3.0		
		49	39	54	36		
	Salted	46.4	36.4	8.4	8.6	0.2	222
Salmon, Sockeye	Muscle						
Oncorhynchus nerka	Raw	74.9	20.3	6.9	1.2	0	143
		65.6-88.5	13.7-23.1	1.6-13.2	1.1-2.4		
		29	23	24	15		
	Canned	67.3	20.4	9.3	2.0	1.0	169
		61.3-71.5	16.3-25.9	5.4-15.4	1.2-3.0		
		19	21	24	19		
	Whole						
	Raw	72.2	18.4	7.8	(1.6)	0	144
		63.4-80.9	15.8-19.8	1.7-13.9			
		2	3	2			

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Offal						
	Raw	67.1	16.1	13.7	(3.1)	0	188
	Roe						
	Salted	53.0	25.0	15.0	6.2	0.8	238
Salmon	Muscle						
Salmonidae	Raw	69.7	19.9	9.3	1.5	0	163
		61.4-77.7	17.4-23.0	1.3-20.0	0.9-2.9		
		15	21	25	15		
	Canned	67.6	21.1	8.4	2.3	0.6	162
		61.7-73.7	19.7-24.5	3.7-15.9	1.2-3.0		
		17	20	19	14		
	Cooked						
	A la King	59.4	15.8	14.5	2.4	7.9	225
	Broiled	59.3	28.0	6.9	1.6	4.2	191
				3.2-10.9			
				3			
	Fishloaf	66.9	16.0	6.4	2.3	8.4	155
	With Rice	74.4	12.0	4.5	1.8	7.3	118
	Molded Salad	69.9	15.1	9.2	2.1	3.7	158
	Smoked Rolls	31.1	15.0	30.7	3.0	20.2	417
	Steaks						
	Baked	67.6	26.1	3.8	1.6	0.9	142
	Steamed	65.4	19.1	13.0	(2.5)	0	193
	With Tomatoes	83.7	4.0	4.9	0.8	6.6	87
	Salted	59.2	21.9	7.5	10.8	0.6	158
		48.5-64.4	17.5-25.2	5.1-14.6	7.8-17.2		
		4	4	4	4		
	Smoked	56.8	26.6	7.2	10.8	0	171
		40.5-64.9	21.4-35.5	3.6-9.7	7.0-13.5		
		4	3	3	3		
	FPC	8.1	88.6	0.2	2.7	0.4	358
	Offal						
	Fishmeal	9.5	51.0	17.4	(22.1)	0	361
	Roe						
	Canned	70.9	21.9	4.1	2.9	0.2	125
	Salted	53.0	25.0	11.6	6.2	4.2	221
				9.3-15.0			
				3			
Sandfish	Muscle						
Arctoscopus japonicus	Raw	78.0	14.8	4.2	0.8	2.2	106
		75.4-80.6	14.0-15.6	4.1-4.3	0.5-1.1		
		2	2	2	2		
	Cooked	30.2	44.8	9.8	15.1	0	267
Sardine	Muscle						
Clupanodon pseudohispanicus	Raw	70.8	20.6	7.0	1.3	0.3	148
Sardine	Whole						
Opisthopterus tartoor	Raw	78.3	18.2	0.2	2.1	1.2	75
Sardine	Muscle						
Sardina (Sardinops) ocellata	Raw	71.3	16.7	7.0	1.1	3.9	145
		63.9-74.7	15.3-17.8	3.7-14.7	0.7-1.4		
		4	4	4	4		
Sardine	Whole						
Sardinella allecia	Raw	72.7	20.6	4.8	2.9	0	126
		72.5-72.8	20.4-20.7	4.7-4.9	2.7-3.0		
		2	2	2	2		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Sardine *Sardinella cameroneensis*	Whole Smoked	24.5	51.7	5.0	17.4	1.4	257
Sardine *Sardinella eba*	Muscle Raw	77.1	19.0	3.7	2.6	0	109
Sardine, Golden *Sardinella aurita*	Muscle Raw	71.0 67.9-74.8 4	22.9 18.3-32.6 5	6.0 2.3-9.9 6	1.7 1.1-2.1 5	0	146
	Whole Raw	71.6	19.0 18.3-19.6 2	3.6	6.5	0	108
	Dried	23.9 22.8-24.9 2	57.0	5.7	14.5	0	279
	Salted & Smoked	23.3 22.5-24.1 2	56.3	5.4	14.2	0.8	277
Sardine, Indian *Sardinella longiceps*	Muscle Raw	74.0 58.0-77.2 9	17.3 13.9-21.0 9	5.4 1.9-27.5 9	1.5 1.0-1.8 9	1.8	125
	Dried	44.3 43.1-45.5 2	37.4	1.1	16.0	1.2	164
	Salted & Dried	43.1	37.4	1.1	16.0	2.4	169
	Salted & Smoked	58.3	33.2	3.6	5.1	0	165
	Whole Raw	70.8 66.2-78.5 5	18.2 16.9-19.4 2	9.3 9.1-9.7 3	(1.7)	0	157
Sardine, Red Ear *Harengula humeralis*	Muscle Smoked	48.2	36.2	9.1	6.0	0.5	229
Sardine, Scaled, Razorbelly *Harengula pensacolae*	Whole Raw	70.3 65.5-76.0 21	18.7 17.5-20.0 22	6.2 1.8-12.1 22	5.1 3.4-7.2 22	0	131
Sardine, Spotted *Sardinella sirum*	Whole Dried	43.1	37.4	1.1	16.0	2.4	169
Sardine Clupeidae	Muscle Raw	73.6 66.5-76.6 6	18.9 16.7-22.1 6	6.8 2.3-15.2 7	2.0 1.2-2.5 5	0	139
	Canned In Oil	56.5 47.1-65.4 21	22.3 17.5-28.7 24	17.3 8.3-27.0 26	3.6 2.7-5.6 18	0.3	245
	In Tomato Sauce	66.1 63.1-71.5 6	17.3 15.8-17.8 6	11.2 6.6-14.8 6	3.1 2.5-4.2 6	2.3	179
	Unspecified	62.6 59.3-69.2 8	23.9 17.7-27.1 8	10.6 5.3-13.7 8	3.7 2.9-4.9 8	0	191

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
	Cooked						
	Appetizer	51.7	20.7	14.3	2.2	11.0	212
	Apple Salad	66.6	13.6	12.0	1.9	5.9	186
	Fried	12.1	38.8	38.8	9.9	0.4	506
	Salad	70.7	12.1	11.7	1.8	3.7	169
	Salad Sandwich	60.5	9.2	8.3	1.6	20.4	193
	Sardine-noodle Casserole	66.5	11.4	9.4	2.0	10.7	173
	Toasted Cheese & Sardine Sandwich	48.7	19.3	14.9	3.2	13.9	267
	Dried	30.5	45.6	14.8	8.5	0.6	318
	Half	60.0	21.9	4.8	1.6	11.7	131
		51.0-69.0	21.7-22.0	2.2-7.4			
		2	2	2			
	Marinated	64.1	15.8	15.9	2.5	1.7	213
	Smoked	15.4	70.0	8.4	6.2	0	356
	Paste						
	With Tomatoes	60.4	19.0	9.6	3.4	7.6	193
	Whole						
	Raw	59.8	21.1	18.2	5.0	0	248
		49.0-72.4	20.0-23.0	8.0-27.0	2.6-9.5		
		5	4	3	5		
	Smoked	25.1	54.0	6.9	14.0	0	278
	Fishmeal	6.2	64.2	5.6	16.7	7.3	336
		2.3-8.2	60.0-71.0	3.3-7.9	11.4-20.3		
		6	7	7	6		
	FPC	6.2	85.6	0.5	5.2	2.5	357
			81.8-89.3		0.8-9.6		
			2		2		
Sargeant Major *Abudefduf saxatilis*	Whole Raw	81.2	14.6	2.1	2.5	0	77
Saury, Atlantic *Scomberesox saurus*	Muscle Raw	74.8	16.5	6.1	1.2	1.4	121
		67.2-78.6	12.5-22.5	1.4-12.7			
		8	8	8			
Saury, Pacific *Cololabis saira*	Muscle Raw	66.8	20.0	11.1	1.5	0.6	182
		58.7-71.1	18.5-23.8	1.2-21.2	1.3-2.4		
		22	14	26	7		
	Canned						
	Seasoned	59.2	20.6	10.2	4.1	5.9	198
	With Tomatoes	65.8	19.0	10.3	2.5	2.4	178
	Dried	64.9	22.7	8.6	4.2	0	168
	Salted	61.4	20.1	9.8	8.5	0.2	169
	Seasoned & Dried	42.0	35.1	14.3	5.6	3.0	281
Sawfish *Pristidae*	Muscle Raw	72.3	21.8	4.6	1.3	0	128
Scad *Caranx gumnostethades*	Muscle Raw	75.9	21.8	0.6	1.3	0.4	94
Scad *Trachurus lathami*	Muscle Raw	69.4	18.5	11.4	1.4	0	177
		68.0-70.8	18.2-18.7	9.8-13.0	1.3-1.5		
		2	2	2	2		
	Whole Raw	76.9	17.3	2.2	3.6	0	89

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Scad, Bigeyed	Muscle						
Caranx crumenophthalmus	Raw	78.5	19.5	1.1	1.7	0	88
		76.5-80.6	17.5-23.6	0.1-2.7	1.3-1.8		
		4	5	4	4		
	Cooked						
	Fried	62.6	26.9	7.8	2.1	0.6	180
	Salted & Dried	42.5	37.8	1.5	17.4	0.8	167
		41.7-43.3					
		2					
	Smoked	56.7	35.5	5.3	3.1	0	190
Scad, Golden	Muscle						
Caranx kalla	Raw	76.8	18.8	1.5	1.4	1.5	95
		76.6-77.0	18.0-19.6	0.7-2.2	1.2-1.5		
		2	2	3	2		
Scad, Horse Mackeral	Muscle						
Trachurus novaezelandie	Raw	71.7	22.4	3.2	2.8	0	118
		66.8-76.6	19.8-25.0	2.3-4.0	1.4-4.2		
		2	2	2	2		
	Salted & Dried	8.3	60.9	5.4	25.4	0	292
Scad, Mackerel	Muscle						
Decapterus macarellus	Raw	75.7	21.7	1.3	1.5	0	99
		74.2-76.7	19.2-24.4	1.0-1.7	1.1-1.8		
		4	5	5	4		
	Salted & Dried	32.8	51.0	3.5	12.6	0	236
		26.6-37.6	43.3-61.1	1.8-4.8	10.5-14.8		
		3	3	3	3		
	Whole						
	Raw	73.5	20.3	1.5	4.6	0.2	95
Scad, Round	Muscle						
Decapterus pinnulatus	Cooked						
	Fried	65.8	25.2	5.1	2.0	1.9	155
Scad	Whole						
Carangidae	Fishmeal	6.5	69.5	7.2	17.1	0	343
Scorpionfish, Rosefish	Muscle						
Helicolenus dactylopterus	Raw	79.3	17.4	2.4	1.3	0	91
		79.0-79.5	16.6-18.1	2.2-2.5	1.1-1.5		
		2	2	2	2		
Scorpionfish, Yellow	Muscle						
Scorpaena scropha	Raw	75.9	20.1	1.9	1.7	1.4	98
		65.1-80.7	15.1-27.7	0.9-4.0	1.2-3.2		
		4	4	4	4		
Sculpin	Muscle						
Cottus pollux	Dried	10.2	60.7	14.2	12.9	0.2	371
Sculpin, Sea Raven	Muscle						
Hemitripterus americanus	Cooked						
	Steamed	74.9	21.2	5.0	0	0	130
		71.6-81.0	21.0-21.3	4.7-5.2			
		3	2	2			
Scup, Sea Bream	Muscle						
Stenotomus chrysops	Raw	75.5	18.8	3.7	1.2	0.8	102
		73.6-77.0	18.4-19.1	1.2-5.9	1.1-1.4		
		5	5	5	6		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Whole Raw	70.6	17.8	3.1	8.9	0	99
	Offal Raw	65.1 61.9-68.2 2	17.2 17.1-17.3 2	12.1 8.6-15.6 2	6.7 6.5-6.8 2	0	178
Sea Crow Corvina nigrita	Muscle Raw	76.5	19.2 16.3-22.0 2	0.5 0.4-0.6 2	1.1 0.9-1.2 2	4.7	100
	Dried	19.0	67.0	9.1	4.9	0	350
Sea Cucumber Stichopus japonicus	Muscle Raw	89.8 84.9-95.2 18	6.8 1.3-11.4 17	0.9 0.2-1.4 16	1.5 0.1-2.7 16	1.0	39
	Dried	8.9	82.0	1.7	2.6	4.8	363
	Dried & Soaked	79.0	18.9	0.4	0.6	1.1	84
Sea Cucumber, Red Stichopus californias	Muscle Raw	89.7 86.2-93.1 2	10.6	0.6	1.7	0	48
Sea Cucumber Holothuroidae	Muscle Raw	87.7 81.8-91.9 6	6.5 2.5-10.0 5	0.8 0.1-1.4 3	2.8 1.4-4.3 3	2.2	42
	Dried	37.3	38.8	1.3	17.1	5.5	189
Sea Devil Scorpaena porcus	Muscle Raw	73.2 61.4-79.7 3	18.3 16.2-19.5 4	1.5 0.5-2.1 4	1.5 1.1-2.1 3	5.5	109
Sea Robin, Armoured Peristedion cataphractum	Muscle Raw	70.3	19.5	8.8	1.4	0	157
Sea Robin, Gurnard Trigla aspera	Muscle Raw	78.1	17.8	3.1	1.3	0	99
Sea Robin, Gurnard Trigla lineata	Muscle Raw	79.9	17.3	2.3	1.2	0	90
Sea Robin, Gurnard Trigla lyra	Muscle Raw	77.7	18.6	2.8	1.6	0	100
Sea Robin, Gurnard, Grey Trigla gurnardus	Muscle Raw	83.3	14.5	2.8 1.4-3.9 3	1.2	0	83
Sea Robin, Gurnard, Red Trigla capensis	Muscle Raw	78.8 78.4-79.2 2	18.3 18.0-18.6 2	0.9 0.6-1.3 3	1.8 1.6-2.1 2	0	81
	Whole Raw	76.9	18.2	1.0	(3.9)	0	82
Sea Robin, Gurnard, Red Trigla cuculus	Muscle Raw	77.5 74.0-81.4 3	17.7 17.2-18.3 3	3.4 0.4-6.3 3	1.0	0.4	103

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Sea Robin, Gurnard, Yellow Trigla lucerna	Muscle Raw	79.3 79.1-79.4 2	17.6 17.1-18.1 2	1.3 0.7-1.9 2	1.0 1.0-1.1 2	0.8	85
Sea Robin Triglidae	Muscle Raw	76.2 72.8-82.0 9	18.6 16.5-22.9 6	1.9 1.0-2.9 8	1.6 1.1-2.4 6	1.7	98
	Whole Raw	75.2 73.3-77.0 2	16.6 16.4-16.8 2	2.0 1.2-2.8 2	6.4 6.2-6.7 2	0	84
	Roe Raw	74.0	16.4	7.1	1.3	1.2	134
Sea Trout, Corvina Cilus monti	Muscle Raw	76.2 74.9-77.5 2	20.5	0.5	1.4	1.4	92
Sea Trout, Gray Cynoscion regalis	Muscle Raw	76.6 74.6-79.6 7	18.8 15.7-20.0 8	3.1 1.4-4.3 8	1.2 1.1-1.3 8	0.3	94
	Offal Raw	74.5	13.6	10.8	3.1	0	152
Sea Trout Cynoscion arenarius	Whole Raw	74.0 69.0-79.3 7	17.1 15.8-17.7 7	5.8 1.8-10.9 7	3.1 2.7-3.6 7	0	121
Sea Trout, Silver Cynoscion nothus	Whole Raw	75.4	17.1	4.6	3.0	0	110
Sea Trout, Spotted Cynoscion nebulosus	Muscle Raw	79.9 79.0-81.4 4	17.3 16.2-18.5 3	2.1 1.4-3.2 3	0.9 0.8-1.0 3	0	88
	Whole Salted & Dried	28.0	48.8	2.9	24.4	0	221
Seventy-four Dentex undulosas	Muscle Raw	76.4	20.6	1.2	1.3	0.5	93
Shad Clupea alosa	Muscle Raw	74.1 69.5-78.7 2	18.2 17.3-19.0 2	5.7 1.3-10.0 2	1.0	1.0	128
	Roe Raw	71.0	21.0	3.8	(4.2)	0	118
Shad Ethmalosa dorsalis	Muscle Raw	71.4	20.3	4.1	4.2	0	118
	Whole Raw	69.2 68.0-70.3 4	20.4 20.3-20.6 4	4.5 3.1-6.6 4	5.7 5.5-5.9 4	0.2	123
	Dried	10.4	51.5	19.0	18.6	0.5	379

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Shad, American Alosa sapidissima	Muscle Raw	70.3 64.6-72.9 8	18.0 15.7-19.9 8	11.2 3.0-17.2 8	1.3 1.2-1.5 7	0	173
	Canned	71.1	16.9	8.8	2.8	0.4	148
	Dried	6.7	88.6	0	5.4	0	354
	Offal Raw	62.7 61.4-63.8 3	16.7 13.8-20.7 3	16.3 11.5-19.9 3	3.4 3.2-3.6 3	0.9	217
Shad, Bastard Konosirus thrissa	Muscle Raw	74.8 73.7-77.0 3	19.8 19.4-20.0 3	4.3 0.7-10.5 5	1.8 1.7-1.9 3	0	118
Shad, Gizzard Anodontostoma chacunda	Muscle Raw	77.9 77.4-78.4 3	18.1 18.0-18.2 3	1.4 1.2-1.5 3	2.1 1.3-2.9 3	0.5	87
	Salted & Dried	49.9 48.3-51.5 2	23.7	5.5	19.4	1.5	150
	Smoked	66.7	23.0	2.1	2.8	5.4	132
Shad, Gizzard Dorosoma cepedianum	Muscle Raw	69.7 64.1-81.6 7	17.0 13.8-20.6 7	11.2 0.9-19.8 7	1.7 1.2-2.5 7	0.4	170
	Whole Raw	67.2 63.8-70.6 2	13.8 12.0-15.5 2	16.2 14.2-18.2 2	2.4 2.2-2.5 2	0.4	202
	Offal Raw	60.8 58.0-63.5 2	12.8 10.5-15.1 2	22.8 22.4-23.1 2	3.9 3.6-4.2 2	0	256
Shad, Hickory Alosa mediocris	Muscle Raw	76.3	18.5	4.8	1.4	0	117
Shad, Indian Clupea toli	Muscle Raw	78.3	18.0	0.7	1.8	1.2	83
Shad, Indian Hilsa ilisha	Muscle Raw	63.3 53.7-71.5 3	20.7 17.4-22.8 6	25.1 17.6-41.2 4	1.7 1.2-2.2 2	0	309
	Whole Fishmeal	5.4 4.2-6.5 2	62.2 60.0-64.3 2	14.3 12.3-16.2 2	5.5 4.6-6.4 2	12.6	428
Shad, Slender Ilisha elongata	Muscle Raw	76.4	14.6	7.6	1.4	0	127
Shad, Threadfin Dorosoma petenense	Whole Raw	76.2	11.3	8.0	4.3	0.2	118
Shad Clupeidae	Muscle Raw	71.0 63.9-79.1 4	19.4 18.4-21.9 4	8.3 1.2-12.9 4	1.3 1.1-1.4 4	0	152
	Cooked Baked With Bacon	64.0	23.5	11.8	(0.7)	0	200

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Unspecified	64.0	23.2	11.3	1.4	0	195
	Creole	73.3	15.0	8.7	1.4	1.6	145
	FPC	6.6	87.1	1.7	4.3	0.3	365
		5.9-7.2	85.9-88.6	0.1-4.6	3.3-5.4		
		3	3	3	3		
	Whole						
	Dried & Smoked	17.1	64.9	3.6	14.4	0	292
	Roe						
	Raw	71.2	23.4	3.8	1.6	0	128
	Cooked						
	Broiled	71.5	19.9	2.4	2.0	4.2	118
Shadefish, Meagre	Muscle						
Sciaena aquila	Raw	76.7	18.5	1.6	1.8	1.4	94
		76.2-77.0	17.4-20.1	0.9-2.2	1.3-2.3		
		3	3	3	2		
	Whole						
	Salted & Dried	13.0	57.2	6.5	29.6	0	287
Shark	Muscle						
Mustelus fasciatus	Raw	75.0	20.6	1.5	(2.9)	0	96
Shark, Blacktip	Muscle						
Carcharhinus limbatus	Raw	75.1	23.2	0.3	1.3	0	96
		72.0-78.1	17.7-26.1	0.1-0.5	1.1-1.4		
		2	3	2	2		
Shark, Blue	Muscle						
Carcharhinus bracyurus	Raw	75.8	18.9	0.1	0.6	4.6	95
Shark, Blue	Muscle						
Carcharhinus glaucus	Raw	82.5	12.5	1.2	1.0	2.8	72
		79.3-86.3	10.5-20.2	0.5-2.0	0.8-1.2		
		5	7	6	5		
Shark, Bull	Muscle						
Carcharhinus gangeticus	Raw	76.5	18.6	0.2	1.3	3.4	90
Shark, Cat	Fin						
Chiloscyllium plagiosum	Raw	72.2	26.3	0.6	6.2	0	111
Shark, Cat	Muscle						
Scyliorhinus caniculus	Raw	78.7	14.4	0.7	1.2	5.0	84
				0.6-0.8			
				3			
Shark, Cat, Nurse Hound	Muscle						
Scyliorhinus stellaris	Raw	79.3	20.5	0.5	2.0	0	87
		77.0-81.0					
		3					
Shark, Darkie Charlie	Muscle						
Dalatius licha	Raw	68.8	28.1	0.2	6.6	0	114
Shark, Elephant	Muscle						
Callorhinchus milii	Raw	76.9	21.3	0.3	1.2	0.3	89
Shark, Greenland	Muscle						
Somniosus microcephaleus	Raw	66.2	(22.6)	10.0	1.2	0	180
Shark, Gummy	Muscle						
Mustelus antarcticus	Raw	75.8	25.2	0.3	1.4	0	104
		74.5-77.0	23.4-27.0	0.2-0.4			
		2	2	2			

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Canned	65.7 62.9-72.8 4	24.5 21.6-29.0 4	4.1 2.1-5.8 4	3.6 3.0-4.6 4	2.1	143
Shark, Hammerhead Sphyrna blochii	Muscle Raw	75.4 75.1-75.6 2	22.3 21.6-23.0 2	0.4 0.2-0.5 2	1.4 1.1-1.6 2	0.5	95
Shark, Hammerhead, Smooth Sphyrna zygaena	Muscle Raw	77.2 76.1-78.3 2	20.8 19.6-22.6 2	0.3 0.3-0.3 2	1.2 1.1-1.3 2	0.5	88
Shark, Hammerhead Sphyrnidae	Muscle Raw	75.0 74.1-76.1 3	22.6	0.3	1.1	1.0	97
Shark, Horn Heterodontis francisci	Muscle Raw	79.6	17.7	0.3	1.8	0.6	76
Shark, Mackerel, Blue-pointer Lamna glauca	Muscle Dried	29.5	53.7	1.9	23.1	0	232
Shark, Mushi Scoliodon sorrakewa	Muscle Raw Dried	76.5 9.6	14.9 67.0	2.9 4.9	1.0 (18.5)	4.7 0	105 312
Shark, Pacific Angel Squatina californica	Fin Raw	71.6	27.5	0.4	5.0	0	114
Shark, Porbeagle, Mackerel Lamna cornubica	Muscle Raw	76.6 75.5-77.7 2	21.2 18.1-23.5 3	2.7 1.9-4.1 3	0.8	0	109
Shark, Porbeagle, Mackerel Lamna nasus	Muscle Raw	76.9 75.8-78.5 6	17.2 14.6-21.5 3	1.5 0.9-2.2 5	1.3 1.2-1.3 2	3.1	95
Shark, Porbeagle, Salmon Lamna ditropsis	Muscle Raw	69.4 62.4-76.4 2	17.0 13.4-20.6 2	12.2 0.2-24.2 2	1.7 1.5-1.9 2	0	178
Shark, Porbeagle, Mackerel Lamnidae	Muscle Raw	76.1	18.8	0.4	1.0	3.7	94
Shark, Requiem Carcharhinidae	Muscle Raw	78.6 77.0-79.9 3	19.1 16.7-20.6 3	1.2 0.4-1.8 3	1.2 1.1-1.4 3	0	87
	Salted & Dried	13.6	72.7	1.3	13.3	0	303
	Fin Cooked Fried	11.3 8.8-13.8 2	85.9 82.4-89.4 2	0.2 0.2-0.2 2	1.2 0.8-1.5 2	1.4	351
Shark, Sand Carcharias laticanous	Muscle Raw	75.5	22.9	0.7	1.4	0	98
Shark, Sand Carcharias menisorrah	Muscle Raw	76.0	21.6	0.4	1.2	0.8	93

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Shark, School	Muscle						
Galeorhinus australis	Raw	78.1	23.3	0.2	1.2	0	95
		77.8-78.4	22.9-23.4	0.1-0.2	1.2-1.3		
		3	3	3	3		
Shark, Sevengill	Muscle						
Notorynchus maculatus	Raw	67.9	15.3	13.1	1.2	2.5	189
Shark, Sharpnose	Muscle						
Scoliodon palasorrah	Raw	76.3	22.6	1.4	1.0	0	103
			21.3-23.9	0.4-2.4	0.5-1.4		
			3	2	2		
	Dried	14.4	81.9	0.1	1.5	2.1	335
Shark, Sharpnose, Pacific	Muscle						
Scoliodon longurio	Raw	75.0	21.8	0.5	1.4	1.3	97
Shark, Silky	Muscle						
Carcharhinus falciformis	Raw	73.6	21.7	(3.5)	1.2	0	118
Shark, Smoothhound	Muscle						
Mustelus vulgaris	Raw	77.1	19.7	0.9	1.2	1.1	91
		76.3-77.8	16.0-23.3	0.6-1.2	1.1-1.2		
		2	2	2	2		
Shark, Soupfin	Muscle						
Galeorhinus zyopterus	Raw	77.2	19.1	1.0	1.4	1.3	91
	Fin						
	Raw	69.8	24.9	0.4	10.5	0	103
Shark, Spotted Hound	Muscle						
Mustelus manazo	Raw	78.6	19.1	0.5	1.3	0.5	83
		76.3-82.3	14.2-23.6	0.1-1.2	1.2-1.4		
		4	3	3	3		
Shark, Tope	Muscle						
Galeorhinus galus	Raw	72.7	28.3	0.2	1.4	0	115
	Salted	39.3	44.2	2.3	23.2	0	198
		34.0-44.5	38.6-49.7	1.5-3.1	19.0-27.4		
		2	2	2	2		
Shark, Thresher	Muscle						
Alopias vulpinus	Raw	78.4	20.2	1.3	1.3	0	93
		75.7-81.0	19.3-21.6	0.3-3.3			
		2	3	3			
	Fin						
	Raw	67.9	24.6	0.1	7.5	0	99
Shark, Tiger	Muscle						
Galeocerdo arcticus	Raw	79.4	16.3	0.1	0.6	3.6	81
Shark, Whitetip	Muscle						
Carcharhinus albimarginatus	Raw	76.9	19.9	0.3	1.3	1.6	89
Sheathfish	Muscle						
Krytopterus krytopterus	Raw	80.7	17.8	1.1	0.9	0	81
Sheathfish	Muscle						
Parasilurus asotus	Raw	77.3	18.3	2.3	1.4	0.7	97
Sheathfish	Muscle						
Tachysurus gambensis	Raw	81.8	18.0	0.6	0.6	0	77
Sheathfish	Muscle						
Tachysurus heudeloti	Raw	79.1	19.2	0.7	1.0	0	83
Sheefish, Inconnu	Muscle						
Stenodus mackenzii	Raw	73.3	19.9	6.8	1.3	0	141

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Shiner, Emerald *Notropis hudsonius*	Whole Raw	69.9	13.0	11.9	2.2	3.0	171
Silverfish *Dentex argyrozona*	Muscle Raw	76.3 76.0-76.5 2	20.5 20.3-20.7 2	1.4 1.0-1.8 2	1.3	0.5	96
Silverside *Atherina forskali*	Muscle Dried, Rinsed, and Drained	28.9	57.1	7.9	4.8	1.3	300
Silverside *Atherina presbyter*	Muscle Raw	79.0	18.0	1.5	1.5	0	86
Silverside *Austromenidia regia*	Muscle Raw	74.5 71.9-77.1 2	18.3 17.9-18.7 2	1.2	1.6	4.4	101
Silverside Atherinidae	Muscle Raw	78.4 75.1-82.0 5	19.7 18.8-20.5 2	1.3 0.8-1.8 2	2.1 1.6-2.5 2	0	91
	Whole Raw	73.2 67.5-78.9 2	17.4	5.9	8.2	0	123
Skate *Raja platana*	Muscle Raw	75.7	22.4	1.3	0.6	0	101
	Whole FPC	7.3	82.3	0.6	3.9	5.9	358
Skate, Blue *Raja batis*	Muscle Raw	78.0	21.3 20.0-22.6 2	1.0	0.7	0	94
Skate, Flatback *Raja kenojei*	Muscle Raw	78.9	19.2	0.9	1.0	0	85
Skate, Starry Ray *Raja asterias*	Muscle Raw	77.2 76.1-78.2 2	19.6 14.2-25.0 2	0.7 0.5-0.9 2	1.4 1.1-1.7 2	1.1	89
Skate, Thornback *Raja clavata*	Muscle Raw	79.6	20.7 19.0-22.4 2	0.2	1.1	0	85
Skate Rajidae	Muscle Raw	79.4 76.4-84.5 10	20.3 13.3-25.6 10	1.3 0.5-6.1 10	1.3 0.9-1.7 6	0	93
	Cooked Boiled	74.0	26.3	0.7	0.9	0	111
	Fried Battered	55.4	15.0	16.4	(1.3)	(11.9)	255
Sleeper *Eleotris fusca*	Muscle Raw	78.4	18.5	0.7	1.1	1.3	85

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 gram
Sleeper Oxyeleotris marmorata	Muscle Raw	79.2	19.1	0.3	0.9	0.5	81
Slimy, Soapy, Ponyfish Leiognathus equula	Muscle Raw	79.1 77.1-81.0 5	17.8 16.7-19.6 5	1.2 0.5-1.8 5	1.4 1.0-1.9 5	0.5	84
	Dried	36.8	43.4	4.9	15.0	0	218
	Whole Raw	76.2 76.0-76.4 2	19.0 18.8-19.2 2	1.4 1.2-1.6 2	3.4 3.2-3.6 2	0	89
Slimy, Soapy Leiognathus insidiatrix	Muscle Raw	77.4	19.4	1.1	2.1	0	88
Slipmouth, Black-Finned Leiognathus daura	Muscle Raw	78.7 78.2-79.2 2	19.6	1.0	1.2	0	87
Slipmouth Leiognathidae	Muscle Raw	78.0 77.4-79.1 3	20.8 19.2-22.5 2	0.5	1.5 1.3-1.7 2	0	88
	Salted & Dried	41.4	45.6	2.5	10.5	0	205
Smelt Osmerus dentex	Muscle Dried	14.9	64.7	13.1	9.7	0	377
Smelt, Eulachon Thaleichthys pacificus	Muscle Raw	79.6	14.5	6.5	1.3	0	117
Smelt, Lake Osmerus mordax	Muscle Raw	79.4 77.9-81.0 4	18.8 18.5-18.9 4	2.0 0.9-2.4 4	1.1 1.1-1.2 3	0	93
	Canned	54.7	21.1	13.5	5.4	5.3	206
	Dressed Raw	78.5 78.4-78.6 2	17.1 16.4-17.8 2	2.5 2.3-2.7 2	2.0 1.6-2.3 2	0	91
	Whole Raw	79.9 75.5-87.9 5	15.5 12.7-17.8 5	4.0 2.2-7.6 5	2.3 2.0-2.6 5	0	98
	Cooked Unspecified	84.3 83.3-85.3 2	14.0 12.8-15.1 2	2.6 1.9-3.3 2	2.1 2.1-2.2 2	0	79
Smelt, Pond Hypomesus olidus	Whole Raw	76.4 75.0-77.8 2	17.1	2.9	4.0 3.0-5.0 2	0	95
Smelt, Sweet, Ayu Plecoglossus altivelis	Muscle Raw	77.7 76.3-78.6 6	16.8 14.6-18.8 4	3.7 1.0-6.5 9	1.4 1.3-1.4 4	0.4	102
	Dried	8.9	55.4	27.1	10.3	0	466
	Whole Raw	74.8	14.1	7.5	2.7	0.9	128

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Roe						
	Salted	59.1	19.4	4.3	20.2	0	116
Smelt	Muscle						
Osmeridae	Raw	79.4	17.0	1.4	1.4	0.8	86
		76.8-81.5	15.6-18.7	1.0-1.8	0.8-1.7		
		6	5	4	4		
	Whole						
	Cooked						
	Fried						
	Floured	34.3	25.0	30.8	(4.9)	5.0	397
	Dried	52.5	24.3	7.7	17.2	0	235
		42.1-63.0	13.3-35.2	4.9-10.5	13.3-21.0		
		2	2	2	2		
	Dressed						
	Raw	68.6	12.0	19.9	1.7	0	234
Snapper	Muscle						
Chrysophrys guttulatus	Raw	75.5	20.7	2.1	(1.7)	0	102
Snapper	Muscle						
Lutianus fulvus	Raw	78.4	19.7	0.4	1.1	0.4	84
Snapper, Grey	Muscle						
Lutianus griseus	Raw	78.3	17.6	1.6	1.2	1.3	90
Snapper, Kulisic	Muscle						
Hemipterus japonica	Raw	76.6	18.0	4.7	1.6	0	114
Snapper, Malabar	Muscle						
Lutianus malabaricus	Raw	77.2	18.2	1.1	1.4	2.1	91
		74.6-79.2	17.8-18.7	0.2-2.1	1.3-1.5		
		3	3	3	3		
Snapper, Pargo	Muscle						
Lutianus colorado	Raw	78.8	19.7	1.3	1.2	0	91
		75.7-81.9	18.3-21.1	0.5-2.1			
		2	2	2			
Snapper, Red	Muscle						
Lutianus campechanus (blackfordii)	Raw	77.8	20.2	2.6	1.6	0	104
		76.0-79.2	18.4-22.4	0.4-7.4	1.1-2.2		
		11	4	5	5		
	Cooked						
	Fried						
	Breaded	46.0	16.4	9.5	5.5	22.6	242
	FPC	8.7	93.3	0.1	2.7	0	374
	Whole						
	Raw	77.4	17.6	1.0	5.4	0	79
Snapper, Tanda-Tanda	Muscle						
Lutianus kasmira	Raw	78.1	19.4	0.7	1.3	0.5	89
		77.5-78.8	18.4-20.4		1.2-1.3		
		2	2		2		
Snapper, Yellowtail	Muscle						
Ocyurus chrysurus	Raw	79.8	19.9	0.8	1.2	0	87
		79.2-80.3	18.8-20.9	0.7-0.8			
		2	2	2			
Snapper	Muscle						
Lutianidae	Raw	78.4	19.4	1.1	1.5	0	88
		75.5-80.8	16.7-21.9	0.3-2.1	1.2-2.2		
		6	7	7	6		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Snook, Constantino	Muscle						
Centropomus robalito	Raw	78.8	20.6	0.9	1.1	0	91
Snook, Nile Perch	Muscle						
Lates neloticus	Raw	75.5	21.9	1.5	1.1	0	101
	Dried	12.2	70.0	13.4	4.4	0	401
Snook, Robalo	Muscle						
Centropomus armatus	Raw	77.8	20.4	0.9	1.1	0	90
		76.9-78.5	20.0-21.3	0.7-1.0	1.0-1.2		
		3	3	3	3		
Sole	Muscle						
Solea impar	Raw	78.5	18.6	1.7	2.1	0	90
			15.9-21.2				
			2				
Sole, Dover	Muscle						
Microstomus pacificus	Raw	83.6	15.1	0.9	1.1	0	78
		82.6-84.4	13.9-16.6	0.6-1.2	1.1-1.2		
		7	8	8	5		
	Whole						
	Raw	81.9	12.7	3.5	2.7	0	82
	Offal						
	Raw	81.2	11.7	4.4	3.5	0	86
Sole, Dover	Muscle						
Solea solea	Raw	78.8	16.1	2.5	1.7	0.9	91
		76.8-80.1	15.5-16.6	1.3-3.7	1.3-2.0		
		3	2	2	2		
Sole, English	Muscle						
Parophrys vetulus	Raw	80.8	16.8	1.7	1.2	0	82
		79.2-81.8	16.4-18.5	1.2-1.8	1.2-1.3		
		5	7	6	6		
	Offal						
	Raw	75.7	13.9	7.0	4.7	0	119
Sole, European	Muscle						
Solea vulgaris	Raw	78.7	20.1	1.4	1.2	0	93
		77.8-79.2	18.5-22.5	0.5-2.3			
		4	3	4			
Sole, Flathead	Muscle						
Hippoglossoides elassodon	Raw	81.3	18.6	1.1	1.1	0	84
		80.0-82.5	17.6-19.7	0.9-1.3	1.0-1.2		
		5	4	4	3		
Sole, Lemon	Muscle						
Microstomus kitt	Raw	81.8	16.7	1.2	1.1	0	78
		79.1-84.1	15.2-18.1	0.7-1.9	1.0-1.2		
		3	3	6	2		
	Cooked						
	Fried						
	Battered	60.4	15.4	13.0	1.9	9.3	216
	Steamed	77.2	19.9	0.9	(2.0)	0	88
Sole, Lenguado	Muscle						
Paralichthys adspersus	Raw	77.8	19.4	0.4	1.3	1.1	86
		75.0-80.3	16.6-21.6	0.3-0.4			
		5	4	2			

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Sole, Petrale *Eopsetta jordani*	Muscle Raw	78.4 74.2-81.0 6	18.2 15.4-20.4 8	2.0 0.9-3.4 7	1.1 1.0-1.2 6	0.3	92
	Cooked Steamed	75.4 74.2-76.6 2	19.9 19.4-20.4 2	2.6 1.7-3.4 2	(2.1)	0	103
	Whole Raw	76.5	15.9	4.9	2.9	0	108
	Offal Raw	72.0 67.8-74.8 3	15.4 14.6-16.7 3	7.2 6.7-7.8 3	5.7 3.8-9.0 3	0	126
Sole, Rex *Glyptocephalus zachirus*	Muscle Raw	82.9 82.4-83.4 2	16.4 13.8-18.2 4	0.7 0.7-0.8 3	1.2 1.2-1.1 2	0	72
	Whole Raw	81.4	13.6 13.6-13.6 2	2.7	2.5	0	79
	Offal Raw	81.1	12.4	3.5	3.1	0	81
Sole, Rock *Lepidopsetta bilineata*	Muscle Raw	80.2 79.2-80.7 3	18.6 17.9-19.2 5	1.2 0.7-1.6 4	1.1 0.9-1.3 3	0	85
Sole, Sand *Psettichthys melanostictus*	Muscle Raw	82.1	17.2	0.5	1.1	0	73
Sole, Tong *Austroglossus pectoralis*	Muscle Raw	79.7	18.4	0.2	1.3	1.7	82
Sole, Yellowfin *Limanda aspera*	Muscle Raw	80.5 79.2-82.7 3	17.4 17.0-18.2 4	1.1 0.8-1.3 4	1.4 1.2-1.6 3	0	80
Sole Soleidae/Pleuronectidae	Muscle Raw	79.5 75.0-86.1 9	17.9 14.9-21.1 10	1.0 0.3-2.0 11	1.1 0.9-1.2 8	0.5	83
	Fish Portions	59.7 53.6-65.9 2	13.6 12.6-14.6 2	5.1 0.7-9.4 2	(1.6) (1.6)-(1.6) 2	20.0	180
	Cooked Fried	53.8	20.1	18.4	(7.7)	0	246
	Steamed	78.9	17.6	1.3	(2.2)	0	82
	Roe Raw	71.0	20.7	4.6	1.2	2.5	129
Spadefish *Chadtodipterus faber*	Muscle Raw	78.7	19.9	1.4	1.3	0	92
	Whole Raw	76.7 73.8-79.6 2	15.1 13.4-16.8 2	4.5 2.8-6.2 2	3.2 3.2-3.3 2	0.5	119

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Spadefish	Muscle						
Scatophagus argus	Raw	76.5	17.8	2.7	1.4	1.6	102
		72.2-78.0	15.0-20.7	0.6-6.6	1.1-2.5		
		7	6	7	7		
Spot	Muscle						
Leiostomus xanthurus	Raw	77.6	18.5	2.9	1.2	0	100
		77.5-77.7	17.1-19.1	2.7-3.1	1.1-1.2		
		2	2	2	2		
	Whole						
	Raw	73.0	15.8	7.3	3.9	0	129
		63.9-81.8	13.3-17.9	0.9-16.5	3.4-5.1		
		11	11	11	11		
	Offal						
	Raw	68.9	14.8	10.6	4.6	1.1	159
Sprat	Muscle						
Sprattus sprattus	Raw	65.9	16.7	16.6	1.8	0	216
		61.3-69.7	16.5-17.1	3.0-20.6	1.5-2.0		
		3	4	4	3		
	Canned						
	In Oil	50.2	18.6	29.3	2.0	0	338
	In Oil & Dried	0	37.3	59.4	5.2	0	684
	In Oil & Smoked	50.2	18.6	29.6	2.6	0	340
	In Tomato Sauce and Smoked	64.5	16.8	14.3	3.0	1.4	202
	Whole						
	Raw	72.3	15.9	9.6	2.8	0	150
		67.1-78.4	15.0-16.8	3.3-14.6	2.5-3.5		
		12	9	14	7		
	Dried	(3.1)	55.8	33.2	7.9	0	522
	Cooked						
	Fried						
	In Deep Fat	33.7	22.3	37.9	(6.1)	0	430
	Grilled	45.8	25.1	23.2	(5.9)	0	309
Squawfish	Muscle						
Ptychocheilus grandes	Raw	79.3	17.0	2.5	1.1	0	91
Squawfish	Muscle						
Ptychocheilus oregonensis	Raw	78.7	17.3	3.0	1.1	0	96
	Offal						
	Raw	69.5	16.0	10.4	5.9	0	158
Stargazer	Muscle						
Uranoscopus scaber	Raw	78.7	17.3	0.3	1.1	2.6	82
Steenbras, Sand, Seebes	Muscle						
Lithognathus mormyrus	Raw	75.2	19.4	1.3	1.4	5.7	112
Steenbras, White	Muscle						
Pagellus lithognotius	Raw	74.3	20.3	2.6	2.4	0.4	106
		72.7-75.8	19.9-20.7	0.9-4.2	1.5-3.2		
		2	2	2	2		
Steenklipvis, Steenvis	Muscle						
Cheilodactylus fasciatus	Raw	79.2	17.8	0.9	1.4	0.7	82

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbo-hydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Stingray Dasyatis pastinaca	Muscle Raw	79.5	12.7	0.7	1.5	5.6	80
Stingray, Blue Spotted Dasyatis kuhlii	Muscle Raw	79.9 79.7-80.1 2	18.3	0.1	1.5	0.2	75
Stingray, Butterfly Pteroplata altavela	Muscle Raw	81.0	18.1	0.2	0.7	0	74
Stingray, Marbled Dasyatis uarnak	Muscle Raw	80.8 77.5-82.6 3	16.7 14.3-20.0 3	0.3 0.2-0.4 2	1.3 1.2-1.3 3	0.9	73
Stingray, Thornback Dasyatis akajei	Muscle Raw	79.8	20.4 19.0-21.8 2	1.0	2.3	0	91
Stingray Dasyatidae	Muscle Raw	78.2 75.5-81.0 6	18.5 16.1-24.5 7	0.5 0.2-0.6 4	1.0 0.7-1.7 4	1.8	86
Stockfish Merluccius capensis	Muscle Raw	77.3 69.8-81.2 3	18.5 16.8-21.8 3	2.3 0.8-5.4 3	2.1 1.2-3.0 2	0	95
	Salted	64.9	32.0	0.9	(2.2)	0	136
	Whole Dried	14.8	78.5	1.4	5.9	0	327
Stumpnose, Red Pagrus gibbiceps	Muscle Raw	76.4 75.5-77.2 2	20.6 20.0-21.1 2	1.2 1.0-1.3 2	1.5 1.4-1.5 2	0.3	94
	Dried	14.6	68.3	6.6	10.5	0	326
	Salted & Dried	10.5	62.2	4.0	23.3	0	285
Stumpnose, White Sparus globiceps	Muscle Raw	75.1	20.5	2.2	1.4	0.8	105
Sturgeon Acipenser sturio	Muscle Raw	79.2 77.8-80.9 3	16.3 14.2-18.0 3	3.0 0.6-6.2 5	1.4 0.8-1.8 3	0	92
	Roe Raw	44.0	30.0	19.7	6.3	0	297
Sturgeon, Lake Acipenser fulvescens	Muscle Raw	71.0	17.1	9.1	1.0	1.8	158
Sturgeon Acipenseridae	Muscle Raw	78.7	18.1	1.9	1.4	0	90
	Canned Dried	50.6	31.8	9.6	7.6	0.4	215
	Cooked Steamed	67.5	24.7	5.7	2.1	0	150

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Roe						
	Raw	51.5	26.4	19.3	6.7	0	279
		46.0-57.0	25.8-26.9	15.0-23.6			
		2	2	3			
Sucker, Buffalo	Muscle						
Ictiobus cyprinellus	Raw	73.8	15.3	16.6	1.5	0	210
		68.6-79.0					
		2					
	Cooked						
	Unspecified	54.2	19.0	24.1	2.8	2.9	304
	Offal						
	Raw	55.5	15.6	23.1	4.4	1.4	276
Sucker, Carp	Muscle						
Carpiodes meridionalis	Raw	79.4	19.2	1.0	1.1	0	86
Sucker, Carp	Muscle						
Carpiodes thompsoni	Raw	76.2	19.3	3.1	1.2	0.2	105
Sucker, Common	Muscle						
Catostomus commersoni	Raw	80.0	17.7	1.5	1.4	0	84
		78.7-81.9	15.8-20.8	1.1-2.0	1.2-1.5		
		12	8	8	8		
	Whole						
	Raw	75.7	16.0	3.8	4.1	0.4	99
		75.3-76.0	15.7-16.3	3.2-4.3			
		2	2	2			
Sucker, Redfin	Muscle						
Moxostoma aureolum	Raw	79.3	18.0	3.3	1.6	0	102
		76.5-82.3	17.4-18.5	2.7-3.8	1.3-1.8		
		3	2	2	2		
Sucker	Muscle						
Catostomidae	Raw	78.3	17.7	3.5	1.1	0	102
		75.8-81.1	17.3-18.6	1.4-6.2	1.0-1.2		
		6	7	7	8		
	Offal						
	Raw	71.8	15.1	8.4	6.0	0	136
		70.0-73.5	14.5-15.6	7.8-8.9	4.4-7.5		
		2	2	2	2		
Sunfish, Bluegill	Whole						
Lepomis macrochirus	Raw	79.5	13.4	2.3	3.9	0.9	78
Sunfish, Crappie, White	Muscle						
Pomoxis annularis	Raw	81.8	16.8	0.8	1.0	0	74
Sunfish, Rock Bass	Muscle						
Ambloplites rupestris	Raw	79.0	19.0	0.9	1.1	0	84
Sunfish	Muscle						
Centrarchidae	Raw	78.4	20.4	1.7	1.2	0	97
		74.8-80.3	19.3-21.5	0.9-2.4	1.1-1.3		
		4	2	2	2		
	Cooked						
	Boiled	79.5	18.0	(1.5)	1.5	0	86
Surgeonfish	Muscle						
Acanthurus bleekeri	Raw	79.7	18.4	0.5	1.2	0.2	79
		79.4-79.8	17.4-19.2	0.4-0.6	1.1-1.3		
		3	3	3	2		
Swordfish	Muscle						
Xiphias gladius	Raw	74.5	19.4	4.4	1.4	0.3	118
		67.6-77.7	16.9-21.2	2.0-6.7	1.0-2.5		
		15	13	13	11		

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Canned	78.0	17.5	3.0	1.5	0	97
	Cooked						
	Baked						
	In Sour Cream	69.6	22.1	6.0	1.6	0.7	145
	Broiled						
	With Cheese	62.7	28.1	8.4	2.1	0	188
	Unspecified	64.8	28.1	5.9	1.5	0	166
		64.5-65.0	27.4-28.7	5.0-6.8	0.9-1.8		
		3	3	3	3		
	Kabobs	56.9	23.7	14.1	2.0	3.3	238
	With Mushrooms	57.1	21.7	17.7	2.0	1.5	252
Tarpon, Bidbid	Muscle						
Elops hawaiiensis	Raw	77.4	19.2	1.7	1.3	0.4	93
		76.7-78.4	18.7-19.6	0.3-1.6			
		3	3	3			
Tarpon, Buan-Buan	Muscle						
Megalops cyprinoides	Raw	76.4	19.8	2.3	1.3	0.2	101
		74.7-77.3	17.0-22.2	0.2-4.2	1.1-2.0		
		6	6	6	6		
Tarpon	Muscle						
Elopidae	Raw	77.3	19.1	5.3	0	0	124
		71.0-83.6					
		2					
	Smoked	61.2	26.7	6.3	5.2	0.6	164
		60.5-61.8					
		2					
Tench	Muscle						
Tinca tinca	Raw	79.2	16.6	1.0	1.1	2.1	84
		78.9-79.5	15.2-18.0	0.4-1.7			
		2	2	3			
Teraglin, Geelbeck	Muscle						
Atractoscion acquidens	Raw	76.9	20.1	2.5	1.4	0	103
				0.7-4.2			
				2			
Therapon	Muscle						
Therapon plumbeus	Dried	17.4	54.6	12.5	19.5	0	331
	Whole						
	Salted & Dried	26.6	38.9	3.7	26.8	4.0	205
Therapon, Grunt	Muscle						
Therapon puta	Raw	75.2	19.6	2.6	2.6	0	102
		75.0-75.4	19.4-19.7	2.5-2.8	2.5-2.8		
		2	2	2	2		
Therapon, Large Scaled, Banded Grunter	Muscle						
Therapon theraps	Raw	76.6	18.4	1.6	1.1	2.3	97
		75.2-78.3	17.2-22.2	0.6-2.9	0.7-1.4		
		4	4	4	4		
Therapon, Tigerfish	Muscle						
Therapon jarbua	Raw	77.6	19.0	0.3	1.3	1.8	86
Therapon	Muscle						
Theraponidae	Raw	77.9	20.0	1.1	1.4	0	90
		76.5-79.6	18.8-20.7	0.4-2.4	1.0-1.8		
		3	3	4	3		
Threadfin	Muscle						
Galeoides decadactylus	Raw	79.3	19.2	0.6	0.9	0	82

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Threadfin *Pentanemus quinquarias*	Muscle Raw	79.4	19.2	0.7	0.7	0	83
Threadfin *Polynemus heptadactylus*	Muscle Raw	76.6	17.9	2.9	1.3	1.3	103
Threadfin *Polynemus indicus*	Muscle Raw	77.4	15.5	(5.8)	1.3	0	114
	Dressed Dried	14.3	66.8	4.7	10.5	3.7	324
Threadfin, Atlantic *Polydactylus octonemus*	Whole Raw	74.0 67.9-76.6 12	18.0 17.3-19.1 12	4.7 1.5-10.9 12	3.5 2.0-4.0 12	0	114
Threadfin, Four-rayed *Polynemus tetradactylus*	Muscle Raw	78.5 76.0-80.7 3	17.9 16.5-19.4 3	0.4 0.1-0.6 2	1.2 1.1-1.3 2	2.0	83
	Whole Fishmeal	0.9	85.1	7.1	6.9	0	404
Threadfin, Shiny-nose *Polydactylus quadrifilis*	Muscle Raw	78.3	19.8	0.3	1.6	0	82
Threadfin, Small-mouth *Polynemus microstoma*	Muscle Raw	75.4	19.7	0.2	1.1	3.6	95
Threadfin Polynemidae	Muscle Raw	76.1 70.9-78.2 7	20.2 19.1-21.0 6	1.1 0.4-2.0 6	1.4 1.2-2.2 7	1.2	96
	Dried	45.7 45.0-46.4 2	40.2	1.8	12.3 11.6-13.0 2	0	177
Tilapia, Mozambique Mouthbrooder *Tilapia mossambica*	Muscle Raw	77.4	18.5 17.1-19.7 3	2.4 1.9-2.8 2	1.0	0.7	98
Tilapia Cichlidae	Muscle Cooked Boiled	73.7 73.2-74.2 2	23.3 22.0-24.5 2	1.7 0.5-2.8 2	1.4 1.0-1.8 2	0	109
	Fried	8.2	39.4	39.4	13.0	0	512
	Dried	23.7	54.3	11.3	10.7	0	319
	Dried & Smoked	10.6	77.0	8.2	4.2	0	382
	Smoked	19.5 18.6-20.3 2	53.1	9.1	17.6	0.7	297
Tilefish *Branchiostegus japonicus*	Muscle Raw	78.2 77.8-78.6 2	17.8	2.8 2.4-3.1 2	2.2	0	96
Tilefish *Lopholatilus chamaeleonticeps*	Muscle Raw	80.3	18.6 17.5-19.8 2	1.2 0.5-1.8 2	1.4	0	85

Table 1.—Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1]	Calories[2]
		%	%	%	%	%	Per 100 grams
Tilefish	Muscle						
Branchiostegidae	Raw	77.5	19.1	2.1	1.2	0	95
		77.0-77.9	18.7-19.5	2.0-2.2			
		2	2	2			
	Cooked						
	Casserole	73.1	12.3	6.5	2.1	6.0	132
	Patties	57.2	18.9	13.2	1.8	8.9	230
	Steak						
	Baked	71.6	24.5	3.7	1.1	0	131
	Broiled	67.0	26.1	5.1	1.8	0	150
	In Cheese Sauce	66.0	19.7	8.7	1.6	4.0	173
		63.3-68.7	16.1-23.3	7.8-9.6	1.4-1.7		
		2	2	2	2		
	In Egg Sauce	72.4	18.6	5.4	1.4	2.2	132
	Timbals	71.0	16.5	7.1	2.0	3.4	144
Tomcod	Muscle						
Gadidae	Raw	81.5	17.0	0.4	0.8	0.3	72
		81.5-81.5	16.9-17.2	0.2-0.6	0.4-1.0		
		3	3	3	3		
Tonguefish	Muscle						
Cynoglossidae	Raw	79.6	17.2	1.9	1.3	0	86
Torpedo, Panga	Muscle						
Megalaspis cordyla	Raw	75.6	20.4	1.6	1.2	1.2	101
		73.3-77.4	19.6-22.3	1.5-1.8	1.1-1.4		
		4	4	4	4		
Trevally, Great, Talakitok	Muscle						
Caranx sexfasciatus	Raw	75.6	20.2	2.5	1.3	0.4	105
		71.5-78.8	18.5-22.0	0.4-6.3	1.0-1.8		
		7	7	7	5		
	Dried	34.5	50.4	4.2	10.9	0	239
Trevally, Pennant	Muscle						
Alectis ciliaris	Raw	77.8	18.4	0.9	1.3	1.6	88
Triggerfish	Muscle						
Balistidae	Raw	79.8	18.4	0.8	1.7	0	81
Tripletail	Muscle						
Lobotes surinamensis	Raw	77.6	20.4	0.7	1.2	0	88
	Dried	24.9	55.3	5.2	10.3	4.3	285
Trout, Brook	Muscle						
Salvelinus fontinalis	Raw	77.0	18.5	1.6	1.0	1.9	96
		74.0-80.5	17.5-19.2	0.7-2.1	0.8-1.2		
		6	3	3	3		
	Canned	68.4	22.3	6.1	3.7	0	144
	Whole						
	Raw	75.2	15.6	5.2	3.4	0.6	112
		71.5-77.2	13.3-21.2	1.9-7.8	2.0-6.3		
		4	4	6	4		
Trout, Brown	Muscle						
Salmo trutta	Raw	77.5	18.5	2.9	1.5	0	100
		77.2-78.0	18.2-19.0	2.0-3.4			
		3	3	3			
Trout, Dolly Varden	Muscle						
Salvelinus malma	Raw	73.6	19.9	6.0	1.2	0	134
		73.1-74.1		5.4-6.5			
		2		2			

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Trout, Lake	Muscle						
Salvelinus namaycush	Raw						
	High fat	42.6	10.2	50.0	0.6	0	491
		32.1-54.7	7.9-12.9	33.0-66.7	0.1-0.7		
		12	12	13	12		
	Low fat	72.9	17.2	11.1	1.2	0	169
		64.5-79.0	13.5-20.0	6.9-21.8	0.5-2.7		
		14	9	10	9		
	Whole						
	Raw						
	Low fat	60.8	17.8	17.1	1.8	2.5	235
	Offal						
	Raw	64.2	15.6	18.1	3.3	0	225
Trout, Pollan	Muscle						
Coregonus pollan	Cooked						
	Fried						
	Battered	64.3	18.7	12.1	(4.8)	0	185
	Steamed	77.1	18.1	2.1	(2.7)	0	91
Trout, Rainbow	Muscle						
Salmo gairdneri	Raw	72.0	20.7	6.8	1.3	0	154
		66.3-79.8	18.2-22.4	2.1-13.6	1.0-1.5		
		15	13	29	10		
	Canned	62.2	20.5	14.6	1.2	1.5	219
		57.7-66.8	19.6-21.4	9.0-20.1	1.2-1.2		
		5	5	5	5		
	Whole						
	Raw	71.6	18.9	9.3	2.7	0	159
		67.7-75.8	18.4-19.1	3.8-15.0	2.5-3.0		
		5	3	6	4		
	Roe						
	Raw	62.9	27.8	9.0	1.6	0	192
		58.3-73.3	26.7-28.9	6.2-11.8	1.6-1.6		
		5	2	5	3		
Trout	Muscle						
Salmonidae	Raw	76.4	17.7	3.8	1.1	1.0	109
		74.5-80.5	15.0-20.0	0.7-10.3	0.8-1.5		
		4	5	4	4		
	Canned	63.2	22.7	11.4	2.7	0	194
	Cooked						
	Steamed	73.2	20.5	3.9	1.5	0.9	121
		70.6-78.0	18.0-22.3	2.5-4.8			
		3	3	3			
Tuna	Muscle						
Thunnus maccoyi	Raw	70.7	25.0	2.0	1.4	0.9	122
				1.3-2.6			
				2			
Tuna	Muscle						
Thunnus orientalis	Raw	60.6	21.8	11.8	1.1	0	193
		52.5-68.6	20.9-22.6	2.4-26.4	1.0-1.1		
		2	3	3	2		
	Dried	20.8	77.6	1.2	5.2	0	321
Tuna, Albacore	Muscle						
Thunnus alalunga	Raw	67.6	25.2	6.3	1.4	0	158
		62.3-74.2	21.8-27.6	0.7-13.2	1.2-3.0		
		18	18	19	16		
	Dark meat	70.7	22.8	5.5	1.2	0	141
		68.6-78.9	22.0-24.0	2.6-8.4	1.2-1.3		
		7	7	7	7		

Table 1.--Proximate composition of finfishes, whales, and products

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Canned						
	In Oil	57.7	26.1	6.1	2.8	7.3	189
		52.9-62.4	24.8-27.4	1.9-8.3	2.7-2.8		
		2	2	3	2		
	Offal						
	Fishmeal	7.0	53.8	12.9	(26.3)	0	331
Tuna, Albacore	Muscle						
Scombridae	Raw	77.3	18.8	3.0	1.1	0	102
		75.6-78.4	17.9-19.6	1.9-4.1	0.9-1.2		
		4	2	4	2		
Tuna, Big Eye	Muscle						
Thunnus obesus	Raw						
	Dark meat	72.5	21.3	2.4	1.3	2.5	116
		71.4-73.6	16.1-26.5	1.3-3.5	1.2-1.4		
		2	2	2	2		
	Light meat	73.2	24.2	1.5	1.2	0	110
		71.4-75.6	22.5-26.5	0.6-2.6	1.0-1.4		
		4	4	5	4		
Tuna, Bluefin	Muscle						
Thunnus thynnus	Raw						
	Dark meat	67.6	23.5	8.5	1.3	0	171
		52.7-74.7	21.4-25.3	0.2-25.0	0.9-1.5		
		5	5	6	5		
	Light meat	69.7	24.5	5.0	1.3	0	143
		58.5-73.5	20.3-27.0	0.5-14.1	1.2-1.6		
		17	17	18	15		
	Canned						
	In Oil	53.2	22.1	28.1	2.8	0	341
		52.8-53.5	19.4-25.0	20.0-42.3	2.1-3.2		
		2	4	4	3		
Tuna, Skipjack	Muscle						
Euthynnus pelamis	Raw	68.9	24.9	4.5	1.4	0.3	141
		60.7-72.1	21.3-27.3	0.2-11.0	1.0-1.7		
		18	19	18	13		
	Cooked						
	Broiled	59.0	33.2	3.2	2.1	2.5	172
		57.6-60.4	31.7-34.9	2.6-4.1	2.0-2.1		
		2	3	3	2		
	Fried						
	Breaded	58.6	30.2	6.7	1.6	2.9	193
	Dried	29.6	60.2	4.8	4.4	1.0	288
		15.3-39.6	51.5-75.6	3.1-6.2	2.7-6.6		
		3	3	3	3		
	Smoked	34.4	44.0	1.5	7.7	12.4	239
			33.0-55.0	1.4-1.5			
			2	2			
	Canned						
	In Brine	64.9	25.9	3.2	3.5	6.0	161
		63.1-66.7	24.0-27.8	2.8-3.6	2.4-4.6		
		2	2	2	2		
	In Oil	62.9	29.0	5.7	3.0	0	167
				4.8-6.5			
				2			
	Dressed						
	Dried	16.0	56.6	5.3	25.7	0	274
Tuna, Skipjack	Muscle						
Scombridae	Raw	73.0	23.7	4.1	1.3	0	132
		70.0-76.0	22.0-25.4	2.8-6.5			
		2	2	4			
	Dried	14.3	75.6	5.1	4.0	1.0	352
	Half Dried	39.0	51.5	6.2	2.7	0.6	264

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Whole						
	Fishmeal	9.3	52.5	11.0	(27.2)	0	309
Tuna, Yellowfin	Muscle						
Thunnus albacares	Raw						
	Dark meat	70.6	23.4	4.1	1.7	0.2	131
		70.4-70.7	23.3-23.6	3.7-4.6	1.6-1.8		
		3	3	3	3		
	Light meat	73.2	24.3	1.9	1.4	0	114
		64.4-75.8	21.8-26.2	0.1-11.9	1.0-1.9		
		32	31	30	30		
	Canned						
	In Oil	72.4	27.0	6.8	2.4	0	169
		59.9-65.3	22.9-29.0	3.0-15.2	1.9-2.7		
		3	3	5	3		
	In Water	70.6	22.9	2.9	2.7	0.9	136
		63.8-74.8	21.6-24.0	0.8-5.8	1.1-3.7		
		3	3	3	3		
	Cooked						
	Broiled						
	With Soy Sauce	62.1	33.8	0.2	2.6	1.3	142
	Salted & Dried	22.5	49.5	4.0	24.3	0	234
Tuna	Muscle						
Scombridae	Raw	71.4	24.7	5.1	1.3	0	145
		66.0-78.5	21.3-27.3	0.2-13.0	1.0-1.9		
		4	4	5	4		
	Canned	67.4	27.4	6.5	2.9	0	168
		63.8-70.5	22.2-29.4	3.9-8.8	1.5-5.0		
		5	6	5	4		
	In Brine	69.6	28.7	3.0	6.6	0	142
		62.0-77.1	28.4-29.0	2.0-4.0	5.0-8.2		
		2	2	2	2		
	In Oil	54.3	25.3	17.1	2.4	0.9	259
		47.9-61.0	18.8-29.1	8.2-27.7	1.7-3.5		
		12	16	17	12		
	In Water	68.5	27.2	2.3	1.9	0	130
			25.6-29.4	0.4-7.6	1.4-2.2		
			3	4	3		
	Creamed	63.6	10.8	18.0	1.4	6.2	230
	Tuna Supreme	63.5	13.3	11.0	11.9	0.3	153
	Cooked						
	Baked						
	In Spanish Sauce	74.7	17.0	3.8	1.3	3.2	115
	Boiled	58.5	27.0	13.0	1.5	0	225
	Served with Egg Sauce	67.9	22.2	6.1	1.5	2.3	153
	Broiled	57.6	34.9	4.1	2.0	1.4	182
	Cakes	62.5	12.8	11.3	1.4	12.0	201
	Chowder						
	Manhattan	82.3	8.3	4.0	1.3	4.1	86
	New England	80.8	10.0	3.6	0.9	4.7	91
	Croquettes	53.0	18.3	14.4	1.7	12.4	252
	Fried						
	Breaded	58.6	30.2	6.7	1.6	2.9	193
	Noodle Casserole	71.2	8.9	5.9	1.5	12.5	139
	Pie	68.0	9.5	7.5	2.1	12.6	156
	Salad	69.8	14.6	12.1	10.5	0	167
		68.1-71.5	14.0-15.2	8.9-15.2	8.9-12.1		
		2	2	2	2		
	Shepherd's Pie	71.2	8.6	6.9	2.1	11.2	141
	Slaw	74.0	11.5	9.3	9.3	0	130
	Steaks-Stuffed	58.1	21.7	9.1	2.1	9.0	204
	With Creole Sauce	75.4	15.4	3.8	1.7	3.7	111

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
	Dried	33.9	53.5	3.1	6.6	2.9	254
	Dried & Smoked	34.4	55.0	1.4	7.7	1.5	239
	FPC	6.6	81.6	0.5	0.8	10.5	373
	Whole						
	Fishmeal	6.1	60.9	9.7	21.0	2.3	340
		4.2-6.7	59.6-65.3	7.0-11.9	19.8-23.3		
		5	5	4	4		
Tunny	Muscle						
Thunnus vulgaris	Raw	65.5	24.3	6.4	1.4	2.4	164
		65.4-65.5	20.7-26.7	1.8-13.1	1.2-1.6		
		2	3	3	3		
	Canned						
	In Oil	51.3	23.8	20.0	4.3	0.6	278.
Tunny, Little	Muscle						
Euthynnus alletteratus	Raw	74.1	22.9	4.0	1.7	0	134
			22.3-23.5	1.6-9.3	1.4-2.0		
			5	5	5		
	Dressed						
	Raw	(70.1)	22.8	5.6	1.5	0	141
Turbot	Muscle						
Reinhardtius hippoglossoides	Raw	75.3	13.2	11.6	0.9	0	157
				10.8-12.4			
				2			
Turbot, Arrowtooth	Muscle						
Atheresthes stomias	Raw	78.1	16.2	4.8	1.1	0	108
		74.6-79.7	13.8-17.9	2.4-9.3	1.0-1.2		
		4	4	4	4		
Turbot, Greenland	Muscle						
Atheresthes evermanni	Raw	78.9	16.9	3.5	1.0	0	99
Turbot	Muscle						
Pleuronectidae	Raw	75.6	15.3	9.7	1.1	0	149
		70.2-82.4	12.4-18.1	1.4-15.6	0.7-1.3		
		7	6	6	4		
	Cooked						
	Unspecified	75.6	20.7	1.6	(2.1)	0	97
	Smoked	74.6	13.4	8.8	3.7	0	133
Viperfish	Muscle						
Chauliodus sloani	Raw	85.8	12.6	0.1	0.8	0.7	54
Wahoo	Muscle						
Acanthocybium solanderi	Raw	77.8	22.9	1.5	1.1	0	105
			21.6-24.1	0.7-2.3			
			2	2			
Walleye	Muscle						
Stizostedion vitreum vitreum	Raw	78.8	19.7	1.2	1.3	0	90
		76.6-79.7	18.6-22.1	0.5-1.8	1.1-1.5		
		5	5	5	5		
Weakfish	Muscle						
Cynoscion petronus	Raw	77.7	19.7	1.5	1.1	0	92
	Whole						
	Raw	76.5	19.3	5.3	3.1	0	125
		76.3-76.6	19.0-19.5	2.6-7.9	2.9-3.2		
		2	2	2	2		
Weakfish	Muscle						
Larimus peli	Raw	78.8	19.5	0.6	1.1	0	83
Weever, Greater	Muscle						
Trachinus draco	Raw	76.0	19.4	0.7	1.4	2.5	94

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Weever, Lesser *Trachinus vipera*	Muscle Raw	71.1	22.4	5.6	1.3	0	140
Weever Trachinidae	Muscle Raw	79.6 74.9-84.2 2	16.5 13.7-19.2 2	2.2 0.8-3.6 2	1.5 0.7-2.3 2	0.2	87
Whale, Fin *Balaenoptera phepaleus*	Whole Fishmeal	6.8	54.8	3.7	30.8	3.9	268
Whale, Sperm *Phyester catadon*	Whole Fishmeal	6.0	61.0	2.7	26.7	3.6	283
Whale Unspecified	Muscle Raw	68.8 62.9-72.8 9	21.9 16.2-27.4 7	7.1 2.1-18.5 9	1.1 0.8-1.3 6	1.1	156
	Fishmeal	7.9 7.3-8.6 5	74.3 53.0-86.0 5	7.7 4.0-16.9 5	6.0 3.2-13.2 4	4.1	383
	Whole Raw	47.9	18.9	26.7	6.5	0	316
Whitefish, Lake *Coregonus clupeaformis*	Muscle Raw	72.9 65.6-79.0 11	18.5 17.2-19.8 12	7.2 1.7-16.3 13	1.2 1.0-1.4 12	0.2	140
	Offal Raw	62.6	16.1	18.5	3.1	0	231
Whitefish Salmonidae	Muscle Raw	75.1 69.8-79.8 10	18.6 15.1-22.9 8	5.2 3.2-8.5 8	1.4 1.1-1.6 6	0	121
	Whole Raw	69.9	22.2	6.5	1.5	0	147
	Fishmeal	9.1 6.5-13.4 3	65.9 57.2-70.4 6	4.3 1.9-7.5 3	22.0 20.9-23.4 4	0	302
Whiting, Australian *Sillago sihama*	Muscle Raw	76.0 73.8-77.8 7	19.6 18.2-20.4 7	1.4 0.4-5.7 8	1.5 0.8-2.1 7	1.5	97
Whiting, Blue *Micromesistius poutassou*	Muscle Raw	79.6 78.6-80.5 2	18.1	0.8	1.2	0.3	81
Whiting, King *Menticirrhus saxatilis*	Muscle Raw	79.2 76.3-81.7 4	17.1 16.5-17.9 4	2.6 0.7-6.1 4	1.1 1.0-1.1 4	0	92
	Offal Raw	74.4 70.6-80.6 4	15.0 14.0-16.5 4	6.0 1.1-11.0 4	3.8 3.4-4.5 4	0.8	129
Whiting, Sand *Sillago ciliata*	Muscle Raw	76.0	21.3	1.2	1.4	0	96

Table 1.--Proximate composition of finfishes, whales, and products.

Common and Scientific Name	Description	Moisture	Protein	Fat	Ash	Carbohydrates[1/]	Calories[2/]
		%	%	%	%	%	Per 100 grams
Whiting Sillaginidae	Muscle Raw	77.8 74.0-83.0 14	18.9 16.0-21.3 12	1.3 0.4-5.7 15	1.4 0.8-2.1 11	0.6	90
Windtog Pterosmaris (Carsio) axillaris	Muscle Raw	78.2	18.6	1.8	1.5	0	91
Wolffish, Atlantic Anarhichas lupus	Muscle Raw	80.6 78.1-84.0 3	17.6 16.0-18.5 3	2.8 2.1-3.0 4	1.2	0	96
Wrasse Crenilabrus mediterraneus	Muscle Raw	80.0	18.3	0.9	1.4	0	81
Wrasse Crenilabrus melops	Muscle Raw	79.2	16.9	1.4	2.6	0	80
Wrasse Labrus viridis	Muscle Raw	80.2	18.3	0.9	1.2	0	81
Wrasse, Ballan Labrax bergylta	Muscle Raw	73.6 73.5-73.6 2	18.2 17.7-18.7 2	4.2 2.0-6.2 3	2.7 2.3-3.1 2	1.3	116
Wrasse, Bass Labrax (Roccus) lupus	Muscle Raw	78.2 77.1-78.8 3	18.2 16.5-19.2 4	1.4 1.2-1.5 4	1.3 1.2-1.5 4	0.9	89
Wrasse, Peacock Crenilabrus pavo	Muscle Raw	79.6 77.2-82.0 2	19.4 16.2-22.6 2	0.8 0.4-1.1 2	1.2 1.1-1.3 2	0	85
Wrasse, Pintade Coris gioffredi	Muscle Raw	76.0	18.9	1.4	2.7	1.0	92
Wrasse, Rainbow Jules jules	Muscle Raw	79.1 78.0-80.1 2	18.3 18.1-18.4 2	1.4 1.1-1.6 2	1.7 1.3-2.1 2	0	86
Wrasse, Spinola Labrus turdus	Muscle Raw	78.6 77.5-79.7 2	18.5	1.2	1.3	0.4	86
Wrasse, Tautog Tautoga onitis	Muscle Raw	80.0	18.3	0.2	1.4	0	75
Wrasse Labridae	Muscle Raw	77.7	18.5	2.0	1.8	0	92
Wreckfish Polyprion cernium	Muscle Raw	76.7	17.5 15.6-19.3 2	4.0 1.3-6.7 2	1.1	0.7	109
Wreckfish, Black Bass Polyprion americanus	Muscle Raw	77.1 74.5-79.9 3	17.4 17.0-17.7 3	3.9 1.0-6.7 3	1.0 0.8-1.1 3	0.6	107

1/ This value was obtained by difference if the average of the means.

2/ Caloric value estimated by multiplying protein content by 4; fat by 9; and carbohydrate by 4.

3/ Average of the means obtained from the literature cited.

4/ Range of the means found in literature cited.

5/ Number of mean values, which were reported in the literature cited.

6/ Figure obtained by calculation.

7/ FPC abbreviation for fish protein concentrate.

8/ Method of processing was not clearly described or the fish was identified only by common name.

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Crab Polybus henslowi	Whole Raw	75.5	10.8	1.7	8.9	3.1	71
Crab Portunus sanguinalatus	Muscle Raw	79.9	15.5	0.5	0.6	3.5	81
Crab Portunus trituberculatus	Muscle Raw	82.1[3] 80.2-83.3[4] 3[5]	16.3[3] 12.6-19.0[4] 3[5]	0.3[3] 0.1-0.4[4] 3[5]	1.4[3] 1.0-1.6[4] 2[5]	0	68
Crab, Blue Callinectes sapidus	Muscle Raw	80.3 77.4-86.7 18	15.9 8.6-19.8 13	1.3 0.4-2.2 19	1.9 1.3-2.7 12	0.6	78
	Canned	77.6 76.1-79.0 2	18.4 18.0-18.7 2	0.3	2.8	0.9	82
	Cooked Steamed	77.1	18.4	2.5	2.0	0	96
	Offal Raw	67.5	12.4	1.5	10.8	7.8	94
	Meal	5.8 4.4-8.2 5	34.6 24.0-58.4 5	2.2 2.0-2.7 4	39.7 20.5-56.0 5	17.7	229
	Roe Raw	75.5	8.5	9.6	2.0	4.4	138
Crab, Blue, Deep Sea Portunus pelagicus	Muscle Raw	77.6 75.5-79.8 4	16.1 11.5-19.9 4	1.8 0.5-4.5 3	2.3 1.9-2.6 3	2.2	89
Crab Portunidae	Muscle Raw	76.8	17.9	2.0	2.0	1.3	95
	Canned	75.3	16.0	3.3	1.6	3.8	109
	Salted	60.2	18.3	4.3	16.0	1.2	117
	Roe Salted	38.3	31.4	6.4	9.4	14.5	241
Crab, Chinese Eriochcia sinensis	Muscle Raw	80.0	13.1	2.8	(4.1)[6]	0	78
	Offal Meal	6.8	35.9 33.0-38.1 3	3.9 3.0-4.6 3	39.7 38.8-41.0 3	13.7	234
Crab, Dungeness Cancer magister	Muscle Raw	80.0 78.1-82.3 22	17.3 13.8-23.4 20	1.3 0.8-3.0 24	1.5 1.2-2.0 17	0	81
	Canned. In Brine	77.6 76.6-78.5 6	18.5 16.8-20.5 6	1.0 0.9-1.2 6	2.4 2.1-2.8 6	0	83
	In Water	78.4 76.6-82.9 7	18.8 14.7-21.3 7	1.4 1.1-3.0 7	1.4 1.0-1.7 7	0	88
	Cooked Steamed	77.3 76.3-78.1 5	19.6 17.6-20.8 5	1.0 0.9-1.3 5	2.3 1.4-3.0 5	0	87
	Offal Raw	56.9 53.2-61.2 5	14.0 13.4-14.7 5	0.8 0.3-1.5 5	15.3 14.4-16.3 5	13.0	115

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1/] %	Calories[2/] Per 100 grams
Crab, Edible *Cancer pagurus*	Muscle Raw	77.4 75.3-79.5 2	17.6 16.0-19.2 2	1.4 1.3-1.5 2	3.5	3.6	97
Crab, Jonah *Cancer borealis*	Muscle Raw	78.2	16.2	1.9	1.5	2.2	91
Crab, King *Paralithodes camtschatica*	Muscle Raw	81.9 76.0-87.4 19	15.2 9.6-20.0 21	0.8 0.3-2.5 19	1.5 1.3-1.7 18	0.6	70
	Canned	77.1 75.3-75.9 4	18.5 17.5-19.7 3	1.6 0.5-2.6 3	2.2 1.5-3.3 3	0.6	91
	Cooked Unspecified [7/]	77.6 76.2-79.5 7	17.8 15.1-20.7 7	1.7 0.4-3.3 6	1.9 1.3-1.9 7	1.0	86
	Offal Raw	83.4	7.9	1.5	5.4	1.8	52
	Meal	4.7 4.7-4.7 2	39.8 39.7-39.9 2	7.4 4.7-10.1 2	31.1 26.6-35.7 2	17.0	294
Crab, Necora, Cangrejos *Cancer polydon*	Whole Cooked Baked	70.0	18.2	1.7	8.8	1.3	93
Crab, Queen *Chionoectes opilio*	Muscle Raw	81.5 80.6-82.9 3	15.6 15.3-16.0 3	1.0 0.9-1.1 3	1.9 1.7-2.1 3	0	71
	Canned	82.5	14.2	1.1	2.0	3.0	69
Crab, Red *Pleuroncodes planipes*	Muscle Raw	80.0	8.2	1.6	4.0	6.2	72
Crab, Red *Podaphehalmus vigil*	Muscle Cooked Unspecified	80.6 80.0-81.1 3	15.8 14.7-16.7 3	0.4 0.3-0.4 3	2.6 2.3-3.0 3	0.6	69
Crab, Red, Deep Sea *Geryon quinquedens*	Muscle Raw	80.8	15.0	1.0	1.6 1.4-1.8 2	1.6	75
	Offal Meal	10.0	31.1	0.1	43.9	14.9	185
Crab, Samoan *Scylla serrata*	Muscle Raw	78.3 75.1-81.0 5	17.3 14.2-20.1 5	2.9 0.7-4.0 3	1.8 1.5-1.9 4	0	102
Crab, Sand *Platyonichus ocellatus*	Muscle Raw	76.3	20.3	0.2	1.8	1.4	90
Crab, Snow *Chionoectes bairdi*	Muscle Raw	79.7 79.4-80.0 2	18.4 18.0-18.8 2	1.3 1.0-1.5 2	1.2 1.0-1.3 2	0	85
	Canned	78.2	19.5	1.0	1.6	0	87
Crab, Spider *Fulvia muticum*	Muscle Raw	72.0	23.0	2.2	1.8	1.0	105

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1/] %	Calories[2/] Per 100 grams
Crab, Swimming	Muscle						
Portunus puber	Raw	67.3	16.2	1.0	4.2	11.3	119
		66.1-73.1					
		2					
Crab, Tanner	Muscle						
Chionoectes tanneri	Raw	80.0	19.5	1.4	1.0	0	91
		78.6-81.4	17.7-20.7	1.0-1.6	0.4-1.3		
		5	5	3	5		
	Canned	78.4	19.3	1.5	1.6	0	91
		77.7-79.1	18.9-19.7	1.3-1.7	1.5-1.7		
		2	2	2	2		
	Cooked						
	Unspecified	81.5	16.0	0.3	1.8	0	67
Crab	Muscle						
Potamonidae	Raw	73.2	13.1	3.4	4.6	5.8	106
		68.1-78.4	12.4-13.8	2.9-3.8	3.1-6.2		
		2	2	2	2		
	Salted	65.9	11.3	7.0	11.8	4.0	124
Crab	Muscle						
Unspecified	Raw	77.1	16.2	2.6	2.0	2.1	97
		69.1-84.7	7.2-22.9	0.7-12.5	1.0-3.4		
		23	20	21	18		
	Canned	77.9	17.8	1.6	2.1	0.6	68
		76.0-81.5	15.1-21.8	0.3-2.9	1.8-2.6		
		7	10	10	6		
	Cooked						
	Appetizer	61.8	15.7	12.5	2.3	7.9	205
	Baked	69.6	12.8	10.6	2.3	4.7	165
	Bisque	80.8	8.8	4.7	1.8	3.9	95
	Boiled	72.5	19.2	5.2	3.1	0	127
	Cakes	62.8	17.4	11.3	2.2	6.3	195
		60.9-64.6	16.4-18.4	9.8-12.8	2.0-2.3		
		2	2	2	2		
	Canapes	57.3	17.0	10.4	2.7	12.6	210
	Casserole	69.9	11.6	9.7	1.9	7.1	160
		64.7-75.0	11.3-11.9	4.9-14.4	1.7-2.0		
		2	2	2	2		
	Chowder	83.7	4.5	3.7	1.2	6.9	80
	Devilled	58.2	11.1	10.7	2.8	17.2	210
		53.1-63.3	10.7-11.4	9.4-13.2	2.6-2.9		
		2	2	3	2		
	Fried-Softshell	48.8	16.4	18.4	3.1	13.3	285
	Imperial	71.9	14.6	7.6	2.0	3.9	140
	Jambalaya	79.5	8.2	4.4	1.3	6.6	100
	Jellied	75.2	9.4	7.3	1.8	6.3	130
	Mousse	77.8	10.4	9.0	1.2	1.6	130
	Newberg	66.3	13.7	12.2	2.0	5.8	190
	Potato Cake	72.7	11.1	5.7	2.0	8.5	130
	Puff	72.3	12.1	11.4	1.7	2.5	160
	Puff Shell	57.5	11.1	17.9	2.9	10.6	250
	Ravigote	75.1	12.4	6.1	2.6	3.8	120
	Salad						
	Aspic	81.9	8.4	4.6	1.8	3.3	90
	Avocado	74.8	7.6	12.3	1.6	3.8	155
		70.9-78.6	6.8-8.3	11.0-13.5	1.3-2.0	2.3-5.3	
		2	2	2	2	2	
	Sandwich						
	Barbecue	51.9	10.1	9.9	2.9	25.2	230
	Hot	52.2	10.4	12.3	2.5	22.6	245
	Souffle	70.0	13.3	8.9	2.5	5.3	155
	Soup						
	Cream	82.7	7.2	3.7	1.6	4.8	80
	Creole	84.5	6.3	3.0	1.6	4.6	70
	Stew	81.2	8.4	4.3	1.9	4.2	90
	Tomato						
	Stuffed	77.7	11.3	8.4	2.1	0.5	125
	With Eggs	75.2	9.4	7.9	1.5	6.0	135
	Paste	68.2	17.2	6.9	2.9	4.8	150
		66.7-69.7	15.6-18.8	5.2-8.6	2.6-3.2		
		2	2	2	2		

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1/] %	Calories[2/] Per 100 grams
	Salted	55.1 50.0-60.2 2	15.2 12.2-18.3 2	2.4 0.6-4.3 2	26.2 16.0-36.4 2	1.1	87
	Offal Meal	8.0 6.0-12.0 12	33.9 27.8-41.1 14	3.0 0.8-8.1 13	35.7 23.8-41.6 9	19.4	240
	Roe Salted	38.3	31.4	6.4	9.4	14.5	241
Crayfish Astacus fluviatilis	Whole Raw	81.0	16.0	0.5	(1.5)	1.0	72
Crayfish, Fresh Water Procambarus clarkii	Whole Meal	6.1	43.1	5.2	30.4	15.2	280
Crayfish Unspecified	Muscle Raw	80.3 72.1-83.4 11	16.3 11.9-24.1 14	0.7 0.5-2.5 9	1.5 0.7-3.6 8	1.2	76
	Cooked Boiled	75.0	19.4	0.8	4.4	0	85
	Whole Meal	9.4	44.7	5.7	26.4	13.8	285
Lobster Homarus vulgaris	Muscle Raw	73.1 65.1-78.5 5	18.2 15.3-20.2 4	1.5 1.4-2.0 4	1.8 1.6-2.0 2	5.4	108
Lobster, European Homarus gammarus	Muscle Raw	75.1	19.9	0.6	1.8	2.6	95
Lobster, Spiny Panulirus argus	Muscle Raw	70.0 64.3-75.6 2	19.2 15.3-23.1 2	7.5 0.3-14.6 2	1.6 1.5-1.7 2	1.7	151
Lobster, Spiny Panulirus vulgaris	Muscle Raw	73.8	15.3	1.3	2.0	7.6	103
Lobster, Spiny Unspecified	Muscle Raw	76.0 73.7-78.3 2	18.7 17.9-19.5 2	1.4	1.3 1.2-1.4 2	2.6	98
Lobster Unspecified	Muscle Raw	78.4 71.5-84.3 14	17.6 14.5-21.6 24	1.4 0.6-1.9 14	2.1 1.4-3.4 8	0.5	85
	Canned	75.9 71.9-79.2 6	18.4 16.4-20.2 8	1.3 0.8-1.8 9	2.5 1.1-3.6 6	1.9	93
	Cooked						
	Boiled	72.4	21.2	3.4	(2.0)	(1.0)	119
	Newberg	64.0	18.5	10.6	1.8	5.1	190
	Salad	80.3	10.1	6.4	0.9	2.3	105
	With Black Bean Sauce	70.9	13.7	7.0	2.9	5.2	139
	With Mushroom Sauce	74.6	9.2	7.2	1.6	7.1	130
	Dried	14.5	56.8	21.0	6.1	1.6	423
	Paste	68.8	15.5	9.8	3.1	3.0	162
Shrimp Cryphiops caementarius	Muscle Raw	76.1	17.8	0.2	1.4	4.5	91
Shrimp Penaeus caramote	Muscle Raw	70.8	25.1	1.6	2.1	0.4	116

Table 2.—Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Shrimp *Penaeus incisipes*	Muscle Raw	75.6	18.9	1.7	1.4	2.4	100
Shrimp *Penaeus membranaceus*	Muscle Raw	81.2	9.4	0.9	1.4	7.1	74
Shrimp *Penaeus semisulcatus*	Muscle Raw	76.7	20.8	0.7	1.5	0.3	91
Shrimp *Trachypenaeus asper*	Muscle Raw	78.6	18.7	0.8	1.2	0.7	85
Shrimp, Bagda *Palaemon carcinus*	Muscle Raw	73.0	18.8	1.6	2.1	4.5	108
Shrimp, Brine *Artemia salina*	Whole Raw Dried 11.3-33.2 2	90.0 22.2	4.3 40.2 22.0-58.5 2	5.1 6.2 1.8-10.6 2	2.1 31.6 20.6-42.5 2	0 0	63 217
Shrimp, Brown *Penaeus aztecus*	Muscle Raw 75.6-76.8 2	76.2	21.8	0.8 0.6-1.1 2	1.6	0	94
	Muscle With Vein Raw	75.6	20.5	1.4	3.0	0	95
	Offal Raw	73.5	15.7	2.6	5.2	3.0	98
Shrimp, Fresh Water Unspecified	Muscle Cooked Boiled Dried	73.0 12.5	19.0 57.5	1.6 6.5	3.5 17.5	2.9 6.0	102 313
	Paste	40.7	19.5	1.8	34.6	3.4	160
	Salted & Dried	23.0	59.8	3.0	13.5	0.7	269
	Soaked & Drained	76.6	18.2	0.9	4.1	0.2	82
	Muscle With Vein Raw	77.9	8.3	0.3	2.3	11.2	81
	Whole Raw	79.0	16.2	1.3	3.0	0.5	78
Shrimp, Gamba *Penaeus longirostris*	Muscle Raw	78.2	19.2	0.6	1.8	0.2	83
Shrimp, Indian *Oedong kring*	Whole Dried	19.0	74.4	3.2	6.4	0	326
Shrimp, Indian *Peneopsis dobsonii*	Muscle Raw	78.9	18.0	0.4	1.7	1.0	80
Shrimp, Indian *Solenocera subnuda*	Whole Dried	8.3	83.3	2.6	9.4	0	357
Shrimp, Indian *Squilla oratorio*	Muscle Raw 74.4-83.8 2	79.1	15.6 12.7-18.5 2	2.8 1.1-4.6 2	1.7 1.6-1.8 2	0.8	91
Shrimp, Indian Prawn *Penaeus sculptilus*	Muscle Raw	75.0	16.2	0	1.6	0	71
Shrimp, Indian Prawn *Penaeus styliferus*	Muscle Raw	77.6	18.3	0	1.9	0	81

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1/] %	Calories[2/] Per 100 grams
Shrimp, Jumbo	Muscle						
Penaeus monodon	Raw	77.0	19.2	0.6	1.4	1.8	89
		75.6-78.5	17.6-20.8	0.4-0.7	1.3-1.5		
		2	2	2	2		
Shrimp, Opossum, Kuruma	Muscle With Vein						
Penaeus japonicus	Raw	78.0	15.0	3.3	2.8	0.9	93
	Dried	27.8	49.1	6.8	14.1	2.2	266
Shrimp, Pink	Muscle						
Penaeus duorarum	Raw	77.9	20.2	0.7	1.7	0	87
Shrimp, Pink, Maine	Muscle						
Pandalus borealis	Raw	80.8	19.4	0.6	1.3	0	85
		80.1-81.5	17.1-21.1	0.4-0.8			
		2	2	2			
	Canned	74.9	19.9	1.8	3.4	0	96
Shrimp, Rock	Muscle						
Silyomia brevirostris	Cooked						
	Boiled	76.7	21.6	0.5	1.6	0	91
Shrimp, Sea Bob	Muscle						
Xiphopenaeus kroyeri	Raw	79.8	18.2	0.3	1.5	0.2	76
Shrimp, Tiger	Muscle						
Penaeus esculeutus	Raw	80.0	16.0	1.1	1.4	1.5	80
Shrimp, White	Muscle						
Penaeus indicus	Raw	78.5	17.0	0.4	1.4	2.7	82
	Muscle						
	Raw	75.5	14.9	0.8	2.8	6.0	91
	Whole						
	Salted & Fermented	63.3	14.9	1.0	20.6	0.2	69
Shrimp, White	Muscle						
Penaeus schmitti	Raw	78.7	20.3	0.9	1.6	0	89
Shrimp, White	Muscle						
Penaeus setiferus	Raw	78.9	19.4	0.3	1.4	0	80
		76.2-81.4	16.9-22.0	0.2-0.7	1.1-1.9		
		4	4	4	4		
	Canned						
	With Salt	67.0	26.7	1.3	5.0	0	139
	With Salt & Water	79.1	15.0	0.7	5.2	0	87
	Unspecified	73.4	22.0	4.4	6.2	0	120
		64.6-78.2	15.8-28.2	1.2-10.2	5.8-6.5		
		3	2	2	2		
Shrimp	Muscle						
Penaeidae	Raw	77.4	18.9	1.6	1.7	0.4	92
		72.6-83.5	12.9-22.9	0.3-3.2	1.4-2.1		
		8	8	8	7		
	Canned						
	Boiled	74.0	21.5	0.7	3.2	0.6	95
	Cooked						
	Prefried	35.7	19.9	18.7	3.7	22.0	336
	Dried	13.7	62.4	3.5	4.8	15.6	344
	Paste	34.5	29.8	1.2	28.0	6.5	156
	Salted	29.6	52.3	1.9	14.6	1.6	233
	Whole						
	Raw	67.5	22.0	2.0	7.9	0.6	108
	Salted	67.2	10.4	1.2	20.5	0.7	55
Shrimp	Muscle						
Unspecified	Raw	77.2	18.4	1.7	1.4	1.3	209
		61.6-86.4	6.4-25.0	0.3-10.2	1.0-1.9		
		18	25	23	12		
	Breaded	54.4	11.9	7.6	2.8	23.3	109
		43.6-65.2	11.8-12.0	1.6-13.7			
		2	2	2			

Table 2.--Proximate composition of crustaceans and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
	Canned						
	Heat Processed	70.8	23.3	0.8	3.7	1.4	106
	With Salt	70.6	22.4	1.1	6.0	0	100
	Unspecified	74.6	20.8	1.1	3.7	0	93
		69.7-81.4	15.2-26.8	0.7-1.8	2.4-5.3		
		9	10	11	6		
	Cooked						
	A la King	71.9	12.5	5.2	1.7	8.7	132
	Apple Salad	73.9	7.4	11.2	1.8	5.7	153
	Au Gratin						
	With Tomato Sauce	67.8	14.9	8.5	2.3	6.5	162
	Unspecified	66.3	15.4	9.8	2.3	6.2	175
	Bisque	78.4	9.9	6.2	1.6	3.9	111
	Boiled	80.5	15.1	3.0	1.1	0.3	89
	Canapes	59.5	13.9	6.0	2.7	17.9	181
	Casserole	71.9	11.3	7.6	2.1	7.1	142
	Creole	80.6	6.1	3.2	1.4	8.7	88
		79.2-82.0	6.0-6.2	2.8-3.5	1.3-1.6		
		2	2	2	2		
	Curried						
	With Pepper, Celery, Onion, & Cornstarch	82.0	7.2	5.6	1.8	3.4	93
	Unspecified	74.0	9.9	4.2	1.5	10.4	119
	Fried						
	Battered	60.4	21.1	9.6	1.9	7.0	199
	With Celery, Onion, and Tomato	49.9	9.0	9.7	1.2	30.2	244
	Unspecified	50.4	19.1	11.8	2.2	16.5	249
		44.9-54.2	18.4-20.4	9.0-14.0	1.4-3.3		
		3	3	3	3		
	In Green Peppers	79.9	10.4	2.6	1.7	5.4	87
	In Tomato Aspic	83.9	11.3	0.9	2.1	1.8	61
	In Tomatoes	81.1	8.5	2.7	1.7	6.0	82
	Jambalaya	79.7	7.7	2.5	1.5	8.6	88
	Kabobs	69.6	22.1	5.1	3.1	0.1	135
	Meuniere	57.3	24.2	16.1	2.5	0	242
	Mousse	76.1	10.9	8.9	1.6	2.5	134
	Newberg	66.5	15.4	11.8	1.8	4.5	186
	Salad	74.0	15.2	6.4	1.8	2.6	129
	Sauce	74.9	9.8	3.7	1.9	9.7	111
	Thermidor	72.9	14.0	6.7	2.1	4.3	134
	Turnovers	34.1	14.6	19.5	3.3	28.5	348
	Wiggle	71.9	11.1	5.4	1.8	9.8	132
	With Burdock Root, Soy Sauce, & Sugar	64.9	8.7	3.2	4.3	18.9	139
	Unspecified	68.6	22.2	1.5	3.2	4.5	120
		62.5-72.0	21.0-25.0	0.8-2.4	1.0-5.4		
		4	5	5	2		
	Dried	19.4	61.5	3.0	11.8	4.3	290
		14.6-24.0	55.4-70.8	2.0-6.0	2.5-19.7		
		5	6	6	4		
	Paste	49.6	24.1	7.0	3.0	16.3	225
		34.5-64.7	18.4-29.8	2.5-11.5			
		2	2	2			
	Salted & Dried	27.6	53.1	2.0	17.6	0	230
		20.4-32.0	40.9-63.0	1.8-2.2	13.4-21.8		
		3	3	3	2		
	Salted & Fermented	61.6	12.3	2.4	21.8	1.9	78
		58.4-64.8	12.2-12.4	1.1-3.6	17.6-26.1		
		2	2	2	2		
	Smoked	28.2	54.4	5.2	10.4	1.8	272
	Meal	6.6	46.1	12.9	25.8	8.6	335
		5.0-8.9	42.3-48.7		21.6-29.9		
		2	3		2		
	FPC[8]	7.7	91.0	0.3	4.5	0	367
	Muscle with Vein						
	Raw	71.6	23.6	1.9	2.7	0.2	112
		71.0-72.0	21.2-25.4	1.0-3.5	2.6-2.8		
		3	3	3	3		
	Whole						
	Raw	68.1	20.0	0.8	6.5	4.6	106
			16.8-23.3				
			2				
	Dried	19.0	65.1	4.8	7.4	3.7	318
		16.3-21.6	59.4-70.8	3.6-6.0	2.5-12.2		
		2	2	2	2		

1/ This value was obtained by difference of the average of the means.

2/ Caloric value estimated by multiplying protein content by 4; fat by 9; and carbohydrate by 4.

3/ Average of the means obtained from the literature cited.

4/ Range of the means found in literature cited.

5/ Number of mean values, which were reported in the literature cited.

6/ Figure obtained by calculation.

7/ Method of processing was not clearly described or the fish was identified only by common name.

8/ FPC abbreviation for fish protein concentrate.

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Abalone Haliotis gigantea	Muscle Raw	78.3[3] 75.7-82.3[4] 3[5]	15.2[3] 10.4-20.1[4] 3[5]	0.4[3] 0.2-0.5[4] 3[5]	1.4[3] 1.0-1.6[4] 3[5]	0	64
	Canned	72.5 63.1-87.3 4	16.5 10.2-24.8 4	0.7 0.1-2.0 4	2.7 1.2-4.2 4	7.6	102
	Whole Raw	81.1	10.2	0.5	1.6	6.6	76
Abalone Haliotis japonica	Muscle Raw	76.8 72.0-79.1 5	16.0 11.9-24.8 4	0.4 0.3-0.6 5	1.5 1.0-2.0 4	5.3	89
Abalone Haliotidae	Muscle Raw	74.5 70.9-76.9 11	17.9 8.0-23.4 9	0.6 0.1-1.1 10	2.1 1.4-3.4 9	4.9	97
	Canned	71.2 63.1-80.2 4	16.5 14.7-19.1 4	0.2 0.1-0.3 3	2.4 1.2-4.2 3	9.7	107
	Dried	29.1 22.1-36.0 2	48.6 40.6-56.6 2	1.4 0.9-1.9 2	5.7 4.8-6.6 2	15.2	268
Clam, Arkshell Anadara broughtoni	Muscle Raw	82.8 79.6-85.4 4	12.1 11.0-13.2 4	0.6 0.4-0.9 4	1.3 0.7-2.2 4	3.2	67
	Whole Raw	81.4	10.2	0.6	3.7	3.9	64
Clam, Arkshell Arca granosa	Muscle Raw	79.5	10.7	0.5	1.3	8.0	79
Clam, Arkshell Arca inflata	Muscle Raw	78.8 78.2-79.3 2	10.3 10.0-10.6 2	1.7 1.1-2.3 2	0.7 0.7-0.7 2	8.5	91
Clam, Arkshell Arca noae	Muscle Raw	77.7	15.3	0.9	1.8	4.3	87
Clam, Arkshell Arcidae	Muscle Raw	81.2 78.2-88.5 6	11.7 7.6-15.5 4	1.1 0.5-2.2 6	1.4 0.7-2.0 3	4.6	75
	Canned	69.0	18.0	1.3	3.7 3.4-3.9 2	8.0	116
Clam, Donax, Bean Donax radians	Whole Raw	82.2	8.8	1.7	2.2	5.1	74
Clam, Fresh Water Corbicula strata	Whole Raw	77.6 76.1-79.2 2	5.8 4.3-7.3 2	4.0 1.8-6.1 2	1.6	11.0	103
Clam, Fresh Water Corbicula fluminea	Whole Raw	81.4 81.0-81.8 2	7.8 6.2-9.3 2	1.5 1.4-1.6 2	0.9 0.7-1.1 2	8.4	78
	Cooked Unspecified[6]	81.8	5.9	1.0	0.6	10.7	65

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Clam, Fresh Water *Corbicula sandai*	Whole Raw	80.0 77.8-81.9 12	10.1 8.6-11.4 12	2.4 1.7-3.2 12	1.0 0.7-1.6 12	6.5	88
Clam, Fresh Water, Corbshell *Corbicula japonica*	Whole Raw	79.8	11.1	1.2 0.9-1.6 2	1.4	6.5	81
Clam, Fresh Water, Corbshell *Corbicula leana*	Whole Raw	82.1 77.2-84.1 4	9.0 7.0-10.5 4	1.1 0.7-2.8 4	1.2 1.0-1.6 3	6.6	72
Clam, Fresh Water Corbiculadidae	Whole Raw	77.9 76.0-80.0 4	12.8 11.1-15.0 3	3.2 1.8-6.1 3	1.6	4.5	98
Clam, Green *Cyrena ventricosa*	Whole Raw	82.8	10.3	1.6	0.8	4.5	74
Clam Cyraenidae	Whole Raw	82.3	9.6	2.2	1.8	4.3	64
Clam, Mactra, Gaper *Tresus keenae*	Muscle Raw	76.6	19.0	0.6	1.5	2.3	91
Clam, Mactra, Surf *Mactra sachaeinensis*	Muscle Raw	73.6	17.8	1.2	2.4	5.0	102
Clam, Mactra, Surf *Spisula solidissima*	Muscle Raw	82.8 79.4-85.5 3	13.5 11.7-15.6 3	0.5 0.3-0.8 3	1.1 0.5-2.3 3	2.1	67
Clam, Mactra Mactridae	Muscle Raw	79.3 76.1-84.4 4	15.6 11.0-19.0 4	1.0 0.6-1.3 3	2.3 2.2-2.4 3	1.8	79
	Canned Seasoned	49.6	19.5	0.7	8.9	21.3	169
Clam, Razor *Solen gouldi*	Whole Salted & Dried	(63.0)[7]	26.3	2.3	8.6	0	126
Clam, Razor *Solen siliqua*	Whole Raw	80.5	11.1	1.8	2.0	2.0	71
Clam, Razor, Navajos *Solen ensis*	Whole Raw	79.8	14.3	2.0	2.1	1.6	75
Clam, Razor Solenidae	Whole Raw	82.1 75.2-89.0 5	11.2 6.9-13.3 5	1.5 1.0-2.4 5	1.8 1.1-2.6 5	3.4	72
	Canned	85.3 84.5-86.1 2	9.0 8.9-9.0 2	1.3	2.0 1.6-2.3 2	2.4	57
Clam, Soft Shell *Mesodesma globrata*	Whole Raw	86.3	7.5	0.9	2.9	2.4	48
Clam, Soft Shell *Mya arenaria*	Whole Raw	84.6 83.3-85.5 3	10.7 9.5-12.5 6	1.2 1.3-1.4 3	1.4 1.2-1.7 2	2.1	62
	Canned	78.5	15.6	2.5	1.7	1.7	89

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Clam, Soft Shell, Geoduck Panope genirosa	Whole Raw	78.0 77.2-78.8 2	15.5 15.0-15.9 2	2.0 0.8-3.2 2	3.2 1.8-4.6 2	1.3	85
Clam, Tellin, Rayed-Shell Soletellina psammatea	Whole Raw	87.5	8.7	0.8	1.6	1.4	48
Clam, Tellin Tellinidae	Whole Raw	87.5	8.7	0.8	1.6	1.4	50
Clam, Venus Meretrix casta	Whole Raw	77.8	9.8	0.9	1.5	10.0	87
Clam, Venus Tapes aureus	Whole Raw	83.4 80.9-86.0 2	9.4 8.3-10.5 2	0.8 0.6-0.9 2	3.4	3.0	57
Clam, Venus Tapes pullastra	Whole Raw	79.0 78.9-79.0 2	12.6 12.4-12.8 2	1.8 1.2-2.3 2	2.7 2.6-2.8 2	3.9	82
Clam, Venus Venus gallina	Whole Raw	78.7 75.7-81.1 30	12.2 10.7-13.7 29	0.9 0.5-2.0 29	2.9 1.6-3.5 29	5.3	78
Clam, Venus Venus verrucosa	Whole Raw	76.2	12.1	0.4	4.4	6.9	80
Clam, Venus, Asari Tapes philippinarum	Whole Raw	87.0 86.1-87.8 2	5.4 4.9-5.9 2	2.6 1.5-3.6 3	1.2	3.8	60
Clam, Venus, Butter Saxidomus giganteus	Whole Raw	79.3	13.2 12.4-14.0 2	1.9 1.5-2.2 2	1.7	3.9	86
	Canned	73.7	18.7	4.8	1.4	1.4	127
Clam, Venus, Butter, Pacific Saxidomus nuttalli	Whole Raw	80.0	13.0	1.2	1.7	4.1	79
Clam, Venus, Hard Venus lusoria	Whole Raw	84.6 82.8-88.6 4	10.2 9.0-11.9 5	0.6 0.3-0.8 5	1.1 0.7-1.8 3	3.5	60
Clam, Venus, Hard Venus meretrix	Whole Raw	77.4 76.3-78.4 2	10.6	0.7 0.5-0.9 2	1.5 1.4-1.5 2	9.8	88
Clam, Venus, Littleneck Paphia staminea	Whole Raw	79.4	13.5	1.0	2.6	3.5	77
Clam, Venus, Littleneck Japanese Tapes (Venerupis) decussatus	Whole Raw	80.3 71.5-85.2 11	12.7 9.9-18.0 15	1.2 0.7-2.5 15	1.5 1.0-2.3 9	4.3	87
	Canned	73.9 69.9-77.9 2	15.6 15.2-16.0 2	1.6 0.8-2.4 2	3.4 2.4-4.5 2	5.5	99
Clam, Venus, Northern Quahog, Cherrystone Mercenaria mercenaria	Whole Raw	86.2 81.2-91.8 4	8.7 4.4-10.8 3	0.9 0.2-2.0 7	1.6 1.2-2.0 3	2.8	54

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
	Canned	83.6 82.6-84.6 2	9.7 9.6-9.9 2	2.4 0.4-4.4 2	2.5 2.3-2.6 2	2.0	77
Clam, Venus, Pismo Tivela stultorum	Whole Canned	81.9	11.2	1.4	1.5	4.0	74
Clam, Venus, Shortneck Tapes japonica	Whole Raw	82.6 80.5-84.7 3	11.3 10.1-12.3 4	1.8 0.8-3.6 3	1.6	2.7	72
Clam Unspecified	Whole Raw	84.3 78.6-87.9 15	9.7 6.5-12.9 15	1.6 0.3-3.1 18	2.0 1.2-3.9 11	2.4	63
	Canned Seasoned	59.6	9.5	0.7	8.9	21.3	170
	Unspecified	79.2 69.9-86.0 4	11.1 7.8-15.2 6	1.3 0.8-2.4 6	3.2 2.4-4.5 3	5.1	77
	Cooked Appetizers With Cheese	63.1	10.9	19.3	2.0	4.7	236
	Chowder Manhattan	85.1 82.5-89.8 3	2.2 1.2-2.8 3	2.1 1.2-2.8 3	2.2 1.3-2.7 3	8.4	57
	New England	81.5 78.1-84.6 3	5.1 3.8-6.5 3	13. 0.9-1.7 3	3.7 1.1-7.5 3	8.7	67
	Pudget Sound	83.1	3.8	2.5	1.6	9.0	44
	Fritters	40.3	11.4	15.0	2.4	30.9	304
	Loaf	65.0	10.4	11.2	2.1	11.3	188
Cockle Cardium muticum	Whole Raw	75.4	15.7	0.7	1.6	2.6	80
Cockle, Atlantic Cardium edule	Whole Raw	81.4 73.4-92.0 10	10.6 9.2-14.1 6	1.0 0.6-2.7 8	2.6 2.1-3.1 4	4.4	69
Cockle, Pacific Cardium corbis	Whole Raw	82.4	11.8	1.1 1.0-1.2 2	1.6	3.1	70
Cockle, Sand Hemidonax donaciformus	Whole Raw	81.4 79.2-83.6 2	16.8	1.0	3.1	0	76
Cockle Cardiidae	Muscle Raw	79.7 65.7-92.0 4	9.5 4.2-11.0 5	0.6 0.3-1.3 4	1.7 1.2-2.2 2	8.5	50
	Canned	52.1	19.3	2.6	6.8	19.2	128
	Dried	15.4 11.0-19.8 2	55.2 51.7-58.6 2	2.7 1.6-3.7 2	8.8 7.9-9.7 2	17.9	280
	Whole Meal	12.0	31.2	7.7	39.5	9.6	233
Cuttlefish Sepia officinalis	Muscle Raw	78.8 76.1-82.4 7	16.8 14.0-21.8 8	1.0 0.6-1.5 8	1.9 1.5-2.7 7	1.5	82

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Cuttlefish Sepia orientalis	Muscle Raw	80.1	16.0	0.8	1.7	1.4	77
Cuttlefish Sepiidae	Muscle Raw	79.3 76.7-83.6 10	17.4 14.9-21.0 11	1.1 0.7-2.5 7	1.3 1.0-1.6 3	0.9	83
	Canned Salted	63.6	20.8	2.8	2.2	10.6	151
	Cooked Unspecified	77.9	19.1	0.4	2.6	0	80
	Dried	23.0	62.8	3.9	(11.3)	0	267
Mussel Gebbula umbilicalis	Whole Raw	68.7	18.7	1.3	3.4	7.9	118
Mussel Hyriopsis schlegelii	Whole Raw	87.7 86.5-90.0 4	5.5 3.8-6.7 4	1.0 0.7-1.4 4	1.4 1.2-1.6 4	4.4	49
Mussel Mytilus mundahuensis	Whole Raw	81.8	11.8	1.5	2.8	2.1	69
Mussel Unio bivae	Whole Raw	81.6 80.6-83.9 12	7.8 6.3-9.4 12	1.6 0.9-2.2 12	1.7 1.0-2.7 12	7.3	75
Mussel, Blue Mytilus edulis	Whole Raw	80.0 76.2-90.4 16	11.6 9.9-15.4 16	1.7 1.2-3.1 18	2.2 1.4-3.2 12	4.5	80
	Cooked Boiled	72.2	17.9	3.1	1.7	5.1	120
	Meal	(2.8)	70.0	0.2	12.0	15.0	342
Mussel, European Mytilus galloprovincialis	Whole Raw	81.3 79.2-83.0 3	10.6 8.4-12.0 4	3.0 1.3-7.0 4	2.1 1.3-2.5 4	3.0	66
Mussel, Sea Mytilus crassitesta	Whole Raw	81.1 80.4-81.8 2	15.0 13.3-16.7 2	0.4 0.4-0.5 2	1.3 1.1-1.4 2	2.2	72
Mussel Mytilidae	Whole Raw	87.0 86.0-87.9 2	11.7 7.6-15.7 2	1.2	1.7 1.6-1.7 2	0	58
	Dried	13.8	51.9	7.2	7.8	19.3	350
Mussel Unspecified	Whole Raw	81.0 74.5-84.2 10	12.2 8.7-15.8 8	1.6 1.0-3.2 9	1.7 1.3-2.0 3	3.5	77
	Cooked Boiled	79.0	16.8	2.0	(2.2)	0	87
Octopus Eledone moschata	Muscle Raw	80.7	15.3	0.5	1.8	1.7	73
Octopus Octopus ocellatus	Muscle Raw	84.4 83.8-85.1 2	11.4 10.1-12.6 2	1.0 0.9-1.1 2	1.7 1.5-1.8 2	1.5	61
	Roe Raw	61.2	27.1	4.0	1.8	5.9	248

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Octopus *Paroctopus hongkongenis*	Muscle Raw	84.9	13.2	0.8	1.6	0	60
Octopus, Devilfish *Octopus vulgaris*	Muscle Raw	81.2 77.3-83.9 5	14.8 10.0-18.7 8	0.8 0.4-1.1 5	1.5 1.2-1.8 6	1.7	73
	Dried	12.0	50.3	14.3	9.1	14.3	387
Octopus Eledonidae	Muscle Raw	80.0	16.3	0.5	2.1	1.1	74
Octopus Octopodidae	Muscle Raw	84.9	13.7	0.6	0.8	0	60
Octopus Unspecified	Muscle Raw	82.3 77.0-85.5 9	14.2 9.5-17.1 10	1.2 0.3-4.6 8	1.4 0.8-1.6 8	0.9	70
	Roe Raw	64.2 61.2-67.3 2	26.5	3.7 3.5-4.0 2	1.4	4.2	156
	Dried	13.2 12.4-13.9 2	67.8 65.3-70.3 2	4.2 1.0-6.4 2	16.9 16.3-17.5 2	0	309
Oyster *Etheria elliptica*	Whole Raw	70.0	12.3	2.3	6.6	8.8	105
Oyster *Ostrea rhizophorae*	Whole Raw	78.5	11.7	2.0	(7.2)	0	65
Oyster *Ostrea taurica*	Whole Raw	83.2	8.2	1.3	1.8	5.5	66
Oyster, Common *Ostrea edulis*	Whole Raw	81.0 79.3-82.7 3	10.3 9.6-10.7 3	1.6 1.3-1.8 3	2.2 1.4-3.3 3	4.9	75
	Cooked Steamed	81.0	10.0	1.4	(1.6)	6.0	77
Oyster, Eastern *Ostrea virginica*	Whole Raw	84.0 77.4-90.0 12	7.9 5.2-10.0 11	1.7 1.0-2.7 15	1.6 0.8-2.1 8	4.8	72
	Canned	82.6 81.7-83.5 2	8.6 8.3-8.8 2	2.0 1.6-2.5 2	1.8 0.7-3.0 2	5.0	72
Oyster, Giant Pacific *Ostrea gigas*	Whole Raw	79.5 77.7-80.9 3	11.1 9.6-14.3 4	2.1 0.8-2.6 4	1.5	5.8	86
Oyster, Japanese *Ostrea laperousei*	Whole Raw	85.2	9.6	0.7	1.0	3.5	59
Oyster, Native Pacific *Ostrea lurida*	Whole Raw	81.0 80.6-81.7 3	9.6 9.4-9.7 3	2.5 1.9-3.6 3	1.5 1.4-1.6 2	5.4	82
Oyster, Portuguese *Ostrea angulata*	Whole Raw	80.4	11.3	1.7	2.6	4.0	76

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Oyster, Talaba Ostrea malabonensis	Whole Raw	83.4 83.1-83.8 2	6.8 6.5-7.0 2	2.9 2.6-3.2 2	3.9 3.2-4.6 2	3.0	65
Oyster Ostreidae	Whole Raw	83.5 78.4-88.9 21	8.5 5.5-13.3 23	1.8 0.5-3.6 22	1.8 0.6-3.0 15	4.4	68
	Canned Boiled	78.5	12.4	3.9	2.4	2.8	96
	In Oil, Smoked	58.5	15.1	13.2	2.5	10.7	222
	With Salt	80.3	9.8	2.0	2.0	5.9	81
	Unspecified	82.1 82.0-82.2 2	9.3 9.2-9.4 2	2.8 2.7-2.8 2	(5.8)	0	56
	Cooked Fried	54.7	8.6	13.9	1.5	21.3	245
	Dried	16.0 13.1-18.8 2	40.7 35.4-46.0 2	6.5 5.1-7.9 2	7.7 7.3-8.1 2	29.1	338
	Salted & Fermented FPC [3]	85.2 8.8	3.3 62.3	2.5 0.6	7.6 6.2	1.4	279
Pen Shell Atrina japonica	Muscle Raw	76.2	18.2	0.4	1.4	3.8	92
Pen Shell Atrina kinoshitae	Muscle Raw	86.0	11.6	0.1	1.3	1.0	51
Periwinkle Littorina littorea	Whole Raw	70.1 68.3-73.0 3	18.2 15.7-20.0 3	2.4 1.2-4.5 5	7.0 6.5-7.5 2	2.3	104
Periwinkle Unspecified	Whole Raw	74.2 73.3-75.1 2	12.0	2.3	4.6	6.9	96
	Cooked Boiled	78.0 76.8-79.1 2	16.4 15.2-17.6 2	2.0 1.4-2.6 2	3.7 3.0-4.3 2	0	74
Scallop Chlamys glabra	Muscle Raw	83.5	10.9	1.1	1.6	1.0	57
Scallop Pecten caurinus	Muscle Raw	84.0 80.9-87.1 2	16.6	1.1	1.5	0	76
Scallop, Atlantic Bay Aequipecten irradians	Muscle Raw	80.2 78.0-82.9 6	14.8 13.7-16.0 6	0.6 0.3-1.5 6	1.5 1.3-1.7 6	2.9	76
Scallop, Calico Aequipecten gibbus	Muscle Raw	79.4 77.8-82.1 7	16.1 15.4-16.9 7	0.6 0.2-1.0 7	1.5 1.4-1.8 7	2.4	79
Scallop, Common Pecten yessoensis	Muscle Raw	79.6	16.3	0.4	1.5	2.2	82
	Canned	68.1 64.4-71.8 2	21.4 20.1-22.6 2	0.2 0.1-0.3 2	2.8 1.9-3.6 2	7.5	117
	Dried	16.2	66.2	2.5	6.7	8.4	340

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Scallop, Coquille St. Jacques	Muscle						
Pecten maximus	Raw	77.3	16.2	0.8	1.5	4.2	89
		72.5-80.7	12.5-18.0		1.3-1.9		
		29	24		22		
Scallop, Great	Muscle						
Pecten jacobaeus	Raw	76.6	17.2	0.5	1.8	3.9	89
		75.2-77.9	16.8-18.3	0.3-0.6	1.7-1.8		
		4	4	4	4		
Scallop, Green	Muscle						
Chlamys opercularis	Raw	80.0	18.0	0.1	(0.7)	(1.2)	78
Scallop, Sea	Muscle						
Pecten magellanicus	Raw	77.8	17.4	0.6	1.6	2.6	85
		74.6-80.4	15.2-20.1	0.2-1.0	1.3-1.8		
		7	7	8	7		
Scallop	Muscle						
Unspecified	Raw	79.8	14.6	0.7	1.6	3.3	78
		75.6-81.3	9.8-16.4	0.1-1.5	1.4-1.8		
		16	9	13	7		
	Breaded	67.3	13.9	0.3	1.7	16.8	128
	Canned	68.1	21.4	0.2	2.8	7.5	117
		64.4-71.8	20.1-22.6	0.1-0.3	1.9-3.6		
		2	2	2	2		
	Cooked						
	Fried						
	Breaded	59.9	12.4	6.4	(1.8)	19.5	188
				6.3-6.5			
				2			
	Kabob						
	With Pineapple	72.2	15.2	1.1	1.5	10.0	110
	With Tomato	80.7	14.0	1.1	1.4	2.8	75
	Steamed	73.1	22.4	1.4	(1.6)	3.1	115
	Dried	13.9	71.1	1.1	5.7	8.2	327
		13.6-14.1		0.4-1.8	3.5-8.0		
		2		2	2		
Snail	Whole						
Achatina marginata	Raw	78.0	17.7	3.5	0.8	0	107
Snail	Whole						
Murex brandarix	Raw	72.2	18.6	1.7	1.9	5.6	112
Snail	Whole						
Strombus canarium	Dried	14.5	75.6	3.2	4.8	1.9	339
Snail	Whole						
Thais chocolata	Raw	72.0	19.6	0.6	2.8	5.0	104
Snail	Whole						
Vivipara javanica	Raw	74.9	18.3	0.3	2.8	3.7	91
Snail	Whole						
Botoelagadidae	Salted & Dried	18.8	65.5	1.3	6.5	7.9	305
Snail, Almeja	Whole						
Nassa reticulata	Raw	66.5	18.3	2.9	4.4	7.9	131
Snail, Escargot	Whole						
Helixidae	Raw	82.0	15.0	0.8	(2.2)	0	67
Snail, Mud	Whole						
Nassa mutabilis	Raw	68.8	18.5	2.2	4.7	5.8	117
Snail, Pelican	Whole						
Aporrhais pespelecani	Raw	67.6	13.4	1.2	7.4	10.4	106

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Snail, Pond Ampullaria luzonica	Whole Raw	72.2	12.0	0.5	3.3	12.0	101
Snail, River Viviparus malleatus	Whole Raw	75.8	18.2	0.6	4.0	1.4	84
Snail, River Viviparadidae	Whole Raw	79.5	11.8 11.6-12.0 2	1.2 0.9-1.4 2	3.2	4.3	75
Snail, Sea Yetusidae	Whole Dried	50.6	27.6	0.4	5.8	15.6	176
Snail Unspecified	Whole Raw	84.0 79.3-94.8 9	14.4 9.9-16.4 4	1.9 0.8-4.5 14	1.5 1.4-1.6 2	0	75
Squid Dosidicus gigas	Whole Meal	7.6	75.6	6.9	10.3	0	365
Squid Loligo bleekeri	Muscle Raw	84.2	13.3 11.6-14.6 3	1.2	0.9	0	64
Squid Loligo brevis	Muscle Raw	84.0	13.5	1.5	1.0	0	68
Squid Loligo gahi	Muscle Raw	80.9	16.1 15.7-16.5 2	0.9	1.4	0.7	75
Squid Loligo javanica	Muscle Raw	70.2	25.4	1.4	0.9	2.1	123
Squid Loligo ommastrephes	Muscle Raw	82.0	15.3	0.8	1.2	0.7	71
Squid Watasemia scintillans	Muscle Raw	77.5	17.4	3.0	1.5	0.6	102
Squid, Common Loligo vulgaris	Muscle Raw	78.3 75.5-79.7 6	16.8 12.6-20.6 5	1.3 0.9-1.7 5	1.7 1.4-2.1 5	1.9	87
	Whole Raw	78.2	14.2	1.2	3.7	2.7	78
Squid, Flying Ommastrephes sagittatus	Muscle Raw	83.9	12.8	1.5	0.6	1.2	70
Squid, Japanese Ommastrephes sloani pacificus	Muscle Raw	78.0 76.8-80.4 10	18.2 14.4-21.0 14	1.1 0.7-2.2 7	1.4 0.9-1.7 7	1.3	88
Squid, Long-finned Loligo pealei	Muscle Raw	78.5 74.2-82.7 2	13.2 11.8-14.5 2	0.7 0.5-0.9 2	1.6 0.8-2.4 2	6.0	83
	Dried	30.6	57.4	4.5	5.5	2.0	278
Squid, Pacific Loligo opalescens	Muscle Raw	79.4 78.6-80.1 2	16.6 16.5-16.7 2	1.4 0.5-2.2 2	1.0 0.9-1.1 2	1.6	85

Table 3.--Proximate composition of mollusks and products.

Common and Scientific Name	Description	Moisture %	Protein %	Fat %	Ash %	Carbohydrates[1] %	Calories[2] Per 100 grams
Squid, Short-Finned, Atlantic	Muscle						
Illex illecebrosus	Raw	77.5	17.3	1.7	1.2	2.3	94
		77.4-77.6		1.4-2.0			
		2		2			
Squid	Muscle						
Loliginidae	Raw	79.3	17.1	1.0	1.5	1.1	82
		75.8-82.0	15.3-19.3	0.8-1.4	1.2-1.9		
		3	3	3	3		
	Cooked						
	Unspecified	73.3	24.2	1.2	1.1	0	108
	Salted & Dried	21.8	63.3	4.6	6.4	3.9	310
	Soaked	65.2	29.3	3.6	0.9	1.0	158
Squid	Muscle						
Unspecified	Raw	79.5	15.6	1.3	1.3	2.3	84
		74.2-84.8	12.7-18.4	0.4-4.6	1.1-2.4		
		15	16	16	11		
	Cooked						
	Unspecified	77.3	26.0	0.9	1.1	0	112
			20.9-27.8	0.7-1.7			
			4	4			
	Dried	20.8	60.9	3.9	7.0	7.4	308
		4.4-31.4	48.0-81.2	2.0-5.3	4.1-11.4		
		6	8	8	6		
	Smoked	38.5	35.2	2.5	6.2	17.6	234
Topshell	Muscle						
Trochidae	Raw	75.7	19.1	1.5	1.9	1.8	97
		74.8-76.5		0.8-2.3			
		2		3			
	Whole						
	Raw	73.1	19.8	2.0	3.7	1.4	103
	Canned	69.4	22.7	1.4	5.2	1.3	109
Turban	Muscle						
Turbo cornutus	Raw	75.1	18.8	0.7	1.5	3.9	92
		74.1-77.0	16.1-20.0	0.3-1.4	1.4-1.7		
		4	4	6	4		
Whelk	Muscle						
Buccinum verkruzeni	Raw	76.2	19.1	0.3	1.6	2.8	90
Whelk	Muscle						
Eburna japonica	Raw	83.6	11.6	0.6	0.8	3.4	65
Whelk	Muscle						
Neptunea poycostata	Raw	79.7	15.6	0.1	1.5	3.1	76
Whelk, Dog Winkle, Atlantic	Whole						
Nucella lapillus	Raw	64.9	21.0	2.9	5.8	5.4	132
		63.7-67.0	16.9-23.5	1.0-5.2	5.1-6.9		
		3	3	3	3		
Whelk, Oregon Triton	Muscle						
Fusitriton oregonesis	Raw	77.4	17.9	0.1	1.3	3.3	86
Whelk	Muscle						
Unspecified	Cooked						
	Unspecified	77.5	17.7	2.3	(2.5)	0	102
			17.6-17.8	1.9-2.6			
			2	2			
	Dried	13.5	50.2	2.2	13.5	20.6	303

1/ This value was obtained by difference of the average of the means.

2/ Caloric value estimated by multiplying protein content by 4; fat by 9; and carbohydrate by 4.

3/ Average of the means obtained from the literature cited.

4/ Range of the means found in literature cited.

5/ Number of mean values, which were reported in the literature cited.

6/ Method of processing was not clearly described or the fish was identified only by common name.

7/ Figure obtained by calculation.

8/ FPC abbreviation for fish protein concentrate.

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Alewife Alosa pseudoharengus	Muscle Raw	7.9	1.8		4.8	1.2	8.1	3.7
	Whole Raw	7.7 [1] 7.0-8.4 [2] 6 [3]	1.8 [1] 1.5-2.2 [2] 6 [3]	0.9 [1] 0.8-1.1 [2] 6 [3]	4.9 [1] 4.8-5.0 [2] 6 [3]	1.2 [1] 1.0-1.4 [2] 6 [3]	8.1 [1] 6.5-9.0 [2] 6 [3]	3.7 [1] 3.1-4.1 [2] 6 [3]
	Fishmeal	8.4	2.9	0.7	7.2	1.0		5.0
Amberjack, Yellowtail Seriola quinqueradiata	Muscle Raw	10.4 8.9-12.0 3	2.6 2.6-2.7 3	2.2	7.0 6.5-7.5 3	1.1 1.1-1.2 3	11.4 11.0-11.8 3	5.3 4.5-5.8 3
	Roe Raw	10.3	3.9	0.8	7.1	1.0	8.4	5.6
Anchoveta Engraulis ringens	Whole Fishmeal	8.2 8.0-8.4 2	2.5 2.3-2.6 2	0.9	6.1 5.9-6.2 2	1.2	9.7 9.5-9.9 2	4.5 4.3-4.6 2
Anchovy, Longjaw, Delis Stolephorus commersonii	Whole FPC [4]	7.3	2.5		3.9	0.9	7.5	3.7
Anchovy, Mandali Coilia dussumeri	Muscle Raw	10.1	1.6	0.9	10.1	1.4		5.9
Anchovy, Pacific Engraulis japonicus	Muscle Raw	9.6	2.6	0.9	6.5	1.4	11.7	5.3
	Whole Raw	8.8	2.8	1.0	6.2	1.3	11.0	5.0
Anchovy Engraulidae	Muscle Raw Salted & Dried	9.6 8.6 7.8-9.5 2	2.7 1.9 1.8-2.0 2	1.0 1.4	6.4 5.3 4.5-6.1 2	1.3 1.0 0.9-1.0 2	11.6 10.9	5.1 2.8
	Whole Fishmeal	6.5 4.9-8.5 6	2.3 1.5-2.4 6	0.9 0.6-1.4 5	4.4 3.1-5.9 7	0.7 0.7-0.8 3	7.9 6.1-9.7 6	3.5 2.7-4.3 6
Argentine, Atlantic Argentina silus	Whole Fishmeal	8.4	2.7	1.4	6.3	1.3	8.9	4.4
Barb, Bony-lipped Osteocheilus hasselti	Muscle Raw	7.5	1.0	1.2	9.3	0.9		5.5
Barracuda, Red Sphyraena pinguis	Roe Raw	7.7	3.0	1.3	5.2	0.9	7.3	5.1
Bass, Sea Serranidae	Muscle Raw	9.7 8.0-10.6 3	2.0	1.0	5.4	1.0	9.8	4.5
Bass, Temperate Percichthyidae	Muscle Raw	8.7	1.7		5.9		9.8	4.2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
				% of total protein						
4.1	12.9	3.8	5.5	6.1	4.2	2.4	3.6	2.6	3.4	6.7
4.1 1/ 3.6-4.5 2/ 6 3/	12.9 1/ 11.3-14.0 2/ 6 3/	3.8 1/ 3.2-4.2 2/ 6 3/	5.5 1/ 4.6-6.0 2/ 6 3/ 5.6	6.1 1/ 5.4-6.6 2/ 6 3/	4.2 1/ 3.4-4.7 2/ 6 3/ 5.5	2.4 1/ 2.0-2.7 2/ 6 3/ 2.9	3.6 1/ 3.0-4.1 2/ 6 3/ 5.2	2.6 1/ 2.1-2.8 2/ 6 3/ 3.6	3.4 1/ 2.7-3.8 2/ 6 3/ 4.4	6.6 1/ 5.6-7.3 2/ 6 3/ 7.4
4.9 4.8-5.0 3	14.2 13.4-14.9 3	3.3 3.0-3.6 3	5.5 5.4-5.6 3	7.0 6.5-7.5 3	7.5 6.4-8.4 3	3.2 2.3-3.8 4	6.7 5.4-7.4 3	4.1 3.8-4.3 3	3.5 3.4-3.6 3	8.3 7.3-9.2 3
7.4	12.9	6.3	3.9	8.0	6.8	3.0	6.6	4.9	5.0	9.6
3.8 3.7-3.9 2	13.3 12.9-13.7 2	4.2 4.1-4.3 2	5.7 5.6-5.8 2	6.4 6.3-6.5 2	5.6 5.5-5.7 2	3.1 3.1-3.2 2	4.9 4.8-5.0 2	3.6 3.4-3.7 2	4.4 4.3-4.5 2	7.8 7.6-8.0 2
5.8	9.3	3.2	4.3		4.5	2.8	4.0	3.2	3.4	6.1
					6.4	2.8	6.3		3.9	9.3
4.8	16.5	3.9	4.8	7.1	6.0	3.5	5.6	4.0	4.7	9.7
4.8	13.3	4.5	5.9	6.4	6.2	3.7	5.4	4.2	4.8	
4.8 6.1	15.2 15.9	4.0 4.2	5.2 6.1	6.7 7.0	5.9 5.4 4.6-6.2 2	3.7 3.2 3.1-3.2 2	5.4 5.4 4.3-6.6 2	3.4 3.5	4.5 4.2	9.0 6.7
3.0 2.3-3.8 6	10.8 6.9-13.7 6	3.3 2.6-4.3 6	4.8 3.6-6.4 6	5.2 4.0-6.7 6	4.5 3.4-5.8 7	2.5 1.8-3.1 7	4.0 3.0-5.1 7	2.9 2.2-3.6 7	3.6 2.8-4.9 6	6.6 4.9-8.4 7
4.0	13.2	3.4	5.3	5.6	4.6	3.1	4.3	3.5	4.2	7.5
3.9	18.2	2.4		5.9	5.4	2.7	6.7	3.6	4.1	6.7
5.7	11.6	5.5	3.4	7.0	6.1	2.3	5.6	3.6	4.2	8.5
3.7	15.1	3.2	4.2	5.8	4.6	2.9 2.8-3.0 3	4.3	3.0	3.4	7.8
3.8	14.6	3.6	4.8	6.0	4.7	3.0	4.2	3.2	3.5	7.4

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Bluefish Pomatomidae	Muscle Raw	8.7	3.6		5.4		9.5	4.1
Bombay Duck Harpodon nehereus	Muscle Raw	9.3	2.3	0.8	7.3	1.4		4.7
Bonito, Pacific Sarda chiliensis	Muscle Raw	8.0	3.4 1.0-5.8 2		5.3	1.2	8.5	3.9
Bonito Scombridae	Muscle Raw	7.9 7.8-8.0 2	5.9 5.8-6.0 2		5.3 5.2-5.3 2	1.7	8.6 8.5-8.8 2	4.0 3.9-4.1 2
Bream, Sea, Red Chrysophrys major	Muscle Raw	9.8 9.6-10.0 2	2.7 2.4-2.9 3	1.0	6.3 5.9-7.0 3	1.4 1.3-1.4 2	10.7 10.6-10.8 3	5.0 4.6-5.7 3
Bream Sparidae	Muscle Raw	9.8	1.9	1.7	5.9		7.7	
Burbot Lota lota	Whole Fishmeal	9.0	3.0	0.8	7.1	0.9		4.8
Butterfish, Black Stromateus niger	Muscle Raw	8.7 3.7-11.4 3	3.2 1.3-7.0 4	0.9	6.2 3.7-8.4 4	1.2 0.7-1.5 3		4.5 4.1-5.0 3
	Canned	5.9 3.9-9.8 4	1.4 1.0-1.7 4		2.5 1.5-4.3 4	0.8 0.6-1.3 4		3.2 2.6-4.7 4
	Fishmeal	9.9	2.8	1.2	7.6	1.3	10.3	5.8
Butterfish, Silver Stromateus cinereus	Muscle Raw	9.2 7.1-14.8 8	1.8 1.4-2.3 9	0.6 0.2-1.3 6	5.5 3.5-7.7 9	0.8 0.3-1.3 6	3.6 2.5-6.9 9	
	Canned	9.0 6.1-13.2 4	1.2 1.0-1.4 4		5.7 3.8-7.5 4	0.4 0.3-0.5 4		3.3 2.6-4.3 4
	Fishmeal	9.1	2.5	1.4	6.2	1.5	10.4	5.4
Capelin Mallotus villosus	Whole Fishmeal	7.6 6.9-8.2 2	2.2 2.0-2.5 2	1.2 1.0-1.3 2	5.8 5.4-6.2 2	1.2	8.8 8.6-9.0 2	4.4 4.1-4.6 2
Carp Cyprinus carpio	Muscle Raw	11.0 9.9-11.6 4	2.3 0.5-3.2 4	1.0 1.0-1.1 2	6.7 6.2-7.2 3	1.1 1.1-1.1 2	11.6 10.9-13.0 3	5.1 3.7-6.3 5
Carp Puntius javanicus	Muscle Raw	6.8	2.5	0.9	8.4	1.2		4.7
Carp, Crucian Cyprinus carassius	Muscle Raw	10.1	2.4	1.1	5.8	1.4	10.4	4.1

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
% of total protein										
3.7	14.4	3.1	4.1	5.8	4.8	2.5	4.1	2.7	3.6	7.7
					6.2	3.9	9.4	5.3	5.2	9.4
3.6	12.9	3.2	4.6	5.3	4.4	3.1 2.7-3.5 2	3.7	3.0	3.3	7.0
3.6 3.6-3.6 2	12.8 12.7-12.8 2	3.3 3.2-3.3 2	4.6 4.5-4.6 2	5.2 5.0-5.3 2	4.3 4.2-4.4 2	2.6 2.5-2.6 3	3.8 3.7-3.9 2	4.3 2.8-7.0 3	3.2 3.0-3.3 2	5.2 3.3-7.0 2
4.4 3.8-4.9 2	15.2 14.5-15.6 3	4.0 3.7-4.3 2	5.2 5.1-5.3 3	6.6 6.4-6.9 2	6.2 5.6-6.9 2	2.9 2.3-3.7 3	5.7 5.0-6.4 2	3.8 3.2-4.4 2	4.6 4.4-5.0 3	8.6 8.3-9.1 2
3.1	20.5		2.1	6.0	6.1	3.0		2.4	4.1	11.7
			7.6		5.2	2.8	4.7	3.4	4.3	7.5
					4.7 2.9-6.7 3	2.6 1.8-4.1 3	5.6 3.4-9.7 3	3.7 1.3-6.2 2	3.4 2.1-5.1 3	7.9 6.2-10.7 3
					3.2 2.4-4.3 4	1.3 0.9-1.8 4	2.6 2.0-3.5 4		2.2 1.6-2.8 4	5.6 5.0-6.6 4
4.6	14.4	4.0	4.6	6.2	6.2	2.8	5.5	2.8	4.1	9.3
					4.4 3.3-6.4 9	2.7 1.4-3.9 10	7.9 5.0-13.6 9	2.0 0.3-7.3 7	3.0 2.0-4.3 9	9.9 7.3-13.3 8
					3.7 3.1-4.7 4	1.9 1.2-2.7 4	11.5 9.5-13.2 4		2.1 1.4-2.9 4	11.4 10.2-12.9 4
4.3	6.0	4.2	4.8	6.4	5.5	4.0	5.3	3.8	4.0	8.5
4.4 4.3-4.5 2	14.0 13.9-14.2 2	3.2 2.8-3.6 2	4.6 4.0-5.2 2	5.6 5.2-5.9 2	4.8 4.6-4.9 2	3.0 2.9-3.1 2	4.2 4.2-4.3 2	3.5 3.3-3.7 2	3.8 3.5-4.2 2	8.4 7.2-9.7 2
4.8 4.2-5.2 3	16.2 15.7-16.6 3	3.1 2.3-3.8 3	4.4 3.7-5.1 3	6.7 6.2-7.0 3	5.5 4.5-6.6 4	3.0 2.7-3.3 4	5.0 4.5-5.1 4	3.9 3.8-4.0 3	4.6 3.6-5.1 4	8.4 6.7-8.2 4
4.2	17.8	3.6		5.4	5.2	3.5	5.4	3.9	3.7	7.3
4.6	14.9	3.2	5.6	6.4	5.6	4.2	4.3	5.6	3.0	10.6

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Carp Cyprinidae	Muscle Raw	9.8 9.4-10.1 2	2.1	0.1-[5/]	6.8	1.1	9.9	4.8 3.7-6.0 2
	Salted & Dried	9.3	2.1	0.7	7.4	0.8	10.2	4.0
	Whole Raw	7.4	2.3		5.4		9.9	4.4
	FPC	8.9	1.8		6.5		8.9	3.8
Catfish, Airbreathing Silurus clarius	Muscle Raw	8.4	2.1		6.4	0.3	9.5	5.0
Catfish, Fresh Water, Dwarf Macrones cavasius	Muscle Raw	10.2 9.9-10.4 2	2.4		5.8 5.6-5.9 2	1.1	8.8	4.8 4.3-5.3 2
Catfish, Fresh Water Ictaluridae	Muscle Raw	10.2 10.2-10.3 2	1.9 1.6-2.3 2	1.4	5.3 5.0-5.6 2	1.1	8.6	4.2 3.6-4.7 2
	Dried & Seasoned	9.8	2.2	0.6	6.0	1.0	10.0	4.5
	Smoked	8.8	2.1	0.9	6.3	0.8	10.0	4.2
Catfish, Sea Ariidae	Muscle Raw	9.3	2.2		5.8		10.3	4.5
Cod, Atlantic Gadus morhua	Muscle Raw	8.5 6.8-10.3 5	1.9 1.5-3.5 5	1.4 1.4-1.4 2	6.1 5.6-6.7 5	1.2 1.1-1.3 2	10.2 9.6-10.6 4	3.7 2.9-5.3 4
	Cooked Boiled	4.8	1.6		9.0	0.7		0.6
	Dried	9.8	2.7	1.2	6.8		10.1	4.1
	Salted	9.9 8.1-11.7 2	2.1	1.4	6.6	1.2		4.6
	Whole Fishmeal	6.9	2.1	0.8	7.1		8.5	3.8
Cod, Pacific Gadus macrocephalus	Roe Raw	7.7	2.6	1.6	5.4	1.0	9.6	5.7
Cod Gadidae	Muscle Raw	9.7 8.1-11.4 14	2.3 1.2-3.7 10	1.3 0.9-1.8 6	6.1 4.9-7.1 10	1.3 0.9-1.6 6	10.6 9.9-12.2 7	4.5 2.9-5.8 10
	Offal Fishmeal	7.2	1.6	1.0	6.1		7.8	3.3
	Roe Raw	7.6	2.2	1.6	5.1		8.4	4.5
Crevalle, Jack Carangoides ajax	Muscle Raw	8.6	2.8			1.5		2.9

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
% of total protein										
					4.4 4.4-4.5 2	2.8 2.7-2.8 2	6.2 4.5-7.8 2		4.2 3.6-4.7 2	7.0 6.7-7.3 2
4.7	14.0	7.3	9.6	7.0	5.1	2.5	4.9	2.9	4.5	7.5
4.4 3.9	13.7 12.8	5.9 6.4	10.2 9.1	7.4 6.5	4.8 4.2	2.9 2.8	4.2 3.6	3.0 2.6	4.1 3.6	7.5 6.5
4.1	15.4	10.0 [5/]	4.5	6.2	4.3	2.8	4.6	3.8	4.5	7.5
5.0	14.5		6.2	6.9	5.7	3.3	5.2	6.0	4.2 3.8-4.6 2	8.0
3.1	15.9	4.1	7.5	7.1	5.5 4.4-6.5 2	3.0 2.9-3.1 2	6.0 4.2-7.9 2	3.0	4.5 3.9-5.1 2	8.8 7.9-9.6 2
5.7 4.7	14.7 14.2	4.1 4.1	5.6 6.6	6.8 6.5	6.2 5.2	2.9 2.6	6.6 5.5	3.3 3.0	4.0 3.8	9.1 8.1
4.0	16.3	3.7	4.7	5.9	4.7	2.9	4.4	3.4	3.9	8.3
4.0 3.5-5.4 4	15.6 14.9-16.6 4	4.0 3.9-4.2 4	5.4 4.8-6.2 4	6.2 5.8-7.2 4	5.0 4.4-5.8 4	3.0 2.0-3.9 4	4.3 3.9-4.9 4	3.0 2.9-3.1 3	3.5 3.2-4.0 4	6.7 4.7-7.5 4
3.5 4.1	15.2	5.1 3.4	1.0 4.8	6.2	0.7 [5/] 5.5 5.4	2.2 3.3 3.4 3.2-3.5 2	5.0 4.3	4.8 3.8 4.7	14.4 [5/] 4.3 4.2	16.3 [5/] 8.2 9.4
4.9	13.4	6.5	12.1	7.3	4.6	3.0	3.8	2.8	3.7	6.4
7.9	15.7	6.0	4.6	8.7	7.1	2.8	5.8	5.1	4.5	9.4
4.5 3.1-5.4 8	15.4 10.8-19.2 7	3.8 3.1-4.2 6	4.9 4.3-5.8 7	6.4 5.5-7.9 7	5.1 4.2-5.7 9	2.9 2.1-3.7 11	4.7 2.0-7.3 10	3.6 2.8-5.0 8	3.7 1.3-4.7 10	8.2 3.7-11.0 10
4.3	12.6	5.5	10.6	6.2	3.6	2.7	3.2	1.7	3.0	5.6
5.6	13.4	6.1	3.2	7.8	6.6	2.6	6.0	4.8	4.2	9.2
	10.5	2.3	2.9	3.5	8.6	2.7	3.8		3.0	4.7

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Croaker Micropogon barretoi	Whole FPC	6.1	1.9		6.3		8.7	4.8
Croaker Sciaena bleekeri	Muscle Fishmeal	9.5	2.5	1.1	8.9	1.6	11.2	6.0
Croaker Sciaena diacanthus	Muscle Raw	8.4	2.2	0.9	8.5	1.2		4.2
Croaker, Atlantic Micropogon undulatus	Muscle Raw	8.2 6.1-9.5 5	1.8 1.4-2.2 5	1.2	5.8 5.2-6.4 6	1.0 0.7-1.2 2	10.5 8.6-13.3 4	4.0 3.6-4.3 4
Croaker Sciaenidae	Muscle Raw	9.1	1.9		5.4		10.0	4.4
	Whole Raw FPC	6.9 8.9	1.7 1.9		6.1 6.4		8.1 8.1	3.7 4.1
Cusk Brosme brosme	Muscle Raw	9.4	2.0	1.0	6.3	1.0	10.8	4.6
Dolphin, Mai Mai, Dorado Coryphaena hippurus	Muscle Cooked Broiled	8.4	2.7			1.1		2.8
Dolphin Coryphaenidae	Muscle Raw	8.0	4.5		5.3		9.0	4.0
Drum Cynoscion striatus	Whole FPC	6.1	2.8		7.6		7.7	6.6
Drum, Fresh Water Aplodinotus grunniens	Whole Fishmeal	8.6	2.8	0.6	7.5	0.8		4.6
Eel, Conger Conger myriaster	Muscle Raw	9.0	2.1	1.3	6.2	0.9	11.4	4.2
Eel, Fresh Water, American Anguilla rostrata	Muscle Raw	8.7 7.7-9.7 2	3.8 3.1-4.5 2		5.8 4.9-6.6 2		11.0 3.8-13.6 2	4.0 3.5-4.4 2
Eel, Fresh Water, European Anguilla anguilla	Muscle Raw	7.0	2.4	0.7	7.0	0.9		4.2
Eel, Fresh Water, Japanese Anguilla japonica	Muscle Raw	6.1	2.1	0.9	5.1	0.9	12.3	4.8
Eel, Fresh Water Anguillidae	Muscle Raw	9.4	2.6		6.3		10.6	4.8
Eel, Pike Conger, Silver Muraenesox cinereus	Muscle Raw	11.2 11.0-11.3 2	2.8 2.7-2.8 2		6.6 6.5-6.7 2	1.2 1.2-1.2 2	6.5 6.4-6.6 2	5.8 5.8-5.9 2
	Roe Raw	9.6	3.4	1.0	7.3	1.0	8.0	5.2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.9	11.1	8.2	11.4	9.9	5.2		2.4	2.4	3.7	6.1
4.4	17.6	4.4	4.6	6.7	6.4	4.8	6.0	3.6	4.7	9.5
					6.4	3.2	9.3		3.9	9.5
3.6 3.1-4.0 4	15.1 13.7-16.4 4	3.1 2.7-3.3 4	4.2 3.7-4.5 4	5.5 4.9-6.0 4	4.5 4.0-4.8 4	3.0 2.6-3.7 5	4.0 3.5-4.5 4	3.1 2.9-3.4 4	3.8 3.2-5.3 5	7.4 6.8-7.9 4
3.9	15.7	3.5	4.9	6.0	4.6	2.8	4.1	2.9	3.5	7.7
3.5 2.5	12.5 12.7	5.2 5.9	8.9 7.5	6.4 6.0	4.2 4.0	2.7 2.8	3.4 3.5	2.7 2.7	3.3 3.3	6.2 6.3
5.0	15.8	3.5	4.3	7.8	6.2	3.2	6.3	3.4	4.1	9.1
	12.1	2.5	2.2	3.0	9.3	2.4	4.0		2.8	4.0
3.6 3.6	13.8	3.2	4.6	5.5	4.4	2.6	3.9	2.8	3.4	7.1
4.7	8.9	11.4	7.2	8.5	4.5	6.0 [5/]	2.7	3.8	5.3	6.3
			7.3		5.1	2.7	4.7	3.3	4.1	7.5
4.0	15.4	4.2	6.1	6.2	4.8	2.6	4.2	3.7	3.8	8.0
3.4 3.1-3.8 2	14.0 12.7-15.3 2	3.7 3.2-4.2 2	5.2 4.6-5.8 2	6.0 5.4-6.5 2	4.6 4.1-5.2 2	2.6 2.4-2.8 2	4.2 3.7-4.7 2	3.0 2.7-3.2 2	3.4 3.1-3.7 2	7.4 6.5-8.2 2
					5.1	2.5	4.3	2.0	3.5	5.8
3.8	15.7	3.8	5.6	6.4	5.8	2.7	4.5	4.2	3.7	8.2
4.2	16.0	4.2	4.2	5.9	6.5	3.4 2.9-3.9 2	4.7	3.3	4.2	8.4
5.3 5.3-5.4 2	15.8 15.6-16.0 2	3.6 3.6-3.7 2	4.6 4.5-4.6 2	5.2 5.1-5.2 2	5.8 5.7-5.8 2	2.9 1.8-3.5 3	7.2 7.1-7.3 2	3.8 3.7-3.8 2	4.6 4.5-4.6 2	8.2 8.1-8.3 2
6.5	11.1	5.2	3.9	11.0	7.5	3.8	6.4	4.1	4.2	9.4

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Eel, Swamp, Field Fluta alba	Muscle Raw	7.1	2.4	1.2	6.6	1.1		5.0
Featherback Notopteridae	Muscle Smoked	9.8	2.1	0.9	6.8	0.8	11.0	4.1
Flounder, Gulf Stream Citharichthys arctifrons	Muscle Raw	7.8	1.8		4.9		8.4	3.6
Flounder, Lemon Pleuronectes microcephalus	Muscle Raw	10.7	3.6		6.8		11.8	5.7
Flounder, Starry, Hirame Paralichthys olivaceus	Muscle Raw	9.9	2.5	0.5	6.2	0.8	4.2	4.6
Flounder, Stone Kareius bicoloratus	Muscle Raw	10.3	2.5		6.2	1.2	10.5	5.6
	Roe Raw	9.4	2.3	1.2	5.4	0.9	8.5	5.2
Flounder, Summer Paralichthys dentatus	Muscle Raw	10.8	2.5		6.4		11.4	4.8
Flounder Bothidae/Pleuronectidae	Muscle Raw	9.3 8.1-10.0 3	2.3 2.2-2.5 3	0.5 0.4-0.6 2	6.0 5.4-6.3 3	1.1 0.7-1.5 3	10.1 8.9-11.0 3	4.4 3.9-4.6 3
	Offal Fishmeal	9.1 6.6-10.0 4	3.6 2 3-6.0 3	1.2 1.0-1.4 2	6.2 6.0-6.3 3	1.2 1.0-1.4 2	10.3 9.4-11.0 3	4.5 4.3-4.6 3
Flyingfish, Tropical Two-winged Exocoetus volitans	Muscle Raw	9.9	3.4	1.3	5.6	1.4 1.2-1.6 2	11.8	4.8
Goby Gobiidae	Muscle Raw	10.4	2.2	1.4	5.1	0.9	12.0	5.0
Goosefish, Monkfish Lophiidae	Muscle Raw	10.4	2.2		6.6	1.2	11.3	4.9
Grouper, Black Mycteroperca bonaci	Muscle Raw	8.3 7.8-9.0 3	1.9 1.8-2.1 3		5.5 5.2-5.8 3		9.1 8.7-9.7 3	3.9 3.7-4.2 3
Grouper, Red Epinephelus morio	Muscle Raw	8.3 8.1-8.6 3	1.9 1.9-2.0 3		5.5 5.4-5.5 3		9.1 8.9-9.3 3	3.8 3.8-3.9 3
Haddock Melanogrammus aeglefinnus	Muscle Raw	9.4 6.4-11.0 15	2.1 1.2-3.7 15	1.0 0.4-1.4 12	6.4 5.5-9.2 15	1.2 0.8-1.4 14	8.2 4.2-11.6 11	4.2 3.1-5.8 14
	Canned Steamed & Vacuum-packed	9.4	2.2	1.3	5.5	1.2	10.9	4.7
	Vacuum-packed	9.8	2.2	1.1	5.1	1.2	11.0	4.5
	Unspecified 6/	8.1	1.5		5.2	1.1		4.4

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.1	19.5	3.2		5.2	5.5	2.8	5.8	3.7	4.6	8.4
5.9	14.5	5.3	9.2	6.3	5.7	2.6	6.1	3.0	4.2	8.4
3.4	12.8	2.6	3.8	5.0	3.9	2.6	3.6	2.8	2.7	6.7
6.0	16.6	4.7	5.0	6.9	5.8	3.4	5.5	4.1[5/]	4.8	8.7
4.2	16.8	3.0	4.2	5.8	5.6	2.0	5.0	3.8	3.7	8.2
5.4	15.8	3.6	4.1	6.3	7.0	3.1	5.1	4.2	4.4	9.0
6.3	14.1	6.4	3.6	9.3	7.3	2.4	6.9	4.8	4.5	11.0
4.4	18.8	4.2	5.2	6.4	5.4	3.6	4.9	3.8	4.2	9.3
4.0 3.5-4.3 3	15.8 13.4-17.3 3	2.9 2.7-3.1 3	4.0 3.6-4.4 3	5.6 5.0-6.1 3	5.1 4.1-5.6 3	2.9 2.0-3.9 5	4.5 3.7-4.9 3	3.3 3.0-3.6 4	3.5 3.0-3.9 3	7.8 6.9-8.3 3
4.4 4.1-4.8 3	15.8 13.6-17.3 3	3.8 3.0-5.3 3	5.5 3.9-8.3 3	6.2	4.7	3.2 2.9-3.5 2	4.0	3.2	3.8	7.2
4.3	16.0	3.2	4.5	6.6	5.0	2.4	4.8	3.2 2.5-3.8 2	3.8	8.3
3.8	14.9	3.8	4.2	5.8	5.3	2.2	4.8	3.8	3.8	8.3
5.2	17.5	3.9	4.8	5.9	5.1	4.3	4.7	3.1 2.2-4.0 2	4.2	9.0
3.4	13.9	3.2	3.9	5.3	4.2	2.7	3.8	3.1	3.3	7.3
3.5	14.2	3.4	4.6	5.6	4.2	2.8	3.9	3.0	3.4	7.1
4.2 3.3-6.1 11	14.5 11.1-17.4 11	3.3 2.8-4.3 11	4.3 3.8-5.2 11	9.3 4.8-8.0 11	5.3 4.5-6.3 14	3.1 2.4-4.1 14	5.1 4.2-6.2 13	3.0 2.8-7.8 11	3.8 3.0-4.7 14	7.7 3.8-9.3 14
4.5 5.0	15.4 15.8	3.5 3.6	7.5 4.6	5.9 6.1	5.2 4.9 5.1	3.3 3.3 3.1	5.4 5.4 5.2	3.9 3.8	4.2 4.2 3.7	8.5 8.5 7.6

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
	Cooked Steamed	9.8 8.9-10.7 6	2.0 1.7-2.2 6	0.9 0.8-1.1 6	6.4 5.9-7.0 6	1.2 1.2-1.3 6	9.7 8.9-10.5 6	4.1 3.9-4.7 6
	Fishmeal	10.6 8.6-11.6 4	1.9	2.0	5.7	1.0 0.9-1.1 2		6.0 4.2-7.8 2
Hake European Merluccius merluccius	Muscle Raw	8.2 8.1-8.2 2	2.8 2.6-3.1 2	0.9	5.7 5.6-5.8 2	1.2 1.1-1.2 2		4.8
	Whole FPC	6.7	2.0		6.1		8.4	4.4
Hake Pacific Merluccius productus	Whole Fishmeal	7.8 7.3-8.3 2	2.0 1.9-2.2 2	0.7	5.8 5.1-6.6 2	0.9	9.4 8.8-10.0 2	4.2 4.2-4.3 2
Hake Silver Whiting Merluccius bilinearis	Muscle Raw	9.1	1.7	2.1	5.7	1.0	11.1	4.6
Hake Squirrel Urophycis chuss	Muscle Raw & Freeze-dried	7.6 7.4-7.7 4	1.8 1.8-1.9 4		5.9 5.8-6.1 4		9.4 9.4-9.5 4	4.1 4.1-4.2 4
	Whole Raw & Freeze-dried	7.4 7.3-7.6 4	1.9 1.8-1.9 4		5.9 5.8-6.0 4		9.0 8.5-9.5 4	3.9 3.7-4.1 4
	FPC	8.2 7.7-8.4 4	1.9 1.8-2.0 4	0.9	6.8 6.2-7.1 4	0.9 0.8-1.0 2	10.1 10.0-10.2 3	4.4 4.3-4.5 4
	FPC Of Cooked Fish	7.7	1.9	1.1	6.4	1.2		4.2
Hake Gadidae	Muscle Raw	8.8 8.2-9.8 3	2.5 2.2-3.0 3		5.8 5.5-6.3 3	1.0 1.0-1.0 2	11.0	4.6 4.5-4.8 3
	Whole FPC	8.8 8.3-9.8 3	2.1	1.2 0.8-1.9 3	7.1	1.0 1.0-1.0 2	10.4	4.4 4.3-4.5 2
Halibut, Pacific Hippoglossus stenolepis	Muscle Raw	8.8 8.4-9.3 3	2.5 2.4-2.8 3	1.5	5.8 5.6-5.9 3		9.8 9.1-10.3 3	4.3 4.0-4.6 3
Halibut Pleuronectidae	Muscle Raw	7.7 6.7-9.4 4	2.4 1.7-3.7 4	1.2 1.1-1.4 2	6.8 6.0-8.4 3	1.3 1.0-1.6 4	10.1	4.6
Herring, Atlantic Clupea harengus	Muscle Raw	8.6 7.0-10.3 2	2.7 1.6-3.8 2		6.2 5.1-7.3 2	1.2	11.0	5.3
	Canned	8.4 7.9-9.0 2	2.2		5.5	0.9 0.8-1.0 2	8.6	4.6 4.5-4.7 2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
% of total protein										
4.1 3.9-4.3 6	13.9 13.0-14.5 6	3.2 2.9-3.5 6	4.2 3.8-4.5 6	5.8 5.6-6.2 6	5.0 4.4-5.7 6	3.1 2.9-3.4 6	4.9 4.5-5.6 6	3.4 2.9-4.1 6	3.7 3.0-4.5 6	7.8 7.3-8.6 6
					6.0 5.9-6.1 2	4.4 4.1-4.6 2	6.0 5.7-6.2 2		4.2 4.1-4.2 2	8 2 7.9-8.6 2
4.6				5.3	5.4	2.4 2.2-2.7 2	6.4 4.4-8.3 2	4.2	3.4 3.0-3.8 2	7.2 7.1-7.4 2
4.6	12.6	8.8	7.7	9.7	4.5	2.6	2.5	2.3	3.8	6.7
3.8 3.6-4.1 2	13.8 13.0-14.6 2	4.5 4.4-4.6 2	7.0 6.8-7.2 2	6.2 6.0-6.4 2	4.8 4.3-5.3 2	2.8 2.3-3.2 2	4.2 3.6-4.7 2	3.0 2.6-3.4 2	3.8 3.3 4.3 2	7.2 6.6-7.7 2
4.1	16.3	3.6	4.7	6.4	5.4	3.3	5.0	3.5	4.3	8.5
4.1 4.1-4.2 4	14.2 14.1-14.3 4	4.7 4 6-4 8 4	7.8 7.5-8.2 4	6.5 6.4-6.5 4	4.8 4.6-4.9 4	3.0 2.9 3.1 4	4.2 4.1-4.3 4	3.0 2.9-3.0 4	3.9 3.8 4 0 4	7.1 7.0-7.2 4
4.0 3.8-4.1 4	13.2 12.7-14.1 4	4.4 4.1-4.6 4	7.3 7.0-7.7 4	6.1 5.7-6.5 4	4.6 4.3-4.9 4	2.8 2.6 3.0 4	4.0 3.7-4.2 4	2.8 2.7-3.0 4	3.6 3.3-3.8 4	6.6 6.2-6.8 4
4.5 4.4-4.7 3	15.1 15.0-15.4 3	5.2 4.8-5.7 3	8.4 7.8-9.2 3	6.8 6.6-7.0 3	5.1 5.0-5.1 4	3.3 3.2-3.4 4	4.4 4.4-4.5 4	3.3 3.2-3.4 3	4.1 4.0-4.1 4	7.4 7.4-7.5 4
					5.0	3.1	4.5		4.1	7.2
4.3	17.7	3.5	4.8	6.2	5.2 5.0-5.3 3	2.8 2.4-3.2 3	4.8 4.4-5.5 3	3.1	3.6 3.1-3.9 3	7.8 7.4-8.6 3
4.6	15.4	5.2	8.1	6.8	5.2 5.0-5.3 2	3.4 3.2-3.6 3	4.5 4.4-4.6 2	3.3 3.2-3.4 2	4.1 4.0-4.2 2	7.6 7.3-7.8 2
4.1 4.0-4.3 3	14.2 13.6-14.9 3	3.5 3.4-3.8 3	4.7 4.4-5.2 3	5.6 5.3-6.1 3	5.0 4.7-5.4 3	3.0 2.7-3.7 4	4.3 4.1-4.6 3	3.4 3.2-3.5 3	3.6 3.4-3.9 3	7.7 7.3-8.3 3
5.7	14.4	3.7	4.8	7.7	6.0 6.0-6.0 2	3.8 2.8-4.5 3	6.0 5.9-6.2 2	3.3	3.3 3.0-3.8 4	9.1 8.1-10.3 3
5.6	17.0	4.4	5.1	7.4	6.0	2.0	5.1	4.1	4.7	9.6
	12.9		5.5		5.4 5.1-5.6 2	3.0 2.7-3.2 2	4.8 4.7-4.9 2		3.7 3.6-3.8 2	7.9 7.2-8.6 2

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
	Whole							
	Canned							
	In Oil, Raw	8.0	2.2		5.4	0.8	8.3	4.4
		7.8-8.1	2.0-2.5		5.2-5.5	0.7-0.8		4.3-4.6
		2	2		2	2		2
	Heat Processed	7.8	2.3		5.6	0.8		4.4
	Fishmeal	8.3	2.0	1.2	7.2	0.8	9.4	4.8
		7.9-9.1	1.8-2.2	1.0-1.6	5.6-8.1	0.7-1.1	9.0-9.8	4.0-6.7
		4	3	4	3	4	3	4
	Defatted	8.3	1.9	1.4	7.1	0.8	9.4	4.1
Herring, Atlantic Thread	Muscle							
Opisthonema oglinum	Raw	8.3	3.0		5.0		8.4	3.5
		8.2-8.4	2.8-3.2		4.8-5.3		8.1-8.8	3.4-3.8
		4	4		4		4	4
Herring Pacific	Muscle							
Clupea pallasi	Raw	8.4	2.2	1.1	5.5	0.9	12.0	4.4
		7.2-9.9	2.0-2.7		4.3-6.2	0.7-1.0		3.6-5.1
		3	3		3	3		3
	Dressed							
	Canned							
	In Tomato Sauce	8.6			5.1	1.0		4.4
	Unspecified	8.3	5.0		4.9	1.1		4.0
	Roe							
	Raw	9.1	1.9	1.4	5.5	1.0	9.4	6.3
		9.0-9.2	1.2-2.5	1.2-1.7	4.8-6.0	0.9-1.1	9.0-9.7	5.9-7.1
		2	3	2	3	3	2	3
Herring	Muscle							
Clupeidae	Raw	8.3	2.7	1.4	6.1	1.1	9.5	4.5
		7.0-10.3	1.6-3.7	1.4-1.4	5.1-7.4	0.8-1.4	8.8-11.0	4.0-5.3
		6	6	2	5	5	4	5
	Fishmeal	6.0	1.6	1.0	4.6		7.9	4.4
	Whole							
	Fishmeal	7.8	2.0	1.3	6.6	1.0	9.1	4.4
		6.0-9.2	0.6-3.0	0.6-2.6	5.0-11.9	0.8-1.6	7.7-11.2	3.3-5.3
		19	20	14	19	11	12	17
	FPC	11.5	2.4	1.1	7.6	1.1	11.2	6.0
		7.9-15.0				0.8-1.4		5.2-6.7
		5				2		2
Katsuo	Muscle							
Euthynnus (Katsuwonus) vagans	Raw	10.3	4.4		7.1	1.1	9.0	4.5
		9.1-11.2	3.6-5.7		6.3-8.7	0.6-1.4	6.3-10.3	2.2-5.8
		3	3		3	3	3	3
Lance, Sand	Whole							
Ammodytes americanus	Fishmeal	8.0	2.3		6.3	1.0	9.7	4.4
Ling	Muscle							
Molvidae	Raw	10.4	1.6	1.4	6.4	0.9	8.6	4.6
		9.5-11.4	1.4-1.9	1.1-1.8	5.9-6.9		7.0-10.3	
		2	2	2	2		2	
Loach, Weatherfish	Muscle							
Misgurnus anguillicaudatus	Raw	7.3	1.9	1.0	6.9	1.2	7.7	2.8

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
	12.8		5.0		5.0	2.8	4.6		3.4	7.0
					5.0–5.1	2.7–2.8	4.4–4.8		3.3–3.6	6.9–7.0
					2	2	2		2	2
					5.1	2.7	4.9		3.6	7.3
4.2	12.2	4.3	5.8	7.0	5.6	2.9	5.6	3.2	3.8	7.4
3.7–4.6	11.8–12.9	3.9–4.6	5.5–6.3	6.1–7.5	5.3–5.9	2.5–3.4	4.6–6.7	2.9–3.3	3.6–4.1	6.9–7.6
3	3	3	3	3	4	4	4	3	4	4
4.1	11.4	4.2	6.3	7.6	5.4	2.6	6.2	3.0	3.6	7.1
3.2	13.2	3.5	4.7	5.4	4.1	2.5	3.6	2.8	3.2	6.8
3.0–3.4	12.6–13.5	3.2–4.2	4.5–4.8	4.9–5.7	3.6–4.3	2.2–2.7	3.5–3.7	2.5–3.0	2.9–3.4	6.8–7.0
4	4	4	4	4	4	4	4	4	4	4
4.8	17.6	3.8	5.0	6.7	5.2	2.6	5.4	2.6	4.0	8.1
					4.5–5.9	2.0–3.5	4.6–6.4	1.8–3.7	3.7–4.5	7.2–9.0
					3	4	3	3	3	3
					5.2	2.7	4.8		3.9	7.4
					4.9	2.6	4.3		3.4	6.2
5.2	12.8	8.0	4.4	8.7	7.4	2.6	6.8	4.2	5.1	10.6
4.7–5.7	12.4–13.3	7.5–8.4	4.3–4.6	7.9–9.5	6.5–7.8	1.8–3.1	6.2–7.7	3.2–5.3	4.8–5.5	10.3–11.3
2	2	2	2	2	3	3	3	3	3	3
4.5	13.4	4.0	5.6	6.9	5.3	2.6	5.0	3.2	3.8	7.6
3.8–5.6	11.4–16.2	3.5–4.4	5.1–6.3	5.8–7.6	4.6–6.0	2.0–3.0	3.6–6.2	2.6–4.1	3.4–4.7	6.9–9.6
3	4	3	4	3	5	5	5	3	5	5
2.8	12.2	3.8	5.8	6.2	5.0	2.4	4.2	2.8	3.6	6.0
4.1	12.7	4.4	6.2	6.4	5.5	2.7	4.9	2.9	3.9	7.6
3.4–5.6	11.2–14.8	3.8–5.8	5.4–7.4	5.5–8.1	4.6–7.0	2.0–3.1	3.4–6.7	1.5–3.6	3.2–4.4	6.1–9.0
12	13	12	14	12	17	18	17	15	17	16
5.3	15.3	5.2	6.8	7.3	5.5	3.2	4.8	3.2	4.2	8.2
					5.2–5.8	2.9–3.4	4.5–5.1		3.8–4.5	7.6–8.7
					2	2	2		2	2
4.3	11.1	3.9	4.0	6.6	8.6	2.8	5.4	3.3	3.8	7.4
2.6–5.3	5.9–14.3	3.6–4.3	3.0–5.3	6.5–6.7	7.2–9.4	1.9–3.5	3.1–6.6	1.5–4.2	2.0–4.9	4.2–9.0
3	3	3	3	2	3	4	3	3	3	3
4.1		4.5	7.4	6.2	5.0	3.1	4.7	3.7	4.0	7.7
4.4	18.6	3.3	3.3	6.8	4.2	3.6	6.1	3.4	4.8	9.7
3.7–5.1	15.4–21.8		2.1–4.2	6.0–7.7	2.3–6.1	3.1–4.0		3.3–3.5	4.1–5.6	9.0–10.4
2	2		2	2	2	2		2	2	2
5.9	9.0	5.9	5.0	6.2	5.3	3.4	3.7	2.7	3.1	6.0

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Lumpfish Cyclopteridae	Eviscerated & Beheaded Raw	6.0	1.5		5.6		8.1	4.0
	Roe Raw	6.1	2.2		5.3		8.2	4.5
Maasbanker, Mackerel, Jack Trachurus trachurus	Muscle Raw	8.0 7.6-8.4 2	3.0 2.7-3.4 2	1.9 1.5-2.3 2	6.0 5.9-6.1 2	0.9 0.9-0.9 2	8.8	4.3 4.1-4.6 2
	Whole Fishmeal	8.0	2.6	2.2	6.6	0.9	9.6	4.2
Mackerel, Atlantic Scomber scombrus	Muscle Canned Raw Heat Processed	8.2 7.9 7.7-8.1 2	4.0 3.5 3.3-3.7 2		5.6 5.6 5.2-5.9 2	0.9 0.8 0.7-1.0 2	7.8	4.7 4.8 4.6-5.0 2
Mackerel, Indian Rastrelliger neglectus	Muscle Raw	9.3	3.2	2.4	6.3		10.2	4.4
Mackerel, Jack Trachurus japonicus	Muscle Raw	9.8 8.8-10.7 2	2.9 2.3-3.5 2	1.1	6.0 5.1-6.8 2	1.2 1.2-1.3 2	10.0 9.3-10.8 2	4.9 4.2-5.6 2
Mackerel, Jack Carangidae	Muscle Raw	8.3 7.6-8.8 3	6.0 3.6-8.0 3	1.0 0.8-1.1 2	5.2 4.9-5.6 3	1.4 1.3-1.4 2	9.0 8.4-9.3 3	4.0 3.8-4.1 3
Mackerel, Pacific Chub Scomber japonicus/colias	Muscle Raw	9.2 8.2-10.0 4	3.2 1.4-5.2 4	1.1 0.8-1.4 2	6.0 5.2-6.7 4	1.2 1.0-1.4 4	9.9 8.2-11.5 4	5.0 4.4-5.2 4
	Canned Raw Heat Processed	8.8 8.2 7.9-8.4 2	5.5 5.4 5.1-5.6 2		5.5 5.0 4.6-5.5 2	1.1 1.0 1.0-1.0 2	8.0	4.4 4.4 4.2-4.5 2
	Roe Raw	8.4	3.0	1.5	6.1	1.0	8.0	5.0
Mackerel, Spanish, Japanese Scomberomorus niphonius	Roe Raw	9.4	2.8	1.4	6.5	1.1	8.2	5.9
Mackerel Scombridae	Muscle Raw	7.4 5.6-8.5 6	3.7 1.0-5.6 6	1.0 0.8-1.3 3	5.0 3.3-5.7 5	1.2 0.9-1.5 4	8.7 7.5-10.9 5	3.9 2.3-4.7 5
	Salted & Dried	7.7	2.8	0.9	5.7	1.1	9.1	4.1
	Fishmeal	12.9	3.5	1.4	7.3	1.6	11.3	5.8

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.5	13.3	4.6	7.1	3.4	3.7	2.3	3.3	2.2	3.2	6.5
5.5	12.7	4.6	4.9	5.5	4.6	2.4	3.9	2.3	3.8	7.7
3.9	12.6	4.9	7.5	6.3	5.0 4.9-5.0 2	2.6 2.6-2.7 2	4.6 4.4-4.9 2	3.6 2.9-4.3 2	3.3 3.3-3.4 2	6.9 6.8-7.1 2
4.2	13.4	4.0	7.2	6.4	5.2	2.6	4.6	2.9	3.5	7.4
	11.6		7.2		5.6 5.2 5.0-5.3 2	2.7 2.8 2.8-2.8 2	5.3 4.7 4.2-5.2 2		3.5 3.3 3.1-3.5 2	7.0 7.3 7.3-7.3 2
4.5	15.5	3.3	4.2	6.2	5.6	3.7	5.3	3.7	5.8	8.9
4.2 3.5-4.8 2	15.0 14.1-15.8 2	3.6 3.0-4.1 2	4.6 4.2-5.0 2	6.3 5.4-7.2 2	6.0 5.0-7.1 2	2.6 1.5-3.6 3	5.3 4.5-6.1 2	3.8 2.9-4.6 2	4.2 3.5-4.9 2	8.2 7.2-9.1 2
3.4 3.2-3.5 3	13.0 12.0-14.0 3	3.0 2.9-3.2 3	4.2 4.0-4.4 3	5.3 5.1-5.5 3	4.8 4.4-5.0 3	2.3 2.0-2.7 3	4.2 3.6-4.5 3	2.9 2.8-2.9 3	3.3 3.1-3.5 3	7.1 6.8-7.2 3
4.9 4.8-5.0 3	12.6 11.5-13.4 4	3.6 3.5-3.6 3	4.4 3.8-5.5 4	5.7 5.6-5.9 3	7.1 5.2-7.8 4	3.0 2.7-3.2 5	6.8 4.8-7.4 4	3.9 3.7-4.0 3	4.4 3.8-4.7 4	7.7 7.4-8.2 4
	12.8		5.7		5.4 5.2 5.1-5.4 2	2.8 2.8 2.7-2.8 2	5.3 4.8 4.7-5.0 2		3.9 3.8 3.8-3.8 2	7.6 7.6 7.3-7.9 2
7.2	11.6	5.6	4.4	7.9	6.1	2.9	5.5	5.2	5.2	8.6
7.5	11.6	6.6	4.0	8.8	6.7	3.2	6.4	5.7	5.4	10.3
3.6 2.2-4.9 4 4.2 6.1	13.2 12.0-14.7 5 13.8 15.6	3.2 1.9-3.8 4 4.3 5.0	5.1 4.2-6.4 5 6.1 5.1	7.1 5.5-9.4 4 7.2 6.8	4.9 3.5-6.1 5 6.1 6.7	2.7 1.9-3.1 6 3.0 3.8	4.5 3.2-6.0 5 6.0 6.4	2.8 2.3-3.3 4 3.4 3.4	3.6 3.2-3.9 5 3.8 5.1	7.4 6.0-8.8 5 8.5 10.2

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
	Whole							
	Raw	6.1	2.4	1.2	6.4			4.6
	Fishmeal	7.3	2.6	0.9	5.6	0.8	8.8	4.2
Marlin, White	Muscle							
Tetrapturus albidus	Raw	7.1	1.7		3.8		7.3	3.1
Marlin	Muscle							
Istiophoridae	Raw	8.4	8.2		5.0	1.3	8.8	4.4
		7.7-9.1	7.8-8.8		4.3-5.7		8.3-9.3	3.8-5.3
		4	4		4		4	4
Menhaden, Atlantic	Whole							
Brevoortia tyrannus	Raw	9.4	2.2		5.6		10.4	4.4
	Fishmeal	7.7	2.5	0.7	6.0	1.2	8.8	3.8
Menhaden	Whole							
Clupeidae	Fishmeal	8.0	2.5	0.8	6.6	1.0	8.6	4.3
		7.6-8.7	2.0-3.0	0.7-0.9	6.0-7.7	0.8-1.2	8.0-9.1	3.9-4.8
		6	6	4	6	6	4	5
Milkfish	Muscle							
Chanos chanos	Raw with Skin	8.0	1.9	1.1	6.9	1.8		5.3
Mullet, Grey, Boi	Muscle							
Mugil speigleri	Raw	7.9	1.7	0.6	6.6	0.8		5.2
			1.5-1.9	0.5-0.8	6.5-6.6	0.4-1.2		3.3-7.1
			2	2	2	2		2
	Whole							
	Fishmeal	9.2	2.6	1.7	5.7	1.4	11.3	6.4
Mullet, Striped	Muscle							
Mugil cephalus	Raw	10.5	3.1	2.4	7.4		10.4	4.1
		8.9-13.6	3.1-3.2		5.6-10.5		9.7-11.2	4.0-4.2
		3	3		3		2	2
Mullet	Muscle							
Mugilidae	Raw	8.8	2.7	1.4	5.9	1.4	12.0	4.2
		6.7-10.7	1.5-3.7	1.3-1.4	3.7-6.8	1.3-1.4	7.7-14.1	3.2-4.5
		5	5	2	5	2	4	4
	Salted & Dried	8.9	1.9	1.2	5.5	1.0	10.2	4.0
Perch, Climbing, Gourami	Muscle							
Helostoma temmincki	Raw	7.5	1.5	1.2	7.0			4.2
Perch, Climbing, Gourami	Muscle							
Osphronemus goramy	Raw	8.1	2.5	1.7	7.7	1.3		4.4
Perch, Climbing, Gourami	Muscle							
Trichogaster pectoralis	Raw	6.9	0.9	1.4	6.1	0.9		4.6
Perch, Climbing, Gourami	Muscle							
Trichogaster trichopterus	Raw	6.7	1.0	1.0	5.7	0.9		4.2
Pike, Northern	Muscle							
Esox lucius	Raw	7.2	2.2	0.7	7.0	0.8		4.6
Pike	Muscle							
Esocidae	Raw	10.8	1.3	1.5	7.9		8.9	4.3
		10.8-10.9						
		2						

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.1	13.1	4.9	7.3	6.4	4.8 4.8	3.0 2.6	4.7 4.1	7.3 3.0	3.0 3.7	5.4 7.3
3.0	10.8	2.5	3.0	4.0	3.2	2.3	2.9	2.6	2.9	5.9
3.6 3.3-3.8 4	14.3 13.2-16.0 4	3.4 3.0-5.8 4	4.4 3.9-5.5 4	5.7 5.1-6.4 4	5.1 4.4-6.7 4	2.6 2.4-2.7 4	4.3 3.8-5.1 4	3.2 2.7-4.0 4	3.6 3.1-4.0 4	7.6 7.1-8.3 4
4.9	16.5	3.2	4.3	5.8	4.8	3.0	4.2	3.4	3.8	8.2
3.6	12.2	4.5	6.6	6.0	5.0	2.9	4.3	3.2	3.9	7.1
3.7 3.6-3.9 4	12.4 12.2-12.7 4	4.0 2.1-5.0 4	6.8 6.3-7.6 4	6.2 5.9-6.4 4	5.2 5.0-5.8 5	2.8 2.6-2.9 6	5.2 4.1-7.3 5	3.0 2.6-3.3 5	4.0 3.7-4.3 5	7.3 6.8-8.1 5
4.4	17.2	2.7		6.0	5.5	3.1	6.0	3.4	5.3	8.5
					5.9 5.5-6.3 2	3.8 3.1-4.4 2	6.2 5.9-6.6 2	2.8 1.6-3.9 2	3.8 3.3-4.2 2	10.4 9.7-11.2 2
4.5	18.2	4.4	4.9	6.9	6.9	2.8	6.2	3.7	5.0	9.9
3.8 3.7-3.9 2	15.2 15.0-15.3 2	3.5 3.5-3.5 2	5.0 4.9-5.1 2	6.0 5.9-6.1 2	4.8 4.6-4.9 2	2.6 2.6-2.6 2	4.1 4.0-4.2 2	3.0 2.9-3.2 2	3.4 3.3-3.6 2	7.9 7.8-8.0 2
3.8 2.7-4.2 4	14.6 10.0-16.2 4	3.4 2.7-3.8 4	5.0 4.4-5.5 4	5.9 4.3-6.6 4	5.0 4.5-5.5 4	2.8 2.3-3.2 4	4.5 3.6-5.0 4	3.2 2.5-3.8 4	3.7 3.0-4.2 4	8.0 5.9-8.8 4
5.4	13.3	4.8	7.7	6.3	6.0	2.7	6.1	3.2	4.0	8.1
4.4	18.7	3.3		6.1	4.9	2.6	6.1	3.8	3.8	7.3
4.2	17.5	2.9		5.8	5.3	2.7	6.3	4.0	5.1	9.1
4.0	18.8	2.8		6.3	4.8	3.1	5.7	4.0	4.3	9.1
3.7	19.3	2.6		5.9	5.5	3.2	6.2	3.2	4.2	8.8
					5.2	2.9	4.3	2.1	3.9	7.0
3.9	22.3		2.6	6.8	4.4 3.8-5.0 2	3.2 2.8-3.6 2	4.5	3.4	4.0 3.8-4.3 2	11.4 7.3-15.4 2

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Pilchard, European Clupea pilchardus	Muscle Raw	8.4	2.9	1.2	5.1	1.2		4.7
Pilchard, Japanese Sardinops melanosticta	Muscle Raw	11.0	2.5		6.9	1.3	11.2	5.6
Pilchard, Pacific Sardinops (Sardina) caerulea	Muscle Raw	6.0 4.3-8.1 4	2.8 1.2-4.5 4		4.2 3.0-5.6 4	0.9 0.5-1.3 4	6.7 4.9-8.5 2	3.1 2.5-4.2 3
	Canned	8.7	4.7		5.1	1.0	8.8	4.5
	Canned In Tomato Sauce	8.7	4.7		5.2	1.0		4.4
Pilchard Clupeidae	Muscle Raw	8.1	3.5	2.9	6.4	0.8	10.2	4.6
	Whole Fishmeal	8.1	2.5 2.4-2.6 2	2.4	5.2 5.0-6.4 2	1.0	9.4	4.4
Plaice Pleuronectidae	Muscle Raw	9.6 8.7-10.2 3	2.1	1.1	6.3	1.0	9.9	4.6
Pollack, Saithe, Coalfish Pollachius virens	Muscle Raw	10.6 9.1-11.7 4	2.4 2.0-2.7 2	1.0	6.2 6.0-6.5 2	1.0	11.0 10.2-11.9 2	5.0 4.4-5.7 2
Pollack, Walleye Theragra chalcogramma	Muscle Raw	11.0	2.4		7.0	1.2	6.3	5.8
	Roe Raw	9.0	2.5	1.5	5.6	1.0	8.9	5.2
Pollack Gadidae	Muscle Raw	9.2 8.7-9.6 2	2.3 2.2-2.4 2	0.8	7.0 6.6-7.4 2	1.0 0.9-1.2 2	10.7	5.0 4.5-5.6 2
	Dried	7.8	1.8	1.8	6.9	1.2	9.1	5.1
	Roe Raw	8.7	2.5	1.6	5.5	1.0	9.1	5.4
Ratfish Chimaera monstrosa	Muscle Raw	6.2	1.5		4.4		6.9	3.5
Ray, Eagle Myliobatidae	Muscle Salted & Dried	8.3	2.1	1.0	6.6	0.8	9.1	3.9
Redfish, Ocean Perch Sebastes marinus	Muscle Raw	9.2 9.1-9.2 2	2.1 2.0-2.2 2	1.1	5.9 5.7-6.1 2	1.0	10.6 10.5-10.6 2	4.6 4.5-4.8 2
	Whole Fishmeal	9.1 6.4-10.8 3	2.0 1.7-2.3 3	1.1 0.7-1.5 2	6.4 6.1-6.7 3	1.0 1.0-1.0 2	8.5 8.4-8.6 2	4.1 3.9-4.2 3
	Offal Fishmeal	7.9	2.3	1.8	6.7	1.0	9.3	4.3

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
					5.1	2.8	4.5	4.4	4.0	6.9
5.1	14.7	4.0	5.6	7.3	7.4	3.0 2.5-3.6 2	6.0	4.4	4.7	9.3
	9.6 7.0-12.2 2 13.4		4.2 2.9-5.4 2 5.6		3.7 2.9-5.2 3 5.6	1.9 1.4-2.8 3 3.0	3.2 2.6-4.5 3 5.1		2.6 2.1-3.7 3 3.8	5.1 3.9-7.2 3 7.2
					5.4	2.9	4.6		3.8	7.6
4.6	12.3	3.7	6.9	6.4	6.2	2.9	4.9	3.3	4.5	7.8
4.2	12.6	4.5	6.1	6.0	6.0 5.7-6.4 2	3.0 2.9-3.0 2	4.8 4.7-4.9 2	3.4	4.0	7.8 7.8-7.8 2
6.0	15.1	3.7	5.4	8.1	5.7	2.8	5.9	3.2	3.9	8.3
5.0 4.6-5.5 2	15.8 14.5-17.2 2	3.8 3.4-4.2 2	4.8 4.3-5.2 2	7.2 6.5-7.9 2	6.0 5.8-6.1 2	3.3 3.0-3.6 2	5.6 5.1-6.2 2	3.5 3.3-3.7 2	4.0 3.8-4.3 2	8.6 8.1-9.1 2
5.3	15.9	3.8	5.0	5.9	5.7	3.6	7.2	3.9	4.3	8.3
6.9	13.0	6.0	3.5	8.2	6.9	2.3	6.3	4.6	4.3	9.9
4.5	16.0	3.8	4.5	6.1	4.9 4.8-5.0 2	3.2 3.0-3.5 2	5.1 5.0-5.2 2	3.8	3.6 3.1-4.2 2	7.8 7.4-8.3 2
5.6	13.8	6.9	1.8	4.5	7.7	1.0	4.6	4.8	4.3	9.4
7.2	13.7	6.0	3.8	8.3	7.0	2.4	6.1	4.3	4.4	9.8
3.0	11.8	2.9	3.5	4.5	3.4	2.1	3.5	2.4	3.3	5.6
5.6	12.9	4.9	8.4	6.4	5.3	2.4	5.6	2.8	3.6	7.9
4.6 4.1-5.2 2	15.6 15.4-15.8 2	3.4 3.4-3.4 2	4.5 4.4-4.6 2	7.2 5.8-8.5 2	5.3 4.7-5.9 2	3.0 3.0-3.1 2	5.3 4.3-6.3 2	3.4 3.2-4.5 2	4.0 4.0-4.0 2	8.3 8.0-8.6 2
4.6 4.4-4.9 2	12.2 11.8-12.6 22	4.4 3.3-5.4 2	9.2 7.8-10.7 2	6.6 6.4-6.8 2	4.7 4.1-5.2 3	2.9 2.7-3.1 3	5.0 2.9-6.3 3	2.7 2.6-2.8 3	3.9 3.4-4.1 3	6.8 5.9-7.4 3
4.5	13.1	4.8	7.9	6.9	4.7	3.1	4.1	3.3	3.9	7.1

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Roach Rutilus rutilus	Muscle FPC	4.1	1.4		7.3	0.7		0.6
Rockfish Scorpaenidae	Muscle Raw	8.7 8.4-9.0 3	2.0 1.7-2.2 3		6.1 5.6-6.7 3		9.7 9.4-10.0 3	4.1 3.9-4.3 3
Runner, Blue Caranx crysos	Muscle Raw	9.6	3.3		5.8		10.7	4.8
Sablefish Anoplopoma fimbria	Muscle Raw	8.0 7.5-8.4 2	1.8 1.8-1.8 2		5.8 5.4-6.3 2		11.4 10.0-12.8 2	4.0 3.9-4.0 2
Sablefish Anoplopomatidae	Muscle Raw	8.0 7.7-8.4 3	2.0 1.8-2.2 3		6.0 5.5-6.6 3		10.0 9.2-10.6 3	4.0 3.9-4.0 3
Salmon, Chinook Oncorhynchus tshawytscha	Muscle Canned	8.2 8.0-8.3 2	2.5 2.4-2.6 2		5.6 5.4-5.8 2	0.8 0.7-0.8 2	8.8	4.4 4.3-4.5 2
	Roe Raw	8.2 8.2-8.3 2	2.4 2.4-2.5 2		7.4 7.3-7.5 2	0.8 0.8-0.8 2		5.8 5.8-5.8 2
Salmon, Chum Oncorhynchus keta	Muscle Raw	6.7 5.7-7.7 2	2.2 1.3-3.1 2		6.2 5.6-6.8 2	1.0 0.8-1.3 2		5.7
	Roe Raw	8.1 5.7-9.4 5	2.5 1.3-3.0 5	1.5 1.5-1.5 2	6.1 5.5-7.2 5	1.1 0.9-1.3 5	8.6 7.9-9.3 2	5.5 4.6-6.3 4
Salmon, Coho Oncorhynchus kisutch	Muscle Raw	8.6 6.6-10.7 2	2.6 1.9-3.2 2	1.1 0.8-1.4 2	5.4 5.0-5.7 2	1.4 1.3-1.4 2	9.0	4.6
	Roe Raw	8.5 8.3-8.7 2	2.2 1.4-2.7 3		6.7 5.9-7.3 3	0.9 0.7-1.0 3		5.5 4.7-6.1 3
Salmon, Pink Oncorhynchus gorbuscha	Muscle Raw	7.9	2.7	1.3 1.2-1.4 2	5.9	1.2 1.1-1.2 2	8.7	4.3
	Roe Raw	8.8 8.8-8.9 2	2.8 2.8-2.9 2		7.0 6.9-7.2 2	1.0 1.0-1.1 2		5.6 5.2-6.1 2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.5		7.1	2.7		0.6[5/]	2.2		4.6	14.8[5/]	18.0[5/]
4.1 3.7-4.6 3	14.7 13.8-15.5 3	3.9 3.5-4.4 3	6.1 5.2-7.4 3	6.0 5.5-6.4 3	4.5 4.2-4.8 3	2.7 2.6-3.0 3	4.0 3.7-4.2 3	3.0 2.9-3.0 3	3.4 3.3-3.5 3	7.3 7.0-7.4 3
4.1	15.2	3.5	5.1	6.6	5.2	3.1	4.5	3.1	4.1	8.4
3.6 3.4-3.8 2	14.4 13.9-15.0 2	3.0 2.8-3.2 2	4.6 4.6-4.7 2	5.3 5.1-5.5 2	4.6 4.1-5.0 2	2.8 2.8-2.8 2	4.2 3.8-4.6 2	2.8 2.8-2.9 2	3.1 3.0-3.1 2	7.3 6.9-7.7 2
3.9 3.7-4.0 3	13.9 13.1-14.5 3	3.1 2.6-3.5 3	4.9 4.3-5.4 3	5.2 5.1-5.3 3	4.2 4.0-4.5 3	2.8 2.5-3.0 3	3.9 3.6-4.2 3	2.9 2.8-3.0 3	3.1 2.9-3.2 3	6.9 6.4-7.2 3
	12.7		6.5		5.6 5.5-5.7 2	3.1 3.1-3.1 2	5.0 4.8-5.1 2		3.6 3.6-3.7 2	7.4 7.4-7.4 2
					6.6 6.5-6.8 2	2.8 2.8-2.9 2	6.7 6.6-6.8 2		4.8 4.7-4.8 2	9.1 9.0-9.2 2
					6.4	3.0	9.6	1.7	5.7	10.7
5.4 5.1-5.8 2	11.4 10.3-12.4 2	6.4 5.8-6.9 2	2.8 2.8-2.9 2	7.8 7.1-8.5 2	6.9 6.4-7.5 4	2.6 2.0-3.1 4	6.3 5.0-7.4 4	4.2 3.4-4.9 2	4.9 4.4-5.5 2	9.6 8.3-10.2 2
4.0	15.5	3.8	5.4	7.2	6.4	2.9	5.4	3.4	3.0	7.2
					7.1 6.8-7.5 3	2.5 1.9-3.0 3	7.6 6.7-8.2 3	3.0	5.3 4.8-6.3 3	10.4 9.8-11.1 3
3.9	11.9	4.3	6.1	5.8	4.6	2.9	4.0	2.8	3.9	6.6
					7.7 7.3-8.1 2	2.9 2.8-3.0 2	7.2 7.0-7.3 2		4.9 4.9-4.9 2	9.8 9.4-10.3 2

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Salmon, Sockeye Oncorhynchus nerka	Muscle Raw	10.6	2.9		5.8	1.3 1.3-1.3 2	10.8	6.0
	Roe Raw	8.4 8.2-8.7 2	2.7 2.7-2.7 2		7.2 7.1-7.2 2	0.9 0.8-1.0 2		5.8 5.7-5.9 2
Salmon Salmonidae	Muscle Raw	7.8 7.6-8.1 3	2.7 1.9-3.6 3	1.4 1.3-1.4 2	5.6 5.3-5.9 2	1.3 1.2-1.4 2	8.9 8.8-9.0 2	4.2 4.1-4.3 2
Sardine Clupeidae	Muscle Raw	8.7 8.1-10.3 5	3.2 2.1-4.7 3	0.9 0.9-1.0 4	5.1 4.9-5.3 4	1.2 0.9-1.4 6	8.5 8.3-8.7 2	4.4 4.0-4.7 4
	Canned In Oil	9.8 9.0-10.7 2		0.8		1.0 1.0-1.1 2		4.7
	Unspecified	9.8 8.4-11.1 2	4.7	0.8	5.1	1.1 1.0-1.2 2	9.0	4.3
	Fishmeal	9.2 8.6-9.8 2	2.6 2.6-2.6 2		5.6 5.4-5.9 2	1.2 1.1-1.3 2		4.2 3.9-4.5 2
Saury, Pacific Cololabis saira	Muscle Raw	9.8	6.2	1.9	5.8	1.0	9.6	5.0
Scad Carangidae	Whole Fishmeal	7.3	2.6	0.9	5.6	0.8	8.8	4.2
Scorpionfish Scorpaenidae	Whole Fishmeal Raw	7.2 6.7-8.0 3	1.8 1.6-2.0 3	1.3 1.1-1.8 3	6.3 6.0-6.7 3		9.6 8.9-10.6 3	4.4 4.1-4.8 3
	Steamed	9.1	2.0	1.2	6.5		10.8	5.2
Sea, Cucumber Stichopus japonicus	Muscle Raw	4.2 4.2-4.3 2	1.0	1.6	6.2	0.6	9.6	5.1
Sea Trout, Spotted Cynoscion nebulosus	Muscle Raw	10.0	2.2		6.3		10.9	4.9
Shad, American Alosa sapidissima	Muscle Raw	8.1 6.4-9.8 2	1.7 1.1-2.3 2	1.2	5.1 4.5-5.7 2	1.2 1.1-1.2 2		4.1
Shad, Indian Hilsa ilisha	Muscle Raw	9.2 9.1-9.2 2	2.8 2.5-3.0 2	0.7	6.9 6.6-7.2 2	1.4		4.6 4.4-4.7 2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.9	14.8	3.7	3.5	6.6	7.4	3.4	5.2	4.1	4.8	9.1
					7.0 6.8-7.2 2	2.8 2.7-3.0 2	7.2 6.8-7.6 2		4.7 4.7-4.7 2	10.0 10.0-10.1 2
3.8 3.7-3.8 2	12.2 11.8-12.6 2	3.7 3.1-4.3 2	5.2 4.4-6.1 2	5.6 5.5-5.8 2	4.6 4.6-4.6 2	2.9 2.7-3.2 3	4.0 3.9-4.0 2	2.9 2.9-2.9 2	3.9 3.4-4.5 3	6.9 6.6-7.2 2
	12.6 12.3-12.8 2		5.1 5.1-5.1 2		5.1 4.9-5.2 4	2.8 2.6-3.1 6	4.5 4.3-4.7 4		3.6 3.4-3.7 4	6.8 6.2-7.2 4
					5.6	3.1 3.1-3.1 2	4.9		3.8	8.6
	13.0				5.2	3.0 2.8-3.2 2	4.6		3.7	7.2
					6.0	3.0	5.1	3.3	4.3	7.8
3.8	13.9	3.7	5.3	6.7	5.1	2.9	4.2	3.0	3.0	6.4
4.1	13.1	4.9	7.3	6.4	4.8	2.6	4.1	3.0	3.7	7.3
4.8 4.6-5.1 3	13.9 12.9-15.1 3	5.2 4.9-5.3 3	9.3 8.8-10.2 3	6.6 6.2-7.0 3	4.5 4.1-4.9 3	2.4 2.2-2.5 3	3.9 3.5-4.4 3	2.6 2.2-3.1 3	3.7 3.4-4.3 3	6.5 6.0-7.3 3
5.2	15.6	4.5	7.5	6.8	5.3	3.3	4.8	3.5	4.2	7.8
4.8	14.4	7.2	15.0	6.9	4.3	1.6	3.4	2.5	2.4	5.1
4.6	17.1	3.8	4.9	6.4	4.9	3.0	4.5	3.7	4.1	8.6
					6.2	2.8	5.0		3.7	7.7
					6.6 6.4-6.7 2	3.4 2.8-3.9 2	8.2	5.0	4.7	11.4 9.3-13.4 2

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Shark Mustelus fasciatus	Unspecified FPC	7.4	2.1		6.0		9.6	4.4
Shark, Spotted Hound Mustelus manazo	Muscle Raw	10.8	2.9		7.0	1.3	6.2	6.2
Shark, Whitetip Carcharhinus albimarginatus	Muscle Raw	6.5	1.7	0.9	5.2	0.8		5.4
Shark Unspecified	Muscle Raw	13.4 11.5-15.3 2	2.1	1.5 1.4-1.6 2	8.8 8.5-9.2 2	1.4 1.3-1.4 2		3.9
Skate Raja platana	Whole FPC	6.5	4.3		6.4		8.6	4.6
Skate Rajidae	Muscle Raw	9.5 8.3-11.8 2	3.1 2.3-3.8 2	3.0 5/ 1.5-4.5 2	8.0 5.4-10.7 2	1.3 1.3-1.4 2	9.8	5.0 4.7-5.2 2
Smelt Osmeridae	Muscle Raw	9.2 7.2-11.1 2	1.6		5.0		8.2	4.0 3.7-4.3 2
Snapper, Red Lutianus campechanus (blackfordii)	Muscle Raw	8.0 6.7-8.7 3	2.1 1.6-2.3 3	1.3	5.6 5.3-6.2 3	1.2	9.1 9.1-9.1 2	4.0 3.9-4.0 2
Snapper, Yellowtail Ocyurus chrysurus	Muscle Raw	8.9	2.4		5.2		10.0	4.2
Snapper Lutianidae	Muscle Raw	9.2 8.2-10.4 4	2.4 2.1-2.5 3	0.9	5.5 5.3-5.9 4	0.9 0.8-1.0 2	9.4 8.8-10.0 3	4.1 4.0-4.2 3
Sole, Dover Microstomus pacificus	Muscle Raw	9.5	2.4		6.3		10.8	4.8
Sole Soleidae/Pleuronectidae	Muscle Raw	9.8 8.2-10.7 5	2.5 2.0-3.6 5		6.1 4.7-7.1 5		10.6 9.6-11.8 5	5.5 3.9-5.7 5
Spot Leiostomus xanthurus	Muscle Raw	9.0 8.6-9.8 4	2.0 1.9-2.3 4		5.5 5.3-5.8 4		9.7 9.2-10.4 4	4.1 3.9-4.6 4
Sprat Sprattus sprattus	Muscle Cooked Boiled	6.0	1.7		7.2	0.9		0.6 5/
Stingray, Marbled Dasyatis uarnak	Muscle Raw	19.5 5/	1.7	1.0	5.2	0.6		4.6
Sucker, Buffalo Ictiobus cyprinellus	Muscle Raw	7.2	2.9	1.9	7.0	1.1	6.6	4.7

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.8	13.8	7.9	6.4	8.5	5.0	3.2	2.3	2.6	4.0	7.7
5.4	15.2	3.7	4.7	6.1	6.1	3.4	7.7	3.6	4.4	8.3
					4.3	2.0	5.4	1.5	3.7	7.9
					6.6	3.5	7.6	4.7 4.4-5.0 2	5.0	10.0
4.9	11.9	9.0	5.6	7.8	4.6	4.6	2.4	4.6	4.9	7.3
4.5	15.9	3.6	4.5	7.3	5.7 5.0-6.4 2	3.0 2.9-3.2 2	6.5 5.2-7.8 2	4.1 4.1-4.1 2	4.5 4.5-4.5 2	8.8 8.3-9.3 2
3.5	12.4	3.0	4.6	4.9	4.8 4.1-5.4 2	2.6 2.5-2.8 2	4.1 3.4-4.8 2	2.7	3.5 3.0-4.0 2	7.2 6.6-7.8 2
3.4 3.4-3.5 2	14.4 14.4-14.5 2	3.2 3.2-3.2 2	4.2 4.2-4.2 2	5.4 5.3-5.4 2	4.4 4.3-4.4 2	2.6 2.6-2.7 2	4.0 3.9-4.0 2	3.0 3.0-3.1 2	3.3 3.3-3.3 2	7.2 7.2-7.3 2
3.6	15.8	3.2	4.0	5.7	4.6	2.8	4.1	3.3	3.6	8.0
3.5 3.4-3.7 3	14.3 13.4-15.2 3	3.5 3.0-4.0 3	4.3 3.9-4.7 3	5.6 5.1-6.1 3	4.8 4.4-5.4 3	2.9 2.7-3.2 3	4.3 4.1-4.5 3	3.2 3.1-3.2 3	3.6 3.3-4.3 4	7.7 7.3-8.2 3
4.7	17.1	3.7	5.4	6.3	4.7	3.1	4.2	3.4	4.1	8.5
4.6 3.7-6.1 5	16.3 14.4-18.7 5	4.4 3.0-4.7 5	5.1 4.1-6.3 5	6.3 5.3-6.9 5	5.1 4.6-5.8 5	3.0 2.6-3.4 5	4.6 4.1-5.5 5	3.3 2.4-4.1 5	4.0 3.5-4.8 5	8.4 7.9-9.2 5
3.8 3.7-4.0 4	15.5 14.6-16.1 4	3.3 3.1-3.6 4	4.4 4.1-4.7 4	5.7 5.4-6.1 4	4.5 4.2-4.9 4	3.0 2.9-3.0 4	4.0 3.8-4.4 4	3.2 3.1-3.5 4	3.6 3.4-4.0 4	7.6 7.2-8.3 4
2.5		5.0	1.8		0.6 [5/]	2.3		3.6	14.0	15.5
					3.5	1.6	5.2	1.4	2.7	12.5
4.4	13.9	3.5	4.7	3.8	6.6	3.3	5.7	3.2	3.8	6.9

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Threadfin, Four-rayed Polynemus tetradactylus	Muscle Raw	19.8 5/	1.7	2.3	7.4	1.0		8.1
Threadfin Polynemidae	Muscle Salted & Dried	7.4	2.3	1.0	4.9	1.1	8.7	4.1
Tilapia, Cichlid Tilapia macrochir	Muscle Raw	8.9	2.3		6.0	0.4	10.3	4.9
Tilapia, Cichlid Tilapia melanopleura	Muscle Raw	9.1	2.6		6.3	0.4	9.6	4.7
Tilapia, Mozambique Mouthbrooder Tilapia mossambica	Muscle Raw	6.1	1.6	1.3	7.4	1.8		5.1
Trout, Brook Salvelinus fontinalis	Muscle Raw	6.7		1.8	4.6		6.6	4.6
	Roe Raw	9.4	3.1	2.5	8.2	1.0	10.2	5.9
Trout, Rainbow Salmo gairdneri	Muscle Raw	9.7 7.4-13.3 4	3.0 1.9-4.1 4	1.2 0.7-2.0 4	6.2 3.6-7.9 4	1.0 0.9-1.1 3	9.4 9.3-9.6 3	4.0 3.4-4.3 4
	Roe Raw	7.3 7.2-7.4 2	2.6 2.4-2.8 2	0.9 0.8-1.0 2	5.6 5.6-5.7 2	1.0 1.0-1.0 2	9.5 9.2-9.8 2	5.0 4.9-5.2 2
Trout Salmonidae	Muscle Raw	10.1 8.1-12.3 3	2.6 2.2-3.1 2	0.8	6.4 6.1-6.6 2	1.1	10.2 9.3-11.2 2	4.6 4.2-5.0 3
Tuna, Albacore Scombridae	Muscle Raw	8.6	7.5		5.2		9.8	4.6
Tuna, Big Eye Thunnus obesus	Muscle Raw	10.8 10.8-10.9 2	3.3 3.1-3.5 2		5.8 5.6-6.1 2	1.2 1.2-1.2 2	10.6 10.3-10.9 2	5.7 5.5-5.9 2
Tuna, Bluefin Thunnus thynnus	Muscle Raw	9.6 9.3-9.9 2	4.8 4.5-5.0 2	1.3 1.3-1.3 2	5.5 5.4-5.6 2	1.3 1.3-1.3 2	12.0 12.0-12.0 2	4.8 4.8-4.8 2
Tuna, Skipjack Euthynnus pelamis	Muscle Raw	8.4 7.8-8.9 3	3.8 2.5-5.5 3	0.8	4.7 4.3-5.1 2	1.0 0.7-1.2 4	9.0 8.3-9.6 2	3.3 2.7-3.9 3
	Semi-dried	7.4	6.6	1.0	5.1	1.2	10.1	4.2
Tuna, Skipjack Scombridae	Muscle Raw	8.0	8.5	0.8	5.1	1.3	8.4	4.0
Tuna, Yellowfin Thunnus albacares	Muscle Raw	8.5 8.2-8.9 3	5.3 3.3-9.1 3	1.2	5.5 5.2-5.8 2	1.7 1.7-1.7 2	10.2 8.9-11.5 2	3.5 2.7-4.2 3

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
					6.5	3.7	7.3	1.6	4.5	8.8
4.0	14.2	4.2	6.0	7.8	5.8	3.2	6.2	3.5	4.0	8.9
4.5	15.1	8.9	5.0	6.0	5.2	1.5	4.9	3.3	4.2	8.0
4.5	15.8	9.0	5.5	5.4	4.8	1.0	4.5	3.5	4.2	8.0
4.1	20.2	2.8		6.7	4.9	2.8	5.3	4.2	4.8	7.6
3.9	8.6	4.6	6.2	8.4	5.1	2.1		3.0	3.8	
5.8	12.3	6.8	3.1	9.2	7.8	3.3	5.9	4.3	6.1	10.4
3.9 3.8-4.2 3	14.3 12.3-16.6 3	4.8 3.7-5.8 2	6.1 5.9-6.4 3	6.0 5.8-6.3 3	5.3 5.0-5.9 3	2.9 2.1-3.4 4	4.5 4.2-4.7 4	3.2 2.5-3.9 4	4.3 3.6-5.2 4	7.3 6.9-7.6 4
6.2 6.1-6.2 2	11.8 11.7-12.0 2	6.4 6.1-6.6 2	3.0 2.7-3.4 2	8.2 8.2-8.3 2	6.3 6.3-6.3 2	2.8 2.8-2.9 2	4.8 4.8-4.9 2	4.4 4.1-4.6 2	5.6 5.5-5.7 2	9.6 9.6-9.7 2
4.0 3.9-4.2 2	14.6 12.3-16.9 2	3.6 3.6-3.7 2	5.6 5.3-5.9 2	6.2 5.7-6.6 2	5.3 4.9-5.7 3	2.9 2.6-3.2 3	4.6 4.2-5.1 3	3.1 2.8-3.3 2	4.1 3.8-4.3 3	7.7 7.2-8.6 3
3.9	13.5	3.5	4.9	5.9	5.3	2.7	4.4	2.9	4.0	7.9
4.5 4.3-4.7 2	14.4 13.9-14.6 2	4.0 3.9-4.2 2	4.1 3.7-4.5 2	7.0 6.8-7.2 2	8.0 7.9-8.1 2	3.6 3.5-3.7 2	8.6 8.5-8.7 2	4.0 3.9-4.0 2	4.7 4.4-5.0 2	9.0 8.9-9.2 2
4.2 3.8-4.6 2	14.9 14.9-14.9 2	3.6 3.5-3.8 2	4.3 4.3-4.3 2	6.2 6.1-6.2 2	5.8 5.8-5.9 2	2.6 2.6-2.7 2	5.0 5.0-5.1 2	4.2 4.2-4.3 2	4.5 4.5-4.5 2	9.0 8.8-9.1 2
3.2 3.1-3.2 2	12.7 10.0-16.8 3	3.6 2.5-5.7 3	3.4 2.3-5.7 3	3.6 3.1-4.2 2	8.9 7.4-9.8 3	2.7 2.4-3.2 3	4.1 3.7-4.6 3	3.8	3.1 2.3-4.1 3	5.5 4.5-6.3 3
3.4	12.2	3.4	4.5	5.9	5.1	2.6	4.6	3.7	3.5	8.2
3.3	12.4	2.9	4.3	5.3	5.0	2.2	4.3	2.8	3.3	7.0
4.0 3.5-4.5 2	14.0 13.2-14.7 2	3.1 2.5-3.4 3	3.4 2.6-4.1 3	4.2 2.8-5.3 3	7.2 4.7-9.4 3	2.6 2.5-2.8 3	4.0 3.5-4.4 3	4.2 3.2-5.3 2	3.1 2.3-3.5 3	6.2 4.5-7.3 3

Table 4.-- Amino Acid composition of finfishes, whales, and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
	Cooked Broiled & Dried	8.5	3.3			1.7		2.7
Tuna Scombridae	Muscle Raw	8.0 6.9-8.9 6	6.8 4.8-8.5 6		5.1 4.6-5.4 6	1.0 1.0-1.0 2	8.5 7.7-9.6 5	4.2 3.6-4.6 6
	Canned In Oil	8.3 8.2-8.4 3	5.7 5.6-5.8 3		5.3 5.2-5.4 3	0.9 0.8-0.9 3		4.6 4.3-4.7 3
	Unspecified	8.7 8.1-9.9 6	5.5 2.6-7.6 5	0.9	5.4 5.2-5.7 5	1.0 0.8-1.1 5	9.1 8.6-9.9 3	4.3 4.1-4.5 5
	Offal Fishmeal	4.8 3.9-5.7 2	2.1 1.8-2.4 2	0.4	5.0 3.4-6.7 2	0.5 0.5-0.6 2	5.0	2.3
Tunny Scombridae	Muscle Raw	8.8 7.4-10.1 2	8.8	0.9	5.6	1.3 1.2-1.6 3	9.3	5.0
Turbot, Arrowtooth Atheresthes stomias	Muscle Raw	8.7 8.0-9.2 3	1.9 1.6-2.0 3		5.4 4.2-6.0 3		9.2 7.9-10.0 3	3.9 3.3-4.3 3
Turbot Pleuronectidae	Muscle Raw	9.1	2.6		8.7	0.6	5.8	2.0
Whale Balaenoptera physiculus	Whole Fishmeal	8.8	2.2		8.5		10.6	4.4
Whale, Fin Balaenoptera phepaleus	Muscle Raw	6.4 6.0-7.0 3	3.4 2.1-4.0 3	0.7 0.5-0.8 3	4.6 4.3-4.9 3	0.9 0.8-1.0 3	8.5 8.1-8.9 3	4.1 4.0-4.3 3
	Salted	5.7	2.2	0.8	5.3		8.6	4.3
Whale, Sei Balaenoptera borealis	Muscle Raw	8.6 8.2-9.1 2	3.4 2.5-4.2 2	1.6 1.2-1.9 2	5.4 4.6-6.1 2	1.2 1.0-1.4 2	8.2 7.7-8.8 2	4.4 4.2-4.5 2
Whale Unspecified	Muscle Raw	9.2	4.1	1.2	5.1	1.4	7.7	4.2
	Whole Fishmeal	6.4 6.3-6.6 2	2.3 2.0-2.6 3	0.7	5.0 4.3-5.7 3	1.2 0.9-1.6 2		4.4 3.1-5.6 2
Whitefish, Vendace Coregonus (Leucichthys) albula	Muscle Raw	6.7	1.8	0.7	5.0	1.1		4.6
Whitefish Salmonidae	Whole Fishmeal	7.0 6.8-7.1 2	2.0 1.8-2.4 2	1.2	6.6 6.5-6.8 3	1.0	9.5	4.1 4.1-4.1 2
	Viscera Fishmeal	6.8	1.8		5.0		9.6	5.1
Whiting, Blue Micromesisteus poutassou	Muscle Raw	9.3	2.7		5.6		7.2	3.2
Wolffish, Atlantic Anarhichas lupus	Muscle Raw	8.9	2.1	1.1	5.8	0.9	10.4	5.0

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ FPC abbreviation for fish protein concentrate.

5/ Data are questionable, out of line.

6/ Method of processing was not clearly described or the fish was identified only by common name.

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
		2.5	2.6	2.8	9.4	2.5	3.5		2.3	4.4
3.4 3.2-3.6 4	12.5 10.9-14.3 5	3.1 3.0-3.2 4	4.1 3.8-4.6 5	5.1 4.7-5.7 4	4.8 2.3-3.5 6	2.7 2.3-3.5 7	4.2 3.3-5.1 6	2.9 2.7-3.0 4	3.4 2.8-4.1 6	6.9 6.1-7.9 6
					5.1 5.0-5.2 3	2.8 2.8-2.8 3	4.6 4.4-4.8 3		3.5 3.4-3.7 3	7.1 6.9-7.3 3
3.6	13.4 12.9-14.4 3	3.6	4.6 4.6-4.6 2	5.9	5.4 5.1-5.6 5	2.9 2.8-3.3 6	4.8 4.6-5.0 5	3.4	3.7 3.5-3.9 5	7.4 7.0-8.2 5
2.2	6.4	2.9	4.3	3.6	2.8	1.7 1.5-1.7 2	2.4	1.8	2.2	3.8
3.1	15.3	3.7	4.9	5.9	6.2	3.4	5.5	3.9	3.9	8.5
3.9 3.1-4.3 3	15.8 14.6-16.6 3	3.1 2.8-3.3 3	4.2 3.8-4.4 3	5.4 5.0-5.7 3	4.5 4.2-4.7 3	3.2 2.7-3.9 3	4.1 3.9-4.3 3	3.1 2.6-3.4 3	3.4 3.1-3.7 3	7.7 7.1-8.1 3
2.4	6.0	4.2	4.3		6.3	1.9	2.6	1.2	1.7	3.6
4.2	16.1	3.9	4.7	5.5	4.6	3.2	5.0	3.3	4.0	8.5
4.4 4.1-4.6 3	13.2 13.0-13.4 3	4.5 3.4-6.6 3	5.4 3.6-8.6 3	5.2 4.9-5.6 3	5.0 5.4-5.7 3	2.3 2.1-2.3 3	4.5 4.1-4.8 3	3.0 2.7-3.1 3	3.8 3.7-3.8 3	7.2 6.9-7.5 3
5.0	13.7	6.2	9.0	5.0	5.3	2.2	4.1	3.0	3.7	6.9
4.2 3.8-4.6 2	13.0 10.9-15.2 2	4.1 4.0-4.2 2	4.2 4.0-4.3 2	5.0 4.2-5.9 2	4.8 4.7-5.0 2	2.2 1.9-2.4 2	5.3 4.8-5.8 2	3.2 3.2-3.3 2	4.6 4.2-5.0 2	6.8 4.6-9.0 2
3.8	15.3	5.8	4.0	5.9	5.0	2.2 1.9-2.6 2	4.8	3.8	4.2	8.9
					4.5 2.4-5.7 3	2.0 1.4-2.8 3	4.7 4.3-5.2 3	2.0	3.8 3.8-3.9 2	7.7 6.5-8.6 3
					5.4	2.9	4.7	1.6	3.6	6.5
5.2	13.7	5.0		7.7	4.7 4.5-5.2 3	2.6 2.3-3.0 3	4.2 4.1-4.2 3	3.0 2.7-3.4 2	3.4 3.3-3.4 2	6.8 6.6-7.2 3
4.6	14.3	5.1	7.4	7.0	5.5	2.2	4.7	3.2	4.0	7.9
3.2	13.1	2.5	3.5	5.0	4.4	3.3	4.2	3.2	3.8	7.9
5.3	14.6	3.7	5.0	7.8	5.8	2.9	6.1	3.1	4.0	7.8

Table 5.--Amino Acid composition of crustaceans and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Crab, Blue Callinectes sapidus	Muscle Raw	7.3 [1] 6.4-7.6 [2] 5 [3]	1.8 [1] 1.5-1.9 [2] 5 [3]	1.5 [1] 1.5-1.5 [2] 2 [3]	8.6 [1] 7.6-10.0 [2] 5 [3]	1.3 [1] 1.1-1.5 [2] 3 [3]	8.8 [1] 8.2-10.2 [2] 4 [3]	3.7 [1] 3.6-3.8 [2] 4 [3]
	Offal Raw	4.8	2.3	0.6	5.9	1.2	7.6	3.3
Crab, Blue, Japan Portunus trituberculatus	Muscle Raw	8.9	2.4	1.6	6.3	1.6	12.0	5.2
Crab, Dungeness Cancer magister	Muscle Raw	8.5 6.3-9.7 3	2.2 1.6-2.6 3	0.6 0.1-1.1 2	11.0 7.3-13.5 3	1.8 1.6-1.9 2	7.7 7.5-8.0 3	3.6 3.5-3.6 3
	Cooked Steamed	6.3	1.6		7.3		8.0	3.5
Crab, King Paralithodes camtschatica	Muscle Raw	7.5	2.2	1.1	9.9	1.0	9.3	4.0
	Offal Meal	4.2	2.5	0.7	6.0	1.2	9.4	4.1
Crab, Red Pleuroncodes planipes	Muscle Raw	6.6	2.6	0.9	7.6	1.6	9.2	3.9
Crab, Red Podaphehalmus vigil	Muscle Raw	9.4	2.4	0.7	8.3		11.5	5.1
	Cooked Steamed	9.1 9.0-9.2 3	2.3 2.1-2.4 3		7.3 6.6-8.2 3		11.1 10.6-11.6 3	4.7 4.6-4.8 3
Crab, Snow Chionoectes bairdi	Muscle Canned	8.5	2.2	1.3	9.8	1.1	10.3	4.6
	Cooked Steamed	7.8	1.9		7.9		9.4	4.0
Crab, Tanner Chionoectes tanneri	Muscle Cooked Unspecified [4]	7.2	1.7		11.2		11.6	3.9
Crab Unspecified	Muscle Raw	6.9 4.8-8.9 5	1.9 1.5-2.4 5	1.4 1.1-1.6 2	6.7 5.1-9.9 4	1.2 1.0-1.6 4	10.0 8.9-12.0 3	4.1 3.3-5.2 4
	Meal	5.6 4.8-6.4 2	1.7 1.5-1.9 2		6.4 5.1-7.6 2	1.1 1.0-1.2 2		3.3
Crayfish Astacus leptodactylus	Muscle Raw	5.6 5.6-5.7 2	3.2 3.0-3.5 2	2.0 2.0-2.1 2	3.8 3.5-4.1 2		8.9 8.1-9.7 2	5.8 5.7-6.0 2
Crayfish Orconectes limosus	Muscle Raw	7.0 6.9-7.0 2	5.4 5.2-5.6 2	2.4 2.3-2.4 2	5.9 5.7-6.1 2		8.0 7.8-8.2 2	4.6 4.3-4.8 2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
% of total protein										
3.4 [1] 3.2-3.5 [2] 4 [3]	14.5 [1] 13.4-15.7 [2] 4 [3]	4.7 [1] 4.3-5.1 [2] 4 [3]	7.6 [1] 6.2-8.4 [2] 4 [3]	5.8 [1] 5.1-6.7 [2] 4 [3]	4.3 [1] 3.8-4.6 [2] 4 [3]	2.4 [1] 2.0-2.7 [2] 4 [3]	4.1 [1] 3.6-4.4 [2] 4 [3]	3.3 [1] 2.8-3.5 [2] 4 [3]	3.5 [1] 3.2-3.7 [2] 4 [3]	7.0 [1] 6.6-7.7 [2] 4 [3]
3.1	10.2	4.3	6.2	4.9	4.5	1.8	3.5	3.4	3.8	5.2
4.9	16.2	4.5	4.7	5.7	5.0	3.0	4.6	4.7	4.8	9.0
3.3 3.2-3.5 3	11.6 11.1-12.3 3	3.1 3.1-3.1 3	5.5 5.0-5.8 3	5.3 5.2-5.4 3	4.8 3.5-5.8 3	2.5 2.1-2.8 3	3.5 3.2-3.8 3	2.9 2.6-3.2 3	3.2 3.0-3.4 3	5.9 5.6-6.0 3
3.5	12.3	3.2	5.0	4.3	3.6	2.1	3.4	3.1	3.1	6.0
3.8	13.1	4.2	6.9	5.6	4.3	2.2	4.2	3.5	3.8	6.9
4.2	11.6	4.8	6.5	4.8	5.2	1.8	4.0	4.1	4.1	5.9
4.0	12.3	4.2	6.0	5.8	7.9	2.1	3.6	9.1	5.0	6.0
4.7	17.8	4.2	5.1	6.0	5.0	3.2	5.0	4.5	4.5	8.9
4.3 4.2-4.5 3	16.7 16.2-17.1 3	4.0 3.8-4.3 3	4.4 4.0-4.7 3	6.1 5.8-6.3 3	4.8 4.7-4.9 3	2.8 2.5-3.1 3	4.9 4.7-5.0 3	4.3 4.1-4.4 3	4.4 4.3-4.4 3	8.6 8.4-8.7 3
4.2	15.9	3.9	5.7	5.5	4.6	3.2	4.8	3.9	4.4	8.2
3.9	14.4	3.4	5.7	5.0	4.1	2.6	4.0	3.5	3.8	7.2
3.8	13.8	4.0	7.0	5.3	4.1	2.3	4.0	3.1	3.5	6.9
4.2 3.8-4.9 3	14.3 13.2-16.2 3	4.0 3.4-4.5 3	5.6 4.7-6.8 3	5.4 4.9-5.7 3	4.6 3.9-5.2 4 5.2	2.2 1.6-3.0 4 1.6	4.0 3.6-4.6 4 3.6	3.8 2.9-4.7 4 4.5	3.8 3.1-4.8 4 3.4	6.7 4.6-9.0 4 4.6
7.3 7.2-7.4 2	8.2 6.6-9.8 2	5.2 5.0-5.5 2	5.0 5.0-5.1 2	8.0 7.9-8.1 2	3.8 3.7-3.8 2	6.8 [5] 6.4-7.2 2		5.3 5.0-5.6 2	5.5 5.4-5.6 2	
4.2 4.2-4.3 2	15.5 15.0-16.0 2	3.0 2.8-3.2 2	3.2 3.1-3.2 2	6.7 6.6-6.8 2	3.2 2.9-3.4 2	1.8 1.8-1.8 2		6.4 6.1-6.6 2	6.6 6.6-6.7 2	

Table 5.--Amino Acid composition of crustaceans and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Lobster Panulirus japonicus	Muscle Raw	9.5	2.2	1.3	7.4	1.0	12.3	4.4
	Roe Raw	5.7	3.8	1.5	6.9	1.3	12.1	5.9
Lobster Unspecified	Muscle Raw	10.6 6.0-17.6 4	1.9 1.2-2.2 4	1.2 0.9-1.5 3	7.2 6.7-7.7 4	0.6 0.2-0.9 3	10.3 8.4-12.3 3	4.3 3.6-5.3 4
Shrimp Artemesia longinaris	Muscle Dried	6.3	3.1	2.8	5.0	0.7	14.0	4.3
Shrimp Sergestes articus	Whole Raw	7.4	1.8	1.2	7.9	0.9	11.1	4.5
Shrimp, Brine Artemia salina	Whole Raw	7.6	1.8	2.2	6.5	1.0	9.2	4.6
Shrimp, Brown Penaeus aztecus	Muscle Raw	7.1	1.9	1.2	9.5	1.4	9.4	3.6
Shrimp, Fresh Water Caridina nilotica	Whole Raw	6.8	2.3	1.2	7.3	1.2	11.4	4.6
Shrimp, Indian Prawn Penaeus styliferus	Muscle Raw	8.0	1.5	0.7	5.9	1.2		3.7
Shrimp, Opossum, Kuruma Penaeus japonicus	Muscle Raw	8.6 7.8-9.4 2	2.0 1.9-2.2 2	1.2 1.1-1.3 2	7.4 5.9-9.0 2	1.3 1.0-1.6 2	12.7 11.7-13.8 2	4.7 4.1-4.8 2
Shrimp, Pink, Maine Pandalus borealis	Muscle Raw	8.9	1.9		4.8		8.5	3.0
Shrimp, White Penaeus indicus	Muscle Raw	5.4	1.7	0.7	5.4	0.8	9.7	4.2
Shrimp, White Penaeus setiferus	Muscle Raw	7.8 7.6-8.0 2	2.6 1.4-3.8 2	1.8	8.0 5.7-10.2 2	1.2	8.3 7.0-9.6 2	3.3
Shrimp Unspecified	Muscle Raw	9.6 6.6-19.8 17	2.0 1.6-3.8 17	1.5 1.1-2.1 6	8.4 5.9-12.9 15	1.0 0.4-1.5 11	9.3 7.0-10.9 10	3.8 3.2-4.7 14
	Canned	15.1 11.1-18.7 5	1.6 1.3-2.4 5	1.6	9.1 8.5-9.5 4	1.6		3.6 2.8-4.8 5
	Cooked Boiled & Dried Unspecified	9.2 8.8 8.3-9.3 2	2.0 2.1 1.8-2.4 2	1.2	9.1 8.1 6.6-9.6 2	0.9	10.0 13.2	3.8 3.8 3.7-4.0 2
	Dried	9.1 8.1-10.1 2	2.2 2.2-2.3 2	1.2 1.2-1.3 2	7.2	1.6 1.4-1.8 2		4.4
	Meal	5.2 4.8-5.6 2	1.8 1.7-2.0 2		5.6 5.3-6.0 2	0.9	8.5	3.0 2.4-3.5 2

1/ Average of the means obtained from the literature cited.

2/ Range of means found in literature cited.

3/ Number of mean values, which were reported in the literature cited,

4/ Method of processing was not clearly described or the fish was identified only by common name.

5/ Data are questionable, out of line.

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
4.9	17.0	3.4	4.6	5.9	4.5	3.2	4.1	8.6	4.1	4.7
4.7	12.5	6.7	5.9	4.4	5.8	1.9	4.2	4.5	5.0	7.3
3.9 3.4-4.9 3	14.3 11.4-16.9 3	4.1 3.4-4.8 3	5.0 4.6-5.3 3	5.3 4.8-5.9 3	4.0 2.8-4.6 4	2.8 2.0-3.3 5	4.0 3.8-4.3 4	3.0 0.8-4.1 5	3.6 2.7-4.7 4	8.4 6.2-11.3 4
3.6	15.5	4.0	7.6	5.0	4.0	3.0	3.2	3.7	3.8	6.6
4.1	14.8	4.3	7.8	6.8	4.7	3.0	4.2	3.5	4.6	7.3
4.8	14.2	5.2	5.3	6.9	5.4	2.7	5.3	4.5	4.7	8.0
3.7	12.9	4.5	7.2	6.0	4.4	2.3	4.3	2.4	3.3	7.7
4.4	13.4	4.6	5.2	6.5	5.4	2.9	4.9	4.1	4.4	6.9
					6.2	3.3	8.8	3.9	3.8	9.2
4.5 4.2-4.8 2	16.1 14.7-17.5 2	3.6 3.5-3.7 2	4.9 4.6-5.3 2	5.8 5.6-6.0 2	4.7 4.4-5.1 2	3.1 3.0-3.2 2	4.4 3.8-5.1 2	6.4 4.2-8.6 2	5.3 4.1-6.6 2	6.1 4.4-7.8 2
2.7	14.7	4.4	9.4	8.2	4.6	2.8	4.4	2.8	3.7	7.4
4.2	13.4	5.7	6.4	6.5	5.2	2.9 2.3-3.5 2	4.1	3.6	4.3	6.4
3.4	15.4 15.0-15.8 2	4.4	7.5	5.9	4.3	2.7	3.8	4.0 3.0-4.9 2	3.6	7.5
3.3 2.7-3.9 8	15.0 14.0-16.2 10	3.8 2.7-4.4 8	6.2 3.6-8.8 9	5.9 4.9-6.5 8	4.4 3.4-6.2 14 4.8 4.2-5.7 5	3.1 2.3-4.6 15 3.9 3.5-4.4 5	4.5 3.5-5.6 13 5.2 4.6-6.0 5	3.1 1.0-4.9 13 3.6	4.1 3.4-5.1 16 4.5 4.1-5.0 5	8.9 6.7-14.3 13 10.9 9.8-11.6 5
4.8 3.8 3.7-4.0 2	14.8 16.5	3.2 3.5	7.3 6.0	5.8 5.4	4.8 4.0	2.9 3.0 2.8-3.2 2	5.6 4.1	3.6 3.8 2.9-4.7 2	4.2 4.0 3.1-4.8 2	7.6 7.7
		3.6		4.6	5.1	3.0	5.6	3.0 2.4-3.5 2	5.2 4.2-6.2 2	
3.9	11.7	4.8	8.2	5.4	4.4 4.1-4.7 2	2.6 1.7-3.5 2	3.6 3.6-3.7 2	5.3	4.6 3.7-5.5 2	5.5 5.4-5.6 2

Table 6.--Amino Acid composition of mollusks and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Abalone Haliotis gigantea	Muscle Raw	5.5 [1] 4.4-6.8 [2] 3 [3]	1.5 [1] 1.4-1.5 [2] 2 [3]	1.3 [1] 1.3-1.3 [2] 2 [3]	8.3 [1] 8.1-8.6 [2] 2 [3]	0.7 [1] 0.7-0.7 [2] 2 [3]	10.4 [1] 9.7-11.1 [2] 2 [3]	3.9 [1] 2.8-4.7 [2] 3 [3]
Abalone Haliotis japonica	Muscle Raw	6.4	1.5	1.2	9.5	0.9	10.2	5.1
Abalone Haliotidae	Muscle Raw	5.0 3.5-6.5 2	1.4 1.3-1.6 2	0.8	6.5 5.4-7.5 2	0.8	8.5 8.4-8.6 2	3.8 3.8-3.8 2
Clam, Arkshell Anadara broughtoni	Muscle Raw	9.1	2.3	1.5	7.0	1.2	11.2	4.7
Clam, Fresh Water, Corbshell Corbicula japonica	Muscle Raw	8.5	2.5	1.6	6.5	1.8	11.9	5.5
Clam, Fresh Water, Corbshell Corbicula leana	Muscle Raw	7.4 6.2-8.6 3	1.7	2.5 2.1-2.9 2	6.2	1.0 1.0-1.0 2		4.7 4.4-5.0 3
Clam, Fresh Water Corbiculadidae	Muscle Raw	7.8 7.4-8.2 2	2.5	1.6	6.5	1.8	11.6	5.3
Clam, Mactra, Gaper Tresus keenae	Muscle Raw	8.4	1.9	1.3	8.3	1.3	11.5	4.7
Clam, Mactra Mactra sulcataria	Muscle Raw	8.1 7.4-8.7 4	1.5 1.4-1.6 2	1.1 0.6-1.4 4	8.3 7.9-8.6 2	0.8 0.8-0.9 4		4.6 3.6-5.1 4
Clam, Mactra, Surf Spisula solidissima	Muscle Raw	8.2	1.7		7.6		12.7	4.3
Clam, Mactra Mactridae	Muscle Raw	7.2 6.5-8.4 4	1.4 1.0-1.9 4	1.3 1.3-1.3 2	9.1 6.5-10.4 4	1.1 0.9-1.3 2	10.2 9.7-11.5 4	4.0 3.7-4.7 4
Clam, Razor Solenidae	Muscle Raw	7.2	1.7		7.4		9.6	4.0
Clam, Softshell Mya arenaria	Muscle Raw	7.3 6.5-8.6 10	1.7 1.3-2.0 10	1.0 0.9-1.1 5	6.7 5.4-7.3 10	1.2 1.1-1.2 9	8.5 7.0-9.7 10	4.1 3.5-4.7 10
	Canned	8.7	1.8	1.0	7.7	1.1	10.0	4.4
	Cooked Steamed	7.3	1.9	1.0	7.5	1.1	9.6	4.4
	Irradiated	6.5	1.4	1.0	6.5	1.1	7.4	3.9
Clam, Venus, Butter Saxidomus giganteus	Muscle Raw	5.2	1.3		6.1		8.4	3.5

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
5.1[1]/ 4.9-5.2[2]/ 2[3]/	14.9[1]/ 14.0-15.8[2]/ 2[3]/	4.6[1]/ 4.6-4.7[2]/ 2[3]/	6.8 [1]/ 6.2-7.4 [2]/ 2 [3]/	6.4 [1]/ 6.1-6.6[2]/ 2[3]/	3.6[1]/ 2.9-4.2[2]/ 3[3]/	1.9[1]/ 0.9-2.5 [2]/ 3[3]/	3.4[1]/ 2.6-4.0[2]/ 3[3]/	3.7[1]/ 3.7-3.7[2]/ 2 [3]/	3.0 [1]/ 2.0-3.7 [2]/ 3[3]/	6.3 [1]/ 3.6-8.2[2]/ 3[3]/
5.1	15.2	5.2	7.8	6.6	4.4	2.5	4.2	3.5	3.7	8.1
4.3 3.9-4.6 2	12.5 12.1-12.8 2	3.9 3.0-4.8 2	7.6 6.5-8.6 2	5.9 5.6-6.1 2	3.5 3.4-3.7 2	2.1 1.9-2.2 2	3.2 3.0-3.5 2	2.7 2.6-2.8 2	2.8 2.8-2.9 2	6.1 5.6-6.5 2
5.2	15.8	3.8	5.8	6.3	5.4	2.7	5.1	3.8	4.6	9.1
5.1	13.5	4.7	4.9	5.8	6.7	2.8	5.2	4.6	5.1	8.1
					4.9 4.4-5.7 3	2.4 2.2-2.5 3	6.7 4.5-8.0 3	3.0 2.7-3.3 2	4.0 3.6-4.7 3	7.8 5.5-9.1 3
5.0	13.2	4.6	4.8	5.7	6.5	2.8	5.0	4.5	4.5	8.4
5.2	15.8	3.5	4.7	6.8	5.0	3.1	5.2	4.2	4.2	9.3
					4.4 3.3-5.0 4	2.8 2.4-2.9 4	7.6 5.8-8.9 4	3.5 3.0-4.0 4	4.1 3.4-4.7 4	10.0 7.5-11.7 4
4.3	15.9	5.6	5.9	6.5	3.7	2.4	4.1	3.2	3.1	7.7
4.4 4.0-5.2 4	14.5 13.8-15.8 4	3.4 2.9-4.0 4	5.5 5.2-6.3 4	6.2 6.1-6.8 4	3.9 3.4-5.0 4	2.5 2.3-3.1 4	4.2 3.5-5.2 4	3.6 3.3-4.2 4	3.6 3.0-4.3 4	6.4 5.3-6.9 4
4.6	15.0	3.4	7.0	6.4	3.8	2.3	3.6	3.2	3.2	6.8
4.2 3.5-4.6 10 4.5	12.4 10.9-13.5 10 11.7	3.3 2.9-3.6 10 3.2	6.7 4.4-7.6 10 4.3	7.1 5.9-8.1 10 5.6	4.2 3.7-4.5 10 4.6	2.3 2.1-2.4 10 2.6	4.2 3.7-5.3 10 4.8	4.0 2.5-6.5 10 3.1	3.1 2.7-3.6 10 3.5	5.5 3.3-7.0 10 7.0
4.5 3.7	13.3 11.3	3.5 3.0	7.3 7.1	6.5 8.0	4.3 3.7	2.4 2.1	4.1 3.8	3.3 2.8	3.4 3.0	6.7 5.9
3.7	12.2	2.7	6.1	4.7	3.3	1.7	3.1	2.8	2.4	5.4

Table 6.--Amino Acid composition of mollusks and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Clam, Venus, Hard *Venus lusoria*	Muscle Raw	7.7 6.8-8.1 5	1.8 1.4-2.4 3	1.4 1.3-1.7 4	7.6 7.4-7.8 3	1.2 0.8-1.6 4	11.4 11.2-11.5 2	4.5 3.9-5.0 5
Clam, Venus, Japanese Littleneck *Tapes (Venerupis) decussatus*	Muscle Raw	7.2 5.3-8.2 4	1.4 1.3-1.6 3	2.1 1.9-2.2 3	6.5 4.0-8.2 3	0.9 0.8-1.1 4	7.2	3.7 3.2-4.4 4
Clam, Venus, Northern Quahog, Cherrystone *Mercenaria mercenaria*	Muscle Raw	5.2 5.1-5.4 2	1.4 1.4-1.4 2		5.8 5.3-6.4 2	1.2	10.2	4.1
Clam, Venus, Shortneck *Tapes japonica*	Muscle Raw	8.2 7.7-8.6 3	2.2 2.0-2.4 3	1.7 1.6-1.8 3	7.0 6.9-7.3 3	1.3 1.3-1.3 3	11.1 10.4-11.8 3	4.8 4.5-5.0 3
Clam, Venus Veneridae	Muscle Raw	5.2 4.9-5.4 2	1.4 1.4-1.5 2		6.3 6.1-6.5 2		9.6 9.5-9.6 2	4.2 4.0-4.3 2
Clam Unspecified 4/	Muscle Raw	6.5 5.4-7.6 3	1.9 1.5-2.3 2	1.4	6.4 5.3-7.4 2	1.2 1.2-1.2 2	10.5	4.7
Cockle, Atlantic *Cardium edule*	Muscle Raw	11.2	1.8		5.6	1.2		4.5
Cockle Cardiidae	Muscle Raw	7.9	2.1	1.5	7.5	1.6	11.1	4.8
Mussel *Hyriopsis velthuizeni*	Muscle Raw	6.8	1.9		8.5	0.8		4.4
Mussel Mytilidae	Muscle Cooked Boiled & Dried	7.7	1.8	1.5	7.3	1.0	9.1	4.3
Octopus *Polypus marmoratus*	Muscle Cooked Broiled	8.5	3.5			1.1		3.1
Octopus, Devilfish *Octopus vulgaris*	Muscle Raw	7.4	2.4	1.2 1.0-1.5 2	8.2	1.2	9.9	3.8
Octopus Octopodidae	Muscle Raw	8.7 7.4-10.2 3	2.5 1.6-3.5 3	1.0	7.4 6.8-8.1 2	1.0 0.8-1.2 3	9.9	4.2 3.1-5.5 3
Oyster, Eastern *Ostrea virginica*	Whole Raw	5.8 5.2-6.4 2	1.9 1.8-2.0 2		6.0 5.7-6.3 2	1.7	9.9	4.2

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
					% of total protein					
5.0 4.9-5.1 2	16.2 15.3-17.1 2	3.8 3.4-4.1 2	4.7 4.3-5.1 2	6.2 6.2-6.3 2	4.7 4.2-5.4 5	2.3 1.8-2.8 5	5.0 4.5-5.7 5	4.4 2.9-5.5 4	3.5 2.8-4.6 5	8.1 6.0-9.6 5
3.8	9.7	2.8	5.7	3.7	4.0 3.2-4.9 4	2.2 1.8-2.5 4	6.0 5.4-6.3 4	4.6 2.6-6.6 3	3.2 2.9-3.4 4	7.8 6.4-8.8 4
3.6	13.3	3.8	5.3	6.6	3.6	1.9	3.5	2.9	2.4	6.2
5.1 4.7-5.4 3	14.2 13.6-14.9 3	4.2 4.0-4.6 3	5.3 5.2-5.4 3	5.9 5.7-6.1 3	5.4 5.4-5.5 3	2.9 2.8-3.1 3	5.0 5.0-5.1 3	4.2 4.1-4.2 3	4.4 4.2-4.6 3	8.4 8.1-8.8 3
4.0 3.7-4.3 2	15.4 14.9-15.8 2	3.4	6.0 5.6-6.5 2	5.8 5.6-6.0 2	4.0 3.8-4.1 2	1.7 1.6-1.8 2	3.6 3.4-3.8 2	2.7 2.1-3.3 2	2.4 2.0-2.9 2	5.9 5.5-6.3 2
4.5	15.9	3.8	5.0	6.3	4.6	2.2 2.1-2.2 2	4.4	3.3	4.1	7.3
					4.5	2.2	4.5		4.4	9.0
4.7	15.8	3.8	4.9	6.3	4.8	2.5	4.7	4.5	4.2	8.6
4.5	18.4	3.4		5.3	5.5	3.0	6.4	4.2	4.9	8.3
5.2	11.6	3.5	6.0	5.1	5.1	2.3	5.2	3.7	3.9	6.2
	11.9	2.4	2.6	3.3	10.2	2.4	3.7	2.6		4.3
4.3	13.9	2.6	5.4	5.1	4.5	2.2 2.1-2.4 2	4.6	3.4	3.4	7.5
4.3	12.9 11.9-13.9 2	2.4 2.4-2.5 2	4.0 2.6-5.4 2	4.2 3.3-5.1 2	6.1 3.6-10.2 3	2.1 2.0-2.4 3	4.4 3.6-4.9 3	3.0	3.5 2.6-4.6 3	6.2 4.3-7.6 3
4.5	14.5	5.1	6.2	6.0	4.0	2.0	3.5	3.8	3.3	6.3

Table 6.--Amino Acid composition of mollusks and products.

Common and Scientific Name	Description	Lysine	Histidine	Cystine	Arginine	Tryptophan	Aspartic acid	Threonine
		% of total protein						
Oyster, Giant Pacific Ostrea gigas	Whole Raw	6.6 5.5-9.4 5	2.0 1.5-2.9 3	1.4 1.1-1.6 2	6.2 4.7-7.1 3	0.8 0.7-0.9 2	9.2 7.7-10.7 2	3.8 3.2-4.9 5
Oyster Ostreidae	Whole Raw	6.9 5.2-9.4 5	2.0 1.4-2.9 4	1.4	6.6 5.7-7.1 4	0.8	9.4 7.6-10.7 3	4.3 3.9-4.9 3
Squid Decapod mollusca	Muscle Raw	9.0	2.1	1.1	8.6	1.2	10.6	4.5
Squid Loligo ommastrephes	Muscle Raw	7.9	1.6		6.1	0.8	10.1	3.3
Squid, Japanese Ommastrephes sloani pacificus	Muscle Raw	11.4	2.7 2.3-3.1 2	3.9 5/	7.6 7.0-8.2 2	1.2	11.3 10.9-11.6 2	6.0 5.4-6.5 2
Squid, Long-finned Loligo pealei	Muscle Raw	7.2	1.5		5.7		10.7	3.5
Squid, Oval Sepioteuthis lessoniana	Roe Raw	9.3	2.6	1.3	6.0	1.6	11.1	6.4
Squid, Pacific Loligo opalescens	Muscle Raw	7.5	2.5		6.3		10.9	3.7
Squid Unspecified	Muscle Raw	8.3 6.1-12.1 8	1.9 1.3-3.8 7	1.1 1.1-1.1 2	6.8 4.7-10.9 7	1.3 1.0-1.8 4	8.5 7.6-10.6 5	4.3 3.0-6.6 7
	Dried	7.2	1.7	0.9	7.3	0.8	8.9	3.6
	Whole FPC	8.2	2.3	0.9	6.6	1.2	8.7	3.3
Topshell Trachidae	Muscle Raw	5.3	1.3	0.9	9.3	1.0	9.2	3.8
Turban Turbo cornutus	Muscle Raw	6.7 6.3-7.4 3	1.5 1.4-1.6 2	1.3 1.3-1.3 2	9.0 9.0-9.1 2	0.8 0.8-0.8 2	10.0 9.8-10.3 2	3.8 3.2-4.5 3
Whelk Buccinum verkruzeni	Muscle Raw	7.0	1.6	0.8	9.3	1.0	10.1	4.4
Whelk Neptunea poycostata	Muscle Raw	5.9	1.6	0.4	8.9	0.9	9.6	4.2
Whelk, Oregon Triton Fusitriton oregonesis	Muscle Raw	6.6	1.7		9.3	1.1	10.8	4.6

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

5/ Data are questionable out of line.

Serine	Glutamic acid	Proline	Glycine	Alanine	Valine	Methionine	Isoleucine	Tyrosine	Phenylalanine	Leucine
						% of total protein				
4.5 4.0-5.0 2	13.5 10.7-16.2 2	5.3	6.6 4.5-8.7 2	6.0 3.9-8.1 2	4.3 3.4-5.7 5	2.2 1.6-2.9 5	4.9 2.8-8.3 5	2.8 1.3-3.8 4	3.5 2.7-4.7 5	6.7 4.8-8.5 5
4.4 3.9-5.0 3	14.8 13.7-16.2 3	5.4 5.0-5.8 3	6.4 4.2-8.7 3	6.3 4.8-8.1 3	4.7 4.0-5.7 3	2.4 1.0-3.3 4	5.0 3.5-7.0 3	3.2 2.1-3.8 3	3.9 3.2-4.5 3	7.5 6.3-8.5 3
4.2	16.0	5.0	4.8	5.9	4.6	2.7	4.8	2.9	4.2	8.5
4.0	13.0	5.4	4.7	5.4	6.4	2.4	5.0	3.6	3.7	7.0
5.6	14.4 13.9-14.9 2	3.8	4.5	5.8 5.5-6.2 2	5.7 5.5-5.9 2	2.8 2.1-3.6 2	8.1	5.0 4.5-5.5 2	5.8 5.3-6.2 2	11.0 9.1-12.8 2
3.3	13.7	4.7	4.4	5.4	3.0	2.3	3.7	1.8	2.7	6.9
4.9	12.0	4.3	3.3	4.2	5.4	2.6	6.0	5.3	4.1	9.3
3.7	13.2	5.6	5.0	5.5	3.3	2.2	3.7	1.8	2.7	6.9
3.5 2.9-4.2 5 4.5	13.6 11.5-16.5 5 12.8	4.9 4.3-5.8 5 4.1	4.6 4.2-4.8 5 6.8	5.4 4.7-5.9 5 5.9	3.6 2.9-4.6 7 4.2	2.6 2.0-3.2 7 2.7	3.9 3.5-4.7 6 4.8	2.6 2.2-2.9 5 2.8	3.8 3.0-6.0 7 3.5	7.0 6.1-8.5 6 7.3
2.6	12.1	2.4	2.6	4.0	3.5	2.2	3.9	2.4	3.4	6.4
3.9	14.1	4.8	9.6	3.8	3.6	1.9	3.3	2.4	2.8	6.2
4.8 4.5-5.0 2	15.1 14.8-15.4 2	4.8 4.8-4.9 2	7.8 7.2-8.4 2	6.4 6.2-6.6 2	3.9 3.5-4.3 3	2.4 2.1-2.8 3	3.8 3.5-4.2 3	3.3	3.2 2.6-3.7 3	7.2 6.1-8.2 3
4.1	14.0	3.3	5.5	5.4	4.5		4.0	1.8	3.1	7.6
3.8	13.6	3.3	5.6	5.0	4.3	0.2 [5/]	3.6	1.8	4.3	7.1
4.4	14.3	4.1	6.6	5.0	1.2		4.1	2.1	3.3	7.5

Table 7.--Selected fatty acids in finfishes and products.

Fish Name	Description	% of total fat																					
		10:0	12:0	14:0	14:1	15:0	16:0	16:1	16:2	17:0	18:0	18:1	18:2	18:3	18:4	20:1	20:2	20:5	22:1	22:2	22:5	22:6	24:1
Anchoveta *Engraulis ringens*	Whole Raw		0.3	8.4	0.6	1.3	21.7	7.9		1.6	7.2	13.0	3.0				0.6	10.0		0.6	0.9	10.7	
Bass, Sea, Common *Niphon spinosus*	Muscle Raw			3.0			13.5	7.4			4.4	20.7				4.1			1.6			3.5	
Bream *Sparidae*	Muscle Raw			1.5		0.5	35.2	5.3			10.5	13.7	0.5	0.3				1.0	2.3		1.2	18.1	
	Cooked																						
	Boiled			0.9		0.4	27.2	3.8			8.8	13.4	0.7	0.3				1.0	3.7		2.9	24.1	
	Roasted			1.6		0.5	35.7	5.8			18.4	15.7	0.6	0.5					5.3		4.1	14.2	
Butterfish *Nomeus albula*	Muscle Raw			6.4			19.1	7.6			8.0	22.5				0.0			3.9			5.5	
Capelin *Mallotus villosus*	Whole Raw		0.1	7.1	0.1	0.7	9.1	12.5	0.7	0.2	0.9	11.8	0.9	0.4	1.1	20.4	0.2	6.7	2.5		0.5	3.2	0.7
Carp *Hypophthalmichthys nobilis*	Muscle Raw						17.0				6.0												
Carp, Grass *Ctenopharyngodon idellus*	Muscle Raw			2.0			15.8				2.2												
Carp, Silver *Hypophthalmichthys molitrix*	Muscle Raw			0.8			21.3				1.1												
Cod *Physiculus japonicus*	Muscle Raw			4.1			16.4	8.9			6.1	23.6				5.6			1.3			0.0	
Cutlassfish *Trichiurus lepturus*	Muscle Raw			3.4			19.3	5.7			5.5	35.2				4.3			1.9			2.2	
Dogfish *Etmopterus lucifer*	Muscle Raw			2.3			15.9	4.9			3.7	30.7				8.3			7.9			5.1	
Dory, Mirror *Zenopsis nebulosa*	Muscle Raw			4.2			16.6	5.4			4.9	17.8				4.9			5.0			6.3	
Eel, Snipe, Slender *Hemichthys scolopaceus*	Muscle Raw			2.1			12.8	5.2			4.4	28.4				9.0			4.5			4.5	
Flounder, Pelican *Chascanopsetta lugubris*	Muscle Raw			3.6			12.8	5.8			4.1	22.3				7.1			3.4			3.1	
Goldfish, Funa *Carassius auratus*	Eviscerated & Beheaded Raw			1.1	0.1		26.8	8.0			5.6	41.4	8.6			2.1	0.6	0.3				1.4	
Goosefish, Monkfish *Lophius piscatorius*	Muscle Raw						9.6				1.3												
Greeneye *Chlorophthalmus albatrossis*	Muscle Raw			4.2			15.5	5.1			3.6	27.8				6.0			7.2			5.1	

Table 7.--Selected fatty acids in finfishes and products.

Fish Name	Description	% of total fat																					
		10:0	12:0	14:0	14:1	15:0	16:0	16:1	16:2	17:0	18:0	18:1	18:2	18:3	18:4	20:1	20:2	20:5	22:1	22:2	22:5	22:6	24:1
Grenadier Hymenocephalus lethonemus	Muscle Raw			3.5			17.0	8.4			4.1	28.3				4.6			2.9			1.7	
Grenadier Ventrifossa garmani	Muscle Raw			3.5			9.6	4.8			6.3	12.2				4.2			2.2			1.5	
Grouper Serranidae	Muscle Raw			2.0		0.4	28.3	3.9			12.9	20.1	0.5	0.3					4.4		6.0	13.2	
	Cooked Boiled			1.8		0.5	21.4	4.7			9.7	20.7	0.4						5.7		7.1	15.4	
	Roasted			3.3		1.1	28.3	5.9			15.8	16.3	0.6						3.6		3.0	13.2	
Hake Gadidae	Muscle Raw			2.8		0.5	34.6	4.9			11.4	23.7	4.0	0.6					2.5		1.4	9.6	
	Cooked Boiled			2.1		0.4	34.6	4.7			11.8	18.8	0.5	0.6					3.9		6.1	11.0	
	Roasted			3.2		0.6	26.7	8.3			11.3	22.4	1.3	1.7					6.0		1.2	11.0	
Herring, Atlantic Clupea harengus	Muscle Raw												3.7										
Herring, Pacific Clupea pallasi	Whole Raw		0.2	2.4	0.4		11.2	4.2			4.6	5.8				1.3							
Herring Clupeidae	Muscle Raw			7.6			12.3				0.4												
Lanternfish Diaphus caeruleus	Muscle Raw			4.1			21.6	5.3			6.8	32.6				4.1			1.2			4.9	
Maasbanker, Mackerel, Jack Trachurus trachurus	Whole Raw		0.1	2.4			4.4																
Mackerel, Atlantic Scomber scombrus	Muscle Raw		0.1	5.5	0.0	0.5	17.3	5.6		0.3	3.3	14.2	1.6	0.9	1.6	8.8	0.4	6.5	12.8		1.7	12.9	1.5
	Dark meat		0.1	5.7	0.0	0.6	15.7	5.6		0.6	3.3	14.1	1.5	1.1	1.7	9.3	0.4	6.4	13.8		2.2	10.7	1.7
Mackerel, Spotted Spanish Scomberomorus guttatus	Muscle Raw		0.3	10.8	0.4	1.2	27.0	11.0			9.6	14.3	3.0	1.6	0.8	1.5	0.4	3.4	0.5		0.3	9.4	0.3
Menhaden Clupeidae	Whole Raw			6.6[1/] 6.0-[2/] 7.3 2 [3/]	0.0	0.3	13.0[1/] 12.8- 13.1[2/] 2 [3/]	11.2[1/] 10.4- 12.0[2/] 2 [3/]	0.0		1.6[1/] 0.6- 2.6[2/] 2 [3/]	3.6[1/] 2.9- 4.4[2/] 2 [3/]	21.8[1/] 15.7- 27.6[2/] 2 [3/]	3.2[1/] 1.6- 4.7[2/] 2 [3/]	3.0[1/] 0.9- 5.1[2/] 2 [3/]	2.9	3.2[1/] 1.3- 5.1[2/] 2 [3/]	0.2	13.7[1/] 13.0- 14.2[2/] 2 [3/]			2.1	10.6[1/] 8.5- 12.8[2/] 2 [3/]	
	Eviscerated & Beheaded Raw							4.9	1.0			14.5	1.4	0.6	3.2		0.6	12.5			2.0	8.9	
Mullet, Parsey Mugil parsia	Muscle Raw			6.9	4.6	1.1	28.3	10.6			8.5	8.7		1.6	2.0	1.5	1.0	3.0	0.3		1.0	9.5	1.5
Ratfish Chimaera phantasma	Muscle Raw			1.5			13.3	4.2			5.9	29.8				6.2			1.9			1.0	

Table 7.--Selected fatty acids in finfishes and products.

Fish Name	Description	% of total fat																				
		10:0	12:0	14:0	14:1	15:0	16:0	16:1	16:2	17:0	18:0	18:1	18:2	18:3	18:4	20:1	20:2	20:5	22:1	22:2	22:5	22:6	24:1
Salmon, Sockeye *Oncorhynchus nerka*	Offal Raw			1.5	0.2		13.6	4.2			5.4	4.9				2.0			1.8				
Sardine *Sardina (sardinops) ocellata*	Whole Raw		0.0	6.4			15.9				1.9												
Sardine, Indian *Sardinella longiceps*	Muscle Raw			8.1		0.3	27.0	6.8		1.0	3.8	15.4	4.3	0.8	1.7	2.3		10.6	2.9		0.8	8.8	0.8
Scad, Golden *Caranx kalla*	Muscle Raw		2.1	8.7	0.3	1.1	33.8	5.7			15.1	15.5	1.4	0.7	1.5	0.4		5.0			0.9	4.0	
Sculpin *Ereunias gralletor*	Muscle Raw			3.3			15.5	6.8			6.3	29.3				1.4			0.0			4.9	
Skate *Raja maculata*	Muscle Raw						14.0																
Smelt, Lake *Osmerus mordax*	Eviscerated & Beheaded Raw			3.0	0.2	1.4	17.8	10.2	0.5	0.8	2.6	21.7	0.8	0.3	0.9	1.3	0.2	13.3	0.0		0.6	18.1	0.0
Sole *Cynoglossus semi-fasciatus*	Muscle Raw			9.6	0.5	1.6	32.3	9.0			14.0	19.0	1.5	0.7	4.7			1.5			0.1	2.0	
Sole Soleidae/ Pleuronectidae	Muscle Raw			3.2		1.0	31.3	9.3			8.1	16.9	0.6						4.7		4.9	13.5	
	Cooked Boiled			3.2		0.8	28.8	11.0			7.2	19.5	0.8						5.2		4.8	11.1	
	Roasted			2.9		1.1	36.6	8.4			9.0	15.4	0.5						3.9		4.4	8.9	
Sprat *Sprattus sprattus*	Whole Raw		0.1	7.6	0.1	0.7	20.8	5.7	0.3	0.3	2.0	17.9	1.4	1.0	2.1	8.6	0.3	5.2	13.7		0.7	8.1	2.0
Trout, Rainbow *Salmo gairdneri*	Muscle Raw			2.6			20.6	9.3			5.5	19.2	20.6	3.6									
Tuna, Skipjack *Euthynnus pelamis*	Muscle Raw		0.1	2.0	0.9	1.4	30.5	2.5			16.6	24.0	0.6	0.2	0.7	0.9		10.2			1.0	3.2	

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

Table 8.--Selected fatty acids in crustaceans and products.

Fish Name	Description	% of total fat																					
		10:0	12:0	14:0	14:1	15:0	16:0	16:1	16:2	17:0	18:0	18:1	18:2	18:3	18:4	20:1	20:2	20:5	22:1	22:2	22:5	22:6	24:1
Crab, Blue *Callinectes sapidus*	Muscle Raw		1.7	1.2	0.6	1.1	13.2	5.1	0.8	1.5	14.6	3.0	0.7			1.3		9.8					
Crab, Dungeness *Cancer magister*	Muscle Raw		0.3	0.8	0.4	0.3	9.4	4.6	0.7	1.0	7.1	7.8	3.4	7.1	0.8		5.6		0.3			0.9	
Shrimp, Brine *Artemia salina*	Whole Raw			1.4	2.3	0.7	13.5	13.8		1.3	5.9	35.6	6.2			0.1		12.0					
Shrimp, Brown *Penaeus aztecus*	Muscle Raw			1.0	0.9	0.2	16.3	5.8		2.3	4.4	10.0	7.7	1.7			4.3		0.8		2.8		

Table 9.—Selected fatty acids in mollusks and products.

Fish Name	Description	% of total fat																				
		10:0	12:0	14:0	14:1	15:0	16:0	16:1	16:2	17:0	18:0	18:1	18:2	18:3	18:4	20:1	20:2	20:5	22:1	22:2	22:5	22:6	24:1
Abalone *Haliotis discus*	Muscle Raw			3.9		2.9	20.9	3.3			5.1	16.4	1.2					8.8			7.3		
Abalone *Haliotis japonica*	Muscle Raw			4.9		3.2	19.8	4.4			3.9	17.1	1.6		0.9			10.0			8.4		
Clam, Fresh Water, Corbshell *Corbicula japonica*	Whole Raw			4.7		3.1	20.3	10.7			5.1	8.3	1.9		3.4			8.6			3.9	10.3	
Clam, Mactra *Mactra sulcataria*	Muscle Raw			4.0		3.2	29.8	10.5			9.7	8.2			2.0			9.5				4.6	
Clam, Venus, Hard *Venus lusoria*	Whole Raw			2.1		2.3	18.2	4.9		4.5	4.9	6.7	1.0		4.4			10.0			3.2	16.5	
Clam, Venus, Shortneck *Tapes japonica*	Whole Raw			2.7		2.6	18.8	9.4			8.9	8.9			3.1			10.9				14.3	
Cuttlefish Sepiidae	Muscle Raw			3.6			13.6				4.8												
Mussel, Blue *Mytilus edulis*	Whole Raw			9.1	3.4		30.5	9.3			7.0	7.9	3.9	0.6	5.7	0.5		4.3			0.8	8.5	
Mussel Mytilidae	Whole Raw												10.3	0.0									
Oyster, Common *Ostrea edulis*	Whole Raw			8.9		3.8	33.8	6.0		3.0	10.1	6.8	0.8	4.1	1.0	3.3		3.4	1.0			1.3	
Oyster, Eastern *Ostrea virginica*	Whole Raw			3.5		1.3	28.9	4.2		1.6	3.6	8.2	2.0	3.3	2.6	5.0		11.2	0.3			9.7	
Oyster, Giant Pacific *Ostrea gigas*	Whole Raw			5.7		2.2	14.5	7.0			3.2	10.9	2.1		4.2			22.8				10.7	
Scallop *Pecten caurinus*	Muscle Raw	0.5	0.7	1.1	1.6	1.4	13.3	5.2	1.5	1.5	5.1	6.4	0.6	1.7	2.5	2.8	0.9	16.1			2.0	30.7	
Scallop, Atlantic Bay *Aequipecten irradians*	Muscle Raw	0.3	0.3	2.6	1.0	1.0	14.3	5.5	2.2	1.0	5.6	6.1	3.2	2.1	2.8	4.7	1.8	15.8			3.9	18.1	
Scallop, Calico *Aequipecten gibbus*	Muscle Raw	0.4	0.4	3.3	0.5	2.7	14.5	4.5	2.2	1.8	6.5	5.5	2.6	1.5	1.8	2.6	1.1	14.0			4.1	19.7	
Scallop, Sea Giant *Pecten magellanicus*	Muscle Raw	1.9	0.7	1.6	0.9	0.6	14.4	3.6	1.6	1.0	5.9	6.4	1.8	1.4	2.1	3.0	0.8	19.1			3.2	26.8	
Turban *Turbo cornutus*	Muscle Raw			1.4		4.9	13.6				4.9	6.6	3.5					6.7			8.7		

Table 10.--Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Anchovy, Pacific Engraulis japonicus	Muscle Dried	374	
Anchovy Engraulidae	Muscle Salted	108	
Argentine, Sea Smelt Argentina semifasciata	Whole Dried	536 1/ 448-625 2/ 2 3/	
Barracuda Sphyraena schlegeli	Muscle Salted	51	
Bass, Sea, Japanese Lateolabrax japonicus	Muscle Raw	41	
Bass, Sea Serranidae	Muscle Raw	55	
	Roe Raw	588	
Bhatki Nandus nandus	Whole Raw	52	
Bonito, Striped Sarda orientalis	Muscle Raw	146	
Bonito Scombridae	Muscle Raw	37 5-100 4	
	Dried	135	
Bream, Sea, Crimson Evynnis japonicus	Muscle Raw	84	
	Roe Raw	334	
Bream, Sea, Red Chrysophrys major	Muscle Raw	46 33-69 3	
Bream, Sea, Yellow Taius tumifrons	Muscle Raw	19	
Bream Sparidae	Muscle Raw	60 51-69 2	
Brill Bothidae/Pleuronectidae	Muscle Raw	44	
Butterfish Centrolophus japonicus	Muscle Raw	36	
Butterfish Stromateidae	Muscle Raw	65	
Carp, Ghania Labeo gonius	Muscle Raw	38	
Carp, Grass Ctenopharygodon idellis	Muscle Raw	69 50-103 3	
	Roe Raw	719	
Carp, Indian Barbus stigma	Muscle Raw	58	
Carp, Indian Labeo rohita	Muscle Raw	49	
	Whole Raw	47	
Carp, Indian, Puti Barbus sarana	Muscle Raw	56	
Carp, Indian, Puti Barbus (punitus) sophore	Whole Raw	48	
Carp, Katla Catla catla	Muscle Raw	107	
Carp, Mahasole Barbus tor	Muscle Raw	75	
Carp, Silver Hypophthalmichthys molitrix	Muscle Raw	106	

Table 10.--Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
	Roe Raw	144	
Carp Cyprinidae	Muscle Raw	75 57-96 3	
	Whole Raw	82	
Catfish, Airbreathing *Clarias magur*	Muscle Raw	93	
Catfish, Airbreathing *Heteropneustes fossilis*	Whole Raw	18	
Catfish, Airbreathing Hito *Clarias batrachus*	Roe Raw	194	
	Whole Raw	21	
Catfish, Fresh Water, Bichua *Pseudoentropius garua*	Muscle Raw	40	
Catfish, Fresh Water, Butter, Pabda *Callichrous bimaculatus*	Muscle Raw	76	
Catfish, Fresh Water, Dwarf *Macrones cavasius*	Muscle Raw	61	
Catfish, Fresh Water, Gonna *Rita rita*	Muscle Raw	46	
Catfish, Fresh Water, Mulley *Wallagonia attu*	Muscle Raw	94	
Catfish, Fresh Water, Seenghala *Macrones seenghala*	Muscle Raw	51	
Catfish, Fresh Water, Spotted Bullhead *Ictalurus serracanthus*	Muscle Raw	36	
Catfish, Fresh Water, Striped Dwarf *Macrones vittalus*	Muscle Raw	73	
Catfish, Fresh Water Ictaluridae	Muscle Raw	45	
Catfish, Stinging *Saccobranchus fossilis*	Muscle Raw	24	
	Whole Raw	18	
Cod, Atlantic *Gadus morhua*	Muscle Raw	36 28-44 5	48
Cod, Pacific *Gadus macrocephalus*	Muscle Raw	37	
Cod Gadidae	Muscle Raw	48 35-60 6	
	Cooked Steamed, Salted, and Dried	210	
Crevalle, Jack *Carangoides ajax*	Muscle Cooked Fried	138	
Croaker, Fusei *Pseudosciaena crocea*	Muscle Raw	54	
Croaker, Nibe *Nibea mitsukurii*	Muscle Raw	52	
Dogfish, Spiny *Squalus acanthias*	Muscle Raw	39	
Dolphin, Mai Mai, Dorado *Coryphaena hippurus*	Muscle Cooked Broiled Breaded & Fried	107 78	
Eel, Conger, Margintail *Paraconger caudilimbatus*	Muscle Raw	49	

Table 10.--Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Eel, Conger	Muscle		
Congridae	Raw	28	
	Canned	28	
Eel, Fresh Water, American	Muscle		
Anguilla bastoniensis	Raw	10	
Eel, Snake, Murrel	Muscle		
Ophicephalus punctatus	Raw	109	
Eel, Snake, Murrel	Muscle		
Ophicephalus striatus	Raw	44	
Eel, Snake	Muscle		
Ophichthidae	Raw	95	
Eel, Spiny	Muscle		
Mastacembelus armatus	Raw	81	
Eel	Muscle		
Unspecified 4/	Raw	191	
		132-225	
		3	
	Canned	132	
Featherback, Chitala	Muscle		
Notopterus chitala	Raw	70	
Flathead	Muscle		
Inegocia meerdevoosti	Raw	22	
Flounder	Muscle		
Bothidae/Pleuronectidae	Raw	48	22
		41-61	
		3	
	Dried	972	
	Roe		
	Raw	177	
	Whole		
	Raw	266	
Flying Fish	Muscle		
Cypselurus agoo	Raw	17	
Goatfish, Kumu	Muscle		
Parupeneus porphyreus	Cooked		
	Broiled	46	
Goby, Yellowfin	Muscle		
Acanthogobius (Gobius) flavimanus	Raw	35	
Goosefish, Monkfish	Muscle		
Lophius litulas	Raw	35	
Grunt	Muscle		
Pomadasyidae	Raw	38	
	Roe		
	Raw	112	
	Whole		
	Raw	140	
Gurnard, Red	Muscle		
Chelidonichthys kumu	Raw	55	
Haddock	Muscle		
Melanogrammus aeglefinnus	Raw	58	32
		31-90	27-36
		5	2
Halfbeak	Muscle		
Hemirhamphus sajori	Dried	206	
Halfbeak	Muscle		
Exocoetidae	Dried	681	
Halibut, Atlantic	Muscle		
Hippoglossus hippoglossus	Raw	47	26
		34-60	
		2	
Halibut	Muscle		
Pleuronectidae	Raw	34	
Herring, Atlantic	Muscle		
Clupea harengus	Raw	46	
	Canned	140	
Herring, Pacific	Muscle		
Clupea pallasi	Raw	195	
Herring, Round	Muscle		
Etrumeus micropus	Raw	28	
	Dried	460	

Table 10.--Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Herring, Round *Etrumeus teres*	Muscle Raw	192 51-333 2	
Herring Clupeidae	Muscle Raw	21	
	Cooked Pickled	82	
	Salted	70	
	Roe Raw	402 244-650 3	
Lizardfish Synodontidae	Muscle Raw	34	
Loach, Weatherfish *Misgurnus anguillicaudatus*	Muscle Raw	71	
Mackerel, Atlantic *Scomber scombrus*	Muscle Raw	80	
Mackerel Scombridae	Muscle Raw	34 29-38 2	
	Canned	60	
Mackerel, Jack *Trachurus japonicus*	Muscle Raw	32 16-47 2	
	Dried	489	
Mackerel, Jack Carangidae	Muscle Raw	60 35-97 8	
Mullet Mugilidae	Muscle Raw	21	
Pike, Northern *Esox lucius*	Muscle Raw	89	
Pilchard, Australian *Sardinops neopilchardus*	Muscle Dried	311	
Plaice Pleuronectidae	Muscle Raw	70	
Pollack, Saithe, Coalfish *Pollachius virens*	Muscle Raw	58 40-75 2	
Porgy Sparidae	Muscle Raw	52	
Puffer, Swellfish *Sphoeroides vermicularis*	Muscle Raw	44	
Puffer, Swellfish Tetraodontidae	Muscle Raw	113	
	Roe Raw	281	
Sailfish *Istiophorus platypterus*	Muscle Raw	6	
Salmon, Chinook *Oncorhynchus tschawytscha*	Roe Raw	340	
Salmon, Chum *Oncorhynchus keta*	Muscle Raw	74	
	Roe Raw	380	
Salmon, Coho *Oncorhynchus kisutch*	Roe Raw	400	
Salmon, Pink *Oncorhynchus gorbuscha*	Roe Raw	290	
Salmon, Sockeye *Oncorhynchus nerka*	Muscle Canned	33	30
	Roe Raw	390	

Table 10.—Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Salmon	Muscle		
Salmonidae	Raw	66	57
		25-95	
		6	
	Canned	90	
	Salted	61	
Sardine	Muscle		
Clupeidae	Raw	52	
		17-88	
		2	
	Canned		
	In Olive Oil	70	
	In Tomato Sauce	52	
	Unspecified	70	
	Whole		
	Raw	24	
Saury	Muscle		
Scomberesocidae	Raw	19	
Scad	Muscle		
Decapterus lajang	Raw	27	
Scad, Bigeyed	Muscle		
Caranx crumenophthalmus	Cooked		
	Fried	108	
Scad, Round	Muscle		
Decapterus pinnulatus	Cooked		
	Fried	107	
Scorpionfish, Yellow	Muscle		
Scorpaena scropha	Raw	12	
Scorpionfish	Muscle		
Scorpaenidae	Cooked		
	Marinated in Sake	45	
Sea Robin	Muscle		
Triglidae	Raw	32	
	Roe		
	Raw	252	
Shad, Bastard	Muscle		
Konosirus thrissa	Raw	38	
Shad, Indian	Muscle		
Hilsa ilisha	Raw	84	
	Whole		
	Raw	86	
Shark, Blue	Muscle		
Carcharhinus glauca	Raw	5	
Shark, Mackerel, Blue-pointer	Muscle		
Lamna glauca	Raw	44	
Shark, Oceanic Whitetip	Muscle		
Carcharhinus longimanus	Raw	11	
Shark, Thresher	Muscle		
Alopias vulpinus	Raw	6	
Smelt, Pond	Muscle		
Hypomesus olidus	Raw	72	
Smelt, Sweet, Ayu	Muscle		
Plecoglossus altivelis	Raw	45	42
Snapper	Muscle		
Etelis evurus	Raw	41	
Snapper, Red	Muscle		
Lutianus campechanus (blackfordii)	Raw	40	
Sole	Muscle		
Cynoglossus arel	Dried	420	
Sole, European	Muscle		
Solea vulgaris	Raw	51	
Sole	Muscle		
Soleidae/Pleuronectidae	Raw	43	
	Dried	594	
Sturgeon	Roe		
Acipenseridae	Raw	376	
Swordfish	Muscle		
Xiphias gladius	Raw	14	

Table 10.—Total and free cholesterol in finfishes, whales, and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Trevally *Caranx mertensi*	Muscle Raw	48	
Trout, Rainbow *Salmo gairdneri*	Muscle Raw	48 25–70 2	
Tuna *Thunnus maccoyi*	Muscle Raw	35	
Tuna, Albacore *Thunnus alalunga*	Muscle Raw	22	
Tuna, Big eye *Thunnus obesus*	Muscle Raw	92	
Tuna, Black *Promethichthys prometheus*	Muscle Raw	45	
Tuna, Skipjack *Euthynnus pelamis*	Muscle Raw Cooked Broiled with Soy Sauce & Sugar Broiled Breaded & Fried Dried Smoked	18 71 84 79 92 102	
Tuna, Skipjack Scombridae	Muscle Raw	37	
Tuna, Yellowfin *Thunnus albacares*	Muscle Raw Cooked Broiled with Soy Sauce Ray With Soy Sauce	6 96 47	
Tuna Scombridae	Muscle Raw Canned Cooked Broiled Creamed Breaded & Fried Dried Smoked	68 37–94 4 60 84 91 79 92 102	46
Whale Unspecified	Muscle Raw	30	
Whiting, Australian *Sillago sihama*	Muscle Dried	200	
Whiting Sillagonidae	Muscle Raw	21	
Yellowtail Carangidae	Muscle Raw	90	

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 11.--Total and free cholesterol in crustaceans and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Crab, Blue *Callinectes sapidus*	Muscle Raw	102	
Crab Unspecified	Muscle Raw	142 [1] 140-145 [2] 2 [3]	
Crayfish Unspecified [4]	Muscle Raw	170	
Lobster Unspecified	Muscle Raw	48	
	Canned	208	
Shrimp, Bagda *Palaemon carcinus*	Muscle Raw	36	
Shrimp Unspecified	Muscle Raw	158 138-200 4	127
	Cooked Boiled	250	
	Curried with Peppers, Celery, Onions, & Cornstarch	117	
	Fried in Batter with Celery, Onions, & Tomato	122	
	Fried	171	
	Dried	755	

[1] Average of the means obtained from the literature cited.

[2] Range of the means found in literature cited.

[3] Number of mean values, which were reported in the literature cited.

[4] Method of processing was not clearly described or the fish was identified only by common name.

Table 12.--Total and free cholesterol in mollusks and products.

Common and Scientific Name	Description	Total Cholesterol mg/100 gm	Free Cholesterol mg/100 gm
Abalone Haliotidae	Muscle Raw	111	
	Canned	98	
Clam, Arkshell *Arca inflata*	Muscle Raw	84	
Clam, Fresh Water *Corbicula atrata*	Whole Raw	124	
Clam, Razor Solenidae	Whole Raw	107	
Clam, Venus, Asari *Tapes philippinarum*	Whole Raw	87 [1] 21-153 [2] 2 [3]	
Clam, Venus Unspecified [4]	Whole Raw	130 77-190 3	113
Mussel, Blue *Mytilus edulis*	Whole Raw	63	
Mussel Mytilidae	Whole Raw	55	
Octopus *Octopus ocellatus*	Muscle Raw	122	
	Roe Raw	260	
Octopus Octopodidae	Muscle Raw	124	
	Cooked Boiled with fermented rice & soybeans	78	
Oyster Ostreidae	Muscle Raw	190 94-327 3	62
Pen Shell *Atrina pectinata*	Muscle Raw	26	
Scallop Unspecified	Muscle Raw	116 56-175 2	
Snail Unspecified	Whole Raw	86	
Squid Unspecified	Muscle Raw	283	
	Dried	810 614-1005 2	
Top Shell *Trochus maculatus*	Whole Raw	164	
Top Shell Trochidae	Whole Raw	269	
Turban *Turbo cornutus*	Muscle Raw	119	

[1] Average of the means obtained from the literature cited.

[2] Range of the means found in literature cited.

[3] Number of mean values, which were reported in the literature cited.

[4] Method of processing was not clearly described or the fish was identified only by common name.

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Ainame Hexagrammos otakii	Muscle Raw	84		99	250	174		
Alewife Alosa pseudoharengus	Muscle Raw	110	311		356 [1/] 219-492 [2/] 2 [3/]	134		
	Whole Fishmeal	240	600	5200	2900			150
Alfoncino Beryx splendens	Muscle Raw	110	214	15	220			
Amberjack, Greater Seriola dumerili	Muscle Raw	52			253	20		
Amberjack, Yellowtail Seriola grandis	Muscle Raw	90	280	30	240			40
Amberjack, Yellowtail Seriola quinqueradiata	Muscle Raw	86	597	9 [1/] 8-10 [2/] 2 [3/]	296 207-384 2			
	Canned In Oil			38	200			
Amberjack Carangidae	Muscle Raw			34 32-35 2	124 102-146 2			
Anchoveta Engraulis ringens	Whole Fishmeal	1100	890	3590 3380-3800 2	2190 2160-2220 2			270
Anchovy Engraulis mystax	Muscle Raw			121	188			
Anchovy Stolephorus indicus	Muscle Raw	146	523					
Anchovy, Ca'Moi Coilia lindmani	Muscle Raw	70	270	144	188			29
Anchovy, European Engraulis encrasicholus	Muscle Raw		278	82	233	30		
Anchovy, Longjaw, Bilis Stolephorus heterolubus	Muscle Raw			26	29			
	Cooked Unspecified [4/]			47	43			
Anchovy, Longjaw, Delis Stolephorus commersonii	Muscle Raw		511	178	1690			
	Cooked Unspecified, Soaked in Brine			3300	2350			
	Salted & Dried			2159	1360			
	Salted & Fermented			535	313			
	Beheaded Raw			479	349			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Anchovy, Mandali Coilia dussumieri	Muscle Raw			24	363			
	Salted & Dried			143	259			
Anchovy, Pacific Engraulis japonicus	Whole Salted & Dried			561	415			
Anchovy, Whitebait Stolephorus tri	Whole Raw			657	419			
Anchovy Engraulidae	Muscle Raw	148	413 1/ 379-447 2/ 2 3/	150 20-279 2	242 220-264 2			
	Canned Paste	6808 1/ 3816-9800 2/ 2 3/	200	168	210	5884		
	Whole Raw	755	750	2150 220-4080 2	1578 180-2975 2	1150		300
	Cooked Boiled & Dried	3150 1600-4700 2		1029 530-2336 3	1045 590-1500 2			
	Dried	1042 885-1200 2	1154	1330 429-2062 3	1313 1261-1377 3			
	Salted & Fermented Fishmeal	7153 925 870-980 2	341 710 650-770 2	3825 3700-3950 2	1863 589-2600 3	250		260
	Beheaded Dried			275	1829			
	Eviscerated Salted	5892				9082		
	Salted & Dried	1239				1910		
Argentine, Atlantic Argentina silus	Whole Fishmeal	470	1200	2600	1900		640	240
Barracouta Thyrsites atun	Muscle Raw	80	360	64 59-70 2	258 247-270 2			40
Barracuda Sphyraena obtusata	Muscle Raw			64	156			
Barracuda Sphyraena schlegeli	Muscle Raw			14				27
Barracuda Sphyraena vulgaris	Muscle Raw				458	230		
Barracuda, Great Sphyraena barracuda	Muscle Raw			70	361			
Barracuda, Guaguanche Sphyraena guachancho	Muscle Raw			25	205			
Barracuda, Pacific Sphyraena argentea	Muscle Raw	132	294	52	200	189		35

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Barracuda, Striped Torcillo Sphyraena jello	Muscle Raw	66	371 307-435 2	34 22-45 2	386 174-598 2			
Barracuda Sphyraenidae	Muscle Raw	97 46-154 3	224 155-294 2	26 21-30 3	313 190-490 3			
Bass, Sea Diplectrum radiale	Muscle Raw			140	183			
Bass, Sea Paralabrax humeralis	Muscle Raw	30		23	162	47		
Bass, Sea, Black Centropristes striatus	Muscle Raw	68	256		192		357	
Bass, Sea, Cherlo Acanthistius pictus	Muscle Raw			131	114	160		
Bass, Sea, Common Niphon spinosus	Muscle Raw			43	226			
Bass, Sea, Japanese Lateolabrax japonicus	Muscle Raw	112	308	31 12-50 2	126 208-243 2			
Bass, Sea, Kelp Paralabrax clathratus	Muscle Raw				15	183		
Bass, Sea Serranidae	Muscle Raw	67 44-90 3	138	41 27-60 7	215 187-290 7			25
	Cooked Steamed	75	326	47	220	85	233	27
Bass, Temperate, Rabaliza Morone labrax	Muscle Raw			132	408			
Bass, Temperate, Striped Morone saxatilis	Muscle Raw			15	198			
Batfish, Silvery Psettes sebae	Muscle Raw			54	200			
Big-eye Scombrop boops	Muscle Raw	130		32 10-53 2	229 220-258 2			
Billfish Istiophoridae	Muscle Raw	71		7 4-9 3	240 190-331 3			
Blacktail Oblata melanura	Muscle Raw				506	170		
Bloater Coregonus hoyi	Muscle Cooked Grilled	703	446	123	355	1130	308	45

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Bluefish	Muscle							
Pomatomus pedica	Raw	60	270	30	180			30
Bluefish	Muscle							
Pomatomus saltatrix	Raw			59	436			
Bluefish	Muscle							
Pomatomidae	Raw	68		19	256	76	241	
					241-271			
					2			
Bombay Duck	Muscle							
Harpondon nehereus	Raw			19	334			
	Salted & Dried			391	608			
Bonito	Muscle							
Auxis bisus	Raw				427	280		
Bonito, Atlantic	Muscle							
Sarda sarda	Raw		296	41	323	100		43 1/
				22-60	278-392			36-50 2/
				2	3			2 2/
Bonito, Pacific	Muscle							
Sarda chiliensis	Raw			28	246			
				28-28	233-258			
				2	2			
	Cooked							
	Roasted			15	206			
	Salted & Dried			112	164			
Bonito	Muscle							
Scombridae	Raw			26	145			
				23-28	32-258			
				2	2			
	Canned		342	146				
Bream	Muscle							
Roughleyia australis	Raw	40	230	20	180			20
Bream, Bronze	Muscle							
Abramis brama	Raw			48	245			
	Fishmeal			780	560			
	Defatted			890	650			
Bream, Gilthead	Muscle							
Chrysophrys aurata	Raw				623	570		
Bream, Mud	Muscle							
Acanthopagrus berda	Raw	89	475	15	195			
	Salted & Dried	5189	669	187	280			
Bream, Sea	Muscle							
Dentex canariensis	Raw			20	530			
Bream, Sea	Muscle							
Dentex maratanus	Raw			20	500			
Bream, Sea, Crimson	Muscle							
Evynnis japonica	Raw			30	275			
Bream, Sea, Red	Muscle							
Chrysophrys major	Raw			9				26

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Bream, Sea, Yellow *Taius tumifrons*	Muscle Raw			44 35-52 2	140			31
Bream, Tooched *Dentex vulgaris*	Muscle Raw		156		410	610		
Bream, White, Sargo *Diplodus sargus*	Muscle Raw				610	190		
Bream Sparidae	Muscle Raw	86		47	132			
	Cooked Steamed	116	313	32	226	130	230	28
Brill *Rhombus laevis*	Muscle Raw				301	260		
Brill, Rough Scaled *Pseudorhombus oligodon*	Muscle Raw			30	204			
Brill Bothidae/Pleuronectidae	Muscle Cooked Steamed	94	264	15	230	125	214	31
Burbot *Lota lota*	Muscle Raw		268 260-275 2					
Butterfish *Peprilus tricanthus*	Muscle Raw	81	338					
Butterfish *Psenopsis anomala*	Muscle Raw			181	302			
Butterfish, Black *Stromateus niger*	Muscle Raw	109 106-112 2	318 203-434 2	24 17-32 2	232 184-279 2			
	Salted & Dried			169	457			
Butterfish, Silver *Stromateus cinereus*	Muscle Raw			20 19-20 2	248 205-291 2			
	Canned			52	110			
	Whole Dried			2470	4560			
Butterflyfish, Ca Chix *Coradion altiveltis*	Muscle Raw	101	310	40 24-57 2	134 116-153 2	120		31
Butterflyfish Chaetodontidae	Muscle Raw	108	216					
Caesio, Golden *Caesio chrysozonus*	Muscle Raw	62 59-66 2	514 508-519 2	54 34-92 3	226 174-311 3			
	Dried			122	236			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Caesio, Golden *Caesio cuning*	Muscle Raw	52	398 264-530 2	35 34-36 2	365 165-565 2			
Caesio, Moon *Caesio lunaris*	Muscle Raw	48	601					
Capelin *Mallotus villosus*	Whole Fishmeal	920	1300	1800	798 296-1300 2		530	130
Cardinalfish *Apongonichthys ellioti*	Muscle Raw	123	415					
Carp *Chela bacila*	Whole Raw			590	340			
Carp *Cyprinus carpio*	Muscle Raw	60 48-80 3	291 174-397 5	39 17-57 5	193 165-225 3	156		37 30-43 3
Carp, Bata *Labeo bata*	Muscle Raw			82 32-182 4	294 20-605 4			
Carp, Crucian *Cyprinus carassius*	Muscle Raw			105 28-150 4	249 150-421 3			109
	Canned In Oil			1900	1000			
Carp, Ghania *Labeo gonius*	Muscle Raw			57 30-95 3	330 282-375 3			
	Dried			2690 2680-2700 2	6840			
Carp, Indian *Barbus putitora*	Muscle Raw			12	390			
Carp, Indian *Barbus stigma*	Muscle Raw			75	307			
Carp, Indian *Labeo rohita*	Muscle Raw	64	231	60 23-91 4	322 228-440 4			
Carp, Indian, Puti *Barbus punitus sophore*	Muscle Raw			76 43-110 2	174 96-251 2			
Carp, Indian, Puti *Barbus sarana*	Muscle Raw			37 29-45 2	386 382-390 2			
	Whole Dried			2770	6780			
	Smoked			1420	3680			

Table 13.—Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Carp, Katla *Catla catla*	Muscle Raw	50	151	35 20–62 3	287 168–440 4			
	Dried			1030	2680			
Carp, Mahasole *Barbus tor*	Muscle Raw			13	28			
Carp, Mrigala *Cirrhina mrigala*	Muscle Raw			33 22–53 3	306 140–436 5			
Carp, Orange Fin *Labeo calbasu*	Muscle Raw			47 22–75 4	345 262–420 4			
	Dried			940	2250			
Carp, Reba *Cirrhina reba*	Muscle Raw			100 43–156 2	453 436–470 2			
Carp, Silver *Hypophthalmichthys molitrix*	Muscle Raw		435	34	225			
Carp Cyprinidae	Muscle Raw	44	300	37 12–74 8	202 165–269 7	85		36 30–40 3
Catfish, Air Breathing *Clarias fuscus*	Muscle Raw	55	340	18	204	130		33
Catfish, Air Breathing *Clarias magur*	Muscle Raw			32 20–43 2	438 375–500 2			
Catfish, Air Breathing, Hito *Clarias batrachus*	Muscle Raw	60 58–63 2	294 147–440 2	42 34–51 2	142 116–168 2			
Catfish, Air Breathing, Karmouth *Clarias lazaiae*	Muscle Raw			95	206			
Catfish, Fresh Water *Pseudobagrus aurantiacus*	Muscle Raw			55	407			
Catfish, Fresh Water, Bacha *Eutropiichthys vacha*	Muscle Raw Dried			18 560	102 2240			
Catfish, Fresh Water, Channel *Ictalurus punctatus*	Muscle Raw			46	221			
Catfish, Fresh Water, Kired *Bagarius yarreli*	Muscle Raw			31	268			
Catfish, Fresh Water, Mulley *Wallagonia attu*	Muscle Raw			34 14–60 3	416 327–494 3		467	
Catfish, Fresh Water, Seenghara *Macrones seenghala*	Muscle Raw			21	425			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Catfish, Fresh Water, Shengti Macrones gluilo	Muscle Salted & Dried			208	412			
	Eviscerated Dried			1980	5080			
Catfish, Fresh Water Ictaluridae	Muscle Raw	60	416 330-503 2	225			149	113
Catfish, Sea Arius leiotetocephalus	Muscle Raw	114	318 224-413 2	26 14-37 2	305 170-440 2			
Catfish, Sea Bagre macracanthus	Muscle Raw	55	390	51	213	110		34
Catfish, Sea, Gafftopsail Bagre marinus	Muscle Raw			32	194			
Catfish, Sea, Manila Arius manillensis	Muscle Raw			92 37-147 2	256 187-324 2			
	Salted & Dried	5409	509	140	346			27
Catfish, Sea, Shingal Arius dussumieri	Muscle Raw			131 24-272 3	220 152-307 3			
Catfish, Sea Ariidae	Muscle Raw	100 98-103 2	456 404-496 3	40 21-61 3	176 150-197 3			
	Cooked Steamed	114	320	16	220	129	207	26
	Dried			194	600			
	Whole Dried			1370	440			
	Eviscerated Salted & Dried	5799				8940		
Catfish, Stinging Saccobranchus fossilis	Muscle Raw	53	223	21	158			
Cavefish Amblyopsis godonmola	Eviscerated Raw			550	350			
Char, Artic Salvelinus alpinus	Muscle Raw		499			36		
Characin Prochilodus laticeps	Muscle Raw			173	266			
Characin Characidae	Muscle Raw			319	248			
	Muscle with Bones Raw			593	390			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Chub	Muscle							
Cyprinidae	Smoked	2184				3416		
Chub, Sea, Striped Rudder	Muscle							
Kyphosus lembus	Raw		226	36	488			
Chub, Sea	Muscle							
Kyphosidae	Raw				227	240	185	
Cichlid	Muscle							
Cichlidae	Raw			74	344			
	Whole							
	Raw			1391	393		1200	
Cisco, Lake	Muscle							
Coregonus artedii	Raw	46	319	12	152			17
		38-56	280-358					
		3	2					
	Whole							
	Fishmeal	250	800	5000	2700			
Cod, Atlantic	Muscle							
Gadus morhua	Raw	67	380	16	265	55	200	24
		49-92	280-365	6-42	186-610			17-30
		4	7	7	7			4
	Cooked							
	Fried							
	Breaded	93	372	65	298	153	234	25
	Steamed	74	386	27	283	101	278	26
	Salted				157		272	
	Eviscerated							
	Salted & Dried	6637				10232		
Cod, Pacific	Muscle							
Gadus macrocephalus	Raw	73	390	13	193			
		71-76	372-405					
		3	3					
	Dried							
	Hard			307	453			
	Slightly Salted			400	573			
					300	114	30	
Cod, Poor	Muscle							
Gadus minutus	Raw				418	400		
Cod, Rock	Muscle							
Roboralga jacksoniensis	Raw	70	270	20	210			20
Cod	Muscle							
Gadidae	Raw	90	412	15	166	122[1]/	181[1]/	35
		63-180	372-470	9-20	90-220	97-150[2]/	171-191[2]/	
		9	6	11	11	3[3]/	2[3]/	
	Cooked							
	Fried							
	Battered	102	365	80	202			24
	Battered & Breaded	161	342	50	261		243	27
	Grilled							
	With Butter	110	407	31	274	130	323	36
	Steamed	3520	43	127	204	5220	322	51
	Cured, Salted	2830	264					
	Dried	780		135	612			
				30-371	300-1030			
				6	6			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Salted	2000		32 24-40 2	228 133-400 3	11555	285	
	Salted & Dried	5118	1284	233 8-656 5	448 146-694 5			21
	Offal Fishmeal	1010	1970	5430	3400	1160		140
	Eviscerated Dried	74	1068	2448	2421			169
Coral Cod, Sea Bass Cephalopholis miniatus	Muscle Raw			71	228			
Coral Cod, Sea Bass Plectropomus maculatus	Muscle Raw	50	240	30	200			40
Crevalle Caranx diedaba	Muscle Raw Salted & Dried	83	367	207	336			
Crevalle, Jack Caranx carangus	Muscle Raw			27	275			
Croaker Otolithus brachygnathus	Muscle Raw			6	157			
Croaker Sciaena deliciosa	Muscle Raw	80		40 30-57 3	156 32-248 3	123	114	
	Salted & Dried	7711					11633	
Croaker, Atlantic Micropogon undulatus	Muscle Raw	87	234	55	150			
Croaker, Black Pogonias cromis	Muscle Raw	51	226					
Croaker, Nibe Nibea mitsukurii	Muscle Raw			14				31
Croaker, Nibe Nibea nibe	Muscle Raw			16				24
Croaker, Robalo Sciaena starksei	Muscle Raw Salted & Dried	43 10584		24	267	67 16325		
Croaker, Roncador Ophioscion venezuelae	Muscle Raw			292	318			
Croaker, Smooth Scaled Pseudosciaena anea	Muscle Raw Salted & Dried			35 235	125 218			
Croaker, Smooth Scaled Sciaena dussumieri	Muscle Raw	72	419	109	171			
Croaker, White Nibe Argyrosomus argentata	Muscle Raw			40	220			
Croaker, Yellow Pseudosciaena manchuria	Muscle Raw			25				15
Croaker, Yellow Umbrina steindachneri	Muscle Raw			570	250			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Cusk-Eel Lepophidium brevibarbe	Muscle Raw			66	145			
Cusk-Eel, Bearded Ophidium Ophiodon barbatum	Muscle Raw			19	545	110		53
Cusk-Eel, Congrio Colorado Genypterus chiliensis	Muscle Raw			63	172			
Cusk-Eel, Congrio Negro Genypterus maculatus	Muscle Raw			87	217	298		
Cusk-Eel, Ling Genypterus blacodes	Muscle Raw			64	187			
Cutlassfish Lepidopus caudatus	Muscle Raw				562	100		
Cutlassfish Trichiurus japonicus	Muscle Raw			8	196			
Cutlassfish Trichiurus lepturus	Muscle Raw			16 13-19 2				41 25-57 2
Cutlassfish Trichiurus savala	Muscle Raw			16	157 113-201 2			
	Salted & Dried			739	700			
Cutlassfish, Ribbonfish Trichiurus haumela	Muscle Raw	86	342	54 32-76 2	176 76-275 2			
	Eviscerated Dried			2210	5080			
Cutlassfish Trichiuridae	Muscle Raw	102 94-110 2	330	27 12-42 2	155 150-160 2			
	Salted		307	151	184			
Dab Limanda limanda	Muscle Raw	84		8				
Dab, Japanese Limanda herzensteini	Muscle Raw	130		36	116			24
Dab, Japanese Limanda yokohama	Muscle Raw			19				36
Dab Pleuronectidae	Muscle Cooked Fried Battered & Breaded	127	284	130	250	245	259	29
Dace Cyprinidae	Muscle Dried			500	1052			
Damselfish Chromis chromis	Muscle Raw				728	140		
Dogfish, Cazon Carcharias aethalorus	Muscle Raw			9	141			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Dogfish, Smooth *Mustelus canis*	Muscle Raw			57	256			
Dogfish, White *Mustelus dorsalis*	Muscle Cold-Smoked			168	266	9400		
Dogfish Squalidae	Muscle Raw	100 100-100 2	174	11 6-16 4	266 176-350 4			20
	Cooked Fried	163	245	13	269	203	210	20
Dolphin, Dorado *Aurata aurata*	Muscle Raw			10				57
Dolphin, Mai Mai, Dorado *Coryphaena hippurus*	Muscle Raw	170 98-242 2	370	15	143			
Dolphin Coryphaenidae	Muscle Raw			9	213			
Dory, John *Zeus australis*	Muscle Raw	60	330	40	130			20
Dory, John *Zeus faber*	Muscle Raw		151		231	70		
Dory, John *Zeus japonicus*	Muscle Cooked Unspecified			23	183			
Dory Zeidae	Muscle Cooked Unspecified	139	287	23	251	143	234	29
Drepane, Concertinafish *Drepane punctata*	Muscle Raw	88	373	57 30-90 3	183 149-235 3			
Drum *Sciaena regiae*	Muscle Raw		265	38	200			
Drum, Dhoma *Sciaena glauca*	Muscle Raw			18	444			
Drum, Fresh Water *Aplodinotus grunniens*	Muscle Raw	73	281					
Drum, Ghol *Sciaena miles*	Muscle Raw			89	153			
Drum, Popa *Sciaenoides pama*	Whole Dried			2170	5220			
Drum, Red *Sciaenops ocellata*	Muscle Raw	55	273					
Drum, Teraglin *Cynoscion atelodus*	Muscle Raw	60	280	40	120			30
Drum Sciaenidae	Muscle Raw	72 59-97 3	316 295-336 2	52 31-89 5	187 153-280 5			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Canned							
	In Oil	5200	290	470	310			
	Salted & Dried		758	274	244			
Eel, Conger	Muscle							
Conger conger	Raw		282	82	294	100		
				22-150	180-390			
				4	4			
Eel, Conger	Muscle							
Congridae	Raw	70	234	32	214	57	187	35
		50-89	200-267	19-69	200-223			19-67
		2	2	4	3			3
	Cooked							
	Fried							
	Battered & Breaded	108	353	24	247	156	222	29
	Steamed	73	132	13	402	173	272	8
Eel, Fresh Water	Muscle							
Anguilla vulgaris	Raw		210		364	60		
Eel, Fresh Water, American	Muscle							
Anguilla rostrata	Raw			56	247			
Eel, Fresh Water, European	Muscle							
Anguilla anguilla	Raw			100	170		140	19
Eel, Fresh Water, Japanese	Muscle							
Anguilla japonica	Raw		712	118	196			
	Cooked							
	Broiled & Seasoned	620		140	280			
Eel, Fresh Water	Muscle							
Anguillidae	Raw	31	241	40	250	47	153	18
				18-90	177-403	34-60	130-194	
				5	5	2	3	
	Whole							
	Raw	67	230	515	440	55	141	31
Eel, Moray, Greek	Muscle							
Muraena helena	Raw	25	165	42	270	57	36	16
				19-64	138-532	24-90	2-70	15-17
				2	3	2	2	2
Eel, Moray	Muscle							
Muraenidae	Raw	139	375	63	83			
Eel, Pike Conger	Muscle							
Muraenesox telabonoides	Raw			27	280			
Eel, Pike Conger, Silver	Muscle							
Muraenesox cinereus	Raw	88	490	112	225			28
				26-220	193-270			
				5	4			
Eel, Pike Conger	Muscle							
Muraenesocidae	Raw	77	215	13	192	69	162	14
	Cooked							
	Stewed	73	200	14	200	64	199	15
Eel, Snake, Murrel	Muscle							
Ophicephalus leucopunctatus	Raw			20	113		570	

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Eel, Snake, Murrel *Ophicephalus marulius*	Muscle Raw			19 15-23 2	234 158-311 2			
Eel, Snake, Murrel *Ophicephalus punctatus*	Muscle Raw			41 15-80 4	344 118-530 5			
Eel, Snake, Murrel *Ophicephalus striatus*	Muscle Raw	62 38-86 2	396 314-474 3	43 14-96 6	200 95-360 7	95		34
	Eviscerated Salted & Dried	4103				6326		
Eel, Spiny *Mastacembelus armatus*	Muscle Raw			33 21-55 3	473 121-975 3			
Eel, Spiny *Mastacembelus favus*	Muscle Raw	50	270	26	174	223		27
Eel, Swamp, Field *Fluta alba*	Muscle Raw	116	172	30	93			
Eel, Swamp, Palos *Synbrachus bengalensis*	Muscle Raw			50	158			
Emperor *Lethrinus karwa*	Muscle Fishmeal			97	144			
Emperor *Lethrinus opercularis*	Muscle Raw	61	488	48	203			
Featherback *Notopterus notopterus*	Muscle Raw			63 54-72 2	390 330-450 3			
Featherback, Chitala *Notopterus chitala*	Muscle Raw	40 34-45 2	190 119-260 2	51 40-67 4	273 161-405 5	106		32
Flathead, Deep Sea *Platycephalus macrodon*	Muscle Raw	40	190	30	260			10
Flathead, Indian *Platycephalus indicus*	Muscle Raw	91	392	39 11-79 4	247 174-390 3			27
Flounder *Cleisthenes pinetorum herzensteini*	Muscle Raw			24				29
Flounder *Cynoglossus senegalensis*	Muscle Raw			18	104			
Flounder *Lepedorhombus boscii*	Muscle Raw		299	22	250			
Flounder, Gulf *Paralichthys albigutta*	Muscle Raw			25	168			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Flounder, Scaldfish	Muscle							
Arnoglossus roscii	Raw				353	240		
Flounder, Southern	Muscle							
Paralichthys lethostigma	Raw	54	220	25	193			
Flounder, Spotted	Muscle							
Citharus linguatula	Raw				401	230		
Flounder, Starry	Muscle							
Platichthys stellatus	Raw	92	318		384			
		85-99	285-350					
		2	2					
Flounder, Starry, Hirame	Muscle							
Paralichthys olivaceus	Raw	160		36	230			25
				8-63	185-275			
				2	2			
Flounder, Stone	Muscle							
Kareius bicoloratus	Raw			17				31
Flounder, Yellowtail	Muscle							
Limanda ferruginea	Raw	53	262	27	203			
		38-79	157-366					
		4	2					
Flounder	Muscle							
Bothidae/Pleuronectidae	Raw	121	332	32	234	176	192	36
		12-145	195-515	8-110	110-264		168-215	24-49
		8	6	13	9		2	5
	Cooked							
	Fried	130	282	75	218	200	203	23
	Steamed	115	318	55	296	148	231	25
Fluke	Muscle							
Pleuronectes flesus	Raw			37	240			24
Flyingfish	Muscle							
Cypselurus opisthopus	Raw			15	247			
				11-19	218-276			
				2	2			
	Salted			81	240			
Flyingfish, Small Scaled	Muscle							
Cypselurus oligolepis	Raw			45	213			
Flyingfish, Tropical Two-winged	Muscle							
Exocoetus volitans	Raw				614	90		
Garfish	Muscle							
Belone acus	Raw				362	140		
Garfish	Muscle							
Tylosurus giganteus	Raw	79	563	98	260			
Garfish	Muscle							
Belonidae	Raw			33				79

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Giant Perch *Lates calcarifer*	Muscle Raw	68 66-70 3	313 173-477 3	43 30-54 3	176 89-314 4			20
Goatfish, Ca'Phen *Parapeneus indicus*	Muscle Raw	40	320	97	174	150		30
Goatfish, Red Mullet *Mullus barbatus*	Muscle Raw		311	70 23-118 2	256 158-331 3	140		
Goatfish, Red Mullet *Mullus piccoli*	Muscle Raw				1094	190		
Goatfish, Red Mullet *Mullus surmulletus*	Muscle Raw				340	140		
Goatfish, Yellow *Upenoides sulphureus*	Muscle Raw			91	170			
Goatfish Mullidae	Muscle Raw	82 66-98 2	375	76	180			
Goby, Banner *Microgobius microlepis*	Muscle Raw	101	339		301			
Goby, Chiozzo *Gobius jozo*	Muscle Raw				554	250		
Goby, Flathead *Glossogobius giurus*	Muscle Raw	64 50-79 2	325 250-454 3	69 50-84 3	293 151-537 4	106		28
Goby, Round *Neogobius melanostomus*	Muscle Raw		262	44	222	23		
Goby, Sea Trout, Merluzza *Macrodon ancylodon*	Muscle Raw			31	285 252-318 2			
Goby Gobiidae	Muscle Raw	113 76-150 2	360	30 15-38 3	339 220-536 3			49
Goldfish, Funa *Carassius auratus*	Muscle Raw	63	374 335-436 3	76 42-109 2	203			69
Goosefish, Monkfish *Lophius budegassa*	Muscle Raw				597	370		
Goosefish, Monkfish *Lophius litulas*	Muscle Raw			23	142			
Goosefish, Monkfish *Lophius piscatorius*	Muscle Raw		297	19	225			
Goosefish, Monkfish *Lophius setigerus*	Muscle Raw			7	180			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Goosefish, Monkfish Lophiidae	Muscle Raw	180		7				
	Cooked Fried Battered & Breaded	164	400	11	206	197	206	32
	Steamed	135	356	10	215	136	256	30
Greenling, Atka, Mackerel Pleurogrammus azonus	Muscle Raw			12	180			
Grenadier Macrouridae	Muscle Raw			20				83
Grouper Epinephelus ergastularius	Muscle Raw	60	280	20	150			10
Grouper, Black Mycteroperca bonaci	Muscle Raw			11	214			
Grouper, Merou Epinephelus aeneus	Muscle Raw		264	40	510			
Grouper, Merou Epinephelus goreensis	Muscle Raw			30	580			
Grouper, Merou Rouge Epinephelus taeniops	Muscle Raw			80	540			
Grouper, Red Epinephelus morio	Muscle Raw	80	233	40	184 167-200 2			
Grouper, Spotted Epinephelus corallicola	Muscle Raw	87	413	55	173			
Grouper, Yellowbelly Epinephelus gigas	Muscle Raw		304	20	301 227-375 2	90		
Grunt Anisotremus scapularis	Muscle Raw			47 22-72 2	172 139-204 2	81		
	Cooked Roasted			22	170			
	Dried			270	525	306		
Grunt Hapalogenys mucronatus	Muscle Raw			25	235			
Grunt Parapristipoma trilineatum	Muscle Raw			78 45-112 2	262 180-343 2			
Grunt Pristipoma jubelini	Muscle Raw			36	243			
Grunt, Besurgo, Bangoknok Pomadasys argyreus	Muscle Raw	80	358					
Grunt, Bluestriped Haemulon sciurus	Muscle Raw			65	285			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Grunt, Dorade *Parapristipoma mediterraneum*	Muscle Raw			24	146			
Grunt, Meagre *Pomadasys operculare*	Muscle Raw Dried			9 240	129 500			
Grunt, Mojarra *Anisotremus interruptus*	Muscle Raw			15	261			
Grunt, Trumpeter *Pelatis sexlineatus*	Muscle Raw	70	200	20	110			10
Grunt, White *Haemulon plumieri*	Muscle Raw			10	167			
Grunt Pomadasyidae	Muscle Raw	72	260	36	222			
Guitarfish *Rhinobatus polyophthalmus*	Muscle			12				24
Guitarfish, Guitarra *Rhinobatus planiceps*	Muscle Dried			368	597	1393	793	
Gurnard *Cheilodactylus macropterus*	Muscle Raw	80	436 320-551 2	40	130			43 20-66 2
Gurnard, Flying Dactylopteridae	Muscle Raw		315	104	221			
Gurnard, Red *Chelidonichthys kumu*	Muscle Raw		304	45 19-95 3	222 186-257 2			22
Haddock *Melanogrammus aeglefinnus*	Muscle Raw	98 54-202 10	357 299-434 9	27 7-62 8	203 164-318 8	130 17-199 5	213 164-229 5	24 23-24 2
	Cooked Fried	177	348	77 40-114 2	247	181	285	31
	Steamed	76 31-121 2	323	55	234	78	304	28
	Frozen In Brine Smoked	198 1210 1201-1220 2	293	58	248	653 1890 1879-1900 2	237 221-253 2	25
Hagfish, Atlantic *Myxine glutinosa*	Muscle Raw	136	114	4	160	141	11	26
Hake *Merluccius maculatus*	Muscle Raw		306	46				29
Hake *Urophycis brasiliensis*	Muscle Raw			46				79
Hake, Chilian *Merluccius gayi*	Muscle Raw Dried	787		67 602 243-960 2	222 1427 1424-1430 2	1207	997	
Hake, European *Merluccius merluccius*	Muscle Raw		264 223-295 3	44 22-64 4	213 126-305 5	70	194	24 20-28 2

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Hake, Pacific Merluccius productus	Muscle Raw			46	182			
	Whole Raw	126 111-140 2	334 315-352 2					
	Fishmeal	630	1670	3430	2200		1160	130
Hake, Silver, Whiting Merluccius bilinearis	Muscle Raw	83 74-95 3	308 288-347 4	61 50-72 2	201 180-222 2			
	Whole Fishmeal		1460	230	890			
Hake, Squirrel Urophycis chuss	Muscle Raw	92	302					
Hake Gadidae	Muscle Raw	74	396	93 12-160 3	556 162-950 2			56
	Cooked Fried	153	297	26	259	134	197	29
	Steamed	118	310	16	218	95	193	27
	Stockfish	396	31	22	163	670	372	35
Halfbeak Hemiramphus sajori	Muscle Raw			124	260			
Halfbeak Reporhamphus australias	Muscle Raw	70	250	30	160			20
Halfbeak, No-spotted Hemirhamphus georgii	Muscle Raw	112	456	175 121-229 2	184 140-227 2			
Halfbeak Exocoetidae	Muscle Raw	73 65-81 3	516	44 43-44 2	203 200-206 2			
Halibut, Arctic Hippoglossus vulgaris	Muscle Raw		380	8	185		185	
Halibut, Atlantic Hippoglossus hippoglossus	Muscle Raw	71 49-112 3	8					
Halibut, Pacific Hippoglossus stenolepis	Muscle Raw	59 47-68 5	434 379-501 4	22 8-47 3	222 221-222 2			25
Halibut Pleuronectidae	Muscle Raw	156 53-460 4	518 500-540 4	19 5-30 5	206 167-253 5	88	198 197-199 2	60
	Cooked Steamed	111	340	13	252	80	241 227-255 2	23
	Smoked				205	8660	176	
	Smoked & Dried	5109				7891		

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Herring *Ilisha africana*	Muscle Raw			120	197			
Herring, Atlantic *Clupea harengus*	Muscle Raw		154	20	280		200	36
	Canned In Oil Drained			404 363-460 3	379 152-496 3	1050		
	Kippered Unspecified			190 417 354-480 2	189 362 217-434 2		113	
	In Tomato Sauce Unspecified			302 213	457 300			
	Smoked			40	424		150	
	Whole Fishmeal	630	1120	1990	1064 637-1490 2			140
Herring, Atlantic Thread *Opisthonema oglinum*	Muscle Raw			166	324			
Herring, Bachiva, Bacha *Clupisoma garua*	Muscle Raw			45 28-62 2	196 168-223 2			
Herring, Deep Bodied *Sardinella perforata*	Muscle Raw	131	501	157	290			
Herring, Fimbriated, Tunsoy *Sardinella fimbriata*	Muscle Raw	107 99-115 2	404 325-484 2	126 53-207 6	441 209-1136 6			
	Salted & Dried	5175	1060	200	366			
	Whole Dried			1640	540			
	Dried & Smoked			3423	520			
Herring, Machete *Ethmidium chilcae*	Muscle Raw			118 49-186 2	160 103-217 2	56		
Herring, Pacific *Clupea pallasi*	Muscle Raw	117 74-160 2	420	83 64-102 2	228 174-281 3			32
	Dried			95 92-98 2	830 720-940 2			
	Salted			84	223 140-306 2			
	Smoked			78	580			
Herring, Round *Etrumeus micropus*	Muscle Raw			28	610			
Herring, Wolf *Chirocentrus dorab*	Muscle Raw	128	235	60 22-37 2	714 278-1150 2			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Herring	Muscle							
Clupeidae	Raw	105	322	58	262	115	206	26
		52-160	268-446	15-112	160-364	108-122	191-221	10-32
		7	5	11	15	2	4	4
	Canned							
	In Bouillon			260	350			
	In Oil	510	560					
	In Tomato Sauce			230	330			
	Unspecified		356	79	322	625		
				8-150				
				2				
	Cooked							
	Baked							
	In Vinegar	62	233	58	326	119	205	22
	Unspecified	990	520	65	426	1520	280	48
	Curried	3723	251					
	Fried	101	415	39	339	125	266	35
							261-270	
							2	
	Dried			130	763			
				97-163	710-816			
				2	2			
	Kippered			140	380		410	
							225-596	
							2	
	Salted			62	350			
	Smoked	5610		78	474	8240	360	
		1703-9516			367-580	2626-14884	222-497	
		2			2	3	2	
	Whole							
	Cooked							
	Fried	225	112	859	856	325	269	50
	Kippered	2276				7102		
		990-4598						
		3						
	Salted	4621				7140		
		3902-5340				6026-8255		
		2				2		
	Salted & Dried			1056	642			
	Smoked			1490	520			
	Fishmeal	597	1452	2662	1928		1100	150
		420-818	1200-1910	1950-3900	1500-2203			110-192
		4	4	7	7			4
	Eviscerated							
	Raw	189				291		
Japanesefish	Muscle							
Labracoglossus argentiventris	Raw			66	120			
Jewfish	Muscle							
Pseudosciaena coiber	Raw			307	292			
Jewfish	Muscle							
Sciaena antarctica	Raw	70	260	40	170			30
Jewfish	Muscle							
Sciaena sina	Raw			21	98			
Jewfish, California	Muscle							
Stereolepis gigas	Raw			10	192			
Kingfish	Muscle							
Caranx equulus	Raw			7				17
Kingfish, Gulf	Muscle							
Menticirrhus littoralis	Raw	83	250					
Lamprey	Muscle							
Entosphenus japonicus	Raw			10	180			
	Dried			160	240			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Lamprey Petromyzontidae	Muscle Raw Dried			16 46	120 339			
Lance, Sand Ammodytes americanus	Whole Fishmeal	920	1300	1800	1300		530	130
Leatherjacket Lichia glauca	Muscle Raw			30	680			
	Eviscerated Raw				558	110		
Leatherjacket, Yellow Scomber lyson	Muscle Raw		150 183-266 2	59 5-95 3	600 196-1005 2			9
Levovangan Monotaxes grandoculis	Muscle Raw	127 93-161 2	263 58-468 2	50	178			
Ling Molva molva	Muscle Raw	83		14 7-20 2	200			
Ling Molvidae	Muscle Cooked Fried Battered & Breaded Steamed	145 120	312 370	40 18	228 221	157 99	203 266	32 37
Lingcod Ophiodon elongatus	Muscle Raw	59 54-62 3	413 352-448 3	35 15-55 3	190 165-230 3			18
Lizardfish Saurida argyrophanes	Muscle Raw			11	270			
Lizardfish Saurida tumbil	Muscle Raw	70	513	46 42-49 2	208 201-214 2			
Lizardfish Saurus lacerta	Muscle Raw				445	110		
Lizardfish, Spotted Tail Saurida undosquamis	Muscle Raw			13				29
Lizardfish Synodontidae	Whole Dried			1370	440			
Loach, Weatherfish Misgurnus anguillicaudatus	Muscle Raw		496	40 28-53 2	419 402-436 2			
Longaray Ambassidae	Muscle Raw			67	150			
Lumpfish Cyclopteridae	Whole Raw	275				425		

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Maasbanker, Mackerel, Jack	Muscle							
Trachurus trachurus	Raw	64	360	65	218	120		
					192-244			
					2			
Mackerel	Muscle							
Scomber australias	Raw	100	420	20	270			
Mackerel	Muscle							
Scomber microlepidotus	Raw			48	778			
Mackerel, Atlantic	Muscle							
Scomber scombrus	Raw	48	245	8	307	110	190	28
			236-254	5-11	217-453			
			2	2	3			
	Canned			186	260			
Mackerel, Frigate	Muscle							
Auxis tapernosoma	Raw			35	210			
Mackerel, Frigate	Muscle							
Auxis thazard	Raw	252	464	24	250			
				11-39	193-341			
				3	3			
Mackerel, Horse	Eviscerated							
Caranx melampygus	Raw			357	253			
Mackerel, Horse	Muscle							
Caranx ronchus	Raw			72	359			
				64-80	153-565			
				2	2			
Mackerel, Horse	Muscle							
Carangidae	Raw		262	20	252			41
				11-30				13-69
				2				2
	Fishmeal	570	890	6200	3340			180
Mackerel, Jack	Muscle							
Caranx delicatissimus	Raw			16				37
Mackerel, Jack	Muscle							
Trachurus japonicus	Raw	94		15	254			30
				12-19	222-287			28-33
				3	2			2
	Canned	800		45	300			
	Salted & Dried	1400		600	1300			
Mackerel, Jack	Muscle							
Carangidae	Raw	90	415	34	200			28
		89-90		12-49	179-226			
		2		5	4			
	Canned	800		45	300			
	Salted & Dried	1200		70	450			
Mackerel, Japanese, Spanish	Muscle							
Scomberomorus niphonius	Raw			8	355			
Mackerel, King	Muscle							
Scomberomorus cavalla	Raw			9	279			
Mackerel, King, Seer	Muscle							
Scomberomorus commersonii	Raw	59	520	32	245	99		37
		49-70	420-669	7-92	162-345			
		3	3	5	5			
	Dried	2174	597	77	225			
	Salted & Dried			86	329			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Mackerel, Long-jawed Rastrelliger canagurta	Muscle Raw	44 40-48 2	366 176-511 3	46 39-58 3	324 155-622 3			
	Dried	150	1600	217	602			
	Salted & Dried	4289 3535-5043 2	1150 881-1418 2	217 183-251 2	469 351-587 2			
Mackerel, Pacific Chub Scomber japonicus/colias	Muscle Raw	99	372 274-469 2	16 6-31 4	270 175-384 3			32 29-35 2
	Canned			155 50-260 2	274 260-288 2			
	Dried			17	650			
	Salted			25	240			
Mackerel, Short-bodied, Hasa Hasa Rastrelliger brachysomus	Muscle Raw	172	461	74	204			
	Smoked	1599	537	52	239			
Mackerel, Spanish Scomberomorus maculatus	Muscle Raw	44 10-89 4	234 136-292 4	34 11-57 2	208 168-248 2			
Mackerel, Spotted Spanish Scomberomorus guttatus	Muscle Raw			86	349			
Mackerel, Surmaii Scomberomorus kuhlii	Muscle Raw			93	162			
	Salted & Dried			148	172			
Mackerel, West African, Spanish Scomberomorus tritor	Muscle Raw			27 10-44 2	426 262-590 2			
	Dried			228	775			
Mackerel Scombridae	Muscle Raw	94 48-137 4	486	22 5-94 10	216 66-298 11	190 170-211 2	193 162-233 3	29 23-35 2
	Canned Boiled	860		50	260			
	In Bouillon			280	360			
	In Oil	517		145	235	798		
	In Tomato Sauce			200	280			
	Marinated			270	340			
	Unspecified		385 329-441 2	162 101-225 4	324 273-374 2	590		
	Cooked Fried	153	418	28	280	114	210	35
	Dried			64 17-110 2	560 470-650 2			
	Salted	1600		25 25-25 2	212 153-242 3		245	
	Smoked	3129				4824		
Marlin Makaira manazza	Muscle Raw			5				14

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Marlin, Blue	Muscle							
Makaira nigricans	Raw			22	229			
Megrim	Muscle							
Lepidorhombus whiffiagonis	Raw	121	269	62	187	122	204	29
	Cooked							
	Fried							
	Battered & Breaded	177	251	63	219	183	235	31
	Steamed	96	214	76	218	119	246	28
Menhaden, Atlantic	Whole							
Brevoortia tyrannus	Fishmeal	310	600	5170	2950			140
Menhaden	Muscle							
Clupeidae	Raw	1140	1570	60	560			110
	Whole							
	Fishmeal	435	1035	4566	2504			150
		340-530	720-1350	1220-5694	853-3526			140-160
		2	2	6	6			2
Milkfish	Muscle							
Chanos chanos	Raw	72	292	36	193			
		64-80	94-401	16-51	153-264			
		2	3	3	3			
	Smoked	1136	837	78	188			
				76-80	181-195			
				2	2			
Minnow, Common	Muscle							
Zacco platypus	Raw			140	180			
Mojarra	Muscle							
Diapterus evermanni	Raw			112	312			
Mojarra, Silver	Muscle							
Pentaprion longimannus	Raw	116	213					
Mojarra, Spotted	Muscle							
Gerres filamentosus	Raw	107	404	66	191			
Moonfish, Pacific	Muscle							
Vomer declivifrons	Raw	73	437	22	227			
Mullet	Muscle							
Mugil caerulcoma	Raw	61	490					
Mullet	Muscle							
Mugil kalaartii	Raw	66		25	296			
Mullet	Muscle							
Mugil liza	Raw			33	157			
Mullet, Black Fin	Muscle							
Mugil melinopterus	Raw			95	185			
	Dried			313	195			
Mullet, Ca'Doi	Muscle							
Mugil affinos	Raw	60	290	14	176			27
Mullet, Green-backed	Muscle							
Mugil dussumierii	Salted & Dried			313	196			
Mullet, Grey	Muscle							
Mugil auratus	Raw		274	19	253			2[illegible]

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Mullet, Grey, Boi *Mugil speigleri*	Muscle Raw			23	315			
Mullet, Indian *Mugil corsula*	Muscle Raw			18	360			
	Whole Dried			1830	5310			
Mullet, Kechki *Mugil cascasia*	Muscle Raw			59	318			
	Whole Dried			1880	4380			
Mullet, Long-finned *Mugil vaigiensis*	Muscle Raw		259	37 15-59 2	340 195-484 2			
Mullet, Striped *Mugil cephalus*	Muscle Raw	81 58-100 4	308 292-320 4	26 11-93 10	228 153-436 10	120		29 25-32 3
Mullet Mugilidae	Muscle Raw	70 69-70 2	485	51 16-99 5	231 173-338 5			33
	Cooked Fried In Oil	1100	510	840	520			
	Steamed	106	320	22	269	89	255	32
	Salted & Dried			289	601			
	Fishmeal			69	117			
	Whole Raw			195		305		
	Smoked	624		1482		1647 976-2318 2		
Nemipterid, Long-tailed *Nemipterus japonicus*	Muscle Raw	106	326	135	172			
Nemipterid, Ribbon-finned *Nemipterus taenipterus*	Muscle Raw	88	500	39	210			
	Salted & Dried	5857	654	245	254			
Nemipterid, Roncador *Nemipterus virgatus*	Muscle Raw			116 81-150 2	197			28
Pandora, Sea Bream *Pagellus erythrinus*	Muscle Raw		308 302-315 2	20				
Parrotfish *Oplegnathus fasciata*	Muscle Raw			32	352			
Parrotfish *Scarus mechipunctatus*	Muscle Raw			36	144			
Parrotfish, Loro *Sparisoma squalidum*	Muscle Raw			90	213			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Parrotfish Scaridae	Muscle Raw	103	395					
Perch, Blue, Walleye Stizostedion vitreum glaucus	Muscle Raw	52	324		201			
Perch, Climbing Anabes testudenicus	Muscle Raw	45 35-64 3	314 195-438 3	80 28-131 2	164 159-169 2	92		32
Perch, Climbing, Gourami Trichogaster fasciata	Whole Raw			460	360			
Perch, Climbing, Gourami Trichogaster pectoralis	Muscle Raw			70	177			
Perch, Climbing, Gourami Trichogaster trichopterus	Muscle Raw	35	350	13	183	106		35
Perch, Climbing Anabantidae	Muscle Raw			98	160			
Perch, Golden, Callop Plectroplites ambiguus	Muscle Raw	80	210	30	130			20
Perch, Ocean, Pacific Sebastes alutus	Muscle Raw	70 62-79 2	358 324-393 2					
Perch, Sand Psammoperca waigiensis	Muscle Raw			36	185			
Perch, White Morone americanus	Muscle Raw				192		261	
Perch, Yellow Perca flavescens	Muscle Raw	67	242 226-261 3				370	
Picarel Maena zebra	Muscle Raw				606	120		
Picarel Smaris vulgaris	Muscle Raw				706	335		
Pigfish, Grunt Orthopristis chrysoptera	Muscle Raw		364	44				36
Pike, Muskellunge Esox masquinongy	Muscle Raw				227		148	
Pike, Northern Esox lucius	Muscle Raw		340	259				
Pike Esocidae	Muscle Raw	40 29-52 2	363 310-416 2	40	213	32	218	31
Pilchard, European Clupea pilchardus	Muscle Raw		321	55 24-86 2	441 220-742 5	930		

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Canned							
	In Oil							
	Drained			54	321			
	Unspecified			497	608		290	41
				409-593	545-683			
				3	3			
	Whole							
	Canned			580	624			
Pilchard, Japanese	Muscle							
Sardinops melanosticta	Raw	100	465	74	295			58
				35-106	229-417			41-74
				3	3			2
	Canned							
	In Oil	770		450	430			
	In Tomato Sauce	1100		354	406			
				330-388	360-452			
				2	2			
	Seasoned	800		270	360			
	Unspecified	800		270	360			
	Salted	2400		85	350			
	Salted & Dried			393	2458			
	Muscle with Bones							
	Dried	2100		1276	1657			
	Eviscerated							
	Raw			159	514			
Pilchard, Pacific	Muscle							
Sardinops (Sardina) caerulea	Canned							
	In Tomato Sauce			381	168			
	Unspecified			137	229			
Pilchard	Muscle							
Clupeidae	Raw			42	212			24
	Canned	585	295	303	246	905	245	42
		400-760	260-320	231-381	168-296			
		3	3	3	3			
	Whole							
	Fishmeal	610	520	4690	2900	630		190
Pintadilla	Muscle							
Cheilodactylus variegatus	Raw			44	148	24		
				29-59	73-222			
				2	2			
Plaice	Muscle							
Pleuronectes arsius	Raw	60	260	30	160			10
Plaice, American	Muscle							
Hippoglossoides platessoides	Raw	90	329					
Plaice	Muscle							
Pleuronectidae	Raw	96	353	18	219	83	208	24
				17-20	218-220		203-214	22-25
				2	2		2	2
	Cooked							
	Fried							
	Battered & Breaded	124	219	45	251	174	249	24
	Steamed	120	278	38	246	112	249	24
Pollack, Saithe, Coalfish	Muscle							
Pollachius virens	Raw	59	349	54	224	91		
		34-86	348-350	20-87	220-228			
		2	2	2	2			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
	Cooked							
	Steamed	97	348	19	250		266	31
Pollack, Walleye	Muscle							
Theragra chalcogramma	Raw		428	9	376			57
	Dried			746	985			
Pollack	Muscle							
Gadidae	Raw			63	224			33
				15-154	220-230			
				3	3			
	Cooked							
	Fried							
	Battered & Breaded	162	333	128	241	275	198	45
	Steamed	95	438	13	202	114	238	33
	Dried	780		30	540			
Pomfret	Muscle							
Pampus raii	Raw				305	111		
Pomfret, Silver	Muscle							
Pampus argenteus	Raw		517	23	152			
					140-163			
					2			
Pompano	Muscle							
Trachinotus palometus	Raw			18	143			
Pompano, Indian	Muscle							
Alectis indicus	Raw		274	26	658			
Pompano, Pacific	Muscle							
Neptomenus crassus	Raw	120		38	327	300	68	
				9-66	211-524	185-416		
				2	3	2		
Pompano, Permit	Muscle							
Trachinotus falcatus	Raw			95	193			
Pompano, Talakitok	Muscle							
Caranx malabaricus	Raw		260	27	501			
Pompano	Muscle							
Carangidae	Raw			68	130			
Porgy, Aligote	Muscle							
Pagellus acarne	Raw				628	130		
Porgy, Bogue	Muscle							
Sarpa (Box) boops	Raw				519	365		
Porgy, Pargo	Muscle							
Pagrus ehrenbergii	Raw			85	390			
Porgy, Sheepshead	Muscle							
Archosargus probatocephalus	Raw	101	234					
Porgy	Muscle							
Sparidae	Raw			35	185	253	201	
				15-49	62-288			
				4	6			
	Dried			160	678			
					575-780			
					2			
Puffer, Swellfish	Muscle							
Sphoeroides porphyreus	Raw			20	300			
Puffer, Swellfish	Muscle							
Tetraodontidae	Raw		347	16	139			
				13-18	138-140			
				2	2			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Salted & Dried			56	1439			
Puntazzo Puntazzo puntazzo	Muscle Raw				532	1440		
Queenfish, Leatherjacket Chorinemus tol	Muscle Raw			16	398			
Rabbitfish Siganus (Teuthis) javis	Muscle Raw	76	322 192-451 2	42 41-42 2	288 122-455 2			
	Dried Salted & Fermented			213 504	288 435			
Ray, Eagle Actobatus peruvianus	Muscle Raw			66	308			
	Cooked Roasted			15	215			
Ray, Eagle Rhinoptera seweli	Muscle Raw			179	275			
Ray, Electric Torpedo (ocellata) torpedo	Muscle Raw				671	170		
Redfish, Ocean Perch Sebastes marinus	Muscle Raw	81 59-111 4	307 269-345 2	141	223	141	304	
Roach Rutilus rutilus	Muscle Raw		270	50	192			
	Whole Fishmeal			790	560			
Rockfish, Black Sebastes melanops	Muscle Raw	66	432					
Rockfish, Boccaccio Sebastes paucispinus	Muscle Raw	60	411	53	238			
Rockfish, Canary Sebastes pinniger	Muscle Raw	61 46-71 3	366 347-384 2					
Rockfish, Chilipepper Sebastes goodei	Muscle Raw	55	305					
Rockfish, Greenstriped Sebastes elongatus	Muscle Raw	68	414					
Rockfish, Idiot Sebastes alascanus	Muscle Raw	77	344					
Rockfish, Mebara Sebastes inermis	Muscle Raw			48	334			
Rockfish, Osaga Sebastes iracundus	Muscle Raw			63	196			
Rockfish, Red Sebastes matsubarae	Muscle Raw	94		15	160			
Rockfish, Red Sebastes ruberrimus	Muscle Raw	66	413					

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Rockfish, Yellowtail	Muscle							
Sebastes flavidus	Raw	54	382					
		50-59	358-406					
		3	2					
Runner, Blue	Muscle							
Caranx crysos	Raw			72	316			
Runner, Rainbow	Muscle							
Elagatis bipinnulatus	Raw	54	430	30	188			
			417-442					
			2					
Sablefish	Muscle							
Anoplopoma fimbria	Raw		580	35	168			55
				7-77	150-187			
				3	2			
Salmon, Atlantic	Muscle							
Salmo salar	Raw		410	15	220		200	32
			380-440					
			2					
Salmon, Australian	Muscle							
Arripis georgianus	Raw	50	250	40	240			30
Salmon, Australian	Muscle							
Arripis trutta	Raw	60	235	35	155			25
	Whole							
	Raw				769	115		
Salmon, Cherry	Muscle							
Oncorhynchus masou	Raw			140	993			
	Canned							
	Boiled			28	157			
	Salted			11	362			
Salmon, Chinook	Muscle							
Oncorhynchus tshawytscha	Raw	42	266	20	289			95
		38-45	160-372					
		2	2					
	Canned			154	296			27
				107-200	278-326			
				4	4			
Salmon, Chum	Muscle							
Oncorhynchus keta	Raw	50	362	12				22
			296-429	9-16				13-32
			2	2				2
	Canned	48	339	249	352			30
Salmon, Coho	Muscle							
Oncorhynchus kisutch	Raw	38	445	36	231			29
		26-51	421-469	28-43	212-250			
		4	3	2	2			
	Canned	184	308	249	296	73		30
		47-322		230-286	254-338			
		2		3	3			
	Cured	2500		50	250			
	Salted	3200		30	250			
	Salted & Smoked	2900		43	340			
Salmon, Longtooth	Eviscerated							
Otolithes ruber	Raw			214	266			
Salmon, Pink	Muscle							
Oncorhynchus gorbuscha	Raw	78	330	13	230			
		56-110	258-443					
		5	4					

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Canned	700		158	310			30
				110-196	290-321			
				4	3			
	Salted	3200		10	360			
Salmon, Sockeye	Muscle							
Oncorhynchus nerka	Raw	48	376	176	231			
		34-61	339-411					
		4	4					
	Canned	355	364	178	316			35
		44-628	308-425	22-272	273-392			29-47
		5	4	7	7			3
Salmon	Muscle							
Salmonidae	Raw	76	384	16	245	74	199	
		37-170	351-410	10-25	200-270		192-212	
		4	4	4	6		3	
	Canned							
	Boiled	500		170	320			
	Unspecified	440	376	203	298	865	221	46
		60-623	300-472	66-472	248-353		176-241	30-62
		4	4	12	10		4	2
	Cooked							
	Steamed	107	333	29	302	64	190	29
	Cured	2500		50	250			
	Salted	3200		23	336			
				16-30	260-412			
				2	2			
	Smoked	2900		48	524			
				43-53	340-707			
				2	2			
	Offal							
	Fishmeal			5200	3100			
Sandfish	Muscle							
Arctoscopus japonicus	Raw			45	216			
				29-61	184-248			
				2	2			
	Salted			28	250			
Sandfish	Muscle							
Trichodontidae	Salted & Dried			28	250			
Sardine	Muscle							
Clupanodon pseudohispanicus	Raw			127	302			
Sardine	Whole							
Opisthopterus tartoor	Raw			1065	227			
Sardine	Muscle							
Sardinella eba	Raw			380	710			
Sardine, Golden	Muscle							
Sardinella aurita	Raw				331	140		
Sardine, Indian	Muscle							
Sardinella longiceps	Raw	61	420	212	280			
				96-336	175-345			
				3	3			
	Muscle with Bones							
	Salted & Dried			283	315			
	Smoked	5175	723	203	175			
Sardine, Spotted	Muscle							
Sardinella sirum	Dried			283	315			
	Salted & Dried	6672	672					

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Sardine	Muscle							
Clupeidae	Raw	100	55	73	240		229	4
				50-90	240-240			
				3	2			
	Canned							
	In Oil							
	Smoked			350	440			
	Unspecified	558		421	438	870	246	
		550-565		29-1254	299-701			
		2		8	7			
	In Tomato Sauce							
	Smoked			360	380			
	Unspecified	321	476	302	375			64
				240-363	370-380			
				2	2			
	Marinated			230	320			
	Unspecified	785	433	371	369	865	270	41
				297-409	137-683		258-283	
				10	8		2	
	Dried			27	308			
	Salted & Dried	1425		825	825			
		750-2100		300-1350	450-1200			
		2		2	2			
	Smoked	5189	723	2416				
	Whole							
	Raw			554	944	1290		30
				184-870	556-1730			
				4	4			
	Fishmeal			3700	2700			
Saury, Pacific	Muscle							
Cololabis saira	Raw	60	285	22	206			12
				11-34	190-222			
				3	2			
	Canned							
	In Tomato Sauce	500		320	330			
	Seasoned	1000		290	350			
	Unspecified		201	162				
	Dried & Seasoned	1600		120	250			
	Salted & Dried			32	320			
				30-33	220-420			
				2	2			
Sawfish	Muscle							
Pristidae	Raw			54	238			
Scad, Big-bodied	Muscle							
Decapterus macrosoma	Raw	81	404	71	214			
	Salted & Dried	4044	730	622	726			
		3162-4925	700-760	614-629	534-917			
		2	2	2	2			
Scad, Big-eyed	Muscle							
Caranx crumenophthalmus	Raw	61	614	28	247			
				6-50	115-386			
				2	3			
	Salted & Dried	3016	608	191	166			
		61-5971	601-614	50-332	115-217			
		2	2	2	2			
	Smoked			101	186			
Scad, Golden	Muscle							
Caranx kalla	Raw	100	455	93	221			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Scad, Mackerel *Decapterus macarellus*	Muscle Raw			23	248			
Scorpionfish, Yellow *Scorpaena scropha*	Muscle Raw				327	70		
Scorpionfish Scorpaenidae	Muscle Raw	65 45-79 3	269	32 20-39 3	298 200-480 3			
	Whole Raw	133	294					
	Fishmeal Dried Raw	755	2180	4980	2345	1190		195
	Steamed & Dried	945	1370	4080	3015	1585		200
	Unspecified			7200	4000			
Sculpin *Cottus pollux*	Muscle Dried			4124	1439			
Sculpin, Sea Raven *Hemitripterus americanus*	Muscle Cooked Steamed	152	328	17	218	129	250	28
Sculpin, Shorthorn *Myoxocephalus scorpius*	Muscle Raw	55	332					
Scup, Sea Bream *Stenotomus chrysops*	Muscle Raw	63	287					
Sea Crow *Corvina nigrita*	Muscle Raw			9	289 129-449 2	750		
Sea Robin, Gurnard *Trigla carax*	Muscle Raw				296	190		
Sea Robin, Red Gurnard *Trigla capensis*	Beheaded Raw			1072	655			
Sea Robin Triglidae	Muscle Raw		254	98	147		61	33
Sea Trout, Corvina *Cilus monti*	Muscle Raw			38		226		
Sea Trout, Grey *Cynoscion regalis*	Muscle Raw	59	317					
Sea Trout, Sand *Cynoscion arenarius*	Muscle Raw	54	218					
Shad *Clupea alosa*	Muscle Raw		162		323	140		
Shad *Ethmalosa dorsalis*	Muscle Raw			138	290			
	Whole Dried			1640	540			
Shad, American *Alosa sapidissima*	Muscle Raw	54	330					
Shad, Bastard *Konosirus thrissa*	Muscle Raw			29				41

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Shad, Gizzard Anodontostoma chacunda	Muscle							
	Raw	98	417	125	194			
	Salted & Dried	6671	775	496	483			
				492-500	483-483			
				2	2			
	Smoked			302	219			
Shad, Gizzard Dorosoma cepedianum	Muscle			120	380			
Shad, Hickory Alosa mediocris	Muscle Raw			24	340			
Shad, Indian Clupea toli	Muscle Raw			23	567			
Shad, Indian Hilsa ilisha	Muscle Raw	52	183	101	273			
				22-180	266-280			
				2	2			
Shad, Slender Ilisha elongata	Muscle Raw			39	231			
Shad, Threadfin Dorosoma petenense	Whole Raw			142	77			
Shad Clupeidae	Muscle Raw	53	307		191	197	209	
					120-262			
					2			
Shadefish, Meagre Sciaena aquila	Muscle Raw	278			110			
		180-375						
		2						
Shark, Blackfinned Carcharhinus melanopterus	Muscle Raw		722	152				68
			676-769	66-237				67-68
			2	2				2
Shark, Blacktip Carcharhinus limbatus	Muscle Raw			13	107			
Shark, Blue Carcharhinus glauca	Muscle Raw			5	150			
Shark, Elephant Callorhinchus milii	Muscle Raw			19	184			
Shark, Gummy Mustelus antarcticus	Muscle							10
	Raw	70	290	30	160			
	Canned							
	Boiled	950		47	225			
	Seasoned	1150		130	250			
Shark, Hammerhead Sphyrna blochii	Muscle Raw			15	118			
Shark, Hammerhead, Smooth Sphyrna zygaena	Muscle Raw	109	464	25	208			
Shark, Mushi Scoliodon sorrakewa	Muscle Salted & Dried			541	507			
Shark, Porbeagle, Mackerel Lamna cornubica	Muscle Raw				214	150		
Shark, Porbeagle, Salmon Lamna ditropis	Muscle Raw			27	168			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Shark, Requiem Carcharhinidae	Muscle Raw			48 32-59 3	180 169-192 3			
	Salted	834				1304		
Shark, Sand Carcharias glaucas	Muscle Raw				288	140		
Shark, Sharpnose Scoliodon palasorrah	Muscle Raw	79	549	89 14-164 2	194 183-204 2			
Shark, Sharpnose, Pacific Scoliodon longurio	Muscle Raw			108	206			
Shark, Smoothhound Mustelus vulgaris	Muscle Raw				309	150		
Shark, Thresher Alopias vulpinus	Muscle Raw				349	120		
Shark Unspecified	Muscle Raw			14 4-23 2	286			44
Sheathfish Kryptopterus kryptopterus	Muscle Raw			49	152			
Sheathfish Parasilurus asotus	Muscle Raw			59	303			
Sheathfish Tachysurus gambensis	Muscle Raw			13	82			
Sheathfish Tachysurus heudeloti	Muscle Raw			5	167			
Silverside Atherina forskali	Muscle Dried Rinsed & Drained	100	620	540	160			
Silverside Atherina presbyter	Muscle Raw			19	202			
Silverside Austromenidia regia	Muscle Raw			105	311			
Skate, Blue Raja batis	Muscle Raw		240	20	240		227	24
Skate, Flatback Raja kenojei	Muscle Raw			64	131			
Skate, Starry Ray Raja asterias	Muscle Raw				296	210		
Skate, Thornback Raja clavata	Muscle Raw	104	330 273-387 2					
Skate Rajidae	Muscle Raw	90	250	38 5-70 2	155 140-170 2			30
	Cooked Fried Battered & Breaded	182	236	19	238	266	213	23

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Sleeper Eleotris fusca	Muscle Raw			32	218			
Sleeper Oxyeleotris marmorata	Muscle Raw	43	280	19	174	102		31
Slimy, Soapy Leiognathus insidiatrix	Whole Raw			743	755			
Slimy, Soapy, Ponyfish Leiognathus equula	Muscle Raw	162	328 218-437 2	43 33-50 3	288 148-554 3			
	Dried Salted & Dried	5533	745	203	290			
	Whole Raw			1079	663			
Slipmouth, Blackfinned Leiognathus daura	Muscle Raw	130	378	52	159			
Slipmouth Leiognathidae	Muscle Raw			19	339			
Smelt, Lake Osmerus mordax	Muscle with Bones Canned			358	370			
Smelt, Pond Hypomesus olidus	Whole Raw			750	680			
Smelt, Sweet, Ayu Plecoglossus altivelis	Muscle Raw	80		38 26-50 2	249 190-308 2			
	Whole Raw Dried			135 3016	504 278			
Smelt Osmeridae	Muscle with Bones Raw			754	516 354-678 2		202 168-221 3	
	Cooked Boiled & Dried Fried Dried	148	517	274 686 459	1109 535 1934	138	302	59
	Whole Raw		288	567 198-754 3	534 245-680 3			
Snapper Chrysoprys guttalatus	Muscle Raw	80	400	20	394 160-628 2	90		30
Snapper Lutianus agennes	Muscle Raw			250	131			
Snapper Pristop jubelini	Muscle Raw			40	450			
Snapper, Lane Lutianus synagris	Muscle Raw	33	125					

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Snapper, Malabar *Lutianus malabaricus*	Muscle Raw		293	56 46-65 2	456 134-778 2			
Snapper, Pargo *Lutianus colorado*	Muscle Raw			17	204			
Snapper, Red *Lutianus aya*	Muscle Raw	65	323	18	228			
Snapper, Red *Lutianus campechanus (blackfordii)*	Muscle Raw	96 63-150 4	292 210-405 4	22 14-30 4	134 23-210 4			24 20-28 2
	Cooked Fried Battered			1024	648			
Snapper, Yellowtail *Ocyurus chrysurus*	Muscle Raw			28	217			
Snapper *Lutianidae*	Muscle Raw	90 70-120 3	323 176-420 3	33 17-49 3	192 144-213 4		206 189-224 2	
Snook *Centropomus undecimalis*	Muscle Raw	80	290	40	120			30
Snook, Constantino *Centropomus robalito*	Muscle Raw			14	127			
Snook, Nile Perch *Lates neloticus*	Muscle Raw Dried			89 170	137 662			
Snook, Robalo *Centropomus armatus*	Muscle Raw			15	204			
Sole *Aesopia cornuta*	Muscle Raw			18				26
Sole *Cynoglossus semifasciatus*	Whole Raw			1100	519			
Sole *Eopsetta cynoglossus*	Muscle Cooked Fried Battered & Breaded	176	300	52	187	187	235	24
	Steamed	136	304	30	233	123	252	24
Sole, Black *Synaptura nigra*	Muscle Raw	80	230	30	230			30
Sole, Dover *Microstomus pacificus*	Muscle Raw	95	323	50	154		233	
Sole, Dover *Solea solea*	Muscle Raw		262	34 20-47 2	252 245-259 2			20
Sole, English *Parophrys vetulus*	Muscle Raw	85 72-91 4	373 330-402 3					

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Sole, European Solea vulgaris	Muscle Raw				258 168-349 2	80		
Sole, Flathead Hippoglossoides elassodon	Muscle Raw	76 73-79 2	180 60-299 2					
Sole, Petrale Eopsetta jordani	Muscle Raw	81 71-96 4	354 268-402 3	10	170			
Sole, Rex Glyptocephalus zachirus	Muscle Raw	150	259	10	110			
Sole, Rock Lepidopsetta bilineata	Muscle Raw	80	380					
Sole, Sand Psettichthys melanostictus	Muscle Raw	56	344					
Sole, Speckled Cynoglossus puneticeps	Muscle Raw		283	32	436			
Sole Soleidae/Pleuronectidae	Muscle Raw		489	38 12-120 5	170 150-195 3		180	29
	Cooked Fried Battered & Breaded	164	243	113	250	158	227	25
	Steamed	112	260	67	258	74	238	24
Spadefish Chaetodipterus faber	Muscle Raw			37	191			
	Whole Raw			135	76			
Spadefish Scatophagus argus	Muscle Raw	94 90-98 2	331 292-370 2	67 60-74 2	246 211-280 2			40
Spot Leiostomus xanthurus	Muscle Raw			90	220			
Sprat Sprattus sprattus	Muscle with Bones Canned In Oil							
	Dried			508	802			
	Smoked			250	400			
	Unspecified			360	189			
	In Tomato Sauce Smoked			250	350			
	Unspecified			280	400			
	Cooked Fried	132	409	707	635	182	280	46
	Grilled	845	483	436	565	1330	275	40
	Whole Raw			280	400			
	Dried			855	1165			
Stargazer Uranoscopus scaber	Muscle Raw				357	200		

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Steenbras, Sand, Seebes Lithognathus mormyrus	Muscle Raw			123	291 268-314 2	90		
Stingray Dasyatis pastinaca	Muscle Raw	133	352					
Stingray, Blue Spotted Dasyatis kuhlii	Muscle Raw	168	241	25	99			
Stingray, Butterfly Pteroplata altavela	Muscle Raw			9	108			
Stingray, Marbled Dasyatis uarnak	Muscle Raw	179	236	22 19-25 2	157 152-170 3			
Stingray, Thronback Dasyatis akajei	Muscle Dried			211	1522			
Stingray Dasyatidae	Muscle Raw			14 9-20 2	117			38
Sturgeon Acipenser sturio	Muscle Raw Cooked Steamed		284	 40	466 263	130		
Sturgeon Acipenseridae	Muscle Cooked Steamed	108	235	15	263	138	291	19
Sucker, Carp Carpiodes meridionalis	Muscle Raw			15	165			
Sucker Catostomidae	Muscle Raw	53 50-57 3	316 292-344 3					
Sunfish, Bluegill Lepomis macrochirus	Whole Raw			234	125			
Surgeonfish Acanthurus bleekeri	Muscle Raw	60	394 243-546 2	33 21-45 2	336 169-503 2			
Swordfish Xiphias gladius	Muscle Raw	102	342	10 7-13 2	506 228-745 3	130		
Tarpon, Bid-Bid Elops hawaiiensis	Muscle Raw	82	491	78 65-92 2	208 192-225 2			
Tarpon, Buan-Buan Megalops cyprinoides	Muscle Raw	82	360	54	263			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Tarpon Elopidae	Muscle with Bones Dried	24	336	1592	789			58
Tench *Tinca tinca*	Muscle Raw		300	20	207		161	24
Tench *Tinca vulgaris*	Muscle Raw				266	70		
Therapon *Therapon plumbeus*	Whole Dried			5317	1356			
Therapon, Large Scaled, Banded Grunter *Therapon theraps*	Muscle Raw	65	353 216-490 2	50 41-59 2	324 213-435 2			
Therapon, Tigerfish *Therapon jarbua*	Muscle Raw	101	459	40	193			
Therapon Theraponidae	Muscle Raw	83	474	50	203			
Threadfin *Galeoides decadactylus*	Muscle Raw			10	198			
Threadfin *Pentanemus quinquarias*	Muscle Raw			10	166			
Threadfin *Polynemus heptadactylus*	Muscle Raw			314	244			
Threadfin *Polynemus indicus*	Muscle Raw			15	125			
	Whole Dried			1740	4630			
Threadfin *Polynemus paradiseus*	Muscle Salted & Dried			190	422			
Threadfin, Four-rayed *Polynemus tetradactylus*	Muscle Raw Fishmeal	87	372	20 158	398 143			
Threadfin, Shiny-nose *Polydactylus quadrifilis*	Muscle Raw			177	148			
Threadfin, Small Mouth *Polynemus microstoma*	Muscle Raw	101	391	35	183			
Threadfin Polynemidae	Muscle Raw	82 60-96 3	386 240-481 3	61 20-96 3	166 160-174 4			30
Tilapia, Mozambique Mouthbrooder *Tilapia mossambica*	Muscle Raw	52	454	54	154 135-172 2			
Tilefish *Branchiostegus japonicus*	Muscle Raw			10	242			13
Tilefish Branchiostegidae	Muscle Raw			40 40-40 2	234 217-250 2			

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
					Per 100 grams			
Torpedo, Panga	Muscle							
Megalaspis cordyla	Raw	102	390	45	140			
Trevally	Muscle							
Caranx georgianus	Raw	70	340	40	150			30
Trevally, Great, Talaritok	Muscle							
Caranx sexfasciatus	Raw			63	186			
	Salted & Dried			137	277			
Tripletail	Whole							
Lobotes surinamensis	Dried			2400	4200			
Trout, Brook	Muscle							
Salvelinus fontinalis	Raw				267		193	
Trout, Brown	Muscle							
Salmo trutta	Raw		354	20	267		244	25
			327-380					
			2					
Trout, Lake	Muscle							
Salvelinus namaycush	Raw	24	154		240			
Trout, Pollan	Muscle							
Coregonus pollan	Cooked							
	Fried							
	Covered with							
	Oatmeal	64	390	200	367	64	228	26
	Steamed	69	373	82	287	71	220	23
Trout, Rainbow	Muscle							
Salmo gairdneri	Raw	52	488	32	196			
				25-38	170-240			
				2	3			
Trout	Muscle							
Salmonidae	Raw	38	406	16	221	100	169	26
			296-516	12-20	152-290			
			2	2	2			
	Canned							
	Salted			427	315			
	Cooked							
	Steamed	148	344	24	280	166	238	30
Tuna	Muscle							
Thunnus orientalis	Raw			5	375			
	Dried			160	880			
Tuna, Albacore	Muscle							
Thunnus alalunga	Raw	51	308	8	422			
		34-85	293-322	6-11	250-595			
		4	2	2	2			
	Canned							
	In Oil	536	27	314				57
	With Salt	875	275					
	Without Salt	45	274					
	Muscle with Bone							
	Canned	38	283					
Tuna, Big-eye	Muscle							
Thunnus obesus	Raw			7	290			28
				4-9	202-378			
				3	2			
Tuna, Bluefin	Muscle							
Thunnus thynnus	Raw	76		8	254	140		
		39-100		5-11	190-327			
		3		3	4			
	Canned			28	292			

Table 13.—Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Tuna, Skipjack Euthynnus pelamis	Muscle Raw	37 25-52 5	378 281-416 4	24 6-94 7	324 148-871 6	133		54
	Canned In Oil			24	250			
	Salted			140	280			
	Unspecified			17	240			
Tuna, Skipjack Scombridae	Muscle Raw	100		18 8-29 2	220			
	Dried	280		15 13-17 2	445 350-540 2			
Tuna, Yellowfin Thunnus albacares	Muscle Raw	261 37-489 4	444 370-518 2	25 2-90 6	272 220-400 6	910		50
	Canned In Oil			3	270			
	Plain	950		70	200			
	Seasoned	1000		120	220			
Tuna Scombridae	Muscle Raw	504 75-803 4	386 369-402 2	12 9-15 2	774 730-817 2	1213 1189-1237 2		
	Canned Baby Food In Bouillon			60	180 110	40		
	In Oil Drained	928	653	13 8-18 2	371			106
	Unspecified	704	284	20 8-40 4	242 150-350 4			
	In Water	296 44-548 2	320 310-330 2	6 5-6 2	201 184-218 2			23
	Unspecified	769 632-876 3	282 222-376 4	32 7-65 16	246 144-351 14		196	
	Offal Fishmeal	73	73	3095 890-5300 2	1735 470-3000 2			23
Tunny Thunnus vulgaris	Muscle Raw		252		662	70		
Tunny, Little Euthynnus alletteratus	Muscle Raw			51 50-52 2	418 76-760 2			
Turbot Reinhardtius hippoglossoides	Muscle Raw		500	12 11-12 2				48

Table 13.--Macroelement composition of finfishes, whales, and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Turbot, Arrowtooth Atheresthes stomias	Muscle Raw	59	416 394-437 2	20 17-22 2	188			69
Turbot Pleuronectidae	Muscle Raw				210		188	
	Cooked Steamed	90	255	14	188	142	247	24
Viperfish Chauliodus sloani	Muscle Raw	150	250	43	118	240		25
Wahoo Acanthocybium solanderi	Muscle Raw			5	220			
Weakfish Larimus peli	Muscle Raw			50	196			
Weever, Greater Trachinus draco	Muscle Raw		213		423	50		
Whale Unspecified	Muscle Raw	70	300	18 4-31 2		80		63 22-104 2
	Fishmeal			425	650	325		
Whitefish, Lake Coregonus clupeaformis	Muscle Raw	52 51-53 2	307 297-317 2					
Whitefish Salmonidae	Muscle Raw	53	357		310		164	
	Smoked	1318				2062		
Whiting Merlangus merlangus	Muscle Raw			45	240	202		30
Whiting Sillago japonica	Muscle Raw			16				21
Whiting, Australian Sillago sihama	Muscle Raw	107 96-118 2	457	60 42-71 3	204 177-253 4			
Whiting, Blue Micromesistius poutassou	Muscle Raw	51		24				
Whiting Sillaginidae	Muscle Raw	50	260	30	130		257	
	Cooked Fried Battered & Breaded	86	203	29	128	63	208	19
	Steamed	127	299	42	189	93	307	28
Wolffish, Atlantic Anarhichas lupus	Muscle Raw	76		6				
Wrasse, Bass Labrax (Roccus) lupus	Muscle Raw		358		566	50		
Wrasse, Peacock Crenilabrus pavo	Muscle Raw				388	100		
Wrasse, Pintade Coris gioffredi	Muscle Raw				1050	1440		
Wrasse, Spinola Labrus turdus	Muscle Raw				614	80		
Wrasse Labridae	Muscle Raw	50	422					
Wreckfish Polyprion cernium	Muscle Raw				327	90		
Wreckfish, Black Bass Polyprion americanus	Muscle Raw	119	256	74	171			23
Yellowtail Carangidae	Muscle Raw	75		8 7-10 2	289 220-358 2			
	Canned In Oil			38	200			

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 14.--Macroelement composition of crustaceans and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Crab *Eriphia spinifrons*	Muscle Raw	202	321					
Crab *Hyas araneus*	Muscle Raw	239	368					
Crab *Polybius henslowi*	Whole Raw		19	40	65			
Crab, Blue *Callinectes sapidus*	Muscle Raw	337	244 [1/] 188-299 [2/] 2 [3/]	115 [1/] 60-227 [2/] 6 [3/]	174 [1/] 38-272 [2/] 7 [3/]	492	238	32 [1/] 12-47 [2/] 5 [3/]
	Canned			66	178			26
	Offal Meal	154 [1/] 128-180 [2/] 2 [3/]	121 120-122 2	1788 1775-1800 2	174			96 61-130 2
Crab, Blue, Deep Sea *Portunus pelagicus*	Muscle Raw	193 120-386 2	463 407-520 2	134 120-140 4	250 180-300 4			130
Crab, Dungeness *Cancer magister*	Muscle Raw	266 236-296 2	330 305-354 2	52 46-59 2	180 179-180 2	396	366	45
	Canned With Salt	844 791-898 2	179 162-196 2					
	Without Salt Unspecified [4/]	169	286	32 13-52 2	90 10-169 2			25
Crab, Edible *Cancer pagurus*	Muscle Canned			17	181			
	Cooked Boiled		271	29	350			48
Crab, Jonah *Cancer borealis*	Muscle Raw	276	279	96	120			45
Crab, King *Paralithodes camtschatica*	Muscle Raw	70		49 42-55 2	186 160-212 2			
	Canned Boiled	250		54	210			
	Unspecified			28	173		530	45
	Cooked Unspecified			55	228			
	Offal Meal	236 120-352 2	82 80-83 2	690	119			205 60-350 2
Crab, Necora, Cangrejos *Cancer polydon*	Muscle Cooked Baked			1740	688			
Crab, Queen *Chionoectes opilio*	Muscle Raw	420	239	45	69			29
	Canned	704	141	42	47			25

Table 14.--Macroelement composition of crustaceans and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Crab, Red *Podaphehalmus vigil*	Muscle Raw			50	120			
	Cooked Boiled			47	180			
Crab, Red, Deep Sea *Geryon quinquedens*	Muscle Raw	406	284	46	46			48
Crab, Rock *Cancer irroratus*	Muscle with Shell Raw	886	295	5117				310
Crab, Samoan *Scylla serrata*	Muscle Raw	280	369	92 53-130 3	445 152-893 3			
Crab, Sand *Platyonichus ocellatus*	Muscle Raw		153	134	47			8
Crab, Shore, Common, Green *Carcinus maenas*	Muscle Raw	228	328					
Crab, Small *Potamon grapsoides*	Muscle Raw	453	273					
Crab Unspecified	Muscle Raw	330 95-457 4	232 111-322 4	60 13-120 10	246 147-450 12			49 48-50 2
	Canned	750 500-1000 2	182 110-265 3	80 25-171 3	164			41
	Cooked Boiled	368 366-370 2	271	29	350	570	465	48
	Unspecified		360			570	225	
	Paste Salted	11500	553 437-669 2	70 299 220-378 2	490 230 203-260 3			48
	Offal Meal	1140	1150 400-1900 2	15684 1280-26960 5	1264 510-1720 6	1770		
Crayfish *Astacus fluviatilis*	Muscle Raw		260	97 49-145 2	226 103-349 2		258	42
Crayfish, Painted *Panulirus ornatus*	Muscle Raw			41	178			
Crayfish Unspecified	Muscle Raw	182	500	58	230			
	Canned		610	133 65-270 3	161 101-192 3	500	196[1/] 193-200[2/] 2 [3/]	
Lobster *Homarus vulgaris*	Muscle Raw				240		104	
Lobster, Norway *Nephrops norvegicus*	Muscle Raw	396	297	56 31-80 2	83			
Lobster, Red *Jasus lallandii*	Muscle Raw	60	240	40	270			40

Table 14.--Macroelement composition of crustaceans and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Lobster, Spiny Panulirus argus	Muscle Raw			50	214			
Lobster, Spiny Panulirus vulgaris	Muscle Raw		239	88	25			
Lobster Unspecified	Muscle Raw	296 194-460 3	338 202-500 4	39 16-61 7	254 182-560 7	280	136	174 21-422 3
	Cooked Boiled	262 210-325 3	219 180-258 2	62	283	525	514	34
	Dried	22	312	1128	530			104
	Offal Meal	1490	630	10595 9720-11470 2	1360 1000-1720 2	1670		790
Shrimp Crangon vulgaris	Muscle Raw		193 143-243 2	58 53-62 2	274 267-280 2			35
Shrimp Cryphiops caementarius	Muscle Raw			117	262			
Shrimp, Bagda Palaemon carcinus	Muscle Raw	66	262					
	Eviscerated Raw			290	420			
Shrimp Penaeus caramote	Muscle Raw			23	39			
Shrimp Penaeus incisipes	Muscle Raw			138	217			
Shrimp Penaeus semisulcatus	Muscle Raw			279	327			
Shrimp Trachypenaeus asper	Muscle Raw			186	262			
Shrimp, Brazilian Penaeus brasiliensis	Muscle Raw			54	229			42
	Cooked Boiled			61	243			
Shrimp, Brine Artemia salina	Whole Raw	511	83	10	93			22
Shrimp, Brown Penaeus aztecus	Muscle Raw	208 197-220 2	288 220-357 2	89 50-158 3	258 235-291 3	240	283	37
Shrimp, Fresh Water Unspecified	Muscle Raw	232 45-418 2	217 118-316 2		292			
	Dried	1084	943	2700	1500			
	Paste			926	661			
	Salted & Dried	1000	943	591	716			
	Soaked & Drained	300	284	178	215			
	Salted & Fermented	7045	288					

Table 14.--Macroelement composition of crustaceans and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Whole Raw	418	316	161	292			
Shrimp, Gamba Penaeus longirostris	Muscle Raw		386	158 10-305 2	163 67-259 2			
Shrimp, Indian Hippolysmeta ensirostris	Muscle Raw		90	134				
Shrimp, Indian Penaeus carinatus	Muscle Raw			122 92-153 2	296			
Shrimp, Indian Penaeus penicillatus	Muscle Raw			171	292			
Shrimp, Indian Peneopsis dobsonii	Muscle Raw			157	336			
Shrimp, Indian Solenocera indicus	Muscle Raw			98	142			
Shrimp, Indian Squilla mantis	Muscle Raw		260	62	250		170	31
Shrimp, Indian Squilla oratorio	Muscle Raw			14	646			
Shrimp, Indian Prawn Metapenaeus affinis	Muscle Raw			124	200			
Shrimp, Indian Prawn Metapenaeus brevicornis	Muscle Raw			115	188			
Shrimp, Indian Prawn Metapenaeus monoceros	Muscle Raw			122	194			
Shrimp, Indian Prawn Penaeus sculptilus	Muscle Raw			64 21-107 2	159 158-160 2			
Shrimp, Indian Prawn Penaeus styliferus	Muscle Raw			66 16-117 2	170 169-170 2			
Shrimp, Indian Prawn Penaeus tenuipes	Muscle Raw			90	127			
Shrimp, Indian Prawn Penaeus maxillipedo	Muscle Raw			162	269			
Shrimp, Jumbo Penaeus monodon	Muscle Raw	185	370	180 74-286 2	325 235-345 2			
Shrimp, Ocean Pandalus platyceros	Whole Meal			11000	1850			
Shrimp, Opossum,Kuruma Penaeus japonicus	Muscle Raw Dried			550 1800	340 1100			

Table 14.--Macroelement composition of crustaceans and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Shrimp, Pink	Muscle							
Penaeus duorarum	Raw			110	215			
Shrimp, Pink, Maine	Muscle							
Pandalus borealis	Raw	596		54	177			
Shrimp, Tiger	Muscle							
Penaeus esculeutus	Raw			50	260			
Shrimp, White	Muscle							
Penaeus indicus	Raw			160	295			
				152-166	210-397			
				3	3			
	Salted & Fermented			469	228			
Shrimp, White	Muscle							
Penaeus schmitti	Raw			75	278			
Shrimp, White	Muscle							
Penaeus setiferus	Raw			77	206			
				50-112	187-233			
				3	3			
	Canned							
	Dry Pack			126	286			
	Wet Pack							
	With Salt			80	194			
	Unspecified			63	155			
Shrimp	Muscle							
Penaeidae	Raw	155	336	58	186			46
		100-185	294-380	28-83	150-253			42-50
		3	3	4	4			2
	Canned							
	Boiled			63	210			
	Unspecified			55	149			
	Dried			465	757			
				236-632	597-995			
				3	3			
	Salted			2440	650			
	Salted & Dried	3907	915					
Shrimp	Muscle							
Unspecified	Raw	111	257	89	218		337	75
		84-140	140-410	11-233	150-310			40-111
		3	3	14	12			3
	Canned							
	Dry Pack			104	240			
	Wet Pack			55	149			
	With Salt	2300	163	18	141			23
	Unspecified			84	195		340	
				52-115	157-263			
				2	3			
	Cooked							
	Boiled			50	190			
	Fried			114	253			
	Unspecified	2715	332	232	310	4200	306	74
							258-353	
							2	
	Dried			1131	627			
				231-2306	604-652			
				4	3			
	Salted & Dried			444	779			
				205-684				
				2				
	Whole							
	Raw			1081	207		1220	
	Eviscerated							
	Raw			261	267			

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Abalone *Haliotis gigantea*	Muscle Raw			22[1/] 11-34[2/] 2[3/]	212[1/] 169-254[2/] 2[3/]			
	Canned Seasoned	900 990	110	310 10 9-10 2	130 116 82-150 2			
	Whole Raw			11	187			
Abalone *Haliotis japonica*	Muscle Raw			22 13-30 2	116 41-190 2			
Abalone, Green *Haliotis fulgens*	Muscle Raw			24	159			
Abalone Haliotidae	Muscle Raw			34 32-37 2	190 190-191 2			175
	Canned Boiled Seasoned Unspecified[4/]	900		27 310 18 14-23 2	100 130 128			
	Dried			101 32-170 2	316 190-442 2			
	Whole Salted	5200		250	140			
Clam, Arkshell *Anadara broughtoni*	Muscle Raw			28 16-40 2	161 140-182 2			
	Whole Raw			18	177			
Clam, Arkshell *Arca noae*	Muscle Raw	293	121	100	110			99
Clam, Arkshell Arcidae	Muscle Raw	120	149	101 40-174 5	114 85-140 4			
	Canned Seasoned Unspecified	1100	521	60 43	140			
Clam, Donax, Bean *Donax radians*	Whole Raw	562	228	78	115			
Clam, Fresh Water *Corbicula fluminea*	Whole Raw			176	77			
	Cooked Unspecified		122	80				6
Clam, Fresh Water, Corbshell *Corbicula leana*	Whole Raw			72	203			

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Clam, Fresh Water Unspecified	Whole Raw	392[1] 140-645[2] 2 [3]	149	170	120			
Clam, Green Cyrena ventricosa	Whole Raw			87 56-117 2	103 101-105 2			
Clam, Mactra, Surf Mactra sachaeinensis	Muscle Raw			24	478			
Clam, Mactra, Surf Spisula solidissima	Muscle Raw			41	194			
Clam, Mactra Mactridae	Muscle Raw			51 42-60 2	208 90-325 2			
Clam, Razor Solen gouldi	Whole Raw			94	770			
Clam, Razor Solenidae	Whole Raw		143	50 14-75 3	164 140-198 3			
Clam, Softshell Mya arenaria	Whole Raw			53	152			
Clam, Tellin Soletellina cumingiana	Whole Raw	939	116					
Clam, Tellin, Rayed-shell Soletellina psammatea	Whole Raw	262	164	121	83			
Clam, Venus Meretrix casta	Whole Raw			139	141			
Clam, Venus Tapes pullastra	Whole Raw			144	350			
Clam, Venus Venus gallina	Whole Raw	201	138	159 69-275 3	121 61-174 5			
Clam, Venus Venus verrucosa	Whole Raw		35	235	133		415	86
Clam, Venus, Butter Saxidomus giganteus	Whole Raw			41	194			
Clam, Venus, Hard Venus lusoria	Whole Raw			11	121			
Clam, Venus, Littleneck, Japanese Tapes (Venerupis) decussatus	Whole Raw	200		68 6-140 5	143 53-235 5			20
	Canned Seasoned	1200		74	280			
	Canned Unspecified	400		88	190			
Clam, Venus, Northern Quahog, Cherrystone Mercenaria mercenaria	Whole Raw			65	69			

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Clam, Venus, Pismo Tivela stultorum	Whole Raw			607				259
Clam, Venus Veneridae	Whole Raw	190 180-200 2	240	91 60-125 7	142 90-205 7	1065	340 [1] 323-357 [2] 2 [3]	50
	Canned Boiled Seasoned Unspecified	400 1200		85 74 70 55-86 2	190 280 124			
Clam Unspecified	Whole Raw	316 200-432 2	205	83 70-96 3	166 139-210 3		225	
	Canned Seasoned Unspecified	2100	83	75	270 136			
	Cooked Chowder	410	68	20 13-28 2	42 16-67 2			
Cockle Cardium muticum	Whole Raw			37	253			
Cockle Cardium tuberculatum	Whole Cooked Unspecified	3520	43	127	204	5220	322	51
Cockle, Atlantic Cardium edule	Whole Raw	482	188 [1] 76-300 [2] 2 [3]	76 19-138 3	7	330		
Cockle, Sand Hemidonax donaciformus	Whole Raw			217	78			
Cockle Cardiidae	Whole Raw	200	197	116	122		286	
	Canned With Salt & Soy Sauce	1530	260	190	260			
	Dried			337 242-432 2	789 374-1204 2			
Cuttlefish Sepia officinalis	Muscle Raw	121	315 190-550 3	28 6-50 2	176 155-198 2	175 [1] 161-189 [2] 2 [3]		30
Cuttlefish Sepia orientalis	Muscle Raw	370	510	130	580			
Cuttlefish Sepiidae	Muscle Raw	277	268 264-273 2	27 21-34 3	164 143-186 2			
	Canned Salted & Seasoned	750	94	10	180			
	Cooked Unspecified			200	140			

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Mussel *Mytilus obscurus*	Whole Raw	80	380	80	170			20
Mussel, Blue *Mytilus edulis*	Whole Raw	688 255-1520 3	747 227-1700 3	85 14-140 3	378 60-1045 4	318		102 23-180 2
	Canned Steamed	181	950	120	1130			130
	Cooked Steamed	1385	1170	140	1195			165
Mussel, European *Mytilus galloprovincialis*	Whole Raw	144 133-156 2	130 121-140 2	6	216 151-282 2			
Mussel Mytilidae	Whole Raw	214 140-289 2	398 315-480 2	101 52-164 3	166 102-236 3	463	347 326-367 2	23
	Cooked Boiled	210	92	197	331	315	305 262-348 2	25
	Dried		458	308	736			
Octopus *Eledone moschata*	Muscle Raw			60	159			
Octopus *Octopus ocellatus*	Muscle Raw			46	109			
Octopus, Curled *Eledone cirrhosa*	Muscle Raw	91	235	4	174	123		30
Octopus, Devilfish *Octopus vulgaris*	Muscle Raw		465	18 12-24 2	96 40-151 2	316 193-440 2		
	Dried			142	150			
Octopus Octopodidae	Muscle Raw	363	232	22 4-39 4	130 66-205 4			
	Dried			80	800			
Oyster, Common *Ostrea edulis*	Whole Raw	650	258	11	21			41
	Cooked Steamed		200	70	200		150	45
Oyster, Eastern *Ostrea virginica*	Whole Raw			77 57-122 4	132 112-160 4		90	43 32-54 2
	Canned			28	124			
Oyster, Giant Pacific *Ostrea gigas*	Whole Raw			63	154			24
Oyster, Native Pacific *Ostrea lurida*	Whole Raw			68 63-74 2	178 164-192 2			48
Oyster, Sidney Rock *Ostrea commercialis*	Whole Raw	160	570	90	150			50

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Oyster	Whole							
Ostreidae	Raw	386	187	111	148	543	256	80
		73-882	90-258	6-210	67-267	156-815	247-273	6-230
		8	6	12	12	3	3	4
	Canned							
	Smoked,							
	Oil Added			37	250		80	
	Unspecified			28	147			
					138-153			
					3			
	Dried		457	317	547			
				236-395	517-601			
				3	3			
	Salted & Fermented			139	23			
Penshell	Muscle							
Atrina japonica	Raw			9	414			
Periwinkle	Whole							
Littorinidae	Cooked							
	Boiled							
	In Fresh Water	266	211	165	277	500	446	414
	In Salt Water	1140	154	136	219	1800	377	358
Scallop	Muscle							
Chlamys glabra	Raw	194	170	72	120			92
Scallop	Muscle							
Pecten fumatus	Raw	206	340	40	260			20
Scallop, Atlantic Deep Sea	Muscle							
Placopecten magellanicus	Raw			22	234			
Scallop, Calico	Muscle							
Aequipecten gibbus	Raw			22	210			
				13-32	204-215			
				2	2			
Scallop, Common	Muscle							
Pecten yessoensis	Raw			12	112			
	Canned							
	Salted	1100		50	190			
	Unspecified	500		50	170			
	Dried		1579	32	672			
Scallop, Coquille St. Jacques	Muscle							
Pecten maximus	Raw	424	216	34	20			63
			45-387	26-42				
			2	2				
Scallop, Iceland	Muscle							
Pecten islandicus	Raw	139	332					
		115-163						
		2						
Scallop	Muscle							
Pectinidae	Raw	163	420	46	208	270	316	40
		150-176		11-115	76-340		291-342	
		2		4	5		2	
	Cooked							
	Steamed	265	476	115	338	410	570	38
	Dried			60	521			
				6-114	130-912			
				2	2			
Snail	Whole							
Achatina marginata	Raw			132	110			

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
Snail *Aporrhais pescelecani*	Whole Raw			1459	182			
Snail *Murex brandarix*	Whole Raw	166	153	146	191			143
Snail *Thais chocolata*	Whole Raw			62	97			
Snail, Land *Archidoris brittanicus*	Whole Raw	560	136	2000	126	953		930
Snail, Mud *Nassa mutabilis*	Whole Raw			1187	181			
Snail, Pond *Ampullaria luzonica*	Whole Raw	84	117	1658	61			
Snail *Vivipara javanica*	Whole Raw	77	179	1163	118			
Snail, River *Viviparus malleatus*	Whole Raw			214	254			
Snail Unspecified	Whole Raw			179 170-188 2	174		140	250
Squid *Dosidicus gigas*	Whole Meal			1800	1240			
Squid *Loligo forbesi*	Muscle Raw	102	199	4	191	119		20
Squid *Loligo gahi*	Muscle Raw			99	219	684		
Squid *Loligo ommastrephes*	Muscle Raw	176	266	15	194			
	Cooked Unspecified			22	246			
	Dried, Soaked, & Drained	100	94	10	200			
	Salted & Dried	944	604	55	616			
Squid *Watasemia scintillans*	Muscle Raw			10	420			
Squid, Common *Loligo vulgaris*	Muscle Raw	317	329 246-429 3	95 35-180 4	266 45-580 4	445		
Squid, Long-finned *Loligo pealei*	Muscle Dried			49	600			
Squid Unspecified	Muscle Raw	158 120-195 2	314 269-358 2	27 4-56 8	193 119-290 6			76 30-123 2
	Canned			34	174			
	Cooked Unspecified			46 43-54 4	272 197-299 4			
	Dried	944	1068	39 22-49 3	565 471-625 3			
	Smoked			11	400			

Table 15.--Macroelement composition of mollusks and products.

Common and Scientific Name	Description	Sodium mg	Potassium mg	Calcium mg	Phosphorus mg	Chlorine mg	Sulfur mg	Magnesium mg
				Per 100 grams				
	Whole							
	Raw			26	138			
				25-26	77-175			
				2	5			
	Dried			46	471			
Topshell	Muscle							
Trochidae	Raw			21	259			
				19-23	220-298			
				2	2			
	Canned		132	55	262			
				15-95				
				2				
Turban	Muscle							
Turbo cornutus	Raw			46	120			
	Canned							
	Seasoned	1350	68	50	136			
		1300-1400		47-52	130-142			
		2		2	2			
Whelk	Muscle							
Eburna japonica	Raw		38	34	58			
Whelk, Common Northern	Muscle							
Buccinum undatum	Cooked							
	Boiled		211	165	277			414
Whelk	Muscle							
Unspecified	Cooked							
	Unspecified	265	316	54	227	585	448	160

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Alewife Alosa pseudoharengus	Muscle Raw										0.17 [1/] 0.10-0.29 [2/] 3 [3/]	0.05
	Smoked					0.26						
	Whole Raw				0.02			0.06	0.85			
	Fishmeal	620.00	100.00						18.00	20.00		
	FPC			162.00								
Alfoncino Beryx splendens	Muscle Raw	1.00										
Amberjack, King Seriola dorsalis	Muscle Raw		8.50			0.57			2.70			
Amberjack, Phillipine Hynnis momsa	Muscle Raw	7.15 [1/] 7.00-7.30 [2/] 2 [3/]										
Amberjack, Yellowtail Seriola grandis	Muscle Raw	10.00							0.10			
Amberjack, Yellowtail Seriola lalandi	Muscle Raw	6.70										
Amberjack, Yellowtail Seriola quinqueradiata	Muscle Raw	10.15 [1/] 1.90-18.00 [2/] 2 [3/]	0.95								0.38 [1/] 0.36-0.40 [2/] 2 [3/]	
	Canned	7.00										
Amberjack Carangidae	Muscle Raw	7.36 1.30-13.00 5	12.75 [1/] 1.50-24.00 [2/] 2 [3/]								0.50 0.44-0.56 2	0.44
	Canned In Oil Smoked	7.00										
	Unspecified [4/]	30.00										
	Salted & Dried	15.00										
Anchoveta Engraulis ringens	Whole Fishmeal	226.00	100.00						9.20	9.30		
Anchovy Engraulis mystax	Muscle Raw	15.20										
	Whole Fishmeal	258.50	354.00				1.45	0.71	9.00			
	FPC	111.36										
Anchovy, Ca'Moi Coilia lindmani	Muscle Raw	11.35										
Anchovy, European Engraulis encrasicholus	Muscle Raw	49.00	13.09 11.18-15.00 2				1.13	0.05	3.20 [1/] 1.43-5.00 [2/] 2 [3/]	0.70	0.16 0.04-0.04 5	
Anchovy, Longjaw Stolephorus heterolobus	Muscle Raw	11.00										
	Cooked Boiled	35.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Anchovy, Longjaw, Delis Stolephorus commersonii	Muscle Raw	8.07										
	Dried	234.00										
	Salted & Dried	313.50										
	Powdered	278.15										
	Salted & Fermented	109.00										
Anchovy, Mandali Coilia dussumieri	Muscle Raw	31.50										
	Salted & Dried	119.00										
Anchovy, Northern Engraulis mordax	Muscle Raw										0.05 0.04-0.06 3	0.05
	Eviscerated & Beheaded Canned					0.43						
Anchovy, Whitebait Stolephorus tri	Muscle Raw	148.26										
	Dried	518.91										
	Whole Raw	38.70										
Anchovy Engraulidae	Muscle Raw	15.30 12.00-20.00 3	8.80			0.76	0.14	0.25	0.58		0.01	
	Canned		17.71				0.87	2.77 [1] 0.16-5.39 [2] 2 [2]	0.81	0.10	0.15 0.04-0.21 3	0.09
	Cooked Boiled & Dried	91.00 40.00-180.00 3										
	Dried	116.50 30.00-203.00 2										
	Whole Fishmeal	236.00 226.00-246.00 2	105.50 100.00-110.00 2						10.00 9.00-11.00 2	9.50 [1] 9.00-10.00 [2] 2 [2]		
Angelfish Chaetodontidae	Muscle Raw		7.80									
	Whole Raw								4.20			
Argentine, Atlantic Argentina silus	Whole Fishmeal	675.00	101.00		4.90	0.77	7.40	0.13	11.00	4.60	0.29	
Barracuda Sphyraena obtusata	Muscle Raw	5.75										
Barracuda Sphraena schlegeli	Muscle Raw	1.10	2.10									

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Barracuda, Great *Sphyraena barracuda*	Muscle Raw	12.70										
Barracuda, Pacific *Sphyraena argentea*	Muscle Raw	8.00										
Barracuda, Striped, Torcillo *Sphyraena jello*	Muscle Raw	5.30										
Barracuda Sphyraenidae	Muscle Raw	8.33 2.00-15.00 3				0.29						
Bass, Sea *Diplectrum radiale*	Muscle Raw	9.50										
Bass, Sea *Paralabrax humeralis*	Muscle Raw	10.00										
Bass, Sea, Black *Centropristes striatus*	Muscle Raw		1.42		1.30			0.08	0.06		0.16	
Bass, Sea, Cherlo *Acanthistius pictus*	Muscle Raw	6.00							4.30			
Bass, Sea, Japanese *Lateolabrax japonicus*	Muscle Raw	20.00								5.05 0.10-10.0 2		
Bass, Sea, Kelp *Paralabrax clathratus*	Muscle Raw					0.12[1/] 0.04-0.26[2/] 3 [3/]						
	Dried	41.25 32.00-46.00 4	13.00 0.90-26.00 4				1.45[1/] 1.10-2.10[2/] 4 [3/]	3.00 2.00-4.00 4	2.75 2.00-5.00 4	0.52 0.50-0.60 4		
Bass, Sea, Murray Cod *Maccullochella macquariensis*	Muscle Raw	10.00							0.10			
Bass, Sea, Sand Perch *Diplectrum formosum*	Muscle Cooked Boiled					0.25						
Bass, Sea, White *Cynoscion nobilis*	Muscle Raw					0.38						
Bass, Sea Serranidae	Muscle Raw	18.29 1.90-63.70 7	2.69		0.19[1/] 0.12-0.25[2/] 2 [3/]			0.05	1.50 0.61-2.10 3	0.30	0.56	
	Cooked Steamed	7.00										
Bass, Temperate, Rabaliza *Morone labrax*	Muscle Raw	22.00										
	Dried				7.50							

Table 16.--Macroelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Bass, Temperate, Striped Morone lineatus	Muscle Raw					0.45						
Bass, Temperate, Striped Morone punctata	Muscle Raw											0.24
Bass, Temperate, Striped Morone saxatilis	Muscle Raw		2.70		0.40		0.82	0.02 0.01-0.02 2	0.56		1.01	
Bass, Temperate, White Morone chrysops	Muscle Raw						0.78 0.70-0.86 2	0.03			0.31 0.14-0.65 6	
Bass, Temperate, Yellow Morone mississippiensis	Muscle Raw										0.20	
Bass, Temperate Percichthyidae	Muscle Raw	4.20							2.10	0.26	0.52 0.20-0.80 4	
Batfish, Silvery Psettes sebae	Muscle Raw	11.00										
Big-Eye Scombrop boops	Muscle Raw	10.00										
Blacktail Oblata melanura	Muscle Raw		4.32				1.00		0.41		0.15	
Bleak Alburnus lucida	Muscle Raw					0.60						
Bleak Cyprinidae	Muscle Raw										0.41 0.30-0.51 2	
Bloater Coregonus hoyi	Muscle Cooked Grilled	22.00										
Bluefish Pomatomus pedica	Muscle Raw	10.00							1.00			
Bluefish Pomatomus saltatrix	Muscle Raw	52.00				0.35 0.26-0.43 2					0.24 0.20-0.29 2	
	Cooked Unspecified					0.38						
Bluefish Pomatomidae	Muscle Raw	6.53 6.00-7.06 2				0.25			2.30			

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Bombay Duck *Harpodon nehereus*	Muscle Raw	12.90										
	Salted & Dried	105.00										
Bonito *Auxis bisus*	Muscle Raw										0.93	
Bonito, Atlantic *Sarda sarda*	Muscle Raw	59.33 45.00-73.00 3										
Bonito, Pacific *Sarda chiliensis*	Muscle Raw	60.00										
	Cooked Roasted	11.00										
	Salted & Dried	61.00										
Bonito, Striped *Sarda orientalis*	Muscle Raw	12.90										
Bonito Scombridae	Muscle Raw	12.15 7.00-17.30 2										
	Cooked Roasted	11.00										
	Salted & Dried	61.00										
Bowfin, Mudfish *Amia calva*	Muscle Raw					0.02	0.70	0.02			0.44	
Bream *Roughleyia australis*	Muscle Raw	10.00							0.03			
Bream, Black *Acanthopagrus butcheri*	Muscle Raw		7.80					0.05	0.25	0.50		
Bream, Bronze *Abramis brama*	Muscle Raw		95.60			1.20			4.30		0.24 0.13-0.35 2	
Bream, Gilthead *Chrysophrys aurata*	Muscle Raw										0.46 0.35-0.58 2	
Bream, Mud *Acanthopagrus berda*	Muscle Raw	4.00										
	Dried	19.00										
Bream, Red *Beryx decadactylus*	Muscle Raw										0.08	
Bream, Sea, Black *Acanthopagrus schlegeli*	Muscle Raw										0.19	
Bream, Sea, Pagre *Pagrus pagrus*	Muscle Raw				0.53	0.40						
	Cooked Unspecified					0.30						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Bream, Sea, Red Chrysophrys major	Muscle Raw	15.80 1.60-30.00 2	1.00									
Bream, Sea, Yellow Taius tumifrons	Muscle Raw	3.50	1.60									
Bream, White, Sargo Diplodus sargus	Muscle Raw		4.75 4.65-4.86 2				0.76 0.66-0.87 2	0.05	0.47 0.28-0.65 2		0.36 0.16-0.64 5	
Brill Scophthalmus rhombus	Muscle Raw		1.94				0.25	0.05	0.37		0.30	
Brill, Rough Scaled Pseudorhombus oligodon	Muscle Raw	5.13 5.00-5.25 2										
Brill Bothidae/Pleuronectidae	Muscle Raw									0.20		
	Cooked Steamed	7.00							1.30			
Burbot Lota lota	Muscle Raw				0.80		1.40	0.01			0.27 0.08-0.44 8	
	Whole Fishmeal	235.00	100.00						12.00	14.00		
Butterfish, Black Stromateus niger	Muscle Raw	30.70 15.00-44.80 4						0.04	0.51		0.03	
Butterfish, Silver Stromateus cinereus	Muscle Raw	55.77 36.40-122.30 6										
	Dried	260.00							14.00			
Butterfish Stromateidae	Muscle Raw	9.00				0.06						
	Dried	96.00										
Butterflyfish, Ca Chix Coradion altiveltis	Muscle Raw	4.60										
Butterflyfish Chaetodontidae	Muscle Raw	10.90 10.80-11.00 2										
Caesio, Golden Caesio chrysozonus	Muscle Raw	6.45 6.00-6.90 2										
	Dried	10.00										
Caesio, Golden Caesio cuning	Muscle Raw	5.10										

Table 16.—Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Capelin Mallotus villosus	Muscle Raw											0.02
	Whole Raw			3.55								
	Fishmeal	303.76 48.00-575.00 3	108.46 53.00-142.00 4		6.70 2.50-10.90 2	0.05	19.57 1.73-43.50 3	0.23 0.13-0.34 3	6.03 2.90-12.00 4	5.80	0.42 0.08-0.15 4	0.03
	FPC			56.70								
Carp Chela bacila	Muscle Raw	1.96							0.51			
Carp Cyprinus carpio	Muscle Raw	12.82 7.30-21.00 4				0.07 0.01-0.21 4					0.27 0.11-0.50 4	
	Whole Raw				0.41						0.35	
	Eviscerated & Beheaded Raw						1.00	0.01				
Carp, Bata Labeo bata	Muscle Raw								1.70			
Carp, Chevenne Leuciscus cephalus	Muscle Raw					0.07					0.36	
Carp, Crucian Cyprinus carassius	Muscle Raw	22.00 17.00-29.00 3	10.00						3.00			
	Canned	300.00										
Carp, Ghania Labeo gonius	Muscle Raw	21.00										
	Dried	118.00							1.40			
Carp, Indian Labeo rohita	Muscle Raw	13.18 4.99-38.00 5							3.67 1.25-6.10 2	0.45		
Carp, Indian, Puti Barbus punitus sophore	Eviscerated & Beheaded Raw	9.80 9.60-10.00 2							3.20			
	Smoked	130.00							8.00			
Carp, Indian, Puti Barbus sarana	Muscle Raw											
	Dried	280.00							0.77 16.00			
Carp, Katla Catla catla	Muscle Raw	19.23 7.10-43.00 3				1.48			3.31 1.22-5.40 2	0.46		
	Eviscerated & Beheaded Dried	110.00							8.00			

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Carp, Mahasole Barbus tor	Muscle Raw	38.30							1.22			
Carp, Mrigala Cirrhina mrigala	Muscle Raw	7.86 5.38-10.90 3							1.21	0.38		
Carp, Orange Fin Labeo calbasu	Muscle Raw	18.12 8.30-28.05 3							2.80	0.44		
	Eviscerated & Beheaded Dried	155.00 130.00-180.00 2							11.00 10.00-12.00 2			
Carp, Reba Cirrhina reba	Muscle Raw	55.73										
Carp, Silver Hypophthalmichthys molitrix	Muscle Raw	11.00	3.50									
Carp, Tribolodon Tribolodon haronensis	Muscle Raw	14.00										
Carp Cyprinidae	Muscle Raw	12.46 4.40-20.00 6	46.95 17.60-76.30 2		0.12			0.01			0.44 0.20-0.93 6	1.25
	Whole Raw				0.34							
Catfish, Airbreathing Clarias fuscus	Muscle Raw	4.85										
Catfish, Airbreathing, Hito Clarias batrachus	Muscle Raw	6.04 2.00-8.72 3	10.93				0.05	0.03	1.24 0.99-1.48 2		0.04	
Catfish, Airbreathing, Karmouth Clarias lazaiae	Muscle Raw	19.00										
Catfish, Fresh Water, Bacha Eutropiichthys vacha	Muscle Raw Dried	11.00 112.00							13.00			
Catfish, Fresh Water, Bullhead, Black Ictalurus melas	Muscle Raw				0.18	0.01						
Catfish, Fresh Water, Bullhead, Blue Ictalurus furcatus	Muscle Raw										0.26	0.21
Catfish, Fresh Water, Bullhead, Brown Ictalurus nebulosus	Muscle Raw							0.04			0.14	0.45
Catfish, Fresh Water, Bullhead, Yellow Ictalurus nalatis	Muscle Raw										0.11 0.06-0.16 2	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Catfish, Fresh Water, Channel *Ictalurus punctata*	Muscle Raw		8.30		1.14 0.10-2.18 2	0.01	0.63 0.39-0.68 2	0.04 0.01-0.08 4			0.36 0.09-1.05 6	0.23 [1] 0.04-0.42 [2] 2 [3]
Catfish, Fresh Water, Mulley *Wallagonia attu*	Muscle Raw	16.61 6.30-26.92 2							0.82			
Catfish, Fresh Water, Pangash *Pangasius pangasius*	Muscle Raw	5.40					0.01	0.01	0.60 0.40-0.80 2		0.08	
Catfish, Fresh Water, Shengti *Macrones gluilo*	Eviscerated & Beheaded Dried	220.00							25.00			
	Salted & Dried	41.85										
Catfish, Fresh Water Ictaluridae	Muscle Raw	15.80 3.60-28.00 2			0.17	0.42	0.84 0.50-1.10 11	0.09	1.15 0.60-1.70 2	0.60	0.62 0.13-1.21 9	1.05
Catfish, Sea *Arius arius*	Muscle Raw	4.77							0.64			
Catfish, Sea *Arius leiotetocephalus*	Muscle Raw	23.60										
Catfish, Sea *Bagre macracanthus*	Muscle Raw	6.25										
Catfish, Sea, Hardhead *Arius felis*	Muscle Raw					0.20						
	Cooked Boiled					0.18						
Catfish, Sea, Manila *Arius manillensis*	Muscle Raw	11.20										
	Dried & Salted	42.00										
	Dried	63.70										
Catfish, Sea, Shingal *Arius dussumieri*	Muscle Raw	49.23 18.00-91.60 3										
Catfish, Sea Ariidae	Muscle Raw	9.33 4.32-12.00 4	5.15 2.90-8.10 3		0.24	0.04		0.02	0.23 0.17-0.29 2	0.52	0.61 0.05-0.72 2	
	Cooked Fried Battered & Breaded	23.00										
	Steamed	6.00										
	Dried	61.00										
	Salted & Dried	64.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Whole Raw		149.00									
	Dried	36.00										
Catfish, Stinging *Saccobranchus fossilis*	Muscle Raw	31.00							3.65 1.55-5.80 2			
Cavefish *Amblyopsis godonmola*	Muscle Raw	7.09 5.18-9.00 2										
Char, Artic *Salvelinus alpinus*	Muscle Raw										0.12	
Characin *Prochilodus laticeps*	Muscle Raw	14.70										
Chimaera, Elephant Shark *Callorhinchus milii*	Muscle Raw	23.00	5.00	3.49 2.38-4.61 2				0.05	0.40	0.50		
Chimaera Chimaeridae	Muscle Raw				10.30							
Chub, Sea, Blackfish *Girella tricuspidata*	Muscle Raw	10.00							0.03			
Chub, Sea Kyphosidae	Muscle Raw										0.19	0.13
Cichlid Cichlidae	Muscle Raw	32.00										
	Dried	104.00										
Cisco, Lake Herring *Coregonus lavaretus*	Muscle Raw											0.08
Cisco, Lake *Coregonus artedii*	Muscle Raw					0.25 0.24-0.27 2					0.21 0.12-0.30 2	0.66
	Whole Fishmeal	185.00	100.00						14.00			
	Eviscerated & Beheaded Raw						0.96	0.01				
Cisco Salmonidae	Muscle Raw										0.19	
	Eviscerated Smoked					0.24						
Cod, Atlantic *Gadus morhua*	Muscle Raw	17.50 5.00-30.00 2	5.89 3.27-8.50 2	2.15 0.80-3.50 2	0.41 0.21-0.79 3	0.29 0.20-0.34 4	0.03 0.01-0.05 4	0.55 0.29-0.80 3	0.11 0.10-0.12 2	0.23 0.02-1.06 13	0.03

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Cooked											
	Fried											
	Battered & Breaded	6.00										
	Steamed	10.00										
	Salted						0.90 0.60-1.20 2				0.05 0.04-0.07 2	
	Offal											
	Presscake					2.20						
Cod, Pacific Gadus macrocephalus	Muscle Raw						0.25				0.03	
Cod, Rock Physiculus barbatus	Muscle Raw		5.00					0.05	0.80	0.50		
Cod, Rock Roboralga jacksoniensis	Muscle Raw								0.10			
Cod Gadidae	Muscle Raw	4.78 0.20-10.00 15	10.52 0.74-52.50 7	4.96 1/ 2.50-7.00 2/ 3 3/	0.40 0.30-0.60 5	0.71 0.24-1.41 6		0.08 0.01-0.26 4	2.48 0.22-5.50 8	0.28 0.02-0.71 9	0.21 0.05-0.90 12	0.14 0.00-0,42 3
	Canned					0.33 0.31-0.34 4					0.22	
	Packed In Brine										0.09	
	Cooked											
	Unspecified	9.00					0.66		1.25 0.80-1.70 2			
	Dried	37.65 26.10-52.51 4	33.82			7.23 0.71-10.87 3				5.34	10.68	
	Dried & Soaked Salted	13.50 3.00-26.10 4		5.00		1.31 0.93						
	Salted & Dried	28.00		7.00		3.82			1.00			
	Salted, Dried and Soaked	28.00				2.22						
	Smoked					1.63						
	FPC			13.06 2.52-23.60 2							0.09	
	Whole											
	Dried	46.00										
	FPC				148.30 57.00-196.30 2							
	Offal											
	Fishmeal					11.33 10.59-12.08 2						
Combtooth, Tompot, Blenny Blennius gattoruggine	Muscle Raw										0.13	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Coral Cod *Cephalopholis miniatus*	Muscle Raw	9.00										
Coral Cod, Sea Bass *Plectropomus maculatus*	Muscle Raw	10.00							0.02			
Coralfish, Goat Bream *Sargus annularis*	Muscle Raw										0.18 0.11-0.26 3	
Crevalle *Caranx diedaba*	Muscle Dried	14.00										
Crevalle, Jack *Caranx carangus*	Muscle Raw	8.00										
Croaker *Otolithus brachygnathus*	Muscle Raw	1.00										
Croaker *Sciaena coitor*	Muscle Raw								0.53			
Croaker *Sciaena deliciosa*	Muscle Raw	16.63 15.40-19.00 3									0.20	
	Salted & Dried	57.00										
Croaker *Sciaena schlegeli*	Muscle Raw					0.12						
Croaker, Atlantic *Micropogon undulatus*	Muscle Raw				0.57							
	Whole Raw	5.40	39.40							52.90		
Croaker, Nibe *Nibea mitsukurii*	Muscle Raw	1.40	1.10									
Croaker, Nibe *Nibea nibe*	Muscle Raw	1.10	1.10									
Croaker, Robalo *Sciaena starksei*	Muscle Raw	64.00										
Croaker, Roncador *Ophioscion venezuelae*	Muscle Raw	15.50										
Croaker, Smooth Scaled *Pseudosciaena anea*	Muscle Raw	3.90										
	Dried	20.00										
	Salted & Dried	19.70										
Croaker, Smooth Scaled *Sciaena dussumieri*	Muscle Raw	8.90										
Croaker, Verrugato *Sciaena ranchus*	Muscle Raw										0.17 0.14-0.19 3	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Croaker, Verrugato, Corb *Sciaena cirrosa*	Muscle Raw										0.09	
Croaker, Yellow *Pseudosciaena manchuria*	Muscle Raw	0.80	0.70									
Croaker Sciaenidae	Muscle Raw	15.80 7.00-20.00 4										
	Canned In Oil, Drained	38.00										
	Salted & Dried	43.00										
	Whole Raw								1.25			
Cusk *Brosme brosme*	Muscle Raw	3.50	8.00			1.84 0.17-3.50 2	0.20	0.01	1.00		0.09 0.05-0.14 5	
Cusk-Eel *Lepophidium brevibarbe*	Muscle Raw	9.40										
Cusk-Eel, Bearded Ophidium *Ophiodon barbatum*	Muscle Raw	5.00	6.00						1.00			
Cusk-Eel, Congrio Colorado *Genypterus chiliensis*	Muscle Raw	11.80		2.47	0.60		0.20		1.40			
Cusk-Eel, Congrio, Negro *Genypterus maculatus*	Muscle Raw	3.49		2.26					1.44			
Cusk-Eel, Kingklip *Genypterus capensis*	Muscle Dried				8.70							
Cusk-Eel, Ling *Genypterus blacodes*	Muscle Raw	11.90										
Cutlassfish *Lepidopus caudatus*	Muscle Raw										0.20	
Cutlassfish *Trichiurus lepturus*	Muscle Raw	1.40	3.30 1.60-5.00 2						1.00			
Cutlassfish *Trichiurus savala*	Muscle Raw	65.03 14.40-138.70 3										
Cutlassfish, Hairtail *Trichiurus chinensis*	Muscle Raw					0.08						
Cutlassfish, Ribbonfish *Trichiurus haumela*	Muscle Raw Dried	6.40 230.00							2.30 16.00			
Cutlassfish Trichiuridae	Muscle Raw	13.67 6.00-24.00 3										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Cyclothone Gonostomatidae	Muscle Raw										0.04 0.03-0.05 2	
Dab Limanda limanda	Muscle Raw	2.84 2.50-3.17 2	9.42 7.33-11.50 2				0.27 0.23-0.30 2	0.01	1.89 0.77-3.00 2		0.49 0.04-1.10 5	
Dab, Japanese Limanda yokohama	Muscle Raw	1.20	1.10									
Dab Pleuronectidae	Muscle Raw	6.90									0.14 0.06-0.22 3	
	Cooked Fried Battered & Breaded	10.00							0.70			
	Eviscerated & Beheaded Raw	4.00	3.11						0.25	0.32		
Dace, Fallfish Semotilus corporalis	Whole Raw											0.80
Dace, Horned Semotilus atromaculatus	Whole Raw				0.47							0.28
Dace, Rosyside Clinostomus funduloides	Muscle Raw										0.04	0.03
Dace Cyprinidae	Muscle Raw										0.51	0.41
Dogfish Acanthias vulgaris	Muscle Raw					2.61						
Dogfish, Black Centroscyllium fabricii	Muscle Raw										0.60	
Dogfish, Smooth Mustelus canis	Muscle Raw	8.40										
Dogfish, Spiny Squalus acanthias	Muscle Raw		5.20		2.64 0.60-3.00 3			0.17	0.99		0.77 0.48-1.17 5	0.05
Dogfish, White Mustelus dorsalis	Muscle Dried Smoked	15.40										
Dogfish Squalidae	Muscle Raw	12.50 10.00-15.00 2	8.19 4.90-11.50 2	5.26	3.00			0.19 0.05-0.32 2	0.70	0.50	0.62 0.26-1.08 5	
	Cooked Fried	13.00										
	Whole FPC			761.00								

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Dolphin, Dorado Aurata aurata	Muscle Raw	9.00										
Dolphin, Mai Mai, Dorado Coryphaena hippurus	Muscle Raw	17.00				0.24					0.40 0.08-0.86 3	0.25
	Cooked Unspecified					0.20						
Dolphin Coryphaenidae	Muscle Raw										1.10	1.33
Dory, John Zeus faber	Muscle Raw										0.18 0.10-0.27 3	
Dory, John Zeus japonicus	Muscle Raw	10.00							0.20			
Dory Zeidae	Muscle Cooked Dried	6.00			0.10							
Drepane Drepane africana	Muscle Raw	4.00										
Drepane, Concertinafish Drepane punctata	Muscle Raw	5.00 4.00-7.00 3										
Drum Sciaena regiae	Muscle Raw	5.00									0.26	
Drum, Corvina Sciaena gilberti	Muscle Raw	11.00 9.00-13.00 2										
Drum, Dhoma Sciaena glauca	Muscle Raw	42.30										
Drum, Fresh Water Aplodinotus grunniens	Muscle Raw					0.01	0.78 0.75-0.80 2	0.03			0.56 0.19-1.70 5	
	Whole Fishmeal	430.00	100.00						49.00	14.00		
Drum, Ghol Sciaena miles	Muscle Raw	21.00										
Drum, Popa Sciaenoides pama	Whole Dried	150.00							13.00			
Drum, Teraglin Cynoscion atelodus	Muscle Raw	10.00							10.00			
Drum Sciaenidae	Muscle Raw	10.50 10.00-11.00 2	7.00 6.40-7.59 2		8.86						0.47	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Whole Raw								2.70			
Eel, Conger Conger conger	Muscle Raw	9.00	19.60					0.30	9.00	0.25	0.43 0.15-0.70 2	
Eel, Conger Conger myriaster	Muscle Raw	40.00						0.03				
Eel, Conger Congridae	Muscle Raw	14.22 5.00-40.00 5	8.84 8.67-9.00 2		0.21			0.06	2.01 0.01-6.00 5	0.27	0.29 0.14-0.25 3	
	Cooked Fried Battered & Breaded	10.00										
	Steamed	23.00										
Eel, Fresh Water, American Anguilla rostrata	Muscle Raw		6.15		0.25	0.80		0.03	0.20		0.59 0.36-0.80 7	0.3 0.11-0. 5
Eel, Fresh Water, European Anguilla anguilla	Muscle Raw	17.00 10.00-24.00 2	30.00			0.10					0.56 0.06-3.07 11	
Eel, Fresh Water, Japanese Anguilla japonica	Muscle Raw	14.00								0.30		
	Cooked Broiled	10.00										
Eel, Fresh Water Anguillidae	Muscle Raw	27.30 4.80-54.40 4	30.00		0.60	0.80			1.27 0.83-1.70 2	0.30	0.26 0.23-0.28 3	
	Canned In Dill Sauce										0.24	
	In Oil										0.22	
	Jellied										0.15	
	Cooked Broiled	10.00										
	Jellied					0.65 0.61-0.70 2						
Eel, Pike Conger Muraenesox telabonoides	Muscle Raw	42.40										
Eel, Pike Conger, Silver Muraenesox cinereus	Muscle Raw	3.73 0.80-6.65 2	0.60									
Eel, Pike Conger Muraenesocidae	Muscle Raw	14.00 8.00-20.00 2							0.30			
	Cooked Stewed	10.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Eel, Snake, Murrel Ophicephalus marulius	Muscle Raw Dried	25.00 84.00							3.80 8.00			
Eel, Snake, Murrel Ophicephalus punctatus	Muscle Raw	37.83 13.00-72.53 4							4.80			
Eel, Snake, Murrel Ophicephalus striatus	Muscle Raw	13.46 2.90-41.00 6	6.40				0.01	0.02	2.45 0.43-5.80 3		0.30	
Eel, Snake, Pale Spotted Ophichthus ocellatus	Muscle Raw		5.68		0.22			0.07		0.59		0.28
Eel, Snake Ophichthidae	Muscle Raw	6.57	14.62						0.30	0.16		
Eel, Spiny Mastacembelus favus	Muscle Raw	4.30										
Eel, Swamp Fluta alba	Muscle Raw		13.30					0.01	0.39			
Eel, Swamp, Palos Synbrachus bengalensis	Muscle Raw	33.00										
Eel, Swamp Flutidae	Muscle Raw	22.00										
Eelpout, Ocean Pout Macrozoarces americanus	Whole FPC			58.00								
Eelpout Zoarcidae	Muscle Raw	9.40							2.40	0.24		
Emperor Lethrinus opercularis	Muscle Raw	4.00										
Featherback Notopterus notopterus	Muscle Raw	16.90										
Featherback, Chitala Notopterus chitala	Muscle Raw	15.33 4.20-29.80 3							1.65	0.50		
Filefish Navodon modestus	Muscle Raw	1.10	1.50									
Flathead, Deep Sea Platycephalus macrodon	Muscle Raw	10.00							0.03			
Flathead, Indian Platycephalus indicus	Muscle Raw	6.70 1.20-13.00 3	1.30							0.40		
Flathead, Sand Platycephalus bassensis	Muscle Raw		10.80					0.05	0.60	0.50		

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	[illegible]	Mercury	Methyl-mercury
		Parts Per Million (PPM)										
Flathead, Tira Tira Percophis brasisiliensis	Muscle Raw					0.24						
	Cooked Unspecified					0.23						
Flathead Percophididae	Muscle Raw	20.00										
Flounder Cleisthenes pinetorium herzensteini	Muscle Raw	4.20 0.40-8.00 2	0.80							0.40		
Flounder Cynoglossus senegalensis	Muscle Raw	4.00										
Flounder Lepidorhombus boscii	Muscle Raw	11.00										
	Dried				33.40							
Flounder Paralichthys brasiliensis	Muscle Raw					0.15						
	Cooked Boiled					0.15						
Flounder Pleuronectes arsius	Muscle Raw	10.00						0.10				
Flounder, Spotted Citharus linguatula	Muscle Raw										1.82	
Flounder, Starry Platichthys stellatus	Muscle Raw					0.21 0.18-0.23 3	0.05				0.08	
Flounder, Starry, Hirame Paralichthys olivaceus	Muscle Raw											0.04 0.01-0.07 2
Flounder, Stone Kareius bicoloratus	Muscle Raw	0.90	2.10									
Flounder, Winter Pseudopleuronectes americanus	Muscle Raw					0.36 0.18-0.53 3					0.14 0.09-0.17 3	0.01
Flounder, Witch Glyptocephalus cynoglossus	Muscle Raw											0.04
	Cooked Fried Battered & Breaded	8.00										
	Steamed	9.00										
	Eviscerated & Beheaded Raw	3.15	2.72						0.31	0.37		

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Man-ganese	Mercury	Methyl-mercury
		Parts Per Million (PPM)										
Flounder, Yellowtail Limanda ferruginea	Muscle Raw				4.51		0.53	0.03			0.07	0.03
Flounder Bothidae/Pleuronectidae	Muscle Raw	8.56 4.61-22.00 11	4.78 4.86-14.25 4		0.63 0.08-1.80 3	0.30 0.29-0.30 2		0.62 0.05-1.18 2	1.58 0.48-2.80 9	0.44 0.18-0.90 5	0.34 0.12-0.69 4	
	Canned					0.62						
	Cooked Fried Battered & Breaded	11.00										
	Unspecified	13.00										
	Smoked					0.37						
	Whole Raw								2.35			
Fluke Pleuronectes flesus	Muscle Raw	8.00	16.00						2.20			0.65 0.42-0.80 3
Flyingfish Cypselurus opisthopus	Muscle Raw									0.13		
Flyingfish, Small Scaled Cypselurus oligolepis	Muscle Raw	5.10										
Flyingfish, Volodor Todaropsis eblanas	Muscle Raw										0.26	
Gar, Longnose Lepisosteus osseus	Muscle Raw		5.00			0.01			1.00		0.22 0.15-0.34 3	
	Eviscerated & Beheaded Raw				0.30							
Garfish Tylosurus giganteus	Muscle Raw	9.80										
Garfish, Foli Belone belone	Muscle Raw					1.87						
	Cooked Boiled					1.78						
	Fried					2.24						
Garfish, Houndfish Tylosurus crocodilus	Muscle Raw	10.00										
Giant Perch Lates calcarifer	Muscle Raw	12.74 4.00-41.00 7							0.63 0.20-1.06 2			
Goatfish, Ca'Phen Parupeneus indicus	Muscle Raw	5.05								0.00		
Goatfish, Red Mulloidichthys auriflamma	Muscle Raw										0.05	0.05

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Goatfish, Red Mullet Mullus barbatus	Muscle Raw	35.50 17.00-60.00 2	5.04 3.96-6.11 2				0.74 0.55-0.93 2	0.06	0.67 0.66-0.67 2		0.44 0.10-0.79 3	
Goatfish, Red Mullet Mullus surmuletus	Muscle Raw		5.00				0.68	0.05	0.62		0.23 0.10-0.36 2	
Goatfish, Yellow Upeneoides sulphureus	Muscle Raw	9.10										
Goatfish Mullidae	Muscle Raw	10.00									0.11	
Goby Amigdophlecussata	Muscle Raw										0.33	
Goby, Banner Microgobius microlepis	Whole Raw	25.00										
Goby, Black Gobius niger	Muscle Raw		4.27				0.66	0.08	0.50		0.46	
Goby, Flathead Glossogobius giuris	Muscle Raw	5.23 3.00-9.50 3							0.31	0.00		
Goby, Gudgeon Gobio fluviatilis	Muscle Raw					0.12						
Goby, Gudgeon Gobius paganellus	Muscle Raw										1.46 0.15-2.77 2	
Goby, Longtail Gobionellus longicaudus	Muscle Raw	24.90										
Goby, Mudskipper Boleophthalmus dussumieri	Muscle Raw	82.40										
Goby, Round Neogobius melanostomus	Muscle Raw	18.00										
Goby, Sea Trout, Merluzza Macrodon ancylodon	Muscle Raw	16.05 10.90-21.20 2										
Goby Gobiidae	Muscle Raw	15.00 10.00-20.00 2	6.00						4.00			
	Salted & Fermented	14.00										
Goldfish, Funa Carassius auratus	Whole Raw	56.00	60.00				2.30	0.14	2.20	2.30	0.15 0.05-0.28 4	0.06

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Goosefish, Monkfish Lophius americanus	Muscle Raw											0.05
Goosefish, Monkfish Lophius budegassa	Muscle Raw	15.00										
Goosefish, Monkfish Lophius piscatorius	Muscle Raw		4.15				0.88		0.14		0.49 0.10-1.27 6	
Goosefish, Monkfish Lophius setigerus	Muscle Raw	10.00										
Goosefish, Monkfish Lophiidae	Muscle Raw Cooked Fried Battered & Breaded Parboiled Steamed	10.00 12.00 10.00 5.00										
Greenling Pleurogrammus azonus	Muscle Raw											0.04
Greenling, Atka Mackerel Pleurogrammus monopterygius	Muscle Raw	10.00										
Greenling Hexagrammidae	Muscle Raw				0.44 0.40-0.48 2							
Grenadier, New Zealand Whiptail Macrourus novaezelandia	Muscle Raw		19.40					0.05	1.70	0.80		
Grenadier, Rattail Coryphaenoides acrolepsis	Muscle Raw										0.36	
Grenadier, Rock Macrourus rupestris	Muscle											0.05
Grenadier Macrouridae	Muscle Raw	9.00							4.00		0.46 0.03-1.14 3	
Grouper Epinephelus ergastularius	Muscle Raw	10.00							0.10	0.30		
Grouper, Merou Epinephelus goreensis	Muscle Raw				0.01							
Grouper, Red Epinephelus morio	Muscle Raw					0.40						
Grouper, Snowy Epinephelus niveatus	Muscle Raw Cooked Boiled					 0.22						
Grouper, Spotted Epinephelus corallicola	Muscle Raw Dried	6.90 5.80-8.00 2 11.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Grouper, Spotted Cabrilla Epinephelus analogus	Muscle Raw			0.21								
Grouper, Yellowbelly Epinephelus gigas	Muscle Raw	10.50										
Grouper Serranidae	Muscle Raw	15.60				0.07						
Grunt Anisotremus scapularis	Muscle Raw	9.82 7.63-12.00 2										
	Cooked Baked	10.00										
	Dried	28.70										
Grunt Parapristipoma trilineatum	Muscle Raw	10.00										0.01
Grunt Pristipoma incisus	Muscle Raw										0.31	
Grunt Pristipoma jubelini	Muscle Raw	10.00										
Grunt, Besugo, Bangoknok Pomadasys argyreus	Muscle Raw	22.50										
Grunt, Bluestriped Haemulon sciurus	Muscle Raw	13.00										
Grunt, Dorade Parapristipoma mediterraneum	Muscle Raw	14.00										
Grunt, Meagre Pomadasys operculare	Muscle Raw	1.00										
Grunt, Trumpeter Pelatis sexlineatus	Muscle Raw	10.00							0.10			
Grunt Pomadasyidae	Muscle Raw	12.00 10.00-14.00 2										
Guitarfish Rhinobatus polyaphthalmus	Muscle Raw	2.60	1.00									
Guitarfish, Atlantic Rhinobatus lentiginosus	Muscle Raw		3.03		3.03			0.11	0.60		0.33	
Guitarfish, Fiddlefish Rhinobatus hynnicephalus	Muscle Raw	16.00										
Guitarfish, Guitarra Rhinobatus planiceps	Muscle Washed With Salt & Dried	63.74										
Gurnard Cheilodactylus macropterus	Muscle Raw	38.33 10.00-83.00 3	63.00						1.40 0.10-2.40 3	1.10 0.60-1.60 2		

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Gurnard, Flying *Dactylopagrus carponemus*	Muscle Raw							0.05	0.30	0.50		
Gurnard, Flying *Dactylopteridae*	Muscle Raw	11.00										
Gurnard, Red *Chelidonichthys kumu*	Muscle Raw	18.00										
Haddock *Melanogrammus aeglefinnus*	Muscle Raw	6.79 3.50-14.00 15	7.88 2.76-17.40 4	5.06 5.06-5.06 2	0.82 0.15-2.20 4	1.80 0.04-6.00 11	0.42 0.02-1.24 6	0.04 0.02-0.08 4	1.62 0.11-2.86 15	0.18 0.15-0.20 2	0.07 0.02-0.17 13	0.07 0.04-0.09 2
	Canned Smoked Undrained					0.23 0.92						
	Cooked Fried Battered	12.00										
	Platter	10.60										
	Steamed	5.00							1.30			
	Dried				10.80	13.27 3.70-22.84 2						
	Salted Smoked	10.00				0.32 1.69						
Hake *Urophycis brasiliensis*	Muscle Raw	8.00 5.00-11.00 2	13.74 2.22-33.00 3				0.25	0.05	7.55 0.25-19.40 3		0.38	
Hake, Black *Merluccius senegalensis*	Muscle Raw										0.20	
Hake, Chilian *Merluccius gayi*	Muscle Raw	12.10										
	Whole Dried	58.90							46.40			
Hake, European *Merluccius merluccius*	Muscle Raw	11.67	3.16 3.00-3.31 2				0.62 0.53-0.71 2	0.30 0.10-0.50 2	0.37 0.30-0.44 2		0.24	
	Dried				12.30							
Hake, Luminous *Steindachneria argentea*	Muscle Raw		2.89				1.12		0.55		0.31	
Hake, Pacific *Merluccius productus*	Muscle Raw			0.07	5.80		0.38	0.02			0.11 0.10-0.12 3	
	Whole Fishmeal	116.00	92.00	303.00		0.81			6.00	7.10		
Hake, Silver *Urophycis tenuis*	Muscle Raw											0.01
Hake, Silver, Whiting *Merluccius bilinearis*	Muscle Raw				2.00 0.28-3.71 2		0.51	0.05			0.17 0.04-0.45 4	0.04

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Hake, Squirrel Urophycis chuss	Muscle Raw										0.11 0.09-0.12 2	0.03
Hake Gadidae	Muscle Raw	18.50 12.00-25.00 2			0.25	6.15 0.30-12.00 2	0.04		1.60	0.30	0.11	
	Cooked Steamed	6.00							1.20			
Halfbeak Reporhamphus australias	Muscle Raw	10.00							2.00			
Halfbeak, Non-spotted Hemiramphus georgii	Muscle Raw	14.50										
Halfbeak Exocoetidae	Muscle Raw	12.00 10.00-14.00 2								0.10		
Halibut, Atlantic Hippoglossus hippoglossus	Muscle Raw					0.28 0.25-0.30 2			2.30	0.00	0.30 0.08-0.80 7	0.03
Halibut, Pacific Hippoglossus stenolepis	Muscle Raw	0.90	0.80		1.44		0.35	0.04			0.30 0.18-0.42 3	
Halibut Pleuronectidae	Muscle Raw	10.04 6.61-16.00 6			2.28 0.11-4.45 2	0.52.			1.19 0.07-2.30 5	0.48 0.03-1.30 2	0.21 0.02-0.41 15	
	Canned Smoked					0.23						
	Cooked Steamed	6.00							0.07			
Hatchetfish Sternoptychidae	Whole Raw											0.02
Herring Ilisha africana	Muscle Raw	7.00										
Herring, Atlantic Clupea harengus	Muscle Raw	10.00	7.01				0.20	0.03	1.71 0.92-2.50 2	1.20	0.14 0.04-0.44 5	0.12
	Canned	18.00				0.57						
	In Mushroom Sauce											0.02
	In Mustard	52.00										
	In Oil	36.33 14.00-60.00 3		7.47								0.08 0.02-0.10 3
	Kippered	80.00										
	Smoked	18.00				1.00						
	Whole Raw Fishmeal	126.50 59.50-221.08 5	97.64 53.50-121.00 5		6.15 5.60-6.70 2	1.83	0.90 0.40-1.39 2	0.17 0.10-0.24 2	4.84 2.20-6.48 5	4.82 4.63-5.00 2	0.17 0.16-0.20 3	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Herring, Bachiva, Bacha *Clupisoma garua*	Muscle Raw	14.15 5.30-23.00 2							2.16 1.12-3.20 2			
Herring, Deep Bodied *Sardinella perforata*	Muscle Raw	20.13 15.00-30.00 3				0.13			0.40			
Herring, Fimbriated, Tunsoy *Sardinella fimbriata*	Muscle Raw	34.79 12.80-91.90 7										
	Dried	26.00										
	Salted & Dried	26.00										
	Smoked	7.60										
	Whole Dried	32.00										
	Smoked	46.00										
Herring, Fresh Water *Harengula tawilis*	Muscle Salted, Dried & Smoked	8.00										
Herring, Machete *Ethmidium chilcae*	Muscle Raw	26.00 19.00-33.00 2				0.00			0.00			
Herring, Pacific *Clupea pallasi*	Muscle Raw	17.00 6.00-28.00 2		1.60		0.37 0.21-0.52 2			3.00	0.20		0.01
	Dried	52.00										
	Salted	12.00 4.00-20.00 2										
	Smoked	50.00										
Herring, Polabona *Ilisha abnormis*	Muscle Raw	6.00							0.12			
Herring, Round *Etrumeus micropus*	Muscle Raw										0.07	
Herring, Round *Etrumeus teres*	Muscle Raw	20.00										
Herring, Wolf *Chirocentrus dorab*	Muscle Raw	18.67 10.90-34.10 3										
Herring Clupeidae	Muscle Raw	10.86 4.00-32.00 12	7.43 5.86-9.00 2	5.36	0.20 0.15-0.25 3	0.12 0.10-0.18 3		0.02	1.70 0.20-3.60 9	0.38 0.16-0.64 4	0.23 0.06-0.55 9	
	Canned In Bouillon	23.00				1.00						
	In Brine										0.07	
	In Olive Oil											
	Smoked					0.58						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	In Tomato Sauce	35.00				0.66 0.32-1.00 2	0.30					
	Jellied					0.40						
	Smoked					0.48						
	Unspecified					0.22	1.29	0.03	0.70 0.40-1.00 2	0.80	0.27 0.07-0.47 2	
	Cooked											
	Baked											
	In Vinegar	16.00										
	Fried											
	Rolled in Flour	51.00										
	Rolled in Oatmeal	19.00										
	Dried	43.50 31.00-56.00 2							1.50			
	Kippered	10.50 7.00-14.00 2	20.29			1.00		1.28	1.70			
	Salted	30.00				1.69 0.49-2.88 2						
	Salted & Dried	72.00										
	Salted, Dried & Smoked						0.30					
	Smoked	50.00		3.50		0.77 0.53-1.01 2				0.04		
	Smoked & Soused					0.34						
	Muscle											
	Soused					0.54						
	Whole											
	Raw	8.85 7.00-11.20 3	20.32 4.64-36.00 2			0.50			0.91	1.09		
	Fishmeal	135.00 82.00-172.00 3	109.33 100.00-120.00 3	500.00		1.17 0.50-1.83 2			5.00 4.50-5.50 3	4.10 2.00-6.50 3	0.08	
	FPC			156.10 156.10-156.10 2								
Hottentot *Caranthus blockii*	Muscle Raw					1.58						
Jacopever *Sebastichthys capensis*	Muscle					1.56						
Jewfish *Pseudosciaena coiber*	Muscle Raw	44.40										
Jewfish *Sciaena antarctica*	Muscle Raw	9.97 9.94-10.00 2							5.25 0.50-10.00 2			

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Jewfish *Sciaena sina*	Muscle Raw	27.27 20.59-47.30 4										
Kabeljou *Sciaena hololepidotus*	Muscle Raw	22.00			0.00		1.00		1.20			
Ladyfish *Elops saurus*	Muscle Raw				0.71						0.70	
Lamprey *Entosphenus japonicus*	Muscle Raw Dried	90.00 140.00										
Lamprey, Chestnut *Ichthyomyzon castaneus*	Muscle Raw										0.11	
Lamprey, Sea *Petromyzon marinus*	Muscle Raw										1.05	
Lamprey Petromyzontidae	Muscle Raw										0.53	
Lance, Sand *Ammodytes americanus*	Muscle Raw	80.00										
	Whole Fishmeal	85.00	95.00			28.00			2.70	4.50		
Lancetfish, Longnose *Alepisaurus ferox*	Muscle Raw										0.08	
Lanternfish *Ceratoscopelus warmingil*	Whole, Headless Raw		6.79		0.19			0.14	4.27		0.04	
Lanternfish *Diaphus dunierili*	Whole, Headless Raw		10.91		0.67			0.18			0.03	
Lanternfish *Diaphus mollis*	Whole Headless Raw		6.11		0.18			0.14	1.26		0.02	
Lanternfish *Hygophum hypgomi*	Whole, Headless Raw		3.39		0.23			0.02	0.77		0.07	
Lanternfish *Hygophum macrochir*	Whole, Headless Raw				0.95			0.37			0.10	
Lanternfish *Lampanyctus pusillus*	Whole, Headless Raw		6.77 5.16-8.37 2		0.18 0.17-0.19 2			0.18 0.08-0.28 2	2.27 0.52-4.01 2		0.05 0.01-0.05 2	
Lanternfish *Lampanyctus ritteri*	Whole, Headless Raw										0.04	
Lanternfish *Lobianchia dofleini*	Whole, Headless Raw		7.35		0.15			0.24	3.45		0.03	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Lanternfish *Notoscopelus caudispinous*	Whole, Headless Raw		16.60		0.21			0.08	0.66		0.10	
Lanternfish, Blue *Tarletonbeania crenularis*	Muscle Raw										0.03	
	Whole Raw										0.03	
Lanternfish, California Headlight Fish *Diaphus theta*	Muscle Raw										0.06	
	Whole Raw										0.06	
Lanternfish, Northern *Stenobrachius leucopsarus*	Whole Raw										0.03	
Leatherjacket, Yellow *Scomber lyson*	Muscle Raw	2.00	10.00						0.30			
Leerfish *Lichia amia*	Muscle Raw	8.00										
Levovangan *Monotaxes grandoculis*	Muscle Raw	11.00										
Ling *Molva molva*	Muscle Raw	5.06 3.19-7.00 3	7.83			2.12 1.20-3.00 3	0.20	0.02	1.13		0.20 0.06-0.50 4	
	Cooked Fried Battered & Crumbs	8.00										
Lingcod *Ophiodon elongatus*	Muscle Raw	4.90 0.20-9.60 2	0.30		0.30	0.24 0.14-0.33 3	0.05 0.03-0.07 2		4.10	0.33	0.26 0.10-0.43 4	
	Smoked					0.81						
Lizardfish *Saurida tumbil*	Muscle Raw	4.40										
Lizardfish, Longer *Saurida elongata*	Muscle Raw		11.80				0.01	0.04	1.25		0.10	
Lizardfish, Spotted Tail *Saurida undosquamis*	Muscle Raw	0.20	0.40									
Lizardfish Synodontidae	Muscle Raw	6.00	6.80				0.10	0.10	0.71		0.02	
	Whole Dried	36.00										
Loach, Weatherfish *Misqurnus anguillicaudatus*	Muscle Raw	58.00										
Loach Cobitidae	Muscle Raw	80.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Longaray Ambassidae	Muscle Raw	5.40										
Lookdown Selene vomer	Muscle Raw	73.60										
Lumpfish Cyclopterus lumpus	Muscle Raw										0.06	
Maasbanker, Mackerel, Jack Trachurus trachurus	Muscle Raw		6.62		0.00	0.48	2.32 0.64-4.00 2	0.08	1.89 0.77-3.00 2		0.38 0.08-0.67 4	
	Canned				0.50		0.15		1.30			
	Cooked Unspecified					0.40						
Mackerel Scomber australias	Muscle Raw	10.00							0.03		0.05 0.04-0.05 2	
Mackerel Scomber microlepidotus	Muscle Raw	84.90										
Mackerel, Atlantic Scomber scombrus	Muscle Raw	10.12 8.00-12.24 2	6.39 5.16-7.61 2			1.00 0.10-1.58 16	0.84 0.81-0.87 2	0.05	2.23 0.75-6.00 4		0.19	
	Dried				5.80							
	Eviscerated Raw					1.50 1.28-1.60 11						
	Whole Fishmeal	130.07 62.00-241.20 3	73.35 48.50-98.20 2				1.36 0.35-2.36 2	0.37 0.34-0.40 2	3.67 1.70-5.44 3		0.16 0.15-0.17 2	
	Presscake	15.00	84.00		4.50				2.00		0.41	
Mackerel, Frigate Auxis rochei	Muscle Raw	59.00									0.95	
Mackerel, Frigate Auxis tapernosoma	Muscle Raw	50.00										0.07 0.06-0.07 2
Mackerel, Horse Caranx melampygus	Eviscerated Raw	20.10										
Mackerel, Horse Carangidae	Muscle Raw		6.44					0.01				
	Dried	25.06										
Mackerel, Indian Rastrelliger neglectus	Muscle Raw					1.30 1.10-1.53 4						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Mackerel, Jack	Muscle											
Trachurus japonicus	Raw	4.20	1.10							0.20		0.04
		1.40-7.00										
		2										
	Canned											
	Seasoned	30.00										
	Cooked											
	Unspecified	15.00										
	Soaked in Salt Water & Dried	60.00										
Mackerel, Japanese, Spanish	Muscle											
Scomberomorus niphonius	Raw					0.60						
Mackerel, King	Muscle											
Scomberomorus cavalla	Raw		0.60			0.15						
	Cooked											
	Unspecified					0.14						
Mackerel, King, Seer	Muscle											
Scomberomorus commersoni	Raw	14.97									0.11	
		3.85-20.31										
		7										
	Dried	15.50										
		14.50-17.00										
		3										
	Salted & Dried	188.00										
Mackerel, Long-Jawed	Muscle											
Rastrelliger canagurta	Raw		14.25						0.34			
			14.20-14.30									
			2									
	Dried		36.18						1.01			
			29.00-43.36									
			2									
	Salted & Dried		35.90						1.14			
			28.60-43.19									
			2									
Mackerel, Pacific Chub	Muscle											
Scomber japonicus/colias	Raw	25.88	1.00	1.50		0.55			2.00	0.25	0.08	0.01
		15.00-51.00				0.10-1.33						
		5				3						
	Canned	19.00										
		16.00-22.00										
		2										
	Dried	70.00										
	Salted	70.00										
Mackerel, Short-Bodied, Hasa Hasa	Muscle											
Rastrelliger brachysomus	Raw	89.00										
	Smoked	118.00										
		116.00-120.00										
		2										
Mackerel, Spanish	Muscle											
Scomberomorus maculatus	Raw	9.90	3.20		0.38	0.40		0.06	0.49		0.09	
Mackerel, Spotted, Spanish	Muscle											
Scomberomorus guttatus	Raw	53.70										
Mackerel, Surmaii	Muscle											
Scomberomorus kuhlii	Raw	20.13										
	Salted & Dried	43.51										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Mackerel, West African, Spanish Scomberomorus tritor	Muscle Raw	12.00										
Mackerel Scombridae	Muscle Raw	14.09 7.50-24.00 12	5.38		0.19 0.03-0.36 7	1.51 0.50-4.50 4			2.28 0.95-2.60 6	0.57 0.33-1.23 3	0.19 0.04-0.34 4	
	Canned	19.00	10.10		0.40	1.09	0.60	0.02	2.27 1.20-3.40 3	0.20	0.04 0.03-0.05 2	
	Boiled	16.00										
	In Bouillon	22.00				1.00						
	Marinated	19.00				1.50						
	In Oil	15.50 11.00-20.00 2				1.00						
	In Tomato Sauce	14.00				1.00						
	Cooked Fried	12.00										
	Unspecified					0.36						
	Dried	70.00									0.35	0.23
	Salted	70.00				0.40						
	Salted & Dried	29.00										
	Smoked	12.00										
	Eviscerated Raw	10.00							2.52 2.04-3.00 2	0.56		
	Whole Fishmeal					5.60						
Marlin Makaira manazza	Muscle Raw	1.40	0.80									
Marlin, Black Makaira indica	Muscle Raw		8.24 7.70-8.65 4		0.51 0.45-0.63 4		0.65 0.59-0.70 4	0.06 0.05-0.07 4	0.50 0.40-0.70 3		3.28 0.50-7.95 5	
Marlin, Blue Makaira nigricans	Muscle Raw										2.50	
Marlin, Pacific, Blue Makaira ampla	Muscle Raw										4.78	0.93
Marlin, Striped Makaira audax	Muscle Raw										0.65 0.50-0.80 2	
Marlin, White Tetrapturus albidus	Muscle Raw										1.34	
Megrim Lepidorhombus whiffiagonis	Muscle Raw	12.00				0.29						
	Cooked Fried Battered & Breaded	6.00										
	Steamed	9.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Menhaden, Atlantic *Brevoortia tyrannus*	Muscle Raw	13.00				0.31 0.16-0.46 2					0.09	
	Whole Fishmeal	387.70 345.00-430.40 2	133.35 108.20-158.50 2	68.00					9.50 5.77-13.20 2	24.24 22.98-25.50 2		
	FPC			58.00								
Menhaden, Gulf *Brevoortia gunteri*	Whole FPC			72.00								
Menhaden Clupeidae	Whole Fishmeal	438.00	150.90 150.80-151.00 2						11.20 11.00-11.40 2	35.80 35.60-36.00 2		
Milkfish *Chanos chanos*	Muscle Raw	7.10 3.20-11.00 2									0.01	
	Cooked Unspecified	11.00										
	Smoked	10.45 9.90-11.00 2										
Minnow, Common *Zacco platypus*	Muscle Raw	5.00										
Minnow, Stoneroller *Campostoma anomalum*	Whole Raw										0.04	0.03
Minnow, Suckermouth *Phenacobius mirabilis*	Whole Raw				0.22							
Mojarra *Diapterus evermanni*	Muscle Raw	9.80										
Mojarra, Spotted *Gerres filamentosus*	Muscle Raw	4.20 4.00-4.40 2										
Mooneye *Hiodon tergisus*	Muscle Raw										1.03 0.16-2.60 3	
Mooneye, Goldeye *Hiodon alosoides*	Muscle Raw										0.82 0.08-2.31 4	0.52
Mullet *Mugil brasiliensis*	Muscle Raw					1.00						
	Whole Cooked Unspecified					0.80						
Mullet *Mugil liza*	Muscle Raw		15.00									

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Mullet Mugil nasus	Muscle Raw					0.60						
Mullet Mugil oeur	Muscle Raw	43.80										
Mullet, Bhanger Mugil tade	Muscle Raw	0.10							0.15			
Mullet, Black Fin Mugil melinopterus	Muscle Raw Dried	3.90 25.00										
Mullet, Ca'Doi Mugil affinos	Muscle Raw	6.30										
Mullet, Gray Mugil auratus	Muscle Raw	45.00	5.86				1.00					
Mullet, Gray, Boi Mugil speigleri	Muscle Raw	23.90										
Mullet, Gray Harder Mugil capito	Muscle Raw					1.60					0.20	
Mullet, Indian Mugil corsula	Muscle Raw	25.00										
	Eviscerated Dried	150.00							16.00			
Mullet, Kechki Mugil cascasia	Muscle Raw	28.00							1.20			
	Whole Dried	150.00							15.00			
Mullet, Long-Finned Mugil vaigiensis	Muscle Raw	5.00										
Mullet, Parsey Mugil parsia	Muscle Raw	10.10 3.27-20.50 3							0.58 0.14-1.02 2			
Mullet, Striped Mugil cephalus	Muscle Raw	14.61 1.00-50.50 7	5.91 0.80-13.30 4		4.13 0.26-8.00 2	3.30 1.63-4.85 3	0.69 0.60-0.78 2	0.90 0.05-2.59 3	0.75 0.03-2.10 6	0.50	0.06 0.01-0.20 6	0.04 0.03-0.05 2
	Eviscerated Salted					0.29						
Mullet, Yelloweye Aldrichetta forsteri	Muscle Raw Cooked Baked Boiled Fried					0.67 0.42 0.38 0.43						
Mullet Mugilidae	Muscle Raw	17.00 9.68-50.50 7	3.98 2.65-5.30 2	1.09		4.85		0.08	0.90 0.80-1.00 2		0.39 0.21-0.50 3	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Cooked											
	Fried											
	In Oil	28.00										
	Steamed	14.50										
		9.00-20.00										
		2										
	Salted					0.29						
	Salted & Dried	50.50										
	Whole											
	Raw								2.40			
Nemipterid, Long-Tailed Nemipterus japonicus	Muscle Raw	5.50										
Nemipterid, Ribbon-Finned Nemipterus taenipterus	Muscle Raw	2.95										
		2.90-3.00										
		2										
	Dried	7.00										
	Salted & Dried	7.10										
Nemipterid, Roncador Nemipterus virgatus	Muscle Raw	1.40	1.00									
Nemipterid Nemipteridae	Muscle Raw		6.80				0.08	0.05	0.80		0.02	
Pandora, Sea Bream Pagellus erythrinus	Muscle Raw		2.86			1.44	0.63	0.06	0.22		0.58	
											0.27-1.02	
											3	
Parrotfish Scarus mechipunctatus	Muscle Raw	4.85										
		4.70-5.00										
		2										
Parrotfish, Loro Sparisoma squalidum	Muscle Raw	12.10										
Parrotfish Scaridae	Muscle Raw										0.05	0.05
Perch Perca fluviatilis	Muscle Raw					0.02					1.37	1.24
											0.30-4.93	
											5	
	Whole Raw		23.00									
Perch, Climbing Anabas testudenicus	Muscle Raw	6.88							1.62			
		5.20-8.89										
		3										
Perch, Climbing, Gourami Trichogaster fasciata	Muscle Raw	9.00							1.00			
Perch, Climbing, Gourami Trichogaster pectoralis	Muscle Raw	23.00										
Perch, Climbing, Gourami Trichogaster trichopterus	Muscle Raw	3.45										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Perch, Climbing Anabantidae	Muscle Raw Dried	16.00 25.06										
Perch, Golden, Callop Plectroplites ambiguus	Muscle Raw	10.00							0.04			
Perch, Sand Psammoperca waigiensis	Muscle Raw	6.00										
Perch, Sauger Stizostedion canadense	Muscle Raw										0.68 0.08-1.60 10	1.12
Perch, Silver Damalichthys argyrosomus	Muscle Raw					0.18						
Perch, Trout Percapsis omiscomaycus	Whole Raw				0.04			0.08	2.70			
Perch, White Morone americanus	Muscle Raw					0.42						0.91
Perch, Yellow Perca flavescens	Muscle Raw	5.60	12.00	0.05		0.02	0.50	0.03 0.02-0.05 2	2.53 1.28-3.70 3	0.21	0.35 0.13-1.40 16	
Perch Percidae	Muscle Raw		12.85 0.70-25.00 2		0.57	0.08 0.04-0.12 2	0.77 0.60-0.90 4	0.04			0.54 0.15-1.30 17	
Picarel Maena maena	Muscle Raw										0.25	
Pigfish, Grunt Orthopristes chrysoptera	Muscle Raw	11.00	29.70 8.40-51.00 2						1.60	1.80		
Pike, Chain, Pickerel Esox niger	Muscle Raw							0.02				0.75
	Eviscerated Raw						0.80 0.57-1.00 6					
Pike, Muskellunge Esox masquinongy	Muscle Raw	6.20						0.02	2.50 2.50-2.50 2	0.22 0.20-0.23 2	2.51 0.37-6.70 4	0.24
Pike, Northern Esox lucius	Muscle Raw	4.70 3.40-6.00 2	11.10 2.50-19.00 5	0.06 0.05-0.09 3	0.15 0.03-0.30 3		0.59 0.50-0.85 4	0.05 0.03-0.05 4	1.00 0.70-1.70 4	2.36 0.93-3.16 3	1.99 0.11-15.17 2	1.44
Pike, Perch Lucioperca lucioperca	Muscle Raw										0.92	0.92
	Eviscerated Raw						0.75 0.70-0.80 2					

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methyl-
		Parts Per Million (PPM)										
	Eviscerated Raw						0.68 0.55-0.80 5					
Pike, Pickerel Esox reticulatus	Muscle Raw					0.07						
Pike Esocidae	Muscle Raw	5.90 4.31-8.00 4		5.53					2.38 1.60-3.40 2	0.19 0.18-0.20 6	1.48 0.15-8.14 16	
	Whole Raw				0.34			0.21				
Pilchard, European Clupea pilchardus	Muscle Raw	23.58 12.00-45.00 4				0.16	0.81 0.50-1.11 2	0.05	1.32 0.95-2.00 3		0.22 0.05-0.51 6	
	Cooked In Oil	14.00				0.13				1.20		
Pilchard, Japanese Sardinops melanosticta	Muscle Raw	46.90	81.00									
	Canned In Oil	30.00							3.60	0.80		0.03
	Plain	40.00										
	Seasoned In Tomato Sauce	40.00 45.00										
	Dried	49.00 26.00-72.00 2										
	Salted	30.00										
Pilchard, Pacific Sardinops (Sardina) caerulea	Muscle Raw	24.83				0.13			1.66			
	Canned In Tomato Sauce	41.00									0.02 0.01-0.03 2	
Pilchard Clupeidae	Muscle Canned Unspecified				0.50	0.32	2.00		1.88 1.10-2.65 2		0.09	
	Salt Added	31.00							2.10			
	In Tomato Sauce	41.90										
Pintadilla Cheilodactulus variegatus	Muscle Raw	17.00 16.00-18.00 2							7.00			
Pipefish Syngnathidae	Muscle Raw		34.50					0.05	0.70	15.00		
Plaice, American Hippoglossoides platessoides	Muscle Raw										0.14	0.07

Table 16.—Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Plaice, American Pleuronectes platessa	Muscle Raw		3.61 3.00-4.22 2			0.56 0.50-0.62 2	0.20		0.31		0.24 0.02-0.58 7	
	Cooked Boiled					0.28						
	Grilled					0.52						
Plaice Pleuronectidae	Muscle Raw	5.69 3.38-8.00 2	3.25		0.94 0.42-1.46 2				0.22	0.35		0.22 0.05-0.37 5
	Cooked Fried Battered & Breaded	8.00							1.50			
	Steamed	6.00										
Pollack, Saithe, Coalfish Pollachius virens	Muscle Raw	7.08 6.17-8.00 2	7.17		2.35	1.17 0.12-2.50 5	1.64	0.79 0.43-1.15 2			0.16 0.05-0.55 11	0.04
	Canned					0.77						
	Cooked Unspecified										0.20	
	Dried				7.20	3.02 1.33-4.71 2						
	Salted & Dried					1.45						
	Offal Fishmeal	611.00										
Pollack Gadidae	Muscle Raw	6.15 4.00-8.30 2						0.46			0.05 0.03-0.07 2	
	Cooked Fried	28.00										
	Steamed	5.00										
	Dried	13.00										
	Smoked										0.01	
Pomfret Pampus raii	Muscle Raw					1.47					0.10	
Pomfret, Silver Pampus argenteus	Muscle Raw	9.70 3.00-16.40 2	9.10					0.29	0.85 0.50-1.20 2		0.09 0.02-0.15 2	
Pompano, Florida, Carolina Trachinotus carolinus	Muscle Raw					0.16 0.08-0.24 2						
	Cooked Unspecified					0.22						
Pompano, Pacific Neptomenus crassus	Muscle Raw	27.08 27.00-27.15 2										
Pompano, Permit Trachinotus falcatus	Muscle Raw	4.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methyl-
		Parts Per Million (PPM)										
Pompano Carangidae	Muscle Raw	5.60										
	Dried	51.00										
Porcupinefish Atopomycterus nichthemens	Muscle Raw		12.92					0.15	3.20	3.70		
Porgy Pagellus orphys	Muscle Raw	27.50										
Porgy, Aligote Pagellus acarne	Muscle Raw										0.11 0.06-0.16 2	
Porgy, Bogue Sarpa (box) boops	Muscle Raw		7.38 5.88-10.25 3				0.51 0.37-0.62 3	0.07 0.05-0.08 2	0.31 0.25-0.39 3		0.16 0.02-0.34 4	
Porgy, Japanese Pagrus major	Muscle Raw											0.11
Porgy, Large-Eyed, Dentex pentex macrophthalmus	Muscle Raw										0.14 0.06-0.24 2	
Porgy, Panga Pagrus laniarius	Muscle Raw					1.47 1.45-1.48 2						
Porgy, Red Roman Pagrus laticeps	Muscle Raw					2.16						
Porgy, Sheepshead Archosargus probatocephalus	Muscle Raw										0.23 0.07-0.40 2	
	Whole Raw										0.18	
	FPC										1.00	
Porgy Sparidae	Muscle Raw	9.33 4.00-13.00 6						0.01			0.39 0.09-0.94 5	
	Cooked Steamed	5.00 4.00-6.00 2										
	Dried										1.57	1.50
Pout , Fanica Gadus luscus	Muscle Dried				38.60							
Pout, Norway Gadus esmarki	Whole Fishmeal	429.00	124.00 68.00-180.00 2		3.90		[illegible]	[illegible]	5.38 2.90-7.87 2		0.16 0.12-0.40 2	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Puffer, Swellfish Tetraodontidae	Muscle Raw	7.00 6.00-8.00 2										
Queenfish, Leatherjacket Chorinemus tol	Muscle Raw	79.20										
Rabbitfish Siganus (Teuthis) javis	Muscle Raw	5.00										
	Dried	12.00										
	Salted & Fermented	166.00										
Ratfish Hydrolagus colliei	Muscle Raw				7.70							
Ray, Eagle Actobatus peruvianus	Muscle Raw	14.70				18.07						
	Cooked Baked	12.00										
Ray, Eagle Rhinoptera seweli	Muscle Raw	53.00	1.80		1.32			0.06	0.65		0.28	
Ray, Electric, Atlantic, Torpedo Torpedo nobiliana	Whole Raw		3.30									
Ray, Electric , Marbled Torpedo marmorata	Muscle Raw	57.00										
Ray, Electric Torpedinidae	Whole Raw								3.50			
Redfish Sebastes mentella	Whole Raw								2.00			
Redfish, Ocean Perch Sebastes marinus	Muscle Raw	6.33	6.83	0.87 0.20-1.54 2	1.25	1.12	0.92 0.17-1.68 2	0.04 0.02-0.07 2	2.94 1.07-4.80 2		0.11 0.06-0.18 6	
	Offal Fishmeal										0.14	
Redfish, Ocean Perch Scorpaenidae	Muscle Raw	4.00 2.99-5.00 2	2.97			1.50	0.07		0.26	0.11		
	Cooked Fried Breaded	12.94										
Roach Rutilus rutilus	Muscle Raw					1.26 1.20-1.33 2					0.39	
Rockfish, Black Sebastes melanops	Muscle Raw		1.03			0.43 0.18-0.93 3						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methyl-
		Parts Per Million (PPM)										
Rockfish, Copper Sebastes caurinus	Muscle Raw					0.09 0.04-0.14 3						
Rockfish, Flag Sebastes rubivinctus	Muscle Raw										0.17	
Rockfish, Greenstriped Sebastes elongatus	Muscle Raw										0.46	
Rockfish, Canary Sebastes pinniger	Muscle Raw					0.28					0.20	
Rockfish, Osaga Sebastes iracundus	Muscle Raw								0.10		0.65	0.34
Rockfish, Red Sebastes matsubarae	Muscle Raw	5.00										
Rockfish, Red Sebastes ruberrimus	Muscle Raw					0.16						
Rockfish, Rougheye Sebastes aleutianus	Muscle Raw										0.08	
Rockfish, Yellowtail Sebastes flavidus	Muscle Raw										0.37	
Rockfish Scorpaenidae	Muscle Raw		1.47 0.14-2.80 2	0.39 0.30-0.60 6			1.23	0.03			0.41	
	Eviscerated Raw									3.60		
Rockling, Fourbeard Enchelyopus cimbrius	Muscle Raw		6.00					0.06				
Rockling, Three Headed Onus tricarratus	Muscle Raw										2.86 0.34-5.37 2	
Runner, Blue Caranx crysos	Muscle Raw					0.30						
	Cooked Unspecified					0.24						
Runner, Rainbow Elagatis bipinnulata	Muscle Raw	23.95 23.90-24.00 2										
Sablefish Anoplopoma fimbria	Muscle Raw	12.00				0.64 0.35-1.00 5			1.20	0.11	0.38 0.14-0.51 6	
Sailfish Istiophorus platypterus	Muscle Raw										0.82 0.07-1.57 2	
Salmon Salmo milktschitsch	Muscle Canned					0.33						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Salmon, Atlantic Salmo salar	Muscle Raw	11.50 10.00-13.00 2	4.70 1.40-8.00 2			0.33 0.20-0.43 3			3.00		0.09 0.04-0.16 6	0.15
	Canned					0.23						
Salmon, Australian Arripis trutta	Muscle Raw	10.00	13.50					0.05	0.38 0.03-1.30 4	0.50		
Salmon, Chinook Oncorhynchus tshawytscha	Muscle Raw	9.00	8.00			0.39 0.13-0.57 18			4.00			
	Canned	8.90 5.00-12.70 3				0.38 0.13-0.75 15			0.77			
	Cooked Baked Boiled Fried Salted					0.42 0.53 0.57 0.34						
	Eviscerated Salted					0.34						
Salmon, Chum Oncorhynchus keta	Muscle Raw	4.75 1.50-8.00 2	13.70 1.40-26.00 2			0.49 0.25-1.36 6			0.20	0.28 0.15-0.40 2		
	Canned	7.20 7.00-7.40 2				0.24 0.17-0.36 6						
Salmon, Coho Oncorhynchus kisutch	Muscle Raw	13.45 8.90-18.00 2				0.21 0.11-0.29 4			0.64	0.20	0.16 0.07-0.31 4	0.02
	Canned	9.00				0.32 0.12-1.36 9			0.88		0.29 0.02-0.60 3	0.03
	Salted	8.50 7.00-10.00 2										
	Salted & Smoked	17.00										
	Eviscerated & Beheaded Raw						0.65 0.50-0.98 5	0.02				
Salmon, Land-locked Oncorhynchus rhodurus	Muscle Cooked Fried Oatmeal Covered	12.00										
	Steamed	9.00										
Salmon, Longtooth Otolithus ruber	Muscle Raw	27.60 7.00-48.20 2										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Salmon, Pink Oncorhynchus gorbuscha	Muscle											
	Raw	9.30 7.00-11.00 2			0.46 0.33-0.70 3	0.76 0.21-1.48 5			0.56			
	Canned	11.71 8.24-15.00 4		9.00	0.25	0.28 0.12-0.56 5						
	Salted	70.00										
Salmon, Sockeye Oncorhynchus nerka	Muscle											
	Raw	11.80				0.68 0.31-1.68 6	0.92	0.07	1.36 0.81-1.90 2		0.07	
	Canned	10.57 0.42-14.00 7	11.00	8.50		0.46 0.25-0.63 6			1.48 0.76-2.20 2	0.20	0.05	0.05
	Offal											
	Fishmeal					1.92						
Salmon Salmonidae	Muscle											
	Raw	9.59 5.00-15.00 10	5.51 3.02-8.00 2	4.97 4.16-5.77 2	0.40	0.32 0.16-0.50 4	0.08	0.02	1.61 0.55-2.40 7	0.16 0.05-0.27 2	0.11 0.02-0.19 7	
	Canned	9.34 5.70-16.00 11		4.39 4.16-4.50 3		0.73 0.25-1.59 4		0.02			0.09 0.01-0.50 8	0.02
	Cooked											
	Steamed	8.00										
	Dried			19.34								
	Salted	8.50 7.00-10.00 2										
	Smoked	17.00				0.50						
	Offal											
	Fishmeal					1.74						
Sandfish Arctoscopus japonicus	Muscle											
	Raw	15.00										
	Salted & Dried	100.00										
Sardine Clupanodon pseudonhispanicus	Muscle											
	Raw	24.20										
Sardine Opisthopterus tartoor	Whole											
	Raw	49.20										
Sardine, Golden Sardinella aurita	Muscle											
	Raw				0.99							
Sardine, Indian Sardinella longiceps	Muscle											
	Raw	29.57 13.80-60.90 3										
	Dried	36.50										
	Salted & Dried	36.50										
	Smoked	8.00										
	Canned											
	In Tomato Sauce	41.00										
	Unspecified										0.01 0.03	
Sardine, Spotted Sardinella sirum	Muscle											
	Dried	37.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Sardine Clupeidae	Muscle											
	Raw	23.13 13.00-30.00 4	10.33 9.40-11.60 3	22.50		0.16 0.10-0.25 3	0.20 0.14-0.25 2	0.01	0.99 0.35-1.33 3	1.19 0.50-1.90 3	0.13 0.11-0.14 2	
	Canned	33.98 26.00-42.00 5	9.40	9.80 7.30-12.50 2		0.25 0.16-0.36 4	1.05	0.11	0.89 0.25-1.12 3	1.85 1.10-2.60 2	0.23 0.04-0.56 3	
	In Oil	22.31 0.40-40.00 9	16.00	16.10		1.00		0.05	0.90 0.40-1.40 2		0.02	
	Drained	32.14										
	Smoked		29.08					0.13				
	In Oil Smoked	19.00				0.50						
	Smoked In Tomato Sauce	29.00				0.50						
	In Tomato Sauce	27.51 1.53-41.00 5	21.89			0.50		0.08	1.89		0.01	
	In Tomato Sauce & Oil	4.30	19.00					0.05	0.20			
	Marinated	33.00				1.00						
	Paste						8.30					
	Salted					0.60						
	Salted & Dried	80.00 60.00-100.00 2										
	Smoked	90.00										
	Whole											
	Raw	52.50 28.00-77.00 2					0.22					
	Fishmeal					1.69 1.60-1.78 2						
Saury, Pacific Cololabis saira	Muscle											
	Raw	24.50 8.00-30.00 4	22.00			1.42			1.80	0.38 0.13-0.50 3	0.49 0.07-0.90 2	0.02
	Canned	29.50 19.00-40.00 4										
	Dried	40.00										
	Salted	40.00										
	Whole											
	Raw	52.30										
Sawfish Pristidae	Muscle											
	Raw	12.00										
Scad, Big-Bodied Decapterus macrosoma	Muscle											
	Raw	6.95 6.90-7.00 2								0.20		
	Salted & Dried	41.95 35.90-48.00 2										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Scad, Bigeyed *Caranx crumenophthalmus*	Muscle Raw	38.88 3.80-82.10 4									0.09	0.10
	Dried	51.00										
	Salted & Dried	50.85 50.70-51.00 2										
	Smoked	15.00										
Scad, Golden *Caranx kalla*	Muscle Raw	12.50										
Scad, Round *Decapterus punctatus*	Muscle Raw		4.61		0.46			0.03	0.51		0.10	
Scad Carangidae	Muscle Raw	13.00										
Scorpionfish, Redrock *Helicolenus papillosis*	Muscle Raw	11.00						0.06	1.30	0.60		
Scorpionfish, Rosefish *Helicolenus dactylopterus*	Muscle Raw										0.41	
Scorpionfish, Sanford *Helicolenus maculatus*	Muscle Raw					1.36						
Scorpionfish, Yellow *Scorpaena scropha*	Muscle Raw		2.36				0.50	0.05	0.25	0.82 0.46-1.17 2		
Scropionfish Scorpaenidae	Muscle Raw										0.21	
Sculpin, Sea Raven *Hemitripterus americanus*	Muscle Raw										0.17 0.03-0.30 2	0.04
	Cooked Steamed	7.50 7.00-8.00 2										
Scup, Sea Bream *Stenotomus chrysops*	Muscle Raw					0.30						
Sea Crow *Corvina nigrita*	Muscle Raw	1.00										
Sea Cucumber *Cucumaria lefevrei*	Muscle Raw								9.60			
Sea Cucumber *Stichopus japonicus*	Muscle Raw	46.00 10.00-82.00 2							28.00	4.00		
	Dried	417.00										
	Dried & Soaked	92.00										
Sea Cucumber Holothuroidae	Muscle Raw	2.97 2.94-3.00 2										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Sea Devil *Scorpaena porcus*	Muscle Raw		4.00				0.50	0.05	0.37		0.40	
Searobin, Gurnard *Trigla carax*	Muscle Raw										0.54	
Searobin, Gurnard *Trigla hirunda*	Muscle Raw										0.18	
Searobin, Gurnard *Trigla lineata*	Muscle Raw										0.11	
Searobin, Gurnard *Trigla pini*	Muscle Raw				0.02							
Searobin, Gurnard *Trigloporus lastoviza*	Muscle Raw		2.36				0.25	0.05	0.12		0.60	
Searobin, Gurnard, Red *Trigla cuculus*	Muscle Raw					1.20			16.20			
Searobin Triglidae	Muscle Raw				0.19	0.32						
Sea Trout, Corvina *Cilus monti*	Muscle Raw	12.00		2.42								
Sea Trout, Gray *Cynoscion regalis*	Muscle Raw					0.23						
Sea Trout, Spotted *Cynoscion nebulosus*	Muscle Raw		4.60		0.55	0.02		0.11	2.08		0.33	
Seventy-Four *Dentex undulosas*	Muscle Raw					1.83						
Shad *Clupea alosa*	Muscle Salted					0.60						
Shad *Ethmalosa dorsalis*	Muscle Raw	25.00										
	Whole Dried	32.00										
Shad *Konosirus punctatus*	Muscle Raw					1.62						
Shad, American *Alosa sapidissima*	Muscle Raw	7.00				0.31			2.30		0.09	
Shad, Bastard *Konosirus thrissa*	Muscle Raw		1.70									
Shad, Gizzard *Anodontostoma chacunda*	Muscle Raw Salted & Dried Smoked	4.60 28.00 8.00										
Shad, Gizzard *Dorosoma cepedianum*	Muscle Raw	40.00				0.01	1.50	0.07			0.17 0.08-0.24 3	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Eviscerated Raw				0.52							
Shad, Indian Clupea toli	Muscle Raw	28.40										
Shad, Indian Hilsa ilisha	Muscle Raw	17.58 7.13-37.30 3			0.49	0.78			2.50 1.40-3.60 2			
Shad, Slender Ilisha elongata	Muscle Raw	15.00			0.11							
Shad, Threadfin Dorosoma petenense	Whole Raw		4.43							3.31		
Shad Clupeidae	Muscle Raw	5.70 4.80-7.00 3							2.20	0.19 0.18-0.20 2	0.05 0.03-0.08 2	
	Cooked Baked With Bacon	5.80										
	Smoked	46.00										
Shark Mustelus mustelus	Muscle Raw										0.11	
Shark, Basking Cetorhinus maximus	Muscle Raw										0.08	
Shark, Blackfinned Carcharhinus melanopterus	Muscle Raw		66.00						3.45 2.00-4.90 2	0.80 0.50-1.10 2	0.58	
Shark, Blacktip Carcharhinus limbatus	Muscle Raw	38.60										
Shark, Blue Carcharhinus glaucus	Muscle Raw	4.00									0.70	
Shark, Cat Scyliorhinus caniculus	Muscle Raw										0.41 0.16-0.65 2	
Shark, Cat, Brown Apristurus brunneus	Muscle Raw											
	Smoked								10.10		0.56 0.13	
Shark, Cat, Nurse Hound Scyliorhinus stellaris	Muscle Raw										1.88	
Shark, Cat, Squale Galeus melanostomus	Muscle Raw									6.11		
Shark, Darkie Charlie Dalatius licha	Muscle Raw										0.55	
Shark, Dusky Carcharhinus obscurus	Muscle Raw		5.07		1.60			0.56	0.40		1.60 1.12-2.08 2	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Shark, Greenland *Somniosus microcephalus*	Muscle Raw										1.72	
Shark, Gummy *Mustelus antarcticus*	Muscle Raw	10.00	4.60					0.05	0.15 0.04-0.25 2	0.50		
	Canned Boiled Seasoned	40.00 60.00 40.00-80.00 2										
Shark, Hammerhead *Sphyrna blochii*	Muscle Raw	44.80										
Shark, Hammerhead *Sphyrna lewini*	Muscle Raw		3.76		0.55			0.03	0.50		1.86 0.68-3.64 3	
Shark, Hammerhead, Bonnethead *Sphyrna tiburo*	Muscle Raw		2.07		3.63			0.10	0.78		0.60	
Shark, Hammerhead Sphyrnidae	Muscle Raw									0.20		
Shark, Mushi *Scoliodon sorrakewa*	Muscle Salted & Dried	27.20										
Shark, Porbeagle, Mackerel *Lamna nasus*	Muscle Raw										1.60	
Shark, Requiem Carcharhinidae	Muscle Raw	14.00			4.50					0.20		
Shark, Sandbar *Carcharhinus milberti*	Muscle Raw										0.25	
Shark, Saw *Pristiophorus cirratus*	Muscle Raw		4.10					0.05	0.30	0.50		
Shark, School *Galeorhinus australis*	Muscle Raw		5.00					0.05	0.50	0.50	0.30	
Shark, Sevengill *Notorynchus cepedianus*	Muscle Raw		4.40					0.05	0.25	0.50		
Shark, Sharpnose, Pacific *Scoliodon longurio*	Muscle Raw	23.30 20.60-26.00 2										
Shark, Shortfin Mako *Isurus oxyrinchus*	Muscle Raw										1.35	
Shark, Silky *Carcharhinus falciformis*	Muscle Raw		2.77		0.28			0.28	0.58		1.45 1.43-1.47 2	
Shark, Sixgill *Hexanchus griseus*	Muscle Raw				4.10 3.20-4.60 3							

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methyl-mercury
		Parts Per Million (PPM)										
Shark, Thresher Alopiidae	Muscle Raw										0.66	
Shark, Tiger Galeocerdo arcticus	Muscle Raw										0.83	
Shark, Whitetip Carcharhinus albimarginatus	Muscle Raw										0.47	
Sheathfish Krytopterus krytopterus	Muscle Raw	10.00										
Sheathfish Tachysurus gambensis	Muscle Raw	2.00										
Sheathfish Tachysurus heudeloti	Muscle Raw	2.00										
Sheathfish Siluridae	Muscle Raw		18.60				0.02	0.03	1.73 1.00-2.46 2		0.01	
Shiner, Common Notropis cornutus	Muscle Raw										0.24	
Shiner, Emerald Notropis hudsonius	Muscle Raw								0.80			
	Whole Raw							0.10	1.20			
Shiner, Golden Notemigonus crysoleucas	Muscle Raw						0.22				0.12	0.39
	Whole Raw				0.79							
Shiner Cyprinidae	Muscle Raw										0.58 0.39-0.76 2	
Silverfish Dentex argyrozona	Muscle Raw					1.62						
Silverside Atherina boyere	Muscle Raw		3.20				0.25	0.05	0.62		0.43	
Silverside Atherina presbyter	Muscle Raw	10.00										
Silverside Austromenidia regia	Muscle Raw	7.00										
Silverside, Brook Labidesthes sicculus	Muscle Raw				0.44							
Silverside, Cornalito Basilichthys incisus	Muscle Raw				0.27							
Silverside, Pejerrey Basilichthys bonariensis	Muscle Raw				0.24							

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Skate, Blue Raja batis	Muscle Raw	10.00									0.42 0.04-0.80 2	
Skate, Clear Nose Raja eglanteria	Muscle Raw		4.64		4.41			0.14	0.74		0.30	
Skate, Roundel Raja texana	Muscle Raw	14.00										
Skate, Thornback Raja clavata	Muscle Raw		3.00			0.20					0.17	
Skate, Thorny Raja radiata	Muscle Raw										0.22 0.18-0.26.00 2	0.09
Skate Rajidae	Muscle Raw	7.50 5.00-10.00 2	9.80		16.20			0.47	0.10		0.80	
	Cooked Fried	12.00										
	Whole FPC			372.00								
Sleeper Eleotris fusca	Muscle Raw	26.00							3.60			
Slimy, Soapy, Ponyfish Leiognathus equula	Muscle Raw Dried	7.20 13.00	10.20				0.04	0.01	0.24		0.03	
Slimy, Ponyfish, Splendid Leiognathus splendens	Muscle Raw		9.90				0.09	0.02	0.62		0.02	
Slimy, Soapy Leiognathidae	Muscle Raw		8.30				0.08	0.04	0.31		0.07	
Slipmouth, Black-Finned Leiognathus daura	Muscle Raw	8.50 7.00-10.00 2										
Smelt, Blue Atherinopsis californiensis	Muscle Raw					0.32						
Smelt, Eulachon Thaleichthys pacificus	Muscle Raw					0.31						
Smelt, Lake Osmerus mordax	Muscle Raw		20.00		0.34 0.15-0.52 2	0.01	0.50	0.06 0.06-0.07 2	1.50		0.03 0.01-0.07 3	
Smelt, Longfin Spirinchus thaleichthys	Muscle Raw					0.31						
Smelt, Pond Hypomesus olidus	Muscle Raw	50.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Smelt, Sweet, Ayu *Plecoglossus altivelis*	Muscle Raw	20.00										
Smelt Osmeridae	Muscle Raw	34.10 18.20-50.00 2	11.60					0.00	3.30	0.28 0.26-0.30 2	0.17 0.06-0.42 5	
	Cooked Fried Floured	33.00										
Snapper *Chrysophrys guttulatus*	Muscle Raw	10.00							0.10			
Snapper *Lutianus agennes*	Muscle Raw	4.00										
Snapper *Pristipomoides sieboldi*	Muscle Raw											0.02
Snapper, Malabar *Lutianus malabaricus*	Muscle Raw	6.10									0.28	
Snapper, Red *Lutianus aya*	Muscle Raw		2.30									
Snapper, Red *Lutianus campechanus (blackfordii)*	Muscle Raw	10.79 10.00-11.58 2			0.41	0.31 0.30-0.32 3	0.48	0.06	0.20 0.02-0.38 2		0.60	
	Cooked Fried Battered	57.00										
Snapper Lutianidae	Muscle Raw	42.95 10.00-75.90 2				0.31 0.30-0.32 2			0.70	0.13	0.53	
Snipefish Macrorhamphosidae	Muscle Raw		1.92					0.00				
Snook *Centropomus undecimalis*	Muscle Raw	10.00							0.02			
Snook Centropomidae	Muscle Raw	3.00										
Soldier Fish *Gymnapistes marmoratis*	Muscle Raw		21.30					0.05	6.30	0.70		
Sole *Aesopia cornuta*	Muscle Raw	1.80	0.80									
Sole, Acedia *Decologoglossa cuneata*	Muscle Raw										0.07	
Sole, Black *Synaptura nigra*	Muscle Raw	10.00							0.03			
Sole, Dover *Microstomus pacificus*	Muscle Raw						0.09 0.08-0.11 2					

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Sole, Dover Solea solea	Muscle Raw	10.00	4.81 4.34-5.27 2		0.88	0.71 0.50-0.91 2	0.06	0.38 0.25-0.51 2			0.24 0.06-0.43 5	
Sole, English Parophrys vetulus	Muscle Raw					0.10	0.23 0.13-0.33 2				0.11	
Sole, Flathead Hippoglossoides elassodon	Muscle Raw					0.22						
Sole, Lenguado Paralichthys adspersus	Muscle Raw	17.20										
Sole, Lenguado Paralichthys microps	Muscle Raw			1.75								
Sole, Petrale Eopsetta jordani	Muscle Raw						0.07 0.04-0.09 2				0.11	
Sole, Rex Glyptocephalus zachirus	Muscle Raw						0.17 0.11-0.23 2				0.12	
Sole, Sand Psettichthys melanostictus	Muscle Raw					0.16	0.05				0.08	
Sole Soleidae/Pleuronectidae	Muscle Raw	6.56 3.30-10.00 7	3.78 3.10-4.23 3	0.40	1.10		3.00	0.01	2.80 0.11-6.00 3	0.20	0.15 0.04-0.29 4	
	Cooked Fried Battered & Breaded	12.50 11.00-14.00 2							1.60			
	Steamed	6.50 6.00-7.00 2							1.20			
	Eviscerated Raw									2.38		
Spadefish Chaetodipterus faber	Muscle Raw	16.40										
	Whole Raw	26.40	2.09							1.92		
Spadefish Scatophagus argus	Muscle Raw	21.72 7.00-66.00 5							0.10			
Spot Leiostomus xanthurus	Muscle Raw					0.59						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Sprat	Muscle											
Sprattus sprattus	Raw	18.77 7.50-30.04 2	15.52		0.29				0.78	1.42	0.25	
	Canned					0.25						
	In Oil	47.70 15.00-80.00 2							1.00			
	In Olive Oil					0.51						
	Smoked											
	In Oil	15.00				1.00						
	In Tomato Sauce	2.70				0.50						
	In Tomato Sauce					0.30						
	Whole											
	Raw	7.00				1.00			10.00			
	Cooked											
	Deep Fat Fried	45.00										
	Grilled (smoked)	57.00										
	Dried	22.00										
	Fishmeal										0.15	
Squirrelfish, Mempachi	Muscle											
Myripristes argyromus	Raw										0.21	0.21
Stargazer	Muscle											
Uranoscopus scaber	Raw		4.29 3.88-4.69 2				0.75	0.05	0.27 0.12-0.41 2		0.66 0.11-1.32 4	
Steenbras, Red	Muscle											
Petrus rupestris	Raw					1.40 1.30-1.50 2						
Steenbras, Sand, Seebes	Muscle											
Lithognathus mormyrus	Raw					1.61					0.22 0.11-0.34 3	
Stickleback, Ninespine	Muscle											
Gasterosteus pungitius	Raw										0.14	
Stickleback	Muscle											
Gasterosteidae	Raw										0.02	
Stingray	Muscle											
Dasyatis brevicaudatus	Raw		9.20					0.05	1.00	0.70		
Stingray, Butterfly	Muscle											
Pteroplata altavela	Raw	4.00										
Stingray, Marbled	Muscle											
Dasyatis uarnak	Raw	27.40 8.70-61.50 3										
Stingray	Muscle											
Dasyatidae	Raw	4.50 4.00-5.00 2									0.25	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Whole Raw		3.82						5.20			
Stockfish Merluccius capensis	Muscle Raw Dried				2.50		0.50				0.08 0.21	
	Salted, Dried & Soaked	18.00										
Stumpnose, Red Pagrus gibbiceps	Muscle Raw					1.37 1.28-1.46 2						
Stumpnose, White Sparus globiceps	Muscle Raw					1.35						
Sturgeon Acipenser sinensis	Muscle Raw					1.12						
Sturgeon Acipenser sturio	Muscle Cooked Steamed	20.00										
Sturgeon, Atlantic Acipenser oxyrhynchus	Eviscerated, Beheaded Raw							0.05 0.03-0.09 2				
Sturgeon, Green Acipenser medirostris	Muscle Raw										0.26	
Sturgeon, Lake Acipenser fulvescens	Muscle Raw										0.07	
Sturgeon, White Acipenser transmontanus	Muscle Raw					0.63					0.21	
Sturgeon Acipenseridae	Muscle Raw										0.54 0.34-0.73 2	
	Cooked In Aspic Steamed	20.00									0.47	
	Eviscerated Raw						1.39 1.18-1.60 2					
Sucker, Buffalo Ictiobus cyprinellus	Muscle Raw					0.02						
Sucker, Carp Carpiodes difformis	Muscle Raw					0.03						
Sucker, Common Catostomus commersonii	Muscle Raw						0.04 0.02-0.07 2				1.80 0.08-3.60 7	0.23

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Eviscerated Raw						0.65 0.18-1.05 7					
Sucker, Longnose *Catostomus catostomus*	Muscle Raw										1.06	
Sucker, Quillback *Carpiodes cyprinus*	Muscle Raw										1.32	
Sucker, Shorthead Redhorse *Moxostoma macrolepidotum*	Muscle Raw										1.60	
Sucker, Silver Redhorse *Moxostoma anisurum*	Muscle Raw										0.10	
Sucker, Smallmouth Buffalo *Ictiobus bubalus*	Muscle Raw				0.57	0.02						
Sucker, Spotted *Minytrema melanops*	Muscle Raw				0.17	0.01						
Sucker Catostomidae	Muscle Raw										0.36 0.04-0.83 11	0.64
Sunfish, Bluegill *Lepomis macrochirus*	Muscle Raw										0.26 0.05-0.46 2	
	Whole Raw	27.30	4.47		0.42					1.11		
Sunfish, Crappie, Black *Pomoxis nigromaculatus*	Eviscerated, Beheaded Raw						0.45 0.30-0.60 2	0.01				
Sunfish, Crappie, White *Pomoxis annularis*	Muscle Raw					0.01					0.31 0.03-0.58 2	
Sunfish, Largemouth Bass *Micropterus salmoides*	Muscle Raw				0.30	0.03 0.01-0.05 2					0.24 0.12-0.45 14	
	Whole Raw					0.45 0.40-0.50 2						
Sunfish, Pumpkinseed *Lepomis gibbosus*	Muscle Raw										0.27 0.12-0.40 3	0.30
Sunfish, Redbreast *Lepomis auritus*	Muscle Raw											0.29

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Sunfish, Rock Bass *Ambloplites rupestris*	Muscle Raw										0.21 0.05-0.34 3	
	Eviscerated & Beheaded Raw						0.09 0.60-1.20 6	0.03				
Sunfish, Smallmouth Bass *Micropterus dolomieui*	Muscle Raw										0.30 0.04-0.55 3	1.10
	Eviscerated & Beheaded Raw						0.79 0.60-1.20 20	0.02				
Sunfish, Spotted Bass *Micropterus punctulatus*	Muscle Raw										0.24	
Sunfish Centrarchidae	Raw	3.40							1.40	0.29	0.35 0.07-0.51 5	0.11
Surfperch, Black *Embiotoca jacksoni*	Muscle Raw					0.06						
Surfperch, Blue *Embiotoca lateralis*	Muscle Raw					0.06						
Surgeonfish *Acanthurus bleekeri*	Muscle Raw	4.95 4.90-5.00 2										
Swordfish *Xiphias gladius*	Muscle Raw				1.00		0.17	0.04			0.93 0.46-2.01 26	1.07 1.06-1.09 2
	FPC										5.69	
Swordfish Xiphiidae	Muscle Canned Cooked Broiled With Butter	12.94									1.80	
Tarpon, Bidbid *Elops hawaiiensis*	Muscle Raw	6.75 3.50-10.00 2										
Tarpon, Buan-Buan *Megalops cyprinoides*	Muscle Raw	6.17 4.90-7.00 2										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Dried	34.00	56.00						8.00	14.00		
Tarpon Elopidae	Muscle Raw		7.60									
	Whole Raw								2.40			
Tench Tinca tinca	Muscle Raw	10.00										
Teraglin, Geelbeck Atractoscion acquidens	Muscle Raw				0.00		0.40		1.80			
Therapon Therapon plumbeus	Whole Dried	202.00										
Therapon, Large Scaled, Banded Grunter Therapon theraps	Muscle Raw	9.10										
Therapon, Tigerfish Therapon jarbua	Muscle Raw	55.83 5.56-86.00 3										
Therapon Theraponidae	Muscle Raw	8.00										
Threadfin Galeoides decadactylus	Muscle Raw	3.00										
Threadfin Pentanemus quinquarias	Muscle Raw	3.00										
Threadfin Polynemus indicus	Muscle Raw	35.30 25.60-45.00 2										
	Whole Dried	170.00							17.00			
Threadfin, Four-rayed Polynemus tetradactylus	Muscle Raw	17.10										
Threadfin, Shiny Nose Polydactylus quadrifilis	Muscle Raw	2.00										
Threadfin, Smallmouth Polynemus microstoma	Muscle Raw	5.90										
Threadfin Polynemidae	Muscle Raw	7.80 3.00-10.00 4							0.10			0.41
Tilapia, Mozambique Mouthbrooder Tilapia mossambica	Muscle Raw	4.00										
Tilefish Branchiostegus japonicus	Muscle Raw		0.90			1.48						

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Tilefish Branchiostegidae	Muscle Raw	12.00 10.00-14.00 2										
Tomcod Gadidae	Whole Raw			0.41								
Torpedo, Panga Megalaspis cordyla	Muscle Raw	5.90 5.80-6.00 2										
Trevally Caranx georgianus	Muscle Raw	10.00							4.00			
Trevally, Great, Talakitok Caranx sexfasciatus	Muscle Raw Dried	8.20 10.00										
Trevally, Mackerel Serrilela ameculita	Muscle Raw		11.30					0.05	1.30	0.50		
Triggerfish, Leatherjacket Monacanthus chinensis	Muscle Raw								0.61			
Triggerfish, Yellowjacket Pseudomonacanthus ayraudi	Muscle Raw	10.00							0.04			
Triggerfish Balistidae	Muscle Raw		7.00					0.05	0.70	0.70		
Tripletail Lobotes surinamensis	Whole Dried	210.00							26.00			
Trout Salmo shasta	Muscle Raw					0.04						
Trout, Brook Salvelinus fontinalis	Muscle Raw				1.22	0.02		0.02			1.77 0.20-3.33 2	0.11
	Cooked Unspecified					0.05						
	Whole Raw										0.22 0.02-0.37 3	0.04
	Eviscerated Raw						0.66 0.40-0.70 2					
Trout, Brown Salmo trutta	Muscle Raw	10.00	4.60 4.00-5.20 2			0.03		0.03 0.01-0.05 2	2.10 0.90-3.30 2	0.50	0.53 0.06-4.35 13	
	Eviscerated Raw						1.38					
Trout, Dolly Varden Salvelinus malma	Muscle Raw										1.04	

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Trout, Gila *Salmo gilae*	Muscle Raw										0.07	
Trout, Lake *Salvelinus namaycush*	Muscle Raw	4.78 2.35-7.20 2	2.10		0.67	0.01 0.01-0.01 2	0.11	0.04	0.22 0.22-3.30 3	0.26	0.96 0.24-2.86 7	1.08
	Whole Raw										0.47 0.24-0.57 9	
	Eviscerated Raw						0.72 0.50-1.10 10	0.02				
Trout, Pollan *Coregonus pollan*	Muscle Raw					1.37						
Trout, Rainbow *Salmo gairdneri*	Muscle Raw	23.74 13.37-30.00 4	12.77		0.40	1.18 0.04-4.58 12		0.02	2.23	2.10	0.18 0.04-0.67 9	
	Canned					0.38 0.22-0.62 4						
	Whole Raw	33.92	117.68			1.19 1.08-1.40 3			3.88	7.70	0.04	0.04
	Eviscerated Raw						0.77 0.50-1.10 10					
Trout, Salmon *Trutta marina*	Muscle Raw					0.10						
Trout, Sea *Salma ocula*	Muscle Raw	4.90	4.22						0.50	0.22		
Trout, Yellowstone *Salmo lewisi*	Muscle Raw				2.40						0.03 0.03-0.04 2	
Trout Salmonidae	Muscle Raw	8.60 6.00-12.00 3	10.20		0.11	1.62 0.03-5.00 5			2.77 1.70-3.30 3		0.32 0.03-1.15 8	
	Cooked Steamed	10.00										
	Eviscerated Raw						0.50	0.01	1.80			

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Trumpeter *Latridopsis forsteri*	Muscle Raw		8.10					0.05	0.60	0.50		
Tuna, Albacore *Thunnus alalunga*	Muscle Raw					0.45	0.03				0.20 0.13-0.27 2	
	Canned					0.32						
	In Oil										0.30	
	In Oil Drained	6.00										
	In Water										0.43	
Tuna, Albacore Scombridae	Muscle Raw										0.31	
	Canned										0.25	
Tuna, Bigeye *Thunnus obesus*	Muscle Raw	14.85 2.70-27.00 2	0.80							0.10	0.90 0.52-1.39 6	
Tuna, Bluefin *Thunnus thynnus*	Muscle Raw	15.00 10.00-20.00 3				0.23 0.08-0.38 2				0.29 0.08-0.50 2	0.64 0.37-0.91 11	0.36
	Canned					0.19 0.16-0.22 2						
Tuna, Skipjack *Euthynnus pelamis*	Muscle Raw	25.50 11.00-40.00 2									0.27 0.17-0.40 9	0.41
	Canned	30.00										
	In Oil	40.00										
	Seasoned	80.00										
	Dried	75.00 50.00-100.00 2										
Tuna, Skipjack Scombridae	Muscle Raw	40.00									0.20	
	Canned										0.16	
	In Oil										0.64	
	Dried	75.00 50.00-100.00 2										
	Smoked										0.05	
Tuna, Yellowfin *Thunnus albacares*	Muscle Raw	27.04 10.00-80.00 5			0.38	0.56 0.34-0.99 3	0.85	0.05			0.34 0.12-0.77 22	0.48
	Canned	40.00										
	In Oil	18.00										
Tuna Scombridae	Muscle Raw	10.00	11.33 5.26-17.40 2		0.58			0.14 0.07-0.20 2	0.11	5.00	0.47 0.20-0.97 7	0.96 0.24-1.68 2

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Canned	18.24 12.00-25.50 9	4.40			1.10	0.32 0.11-0.52 2	0.06 0.06-0.06 2	0.34 0.11-0.50 2	0.33 0.20-0.45 2	0.45 0.20-1.24 14	0.20
	In Bouillon	20.00				0.50						
	In Oil	16.46 12.00-23.00 4				0.50			1.66 1.00-2.32 2			
	In Oil Drained	24.00										
	With Vegetables In Water	26.50 22.00-31.00 2							1.00 1.00-1.00 2		0.48	
	Offal Fishmeal	368.00	213.00						11.00	9.00		
Tunny, Little Euthynnus alletteratus	Muscle Raw	31.00	0.24		0.33			0.06	0.48	0.24		
Tunny Scombridae	Muscle Raw		4.60									
Turbot Reinhardtius hippoglossoides	Muscle Raw	5.60 3.20-8.00 2							0.80		0.08	0.06
	Eviscerated Raw	1.74	2.07						0.18	0.08		
	Offal Fishmeal										0.21	
Turbot Reinhardtius matsuurae	Muscle Raw	9.50							1.25 0.70-1.80 2		0.10	
Turbot, Arrowtooth Atheresthes stomias	Muscle Raw	21.00							10.20	1.80	0.14 0.11-0.15 3	
Turbot Pleuronectidae	Muscle Raw										0.20 0.18-0.21 2	
	Cooked Steamed	5.00										
	Eviscerated Raw				0.27							
Viperfish Chauliodus sloani	Muscle Raw	3.45										
Walleye Stizostedion vitreum vitreum	Muscle Raw						0.79 0.50-1.50 9	0.02			1.57 0.32-2.31 40	
Weakfish Larimus peli	Muscle Raw	7.00										

Table 16.--Microelement (Group 1) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Weever *Trachinus araneus*	Muscle Raw										2.04	
Whale, Pilot *Globicephala macrorhyncha*	Muscle Raw										3.99	2.35
Whale, Sperm *Physeter macrocephalus*	Muscle Raw					0.82						
Whale Unspecified	Muscle Raw		10.20					0.33			0.89 0.24-1.74 4	
	Canned Salted	51.60	5.90			0.01			6.80			
Whitefish *Coregonus oxyrhynchus*	Muscle Raw										0.03	
Whitefish, Lake *Coregonus clupeaformis*	Muscle Raw		13.00 12.00-14.00 2		0.40 0.09-0.70 2	0.03	0.40 0.20-0.50 3	0.05	0.72 0.50-0.94 2	0.67 0.66-0.69 2	0.41 0.05-2.27 9	
	Eviscerated Raw						0.84 0.65-1.40 6	0.04				
Whitefish, Mountain *Prosopium williamsoni*	Muscle Raw				2.70							
Whitefish, Vendace *Coregonus (leucichthys) albula*	Muscle Raw										0.45	
Whitefish Salmonidae	Muscle Raw	7.60 4.20-11.00 2	1.96				0.30 0.20-0.40 2		1.90		0.10 0.06-0.13 5	
	Offal Fishmeal	12.08				19.70			44.90	149.30		
Whiting, Australian *Sillago sihama*	Muscle Raw	9.45 8.90-10.00 2										
Whiting, Blue *Micromesistius poutassou*	Muscle Raw	10.00	4.39		0.50		1.14		0.48		0.33 0.03-0.79 5	
Whiting, Lady Vendi *Sillago schansa*	Muscle Raw	7.30							2.30			
Whiting, Spotted *Sillaginodes punctatus*	Muscle Raw		8.90					0.05	0.60	0.50		
Whiting Sillaginidae	Muscle Raw		7.93 1.92-21.80 4		0.49 0.25-0.73 2			0.05 0.01-0.09 2	0.90		0.17 0.07-0.27 2	

Table 16.--Microelement (Group 1) composition of finfishes, whales and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Cooked Fried Battered & Breaded	7.00										
	Steamed	10.00										
	Whole Raw								1.00			
Wolffish, Atlantic Anarhichas denticulatus	Muscle Raw	3.30	13.25			0.89	0.25	0.02	1.00		0.21 0.04-0.45 7	0.20 0.09-0.32 2
	Whole Fishmeal										0.10 0.04-0.19 7	
Wolffish, Spotted Anarhichas minor	Muscle Raw										0.06	
Wolffish Anarhichadidae	Whole Fishmeal										0.07	
Wrasse Nemadactylus macropterus	Muscle Raw		8.40					0.05	0.90	0.50		
Wrasse Pimelometopon bulchar	Muscle Raw					0.07						
Wrasse, California, Sheepshead Pimelometopon pulchrum	Muscle Raw					0.07						
Wrasse, Spinola Labrus turdus	Muscle Raw		4.00				0.50	0.05	0.25		0.42	
Wrasse, Tautog Tautoga onitis	Muscle Raw					0.27						
Wrasse Labridae	Muscle Raw		8.40					0.05	0.80	1.30		
Wreckfish, Black Bass Polyprion americanus	Muscle Raw	32.00	50.00						4.00	1.10		

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Crab *Atelecyclus septemdentatus*	Muscle Raw		61.00						2.90			
	Whole Raw		32.00						10.00			
Crab *Callinectes hastatus*	Muscle Raw		26.96						2.96			
Crab *Corystes cassivelaunus*	Muscle Raw		52.00						6.60			
	Whole Raw		39.00						22.00			
Crab *Polybius henslowi*	Whole Raw	25.20										
Crab *Portunus sanguinalentus*	Muscle Raw	18.50							18.50			
	Offal Meal	155.00							32.20	400.00		
Crab *Portunus trituberculatus*	Muscle Raw	2.53										
Crab *Xantho incisus*	Whole Raw		26.00						20.00			
Crab, Blue *Callinectes sapidus*	Muscle Raw	23.17 [1/] 2.00-54.40 [2/] 6 [3/]	40.25 [1/] 34.50-46.00 [2/] 2 [3/]		1.28	0.20 [1/] 0.09-0.46 [2/] 2 [3/]	0.79	0.10	9.36 [1/] 1.30-19.00 [2/] 6 [3/]	1.70	0.07	
	Canned	11.93 11.56-12.31 2							9.36 9.08-9.14 2			
	Cooked Steamed	16.69 7.64-22.62 3				0.30 0.15-0.46 4			10.83 3.68-15.82 3			
Crab, Blue, Deep Sea *Portunus pelagicus*	Muscle Raw	19.10							15.00		0.02	
Crab, Chinese *Eriocheia sinensis*	Muscle Raw	28.24										
Crab, Dungeness *Cancer magister*	Muscle Raw	3.65	37.65		7.00	0.10			13.08 4.65-21.50 2	0.55	0.40 [1/] 0.12-0.67 [2/] 2 [3/]	
	Canned	44.25 9.00-88.50 2			0.71		0.17		11.12 3.25-19.00 2			
	Whole Raw		27.00						20.00			
Crab, Edible *Cancer pagurus*	Muscle Raw		53.79 43.59-64.00 2				0.45	4.15 [1/] 2.93-5.00 [2/] 3 [3/]	15.63 7.50-23.77 2			
	Canned	9.00						3.05				
	Cooked Boiled Unspecified [4/]		20.00		15.52	0.40			10.00	0.30		
	Paste							1.66				

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Crab, Hermit Clibanarius strigimans	Muscle Raw		74.30					0.05	15.80	0.80		
Crab, Hermit Eupagurus bernhardus	Muscle Raw		30.00						6.90			
	Whole Raw		28.00						25.00			
Crab, Hermit Hermit cupagiorus	Muscle Raw		93.60						2.06			
Crab, Kegani Eramacrus isenbecki	Muscle Raw		36.60					0.03				
Crab, King Paralithodes camtschatica	Muscle Raw Canned	20.00 30.66 13.00-60.00 3			3.81	0.36	0.45	0.12	33.70		0.07	
	Cooked Unspecified				4.03		0.41	0.07			0.07	
	Offal Meal	375.00	251.00						111.00	11.87 1/ 11.75-12.00 2/ 2 3/		
Crab, Necora, Cangrejos Cancer polydon	Muscle Cooked Baked	39.00										
Crab, Red Podaphehalmus vigil	Muscle Cooked Boiled	27.00										
Crab, Red, Deep Sea Geryon quinquedens	Muscle Raw										0.34	
Crab, Rock Cancer irroratus	Muscle Raw	60.00	30.50						19.90	10.60	0.12	0.11
Crab, Samoan Scylla serrata	Muscle Raw	21.40 8.80-41.20 2							22.00			
Crab, Sand Platyonichus ocellatus	Muscle Raw	15.00				0.46			12.00			
Crab, Shore, Common, Green Carcinus maenas	Muscle Raw		44.00					22.40	69.35 5.70-133.00 2			
	Cooked Unspecified				4.78							
	Dried				25.80							
	Whole Raw		23.25 22.00-24.50 2						22.00			
Crab, Small Potamon grapsoides	Muscle Raw	10.50										
Crab, Spinous Spider Maia squinado	Muscle Raw		63.00						3.20			

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Whole Raw		21.00						25.00			
Crab, Swimming Portunus puber	Muscle Raw Dried		21.50		43.75				7.75			
	Whole Raw		24.50						19.50			
Crab, Tanner Chionoectes angulatus	Muscle Raw	20.00							10.00			
Crab Unspecified	Muscle Raw	52.00 8.00-212.00 7	28.27 14.00-81.00 5		16.25 1/ 6.90-34.25 2/ 3 3/	0.83 0.02-1.50 4	2.27 1/ 3.00-4.25 2/ 2 3/	0.06	5.68 3.25-8.90 4	0.30	0.18 0.09-0.30 3	
	Canned	7.48 4.80-9.40 3	36.00	2.00	0.71	0.50 0.33-0.74 3	1.08 0.17-2.00 2	0.12	5.88 2.42-15.20 4	0.20		
	Cooked Boiled Steamed	13.00 29.00 25.10-32.90 2			36.80		0.06	0.12	8.60	3.00		
	Dried Salted	17.00 24.00 17.00-29.00 3	14.00									
	Paste	31.00				1.50						
	Whole Raw								5.75			
	Offal Meal	10.60				37.72 19.44-56.00 2				240.00 180.00-300.00 2		
Crayfish Astacus fluviatilis	Muscle Raw	18.35 10.00-26.70 2	17.50			0.90			7.30 4.60-10.00 2	0.30	0.14	
Crayfish Austropotamobius pellipes	Muscle Raw	11.78 11.50-12.00 4							3.90			
	Whole Raw		24.30 24.00-24.50 3						17.00			
Crayfish Galathea squamifera	Whole Raw		14.00 10.00-18.00 2						34.50 29.00-40.00 2			
Crayfish Porcellana platycheles	Whole Raw		54.00						27.00			
Crayfish, Painted Panulirus ornatus	Muscle Raw	28.80										

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Crayfish Unspecified	Muscle Raw	131.41 9.00-373.00 3	16.38		0.02		11.60		24.60 7.00-11.21 3	5.74 4.20-7.28 2		
	Whole Raw				0.45					101.27		
Lobster Homarus vulgaris	Muscle Raw		34.00 14.30-51.75 8				0.28	0.08	9.10 5.70-12.03 3	0.80		
	Cooked					13.75						
	Whole Raw		22.50 22.00-23.00 2						33.00	63.20		
Lobster Panulirus japonicus	Muscle Raw				35.00							
Lobster, Northern Homarus americanus	Muscle Raw					1.38					0.51	
	Canned	8.11			0.95		1.03		12.67			
Lobster, Norway Nephrops norvegicus	Muscle Raw	23.30 16.60-30.00 2	13.25 11.05-18.00 4		27.90 13.30-42.50 2		0.66 0.10-1.16 4	0.04 0.01-0.08 4	4.94 3.50-6.85 4		0.38 0.05-0.70 5	
	Cooked Unspecified				11.49							
Lobster, Red Jasus lallandi	Muscle Raw	10.00							10.00			
Lobster, Slipper Ibacus ciliatus	Muscle Raw											0.03
Lobster, Spiny Panulirus interruptus	Muscle Raw					0.57 0.32-0.82 2						
Lobster, Spiny Panulirus vulgaris	Muscle Raw	3.72 2.84-4.60 2	0.48		31.29				0.98 0.25-1.70 2	0.03		
	Cured				5.30							
Lobster Unspecified	Muscle Raw	15.68 3.00-60.00 5	8.24 1.48-15.00 2		4.90 4.80-5.00 2	1.38	1.83 0.00-3.98 3	0.14 0.12-0.17 2	34.90 0.51-167.00 7	1.09 0.37-2.50 3	0.10 0.04-0.14 3	
	Canned	8.10 8.00-8.20 2	23.23 20.96-25.50 2		12.61 1.00-24.22 2	1.33	0.93 0.09-1.06 2	0.29 0.12-0.47 2	9.15 8.70-9.60 2	0.40		
	Cooked Boiled	8.50			29.50					0.38		
	Dried						18.90					
	Whole Raw		22.00									
	Meal	424.59				42.41			67.13	59.46		

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Shrimp *Artemsia longinaris*	Muscle Raw	10.26					0.70	0.07	2.95		0.43	
Shrimp *Crangon vulgaris*	Muscle Raw	7.00	14.00			0.70			4.20	1.47	7.36	
	Whole Raw		34.00						32.00			
Shrimp *Palaemon serratus*	Muscle Cooked				1.96							
	Whole Raw		15.50 10.00-21.00 2						16.75 3.50-30.00 2			
Shrimp *Palaemon squilla*	Whole Raw		30.00						31.00			
Shrimp *Penaeus incisipes*	Muscle Raw	14.80 11.40-18.20 2										
Shrimp *Penaeus kerathurus*	Muscle Raw										0.14 0.10-0.17 2	
Shrimp *Penaeus semisulcatus*	Muscle Raw	69.20	13.60				0.22	0.01	3.40			0.02
Shrimp *Trachypenaeus asper*	Muscle Raw	18.00										
Shrimp, Bagda *Palaemon carcinus*	Muscle Raw		6.90									
Shrimp, Banana *Penaeus merguiensis*	Muscle Raw		8.50				0.04	0.05	2.80			
Shrimp, Blue Leg King *Penaeus latisulcatus*	Muscle Raw		13.40					0.19	3.40		0.05	
Shrimp, Brazilian *Penaeus braziliensis*	Muscle Raw	21.88				0.23			3.31			
	Cooked Boiled	39.73				0.21			3.02			
Shrimp, Brine *Artemia salina*	Muscle Raw	2750.00	80.00						10.00	130.00		
Shrimp, Brown *Penaeus aztecus*	Muscle Raw	17.80	15.50		4.40		0.48	0.05	4.00	1.20	0.07	
Shrimp, Charigo Blanco *Aristeus antennatus*	Muscle Raw										0.23	
Shrimp, Charigo Rajo *Plesiopenaeus edwardsianus*	Muscle Raw										0.50	
Shrimp, Dock *Pandalus danae*	Muscle Raw					0.38						

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Shrimp, Fresh Water Prawn Macrobrachium rosenbergii	Muscle Raw		13.50				0.16	0.10	7.20		0.06	
Shrimp, Fresh Water Unspecified	Muscle Raw	22.35 22.00-22.50 2										
	Salted & Dried	79.00										
	Soaked	24.00										
	Paste	380.00										
Shrimp, Gamba Penaeus longirostris	Muscle Cooked Unspecified	18.15 14.00-22.30 2		12.70 11.50-13.90 2					6.50		0.22	
Shrimp, Indian Hippolysmeta ensirostris	Muscle Raw	95.84	18.65						48.69 13.07-84.31 2			
Shrimp, Indian Metapenaeus monoceros	Muscle Raw	85.04							91.88		0.02	
Shrimp, Indian Palaemonetes vulgaris	Offal Meal					0.02						
Shrimp, Indian Penaeus carinatus	Muscle Raw	50.32 10.94-89.70 2							73.12			
Shrimp, Indian Penaeus penicillatus	Muscle Raw	116.00							131.00			
Shrimp, Indian Solenocera subnuda	Muscle Dried					1.02						
Shrimp, Indian Squilla mantis	Muscle Raw	4.40	21.99 16.98-27.00 2			0.37	0.92	0.42	18.09 14.18-22.00 2	0.40	0.21 0.12-0.30 2	
Shrimp, Indian Prawn Metapenaeus affinis	Muscle Raw	91.20							90.48		0.24	
Shrimp, Indian Prawn Metapenaeus brevicornis	Muscle Raw	79.72							72.27			
Shrimp, Indian Prawn Penaeus maxillipedo	Muscle Raw	135.04							110.32			
Shrimp, Indian Prawn Penaeus sculptilus	Muscle Raw	69.60 50.60-88.60 2							75.09			
Shrimp, Indian Prawn Penaeus styliferus	Muscle Raw	23.31 9.52-37.10 2							10.22			
Shrimp, Indian Prawn Penaeus tenuipes	Muscle Raw	104.52							84.73			

Table 17.--Microelement (Group 1) composition of crustaceans and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Shrimp, Jumbo Penaeus monodon	Muscle Raw	29.70 12.80-46.60 2	19.20				0.04	0.12	5.40		0.03	
Shrimp, Langostino Hymenopenaeus mulleri	Muscle Raw				1.26							
Shrimp, Opossum, Kuruma Penaeus japonicus	Muscle Raw Dried	40.00 140.00										
Shrimp, Pink Penaeus duorarum	Muscle Raw	2.30							1.30			
Shrimp, Pink, Maine Pandalus borealis	Muscle Raw	3.50	14.00		6.00		0.34 0.20-0.39 2	0.07	2.00		0.07 0.02-0.15 4	
	Offal Meal										0.06	
Shrimp, Sea Bob Xiphopenaeus kroyeri	Muscle Raw	21.50										
Shrimp, Tiger Penaeus esculeutus	Muscle Raw	50.00										
Shrimp, White Penaeus indicus	Muscle Raw	25.37 4.30-101.50 4							85.56 75.82-92.60 3	0.59		
	Salted & Fermented	54.00										
Shrimp, White Penaeus setiferus	Muscle Raw				3.80 3.00-4.60 2	0.45	0.52 0.47-0.56 2	0.07 0.05-0.08 2			0.10 0.07-0.13 2	
	Canned	22.90 15.50-35.00 5			0.08		0.48		2.77			
Shrimp Penaeidae	Muscle Raw	19.00							0.10		0.05 0.03-0.08 4	
	Canned	18.25 15.00-21.50 2		0.93							0.05 0.04-0.06 2	
	Dried	46.00										
	Salted	49.00										
	Salted & Dried Paste	34.80 148.00										
Shrimp Unspecified	Muscle Raw	19.78 7.00-40.00 15	21.02 7.32-42.00 6	0.93	15.16	0.90 0.45-1.50 4	0.42 0.38-0.48 3	2.10 0.03-4.14 4	8.26	0.73 0.02-1.90 4	0.03 0.01-0.09 6	
	Canned	23.96 12.78-35.00 8	16.95 14.90-19.00 2	4.40	8.75 0.79-19.60 3	0.37 0.25-0.49 3	0.32 0.30-0.34 2	0.08 0.02-0.13 2	1.70	0.20	0.90	0.70
	Cooked Boiled	15.00	44.93 17.50-72.35 2		3.10	0.90		0.10	7.00 3.00-10.00 3	0.30		
	Dried	98.64 57.20-214.00 5					7.50					
	Fried	62.00										
	Salted & Dried	85.00 49.00-141.20 2										
	Whole Raw	237.27							13.00			
	Dried	80.00										

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Abalone Haliotis cracherodi	Muscle Raw		24.12									
Abalone Haliotis gigantea	Muscle Raw		21.00							0.50		
	Canned	168.69 1/ 18.00-400.00 2/ 3 3/										
Abalone Haliotis japonica	Muscle Raw	30.00										
Abalone Haliotidae	Muscle Raw	20.60 7.90-30.00 3	14.20 1/ 7.17-21.30 2/ 2 3/			1.05		0.05				
	Canned											
	Boiled	18.00										
	Seasoned	40.00										
	Unspecified 4/	23.12 18.00-28.24 2										
	Dried	50.50 30.00-71.00 2										
Clam, Arkshell Anadara broughtoni	Muscle Raw									0.50		
Clam, Arkshell Arca granosa	Muscle Raw		16.20				0.18	0.28	5.60			
Clam, Arkshell Arca noae	Muscle Raw	387.00	53.20						1.15	1.63		
Clam, Arkshell Arcidae	Muscle Raw	62.70 52.00-91.78 4								0.50		
	Canned	30.00 20.00-40.00 2										
	Seasoned	40.00										
Clam, Donax, Bean Donax radians	Whole Raw								0.65			
Clam, Donax, Cadelinha Donax trunculus	Whole Raw				2.63							
Clam, Donax Donacidae	Whole Raw	16.20 16.00-16.40 2										
Clam, Fresh Water Corbicula atrata	Whole Raw		30.00					0.39				
Clam, Fresh Water Ellystis complanatus	Whole Raw									2.00		
Clam, Fresh Water, Corbshell Corbicula japonica	Whole Raw									10.00		

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Clam, Fresh Water Unspecified	Whole Raw									10.00		
Clam, Green *Cyrena ventricosa*	Muscle Raw	32.15 24.30-40.00 2										
Clam, Mactra *Mactra glauca*	Muscle Raw										0.15	
Clam, Mactra *Mactra sulcataria*	Muscle Raw	100.00								20.00		
Clam, Mactra Mactridae	Muscle Raw	122.50 115.00-130.00 2					4.27 1/ 1.17-7.37 2/ 2 3/		0.92 1/ 0.73-1.11 2/ 2 3/	0.20	0.83 1/ 0.82-0.84 2/ 2 3/	
Clam, Razor *Solen marginatus*	Whole Raw Cooked				3.27 2.04						0.11	
Clam, Razor, Northern *Siliqua potula*	Whole Raw	16.00				1.38						
Clam, Razor Solenidae	Whole Raw	110.00	63.25 20.00-80.00 4		0.90				4.50 1.90-7.10 2			
	Canned	37.50 5.00-70.00 2				0.42					0.05	0.06
	Chowder	34.25 11.00-58.00 4	35.00				2.15	0.12	3.65	9.25		
	Whole Raw					2.61						
Clam, Soft Shell *Mesodesma globrata*	Whole Raw	405.00	17.00				0.70	0.27	5.80	6.70		
Clam, Soft Shell *Mesodesma mesodesma*	Whole Raw						12.72					
Clam, Soft Shell *Mya arenaria*	Whole Raw	405.00	17.00		1.23	90.00	0.55 0.40-0.70 2	0.22 1/ 0.18-0.27 2/ 2 3/	5.80	6.70	0.04 0.03-0.05 2	
	Canned	64.10			0.48	0.72 1/ 0.36-1.08 2/ 2 3/	0.81		2.46			
Clam, Tellin, Rayed-Shell *Soletellina psammatea*	Whole Raw	85.80										
Clam, Tellin Tellinidae	Whole Raw	86.00										
Clam, Venus *Chione undatella*	Whole Raw								1.60			
Clam, Venus *Meretrix casta*	Whole Raw	93.40							10.40			

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Clam, Venus *Tapes aureus*	Whole Raw		17.00									
Clam, Venus *Tapes pullastra*	Whole Dried				25.60							
Clam, Venus *Tivela crassatelloides*	Whole Canned								2.20			
Clam, Venus *Venus gallina*	Whole Raw	218.10 32.20-404.00 2	27.90						0.89 0.30-1.47 2	1.57		
Clam, Venus, Asari *Tapes philippinarum*	Whole Raw										0.01	
Clam, Venus, Hard *Venus lusoria*	Whole Raw	41.40								1.35		
Clam, Venus, Littleneck *Venus kennieottii*	Whole Raw		5.09									
Clam, Venus, Littleneck Japanese *Tapes (Venerupis) decussatus*	Whole Raw	54.09 25.70-98.00 4	35.00		5.60	2.13 1.20-3.06 2			10.50 1.00-20.00 2	1.09	0.17 0.08-0.30 3	
	Canned Seasoned	80.00										
Clam, Venus, Littleneck, Pacific *Paphia staminea*	Whole Raw					0.22			2.05			
Clam, Venus, Northern Quahog, Cherrystone *Mercenaria mercenaria*	Whole Raw	30.00	20.60		1.77	0.16 0.14-0.18 2	0.88 0.28-1.83 3	0.16 0.12-0.73 2	6.33 2.60-10.07 2	2.57 [1/] 0.02-5.80 [2/] 33 [3/]	0.07 0.06-0.08 2	
	Canned	63.00										
Clam, Venus, Pismo *Tivela stultorum*	Whole Raw		14.91						0.00			
	Canned	22.00										
Clam Veneridae	Whole Raw	69.01 42.50-130.00 6	30.09 15.90-77.00 7		1.28 [1/] 0.36-2.58 [2/] 3 [3/]	1.37	0.48 0.15-0.81 2	0.02 0.03-0.40 7	2.50 1.90-3.10 3	27.90	0.06 0.04-0.07 3	
	Canned	61.18 41.18-80.00 3										
	Seasoned	80.00										
	Cooked Steamed		5.00					0.31				
	Paste		49.50					0.83				
Cockle *Cardium tuberculatum*	Whole Raw		14.00									
	Cooked	260.00										

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Cockle, Atlantic Cardium edule	Muscle Raw	24.15 9.30-39.00 2			7.30	1.50			1.00		0.05 0.04-0.07 3	
Cockle, Pacific Cardium corbis	Whole Raw									1.63		
Cockle, Sand Hemidonax donaciformus	Muscle Raw	28.00										
Cockle Cardiidae	Muscle Raw	78.00			19.12					2.00		
	Canned With Soybean Sauce	265.00					5.50					
	Dried	247.00 234.00-260.00 2										
Cuttlefish Sepia officinalis	Muscle Raw		12.80 12.25-13.35 2		8.17	1.33	0.92 0.85-0.99 2	0.11	2.73 2.66-2.81 2	1.10	0.40 0.09-0.51 4	
Cuttlefish Sepia orientalis	Muscle Raw	110.00										
Cuttlefish Sepiola rondetti	Muscle Raw										0.24	
Cuttlefish Sepiidae	Muscle Raw	22.64 8.00-49.00 3	7.05 7.00-7.10 2			1.96			4.20			
	Canned Salted	16.00										
	Dried	21.86 19.00-24.71 2	10.20								0.31	0.21
Mussel Mytilus magallanicus	Whole Raw	10.00			19.74				20.00	0.80		
Mussel Mytilus viridis	Whole Raw		14.20				0.11	0.38	7.30		0.02	
Mussel Unio sinatus	Whole Raw									74.10		
Mussel, Blue Mytilus edulis	Whole Raw	108.38 5.90-240.00 6	39.50 2.00-85.00 5	29.00	1.03 1.09-1.70 3	1.13 0.35-1.90 2	0.66 0.06-1.54 4	2.70 0.41-5.50 3	6.75 1.25-32.00 7	34.15 1.50-159.00 5	0.30 0.01-0.64 6	
	Canned	248.00	127.00	42.00	1.80		0.34	2.90	7.80	169.00	0.02	
	Cooked Steamed	286.00	101.50	35.00	1.70		0.39	2.55	5.30	158.00	0.01	
Mussel, California Mytilus californianus	Whole Raw		44.85			0.80			3.56			
Mussel, Cholga Aulacomya ater	Whole Raw		2.22									

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Mussel, European Mytilus galloprovincialis	Whole Raw										0.89 0.28-1.50 2	
Mussel, Horse Volsella modiotus	Whole Raw										0.04	
Mussel Mytilidae	Whole Raw	169.50 58.00-382.50 4	36.33 20.00-45.00 3		41.46 2.90-61.00 3	0.90	3.08 2.40-3.75 2	0.15	9.50 0.72-32.00 4	4.36 3.10-5.50 4	0.11	
	Canned					0.97						
	Cooked											
	Boiled	135.00										
	Fried					7.00						
	Dried	364.00					15.00					
Octopus Eledone moschata	Muscle Raw										0.40	
Octopus Octopus bimaculatus	Muscle Raw				0.12							
Octopus Paroctupus hongkongensis	Muscle Raw					0.23						
Octopus Polypus marmoratus	Muscle Raw					0.83						
Octopus, Curled Eledone cirrhosa	Muscle Raw										0.25	
Octopus, Devilfish Octopus vulgaris	Muscle Raw	48.03 5.10-130.00 3			14.48				37.40		0.32	
	Cooked											
	Unspecified				40.30							
	Cured				10.84							
	Dried	31.00										
Octopus, Pulpo Octopus tehuelehus	Muscle Raw				2.42							
Octopus Octopodidae	Muscle Raw	12.66 3.00-25.00 3	17.35 16.20-18.50 2					0.03 0.01-0.05 2	7.00	0.25 0.01-0.06 3		
Oyster Ostrea circumpicta	Whole Raw								93.13			
Oyster Ostrea pulchana	Whole Raw				0.77							
Oyster Ostrea spinosa	Whole Raw								75.45			
Oyster, Common Ostrea edulis	Whole Raw	35.32 6.90-60.00 4	382.65 16.60-748.70 2		1.14				303.10 0.20-606.00 2	2.13 1.01-3.25 2	0.11	

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Cooked Steamed Dried	45.00	175.00		17.35	0.18	206.00		90.00	5.00		
Oyster, Dredged *Ostrea senuata*	Whole Raw		1.72				1.00	23.00				
Oyster, Eastern *Ostrea virginica*	Whole Raw	65.65 33.00-101.60 4	1383.40 170.00-2179.30 5		0.86 0.74-1.00 3	0.31 0.12-0.49 3	0.93 0.47-1.64 3	2.79 2.26-2.61 5	76.00 32.80-195.30 9	4.30	0,08 0.05-0.10 2	
	Canned	60.00 36.00-84.00 2	202.10									
	Dried	421.80	2600.00						97.30	34.70		
Oyster, Giant Pacific *Ostrea gigas*	Whole Raw	62.25	186.90			0.56 0.33-0.80 2			117.26 12.34-377.40 4			
	Canned Smoked	37.30			1.00		0.33		16.00			
Oyster, Native Pacific *Ostrea lurida*	Whole Raw	103.29				0.64 0.34-0.94 2			6.28			
Oyster, Portuguese *Ostrea angulata*	Whole Raw	55.13 47.70-62.50 2	835.52 781.70-863.00 3		17.80 2.03-33.56 2	0.13	19.50		245.85 132.60-425.30 3	8.77 7.89-9.66 2	0.12 0.07-0.16 2	
	Dried						158.50					
Oyster, Rock *Ostrea glamerata*	Whole Canned	478.00				2.20	8.30		377.00			
Oyster, Sidney, Rock *Ostrea commercialis*	Whole Raw	50.00	318.00						24.35 18.70-30.00 2		0.01	
Oyster Ostreidae	Whole Raw	81.85 30.00-410.00 17	232.46 2.97-745.70 9		1.12 1/ 0.65-1.58 2 3/	2.10 1.08-4.11 3	0.72 0.37-1.16 4	1.44 0.13-4.00 3	1.23 0.52-3.40 6	62.35 12.30-207.90 14	3.29 2.40-6.00 6	0.06 0.02-0.08 5
	Canned	75.52 59.10-100.00 3				0.96	1.19 0.80-1.43 3	2.23 0.36-4.10 2	1.47 0.61-2.40 3	60.50	42.00	0.22 0.04-0.58 3
	Dried	299.33 235.00-332.00 3										
	Salted	42.00										
Periwinkle *Littorina littorea*	Whole Raw	15.10				0.75	1.04	0.20	13.32	27.66 12.19-42.36 3	0.30 0.04-0.56 2	
	Cooked					4.63						
Periwinkle *Littorina neritoides*	Whole Raw	203.00 141.00-265.00 2						55.05 8.10-102.00 2				

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
Periwinkle	Whole											
Littorinidae	Raw				21.12		1.50					
	Cooked											
	Boiled	160.50 150.00-171.00 2										
	Dried						12.60					
Scallop	Muscle											
Chlamys glabra	Raw	446.00	0.45						0.02	0.21		
Scallop, Amande de Mar	Muscle											
Pectonculus glycymeris	Raw											0.03
Scallop, Bay	Muscle											
Pecten aequisulacalius	Raw								3.10			
Scallop, Calico	Muscle											
Aequipecten gibbus	Raw				4.10		0.39	2.37				0.04
Scallop, Common	Muscle											
Pecten yessaensis	Raw	12.00										
	Canned											
	Salted	18.50 7.00-30.00 2										
	Dried	37.00										
Scallop, Coquille St. Jacques	Muscle											
Pecten maximus	Raw	22.05 18.00-26.00 2	23.28				0.35	5.66	1.00 0.50-1.50 2	0.50		
Scallop, Great	Muscle											
Pecten jacobaeus	Raw				19.26					1.97		
Scallop, Green	Muscle											
Chlamys opercularis	Raw									1.00		
Scallop, Iceland	Muscle											
Pecten islandicus	Raw	6.50	17.00				0.20		1.30		0.05	
Scallop, Sea	Muscle											
Pecten grandis	Raw					0.48 0.15-0.80 2			10.00	1.00		
Scallop, Sea	Muscle											
Pecten magellanicus	Raw				1.64		0.47	0.14			0.07 0.05-0.09 2	
Scallop, Sea Vieira	Muscle											
Pecten genero	Raw				0.39							
Scallop	Muscle											
Pectinidae	Raw	11.00 4.00-18.00 2			11.98 0.69-33.6 3	0.18	0.20 0.15-0.24 2	0.03	1.75 1.20-2.30 2	20.00 0.11-39.00 2	0.03 0.01-0.04 4	
	Canned	18.50 7.00-30.00 2										
	Cooked											
	Steamed	30.00										

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Dried	47.00 15.00-79.00 2										
Snail Achatina marginata	Whole Raw	41.00										
Snail Archidoris montergyensis	Whole Raw								1.30			
Snail Helix hortensus	Whole Raw									17.61		
Snail Murex brandarix	Whole Raw	611.00	1.63						0.43	1.20		
Snail Thais chocolata	Whole Raw	140.00			1.40				22.00			
Snail, Common Helix aspersa	Whole Raw								62.20			
Snail, Land Archidoris brittanicus	Whole Raw	13.00		4100.00					24.00			
Snail, River Vivipara quadrata	Whole Raw	200.00										
Snail Vivapara javanica	Whole Raw	86.00										
Snail, Rock Murex trunculos	Whole Cooked				21.00							
Snail Unspecified	Whole Raw Cooked Unspecified	25.00 23.00				0.06			8.97	16.00	0.29	
Squid Loligo brasiliensis	Muscle Raw				1.00							
Squid Loligo forbesi	Muscle Raw										0.09	
Squid Loligo ommastrephes	Muscle Raw Cooked Unspecified Dried & Soaked Salted & Dried	10.00 14.00 21.00 14.00								0.20	0.06	
Squid, Japanese Ommastrephes sloani pacificus	Muscle Raw	42.80								0.20		
Squid Watasemia scintillans	Muscle Raw	25.00										
Squid, Common Loligo vulgaris	Muscle Raw	19.75 15.50-24.50 2	11.82 9.14-14.50 2		2.57	1.46	0.94 0.63-1.25 2	0.13	2.91 1.50-5.56 2		0.27 0.12-0.48 6	

Table 18.--Microelement (Group 1) composition of mollusks and products.

Common and Scientific Name	Description	Iron	Zinc	Fluorine	Arsenic	Iodine	Lead	Cadmium	Copper	Manganese	Mercury	Methylmercury
		Parts Per Million (PPM)										
	Cooked											
	Unspecified				1.62							
					1.40-1.83							
					2							
Squid, Flying	Muscle											
Ommastrephes sagittatus	Raw				3.60	1.39					0.20	
					0.70-6.50							
					2							
Squid, Gouldi, Flying	Muscle											
Notodarius gouldi	Raw		18.50					0.05	5.30	0.50		
Squid, Long-Finned	Muscle											
Loligo peali	Dried	32.00										
Squid, Pacific	Muscle											
Loligo opalescens	Raw					0.21						
Squid, Short-Finned,												
Atlantic	Muscle											
Illex illecebrosus	Raw										0.11	
Squid	Muscle											
Unspecified	Raw	13.47	35.86					1.49	7.02	0.54		
		4.00-27.30	11.79-84.00					0.20-2.78	2.80-16.20			
		7	3					2	6			
	Cooked											
	Boiled	7.87										
	Unspecified	13.69										
		7.87-19.50										
		2										
	Dried	23.93										
		19.62-32.20										
		3										
	Salted & Dried		23.50					3.19				
	Smoked	20.00										
Top Shell	Muscle											
Tegula gallina	Raw								6.10			
Top Shell	Muscle											
Tegula viridula	Raw								8.70			
Turban	Muscle											
Turbo cornutus	Raw	90.00										
	Canned											
	Seasoned	30.50										
		29.00-32.00										
		2										
Turban, Wavy	Muscle											
Astraea undosa	Raw								8.00			
Whelk	Muscle											
Buccinum humphreyssanu	Raw				63.20							
Whelk	Muscle											
Eburna japonica	Raw	22.00										
Whelk, Common Northern	Muscle											
Buccinum undatum	Raw	12.00							13.50	16.00		
Whelk, Dogwinkle, Atlantic	Muscle											
Nucella lapillus	Raw										0.48	
Whelk	Muscle											
Unspecified	Raw				18.13		1.40					
	Cooked	62.00										
	Dried						11.05					

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Ainame *Hexagrammos otakii*	Muscle Raw									0.03		
Alewife *Alosa pseudoharengus*	Whole Raw		1.10							0.03	96.00	10.00
	Fishmeal		12.00									
Amberjack, Yellowtail *Seriola quinqueradiata*	Muscle Raw									0.02		
Anchoveta *Engraulis mysticetus*	Whole Fishmeal				1.10							
Anchoveta *Engraulis ringens*	Whole Fishmeal		0.06								0.73	0.06
Anchovy Engraulidae	Muscle Canned			0.72				129.31				
	Whole Fishmeal		7.00 [1/] 6.00-8.00 [2/] 2 [3/]		1.40						75.00 [1/] 73.00-77.00 [2/] 2 [3/]	5.50 [1/] 6.00-6.00 [2/] 2 [3/]
Argentine, Atlantic *Argentina silus*	Whole Fishmeal		2.70		1.80	4.20				0.18	110.00	1.60
Bass, Sea, Japanese *Lateolabrax japonicus*	Muscle Raw									0.05		
	Dried									0.05		
Bass, Sea, Kelp *Parlabrax clathratus*	Muscle Dried	0.09	1.45 1.30-1.70 4	3.01 [1/] 0.61-5.80 [2/] 4 [3/]		0.18 [1/] 0.10-0.20 [2/] 4 [3/]	2.53 [1/] 1.70-3.30 [2/] 4 [3/]			2.28 [1/] 1.70-4.30 [2/] 4 [3/]	14.70 0.80-25.00 4	1.60 1.30-2.00 4
Bass, Sea Serranidae	Muscle Raw				0.66							
Bass, Temperate, Striped *Morone saxatilis*	Muscle Raw				0.38							
Bass, Temperate, White *Morone chrysops*	Muscle Raw				0.42							
Big-Eye *Priacanthus japonicus*	Muscle Dried									0.01		
Bloater *Coregonus hoyi*	Muscle Smoked							4.30				
Bonito, Striped *Sarda orientalis*	Muscle Raw										17.80	
Bowfin, Mudfish *Amia calva*	Muscle Raw				0.15							
Bream, Sea, Crimson *Evynnis japonicus*	Muscle Cooked									0.03		

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Burbot Lota lota	Muscle Raw				0.33							
	Offal Fishmeal		17.00								130.00	16.00
Capelin Mallotus villosus	Whole FPC Fishmeal		1.50		1.50 1.13 0.58-1.70 3	0.10 3.80 2/ 3/				0.10 0.10	97.00	2.00
Carp, Crucien Cyprinus carassius	Muscle Raw										1.30	
Carp, Indian Labeo rohita	Muscle Raw									0.42		
Carp, Katla Catla catla	Muscle Raw									0.42 0.38-0.46 2		
Carp, Orange Fin Labeo calbasu	Muscle Raw									0.21		
Catfish, Airbreathing, Hito Clarias batrachus	Muscle Dried									0.32		
Catfish, Fresh Water, Butter, Pabda Callichrous bimaculatus	Muscle Cooked									0.86		
Catfish, Fresh Water, Channel Ictalurus punctatus	Muscle Raw		0.12									
Catfish, Fresh Water, Dwarf Macrone cavasius	Muscle Dried									0.21		
Catfish, Fresh Water, Mulley Wallagonia attu	Muscle Dried									0.35		
Catfish, Fresh Water, Striped, Dwarf Macrones vittalus	Muscle Dried									0.80		
Catfish, Fresh Water Ictaluridae	Muscle Raw		0.23		0.19 0.10-0.37 11							
Catfish, Stinging Saccobranchus fossilis	Muscle Dried									0.38		
Cisco, Lake Coregonus artedii	Eviscerated & Beheaded Raw				0.33							
	Whole Fishmeal		13.00								120.00	10.00
Cod, Atlantic Gadus morhua	Muscle Raw		0.10 0.07-0.12 2		0.44							

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Parts Per Million (PPM)									
		Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
Cod, Pacific *Gadus macrocephalus*	Muscle Dried									0.06		
Cod Gadidae	Muscle Raw		0.14		0.43		0.96	2.08 [1] 0.49-3.67 [2] 3 [3]		0.35 0.00-1.21 4		
	Dried Salted & Dried				0.43		0.96				38.27	
Croaker, Atlantic *Micropogan undulatus*	Muscle Raw				0.84							
Cusk-Eel, Bearded Ophidium *Ophiodon barbatum*	Muscle Raw										1.80	
Cutlassfish *Trichiurus lepturus*	Muscle Raw						0.00	0.00			0.80	
Dab Pleuronectidae	Dressed Raw			0.06						0.00		
Dory, Mirror *Zenopsis nebulosa*	Muscle Dried									0.10		
Drum, Fresh Water *Aplodinotus grunniens*	Muscle Raw				0.31 0.19-0.43 2							
	Whole Fishmeal		16.00								145.00	10.00
Eel, Conger Congridae	Muscle Raw						0.00	0.00			2.80	
Eel, Snake *Ophicephalus sonnerati*	Muscle Dried									0.25		
Eel, Snake, Murrel *Ophicephalus marulius*	Muscle Dried									0.21		
Eel, Snake Ophichthidae	Muscle Raw									0.00		
Eel, Spiny *Mastacembelus armatus*	Muscle Dried									0.49		
Featherback *Notopterus notopterus*	Muscle Dried									0.29		
Flounder *Cleisthenes pinetorum herzensteini*	Muscle Raw				0.34							
Flounder, Witch *Glyptocephalus cynoglossus*	Dressed Raw									0.01		
Flounder, Yellowtail *Limanda ferruginea*	Muscle Raw		0.09									

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Flounder Bothidae/Pleuronectidae	Muscle Raw				0.86 0.34-1.38 2			3.21		0.01	32.30	
	Cooked Baked				1.51							
Gar Lepisoteidae	Muscle Raw										2.60	
Goby, Flathead Glossosobius giuris	Muscle Dried									0.53		
Goby Gobiidae	Muscle Raw										1.90	
Goldfish, Funa Carassius auratus	Eviscerated & Beheaded Raw	0.04			0.16		1.77	18.20			29.60	
Grenadier Macrouridae	Muscle Raw				0.00		0.00	0.00			1.90	
Grouper, Black Epinephelus lanceolatus	Muscle Dried									0.29		
Gurnard Cheilodactylus macropterus	Muscle Raw						1.43	31.05 17.80-44.30 2			0.40	
Haddock Melanogrammus aeglefinnus	Muscle Raw		0.12 0.02-0.30 4	0.05		0.03					1.00	0.20
Hake Urophycis brasiliensis	Muscle Raw						1.33	0.93 0.00-1.90 3			0.91 0.14-1.70 4	
Hake, Pacific Merluccius productus	Muscle Raw		0.09									
	Whole Fishmeal		0.41							0.30	62.00	3.50
Hake, Silver, Whiting Merluccius bilinearis	Muscle Raw		0.09	0.01								
Hake Gadidae	Muscle Raw						0.63	3.60		0.00	21.80	
Halibut, Pacific Hippoglossus stenolepis	Muscle Raw		0.17									
Halibut Pleuronectidae	Muscle Raw	0.02	0.01			0.04	0.01 0.00-0.05 4	1.21		0.51	3.10	

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Herring, Atlantic *Clupea harengus*	Whole Fishmeal		3.15 3.00-3.31 2		2.09 1.37-2.90 4	0.12				0.24	34.95 34.90-35.00 2	1.80 1.60-2.00 2
Herring, Deep Bodied *Sardinella perforata*	Muscle Raw				0.01					0.02		
Herring Clupeidae	Muscle Raw	5.67 [1/] 0.00-11.00 [2/] 3 [3/]		0.03		0.41 0.24-0.50 3	0.00	0.00		0.00 0.00-0.01 2	5.30 1.80-8.80 2	
	Canned							44.33 26.79-61.88 2				
	Dried, Smoked & Salted Smoked			1.70	1.41			150.00				
	Whole Raw Fishmeal		4.22	0.03	2.22 1.65-2.80 2					0.01 0.10	36.00 33.00-40.00 3	4.66 1.00-10.00 3
Katsuo *Euthynnus (katsuwonum) vagans*	Muscle Dried									0.18 0.13-0.22 2		
Ladyfish *Elops saurus*	Muscle Dried										12.47	
Lance, Sand *Ammodytes americanus*	Whole Fishmeal		1.50			0.05				0.05	42.00	2.00
Leatherjacket, Yellow *Scomber lyson*	Muscle Raw										1.20	
Mackerel, Atlantic *Scomber scombrus*	Muscle Raw				1.30							
	Whole Fishmeal				3.04 1.92-3.80 3	0.10				0.20		
	Presscake				2.05 1.40-2.70 2	0.10			8.30	0.10		
Mackerel, Frigate *Auxis tapernosoma*	Muscle Raw			0.19		0.06						
Mackerel, Jack *Trachurus japonicus*	Muscle Raw									0.04		
Mackerel, Pacific Chub *Scomber japonicus/colias*	Muscle Raw Dried									0.45 0.42		

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Mackerel Scombridae	Muscle Raw			0.08			0.26					
	Dried									0.05		
Marlin, Black Makaira indica	Muscle Raw				1.85 0.80-2.33 2							
Menhaden, Atlantic Brevoortia tyrannus	Whole Fishmeal		9.60								270.00	27.00
Menhaden Clupeidae	Whole Fishmeal		8.94 6.87-11.00 2		2.15 2.09-2.20 2						339.10 326.20-352.00 2	15.34 5.61-20.0 3
Perch, Climbing Anabas testudenicus	Muscle Cooked Unspecified 4/									0.42		
Perch, Yellow Perca flavescens	Muscle Raw		0.07	0.20	0.32			0.55				
	Eviscerated & Beheaded Raw				0.57 0.19-0.89 5							
Pigfish, Grunt Orthopristis chrysoptera	Muscle Raw						0.00	0.26			2.60	
Pike, Chain Pickerel Esox niger	Eviscerated & Beheaded Raw				0.31 0.24-0.46 6							
Pike, Muskellunge Esox masquinongy	Eviscerated & Beheaded Raw				0.21 0.15-0.27 2							
Pike, Northern Esox lucius	Muscle Raw		0.03 0.03-0.04 3	0.20 0.20-0.20 3	0.24 0.17-0.37 3			2.21 0.54-5.43 3				
	Eviscerated & Beheaded Raw				0.37 0.17-0.50 5							
Pilchard, Japanese Sardinops melanosticta	Muscle Raw						2.86	0.45	0.05 1/ 0.00-0.10 2/ 2 3/		1.05 0.10-2.00 2	
	Salted				0.01					0.02		
Pollack, Saithe, Coalfish Pollachius virens	Muscle Raw		0.08									

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Pollack, Walleye *Theragra chalcogramma*	Muscle Raw						0.00	0.00			5.60	
Pout, Norway *Gadus esmarki*	Whole Fishmeal				1.68 1.50-1.87 2	0.05				0.82		
Redfish, Ocean Perch *Sebastes marinus*	Whole Presscake				1.50							
Rockfish, Kichijj *Sebastolobus macrochir*	Muscle Dried									0.10		
Sablefish *Anoplopoma fimbria*	Muscle Raw									1.16	3.10	
Salmon, Chum *Oncorhynchus keta*	Muscle Raw							0.41			1.20	
Salmon, Coho *Oncorhynchus kitsutch*	Eviscerated & Beheaded Raw				0.35 0.30-0.40 6							
Salmon, Sockeye *Oncorhynchus nerka*	Muscle Raw Canned		0.16 0.30								8.20	0.20
Sardine Clupeidae	Muscle Raw Canned			0.21		0.03	0.17 0.01	0.00 11.80 10.11-13.50 2				
Saury, Pacific *Cololabis saira*	Muscle Raw									0.34 0.13-0.56 2	1.10	
Sea Cucumber *Cucumaria lefevrei*	Muscle Raw					0.42						
Sea Cucumber *Stichopus japonicus*	Muscle Raw										44.00	
Sea Robin, Gurnard *Lepidotrigla strauchi*	Muscle Dried									0.04		
Sea Robin, Gurnard, Red *Trigla cuculas*	Muscle Cooked					0.24						
Shad, Gizzard *Dorosoma cepedianum*	Muscle Raw					0.42						
Shark, Cat, Brown *Apristurus brunneus*	Muscle Raw					0.26						

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Shark, Oceanic, Whitetip Carcharhinus longimanus	Muscle Raw	13.00		23.00 16.00-30.00 2				13.00 11.00-14.00 2		49.00	40.00 30.00-80.00 2	
Shark, Thresher Alopias vulpinus	Muscle Raw										10.00	
Shiner, Emerald Notropis hudsonius	Whole Raw		5.50 0.90-10.00 2							0.03 0.03-0.04 2		
Smelt, Lake Osmerus mordax	Muscle Raw		0.03	0.20	0.22			1.22		0.01		
Smelt Osmeridae	Muscle Raw			0.02	1.23					3.63 0.05-7.21 2		
	FPC				0.95							
Snapper, Red Lutianus campechanus (blackfordii)	Muscle Raw		0.12									
Sole Microstomus stelleri	Muscle Raw									0.03		
Sole Soleidae/Pleuronectidae	Muscle Raw		0.30					3.21			1.00	0.20
Sprat Sprattus sprattus	Muscle Raw									0.00		
Sturgeon, Atlantic Acipenser oxyrhynchus	Eviscerated & Beheaded Raw				0.69							
Sturgeon, Shortnose Acipenser brevirostrum	Eviscerated & Beheaded Raw				0.37							
Sturgeon Acipenseridae	Eviscerated & Beheaded Raw				0.34							
Sucker, Common Catostomus commersoni	Eviscerated & Beheaded Raw				0.45							
Sucker Catostomidae	Muscle Raw				0.87							
Sunfish, Crappie, Black Pomoxis nigromaculatus	Eviscerated & Beheaded Raw				0.29							
Sunfish, Largemouth Bass Micropterus salmoides	Eviscerated & Beheaded Raw				0.33 0.15-0.53 8							

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Sunfish, Rock Bass *Ambloplites rupestris*	Eviscerated & Beheaded Raw				0.39 0.19-0.88 6							
Sunfish, Smallmouth Bass *Micropterus dolomieui*	Eviscerated & Beheaded Raw				0.39 0.15-0.61 23							
Sunfish Centrarchidae	Muscle Raw				0.36					3.72		
Swordfish *Xiphias gladius*	Muscle Raw	4.00	0.91	8.51 0.02-17.00 2				14.00		0.01	40.00	
Trout, Brook *Salvelinus fontinalis*	Eviscerated & Beheaded Raw				0.57							
Trout, Brown *Salmo trutta*	Eviscerated & Beheaded Raw				0.47 0.26-1.10 7							
Trout, Lake *Salvelinus namaycush*	Muscle Raw		0.02	0.01		0.01		0.12		0.19 0.06-0.31 2	0.22	0.01
	Eviscerated & Beheaded Raw				0.52 0.23-1.03 14							
Trout, Rainbow *Salmo gairdneri*	Muscle Raw					0.01						
	Eviscerated & Beheaded Raw				0.50 0.33-1.02 10							
Trout Salmonidae	Muscle Raw				0.53							
	Eviscerated & Beheaded Raw				0.48							
Tuna, Albacore *Thunnus alalunga*	Muscle Raw			0.04								
Tuna, Big-eye *Thunnus obesus*	Muscle Raw					0.07 0.07-0.08 2						
Tuna, Yellowfin *Thunnus albacares*	Muscle Raw		0.08	0.03		0.09				0.04		

Table 19.--Microelement (Group 2) composition of finfishes, whales, and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Tuna Scombridae	Muscle Canned										0.68 0.35-1.00 3	0.20
	Offal Fishmeal		18.00		4.61 4.60-4.63 2						150.00	5.00
Tunny, Little Euthynnus alletteratus	Muscle Raw		0.42									
Turbot Reinhardtius hippoglossoides	Muscle Raw						0.00	0.00		0.91	0.28	
Turbot, Arrowtooth Atheresthes stomias	Muscle Raw	0.04					0.00	0.00		1.18	7.60	
Turbot, Greenland Atheresthes evermanni	Muscle Raw									0.04		
Walleye Stizostedion vitreum vitreum	Eviscerated & Beheaded Raw				0.24 0.19-0.31 9							
Whale Unspecified	Muscle Raw									0.21		
Whitefish, Lake Coregonus clupeaformis	Muscle Raw		0.03 0.02-0.03 2	0.20	0.31 0.24-0.38 2			2.18 0.80-3.57 2				
	Eviscerated & Beheaded Raw				0.50 0.23-0.73 7							
Whitefish Salmonidae	Whole Fishmeal									1.30		
Whiting Merlangus merlangus	Muscle Raw					0.29				0.03		
Whiting, Lady Vendi Sillago schansa	Muscle Raw			0.01			0.02			0.03		

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 20.--Microelement (Group 2) composition of crustaceans and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Crab Portunus trituberculatus	Muscle Raw										35.90	
Crab, Blue Callinectes sapidus	Muscle Raw		0.17			1.00				0.40		
	Offal Meal		22.85 [1/] 4.20-41.50 [2/] 2 [3/]		3.77 [1/] 3.73-3.80 [2/] 2 [3/]						430.00	18.58 [1/] 3.40-33.75 [2/] 2 [3/]
Crab, Dungeness Cancer magister	Muscle Canned							3.58				
Crab, King Paralithodes camtschatica	Muscle Raw		0.10									
	Canned				0.51							
	Cooked Unspecified [4/]		0.13									
	Offal Meal		15.10		0.24 0.24-0.25 2					176.00 [1/] 175.00-176.00 [2/] 2 [3/]		8.97 8.95-9.00 2
Crab, Shore, Common Green Carcinus maenas	Muscle Raw					2.00						
Crab Unspecified	Muscle Raw					0.80 [1/] 0.60-1.00 [2/] 2 [3/]				0.40		
	Canned		0.43 0.30-0.57 2	2.20				3.58		1.10	1.00	0.20
	Cooked Steamed			0.03			0.13					
	Salted					0.60				0.01		
Crayfish Unspecified	Muscle Raw	6.59 [1/] 0.26-10.00 [2/] 3 [3/]	0.05	0.10	0.66	0.23	6.74 [1/] 0.04-8.49 [2/] 3 [3/]	1.03 [1/] 0.60-1.46 [2/] 2 [3/]		1.46 0.12-2.80 2	38.54 [1/] 1.40-90.30 [2/] 3 [3/]	
Lobster, Northern Homarus americanus	Muscle Canned							4.11				
Lobster Unspecified	Muscle Canned		0.01	0.38			5.10	2.36				
	Cooked Unspecified				1.04							
	Offal Meal									0.95		
Shrimp, Bagda Palaemon carcinus	Muscle Dried									0.50 0.50-0.51 2		
Shrimp, Brown Penaeus aztecus	Muscle Raw		1.00			1.00				0.40		
Shrimp, Pink, Maine Pandalus borealis	Muscle Raw		0.11									
Shrimp, White Penaeus setiferus	Muscle Raw		0.05					1.83				
Shrimp Unspecified	Muscle Raw		0.67 0.01-0.12 3	0.03	1.02 0.59-1.88 3			1.83		0.65 0.03-1.81 3		
	Canned		0.30		0.29						1.00	0.20

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 21.--Microelement (Group 2) composition of mollusks and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Abalone, Japan Haliotis japonica	Muscle Raw									0.09		
Abalone Haliotidae	Muscle Raw				5.79							
Clam, Arkshell Arcidae	Muscle Raw				0.02							
Clam, Mactra, Surf Mactra sachaeinensis	Muscle Dried									0.27		
Clam, Mactra, Surf Spisula solidissima	Muscle Raw		0.38									
Clam, Razor Solenidae	Whole Canned		0.78							1.30		
Clam, Softshell Mesodesma globrata	Whole Raw		0.52	0.27						0.10		
Clam, Softshell Mya arenaria	Whole Raw		0.37[1] 0.23-0.52[2] 3[3]	0.16[1] 0.04-0.27[2] 2[3]						0.10		
	Canned							3.20				
	Dried			0.20								
Clam, Venus, Hard Venus luzoria	Whole Raw									0.41	254.70	
Clam, Venus Veneridae	Whole Raw		0.42 0.40-0.44 2	0.58	0.55					0.33		
Cockle Cardiidae	Whole Raw									0.41		
Cuttlefish Sepiidae	Muscle Raw									0.01		
Mussel, Blue Mytilus edulis	Whole Raw		13.50	3.80	0.50	2.20	0.87	3.90		2.50		93.00
	Canned		13.50	3.70	0.29	1.70	0.64	5.60		2.20		91.00
	Cooked Steamed		14.25	4.20	0.44	2.00	0.72	6.40		2.30		114.00
Mussel Mytilidae	Whole Raw			0.46			0.30			0.97[1] 0.90-1.03[2] 2[2]		2.90
	Dried					0.56						
Octopus Octopodidae	Muscle Raw									0.11		
Oyster, Common Ostrea edulis	Whole Raw							37.00				
Oyster, Dredged Ostrea senuata	Whole Raw						1.10					

Table 21.--Microelement (Group 2) composition of mollusks and products.

Common and Scientific Name	Description	Silver	Chromium	Nickel	Selenium	Molybdenum	Vanadium	Tin	Bromine	Cobalt	Aluminum	Barium
		Parts Per Million (PPM)										
Oyster, Eastern Ostrea virginica	Whole Raw	1.55	0.26 0.12-0.40 2	0.85 0.19-1.50 2			0.11	1.38			134.00	
	Dried	46.50										
Oyster, Giant Pacific Ostrea gigas	Whole Raw									0.33		
	Smoked							28.33				
Oyster, Portuguese Ostrea angulata	Whole Raw							0.30				
Oyster, Rock Ostrea glamerata	Whole Canned							0.01				
Oyster Ostreidae	Whole Raw		0.17 0.09-0.26 2	1.50	0.57 1/ 0.49-0.65 2/ 2 3/		0.11	1.38		0.10 0.05-0.16 2		
	Canned		0.09	0.99	0.36					0.46		
Scallop, Calico Aequipecten gibbus	Muscle Raw		0.10									
Scallop, Common Pecten yessoensis	Muscle Raw									0.37		
Scallop, Coquille St. Jacques Pecten maximus	Muscle Raw			0.05								
	Dried			0.32								
Scallop, Sea Giant Pecten magellanicus	Muscle Raw		0.06									
Scallop Pectinidae	Muscle Raw		0.08 0.05-0.11 2	0.04						2.25		
Squid Loligo ommastrephes	Muscle Raw					0.30				0.12		
Squid, Japanese Ommastrephes sloani pacificus	Muscle Raw									0.12	4.20	
Squid, Flying Ommastrephes sagittatus	Muscle Raw				3.00							
Squid Unspecified 4/	Muscle Raw	0.03				0.70	0.00	0.17		0.48	2.60	
	Whole Raw									2.90 2.60-3.40 3		

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Alewife Alosa pseudoharengus	Whole Fishmeal		10.00	370.00	3.40			28.40
Alfoncino Beryx splendens	Muscle Raw	50.00	150.00	200.00	3.00			0.11
Amberjack, Greater Seriola dumerili	Muscle Salted & Dried		180.00	78.00	10.00			14.30
Amberjack, Philippine Hynnis momsa	Muscle Raw Dried		54.00 50.00	25.00 20.00	7.06 5.50			
Amberjack, Rudderfish Seriola purpurascens	Muscle Raw					1.80		
Amberjack, Yellowtail Seriola lalandi	Muscle Raw		27.00	98.00	7.23			
Amberjack, Yellowtail Seriola quinqueradiata	Muscle Raw	22.40	127.00 1/ 110.00-144.00 2/ 2 3/	80.00 1/ 40.00-12.00 2/ 2 3/	8.00 1/ 6.80-9.20 2/ 2 3/	1.90 1/ 1.00-2.80 2/ 2 3/	3.45 1/ 3.20-3.70 2/ 2 3/	3.45 1/ 1.30-5.60 2/ 2 3/
	Dark meat	53.00	476.00	732.00	7.70			6.80
	Canned In Oil, Smoked		50.00	90.00	6.60			
Amberjack Carangidae	Muscle Raw		100.00	80.00 40.00-120.00 2	6.60 6.40-6.80 2			5.56
Anchovy Coilia nasus	Muscle Raw	59.50						
Anchovy, Ca'Moi Coilia lindmani	Muscle Raw		37.00					
Anchovy, European Engraulis encrasicholus	Muscle Raw		70.00	270.00	19.60			
Anchovy, Longjaw, Delis Stolephorus commersonii	Muscle Raw	635.00	6.30	79.00	3.36			6.25
	Dried		10.00	230.00	7.50			
	Salted & Dried		56.00		9.45			
	Salted & Fermented		0.00	130.00	3.80			
	Whole FPC				5.30 3.5-7.1 2			16.85 15.8-17.9 2
Anchovy, Mandali Coilia dussumieri	Muscle Raw			250.00	1.80 1.49-2.12 2			
Anchovy, Pacific Engraulis japonicus	Muscle Raw							0.30
Anchovy Engraulidae	Muscle Raw	490.67 1/ 30.00-1300.00 2/ 3 3/	68.33 10.00-200.00 6	200.16 99.00-510.00 6	3.14 0.00-7.00 7		12.30	6.30

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
	Cooked							
	Boiled							
	Dried		20.00	200.00	8.50			
	Dried		100.00	207.00	11.93			
			40.00-159.00	110.00-311.00	4.60-17.00			
			3	3	3			
	Salted & Dried		10.00	110.00	2.30			11.00
	Whole							
	Raw	225.00						14.00
	Fishmeal			470.00	4.10			
Angelfish, Blue	Muscle							
Holacanthus angelichthys	Raw		318.00	443.00	4.58			
Argentine, Atlantic	Whole							
Argentina silus	Raw		30.00	830.00	6.81		18.70	5.97
Barracuda	Muscle							
Sphyraena japonica	Raw	50.76						0.20
Barracuda	Muscle							
Sphyraena obtusata	Raw		8.00	27.00	2.40		11.90	
Barracuda, Great	Muscle							
Sphyraena barracuda	Raw		13.40	78.00	5.10			1.60
Barracuda, Pacific	Muscle							
Sphyraena argentea	Raw		70.00	70.00	3.00		11.90	1.80
Barracuda, Striped Torcillo	Muscle							
Sphyraena jello	Raw		44.00	87.00	5.90			
Barracuda	Muscle							
Sphyraenidae	Raw	70.00	170.00	105.00	3.60			
			120.00-220.00	90.00-120.00	3.10-4.10			
			2	2	2			
Bass, Sea	Muscle							
Diplectrum radiale	Raw		23.50	47.00	1.50			1.60
			4.00-43.00					
			2					
Bass, Sea	Muscle							
Paralabrax humeralis	Raw	9.98						
Bass, Sea, Japanese	Muscle							
Lateolabrax japonicus	Raw	153.50	110.00	120.00	1.60			
		123.00-184.00						
		2						
Bass, Sea, Kelp	Muscle							
Paralabrax clathratus	Raw		54.00	50.00	1.05			
Bass, Sea	Muscle							
Serranidae	Raw	142.00	86.00	58.14	4.81			0.30
		104.00-180.00	30.00-128.00	0.70-110.00	2.40-11.60			
		2	6	5	5			
Big-Eye	Muscle							
Scombrop boops	Raw	60.00	100.00	210.00	6.00			
				50.00-370.00				
				2				
Billfish	Muscle							
Istiophoridae	Raw	10.00	65.00	40.00	6.25	2.00		
			30.00-100.00	20.00-60.00	4.50-8.00			
			2	2	2			
Bluefish	Muscle							
Pomatomus saltatrix	Raw		135.00	120.00	1.55			
			120.00-150.00	90.00-150.00	0.80-1.94			
			2	2	3			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
	Dried		190.00	400.00	13.20			
Bombay Duck	Muscle							
Harpodon nehereus	Raw		3480.00	1810.00	6.10			
			200.00-6760.00	500.00-3120.00				
			2	2				
	Dried		20.33	1013.33	2.83			
	Eviscerated							
	Raw		88.00	171.00	3.92			
Bonito, Pacific	Muscle							
Sarda chiliensis	Raw		10.00	50.00	12.80	0.00		
	Cooked							
	Roasted		10.00	40.00		0.00		
	Salted & Dried		70.00	130.00	6.25	0.00		
Bonito	Muscle							
Scombridae	Raw	424.00	29.33	50.00	12.80	0.00		
			10.00-58.00					
			3					
	Cooked							
	Roasted		10.00	40.00		0.00		
	Dried		28.60					
	Dried & Salted		70.00	130.00	6.20	0.00		
Bream, Bronze	Muscle							
Abramis brama	Raw	30.00						
Bream, Gilthead	Muscle							
Chrysophrys aurata	Raw		42.00	137.00	4.30			1.14
	Cooked							
	Baked		32.00	135.00	3.80			1.51
	Boiled		37.00	117.00	3.50			0.95
Bream, Mud	Muscle							
Acanthopagrus berda	Raw	144.00	17.50	32.00	7.11			2.18
			15.00-20.00	30.00-34.00	7.10-7.12			
			2	2	2			
	Canned		60.00	33.00	9.43			
	Dried		10.00	30.00	9.40			
Bream, Sea	Muscle							
Sparus swinhonis	Raw	100.00	100.00	150.00		0.00		
Bream, Sea, Black	Muscle							
Acanthopagrus schlegeli	Raw	21.50				2.25		
						1.70-2.80		
						2		
Bream, Sea, Kurd Dai	Muscle							
Sparus macrocephalus	Raw		100.60					
Bream, Sea, Pagre	Muscle							
Pagrus pagrus	Raw							8.75
Bream, Sea, Red	Muscle							
Chrysophrys major	Raw	83.75	200.00	200.00	2.00	2.00		0.20
		67.50-100.00						
		2						
Bream, Sea, Silver	Muscle							
Sparus sarba	Raw					3.45		
						2.90-4.00		
						2		

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
Bream, Sea, Yellow	Muscle							
Taius tumifrons	Raw	90.00	180.00	210.00		0.00		
Bream, Silver, Japanese	Muscle							
Chrysophrys datnia	Raw		30.00	250.00	1.89			
Bream, Tooched	Muscle							
Dentex vulgaris	Cooked							
	Baked		64.00	144.00	3.55			0.83
	Boiled		63.00	146.00	2.80			0.95
Bream, White, Sargo	Muscle							
Diplodus sargus	Raw							2.15
	Salted & Dried		45.00	82.00	7.80			2.60
Bream	Muscle							
Sparidae	Raw	7.00	144.00	171.00	4.28			1.10
			42.00-200.00	137.00-205.00	4.25-4.30			
			3	2	2			
	Cooked							
	Baked		18.10	35.60	1.24			
	Boiled		10.10	38.40	1.37			
Brill, Rough Scaled	Muscle							
Pseudorhombus oligodon	Raw		44.00	40.00	6.48			
Burbot	Muscle							
Lota lota	Raw		372.41	140.90	1.62			
			306.30-455.00	140.00-141.80	1.59-1.64			
			4	2	2			
	Canned		86.60	199.70				
	Cooked							
	Baked		243.20	118.10	0.88			
	Fried		537.10	226.10	3.74			
	Whole							
	FPC		131.00	580.00	3.22			37.40
Butterfish, Black	Muscle							
Stromateus niger	Raw		77.60	172.93	2.63			2.33
			20.00-162.80	90.00-300.00	0.84-5.07			
			3	3	4			
	Canned		20.88	300.48	1.24			
Butterfish, Silver	Muscle							
Stromateus cinereus	Raw	97.00	164.00	124.00	8.10			
		12.00-182.00						
		2						
	Canned		27.44	531.46	1.44			
			19.77-35.10	219.50-843.43	1.17-1.71			
			2	2	2			
	Cooked							
	Steamed				0.90			
Butterfish	Muscle							
Stromateidae	Raw				2.85			
					2.60-3.10			
					2			
Butterflyfish, Ca Chix	Muscle							
Coradion altiveltis	Raw		25.00					
Butterflyfish	Muscle							
Chaetodontidae	Raw		37.50	44.50	4.40			
			35.00-40.00	19.00-70.00	4.39-4.40			
			2	2	2			
Caesio, Golden	Muscle							
Caesio chrysozonus	Raw		24.00	23.50	3.76		7.78	2.32
			20.00-28.00	20.00-27.00	3.20-4.32			1.50-3.14
			2	2	2			2

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
	Dried		130.00	30.00	5.40			
Caesio, Golden	Muscle							
Caesio cuning	Raw		10.00	18.00	2.17			
	Cooked							
	Fried							
	In Coconut Oil			130.00				
Caesio, Sulid	Muscle							
Caesio caerulaureus	Raw						1.15	
Carp	Muscle							
Cyprinus carpio	Raw	941.25 35.00-2130.00 4	115.29 5.00-400.00 7	55.00 40.00-70.00 2	1.64 1.33-2.60 6	1.38 0.90-1.60 4		0.86 0.20-1.53 2
	Cooked							
	Baked				1.56			
	Fried		40.00					
Carp	Muscle							
Puntius javanicus	Salted and Dried		10.00	157.00	3.86			9.60
Carp, Bata	Muscle							
Labeo bata	Raw				0.60 0.59-0.62 2			
Carp, Black	Muscle							
Mylopharyngodon aethiops	Raw	13.50						
Carp, Crucian	Muscle							
Cyprinus carassius	Raw	36.40 29.00-50.00 3	307.94 149.70-400.00 5	116.67 100.00-150.00 3	2.45 2.40-2.50 2			
	Canned							
	In Oil		40.00	120.00	3.00			
Carp, Grass	Muscle							
Ctenopharyngodon idellus	Raw	18.00						
Carp, Indian	Muscle							
Barbus putitora	Raw					15.47 13.60-16.40 3		
Carp, Indian	Muscle							
Labeo rohita	Raw		72.00 54.00-90.00 2		2.70	31.69 13.40-61.68 3	81.02 21.65-138.00 3	4.55 2.40-6.70 2
	Cooked							
	Boiled						81.00 11.95 11.40-12.50 2	1.30
	Unspecified[4/]							
Carp, Indian, Puti	Muscle							
Barbus punitus sophore	Raw				0.38 0.32-0.44 2	15.30		
	Whole							
	Raw	5.70						
Carp, Katla	Muscle							
Catla buchanani	Raw							2.60
	Cooked							
	Fried							
	In Mustard Oil							1.40
Carp, Katla	Muscle							
Catla catla	Raw	5.70	86.70		1.06 0.82-1.30 2	14.99 9.30-20.67 2	2.80	1.39

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg Per 100 grams	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
	Cooked Boiled Fried In Mustard Oil							3.05 1.60
Carp, Mrigala Cirrhina mrigala	Muscle Raw		30.00		0.73	12.27 11.00-14.80 3		
Carp, Orange Fin Labeo calbasu	Muscle Raw					11.20	10.60	
Carp, Silver Hypophthalmichthys molitrix	Muscle Raw	40.70	60.00	180.00	2.60			
Carp, Tribolodon Tribaladon haronensis	Muscle Raw	82.00 60.00-104.00 2	300.00	100.00	2.00	0.00		
Carp Cyprinidae	Muscle Raw	63.33 0.00-170.00 3	246.29 10.00-448.00 7	52.50 40.00-80.00 4	1.80 1.50-2.00 3	0.00		4.52 0.05-9.00 2
Catfish, Airbreathing, Hito Clarias batrachus	Muscle Raw	633.00	44.25 8.00-110.00 4	35.50 31.00-40.00 2	1.72 0.45-3.20 4	1.15	40.73 11.30-153.00 5	3.42 2.90-3.70 4
	Cooked Boiled Fried In Mustard Oil							2.90 2.15 0.3-4.0 2
Catfish, Fresh Water Chpiso magarua	Muscle Raw					13.00		
Catfish, Fresh Water, Butter, Pabda Callichrous bimaculatus	Muscle Raw Smoked		10.00	192.00	6.55			11.50 15.00
Catfish, Fresh Water, Dwarf Macrones cavasius	Muscle Raw							3.90
Catfish, Fresh Water, Mulley Wallagonia attu	Muscle Raw				0.98	6.80 6.00-7.60 2	4.30	4.60
	Cooked Boiled Fried In Mustard Oil						2.00	1.36 1.32
Catfish, Fresh Water, Pangash Pangasius pangasius	Muscle Raw					19.40 12.50-26.30 2		
Catfish, Fresh Water, Striped Dwarf Macrones vittalus	Muscle Raw Cooked Boiled Fried In Mustard Oil					17.60	64.00	4.35 3.90 2.30
Catfish, Fresh Water Ictaluridae	Muscle Raw	60.00	40.00	28.00	1.84 1.69-2.00 2			2.20

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
					Per 100 grams			
	Dried & Seasoned		360.00	152.00	9.64			2.70
Catfish, Sea	Muscle							
Arius arius	Raw				0.50	11.70		
Catfish, Sea	Muscle							
Arius leiotetocephalus	Raw		692.00	126.00	4.08			
Catfish, Sea	Muscle							
Bagre macracanthus	Raw		58.00					
Catfish, Sea	Muscle							
Bagre marinus	Raw		40.00	80.00	1.60	0.00		
Catfish, Sea, Manila	Muscle							
Arius manillensis	Raw	96.00	630.00	197.00	45.00		15.00	2.50
	Dried		30.00	60.00	2.40			
	Salted & Dried		139.00	35.00	2.22			
Catfish, Sea	Muscle							
Ariidae	Raw		73.00	85.00	1.85		15.00	2.35
			66.00-80.00	80.00-90.00	1.50-2.20			2.20-2.50
			2	2	2			2
	Salted & Dried		140.00	40.00	2.20			
Catfish, Stinging	Muscle							
Saccobranchus fossilis	Raw				0.81	9.30	0.75	4.04
	Cooked							
	Boiled							1.36
	Fried						0.62	
	In Mustard Oil							
Cero, Mackerel	Muscle							
Scomberomorus regalia	Raw		55.00					
Characin	Muscle							
Prochilodus laticeps	Raw		50.00	110.00	6.31			1.60
Characin	Muscle							
Characidae	Raw		16.67	76.67	2.27			
Chub, Sea, Opaleye	Muscle							
Girella nigricans	Raw	18.90						0.06
Cichlid	Muscle							
Cichlidae	Raw		30.00	50.00	1.50			
	Dried		80.00	610.00	5.80			
Cisco, Lake	Muscle							
Coregonus artedii	Raw		87.60		2.51			
			27.00-126.00		0.56-4.56			
			23		13			
	Cooked							
	Baked		100.00		3.60			
			85.00-128.00		2.65-4.51			
			3		3			
	Fried		88.75		3.69			
			79.00-98.00					
			4					
	Dried				13.10			
	Smoked				2.40			
	Dried & Smoked				8.70			
	Whole							
	Fishmeal		92.00	460.00	3.28			28.40
Cod, Atlantic	Muscle							
Gadus morhua	Raw	37.50	115.50	237.80	1.91	2.00		0.75
		25.00-30.00	18.00-480.00	70.00-625.00	1.20-2.20			0.50-1.00
		2	8	8	5			2

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
					Per 100 grams			
	Canned		57.50	66.67	2.53			0.50
			19.00-36.00	34.00-75.00	2.40-2.65			
			2	3	2			
	Baked		38.00	90.00	2.09			
	Salted & Dried			37.00				
	Smoked		69.00	86.00	1.58			1.25
			35.00-103.00	75.00-97.00	1.49-1.66			1.11-1.40
			2	2	2			2
Cod, Pacific	Muscle							
Gadus macrocephalus	Raw		98.50	158.00			6.60	0.09
			92.00-105.00					
			2					
Cod	Muscle							
Gadidae	Raw	35.00	92.00	131.90	2.52	2.90	1.75	2.31
		10.00-60.00	30.00-267.00	31.00-325.00	0.20-6.70	0.00-6.70		0.45-10-80
		2	10	12	17	3		6
	Canned				1.70			
	Cooked							
	Steamed		240.00	180.00	1.60			
	Dried		112.25	345.17	4.25			1.51
			19.00-250.00	150.00-564.00	0.00-11.00			0.04-3.60
			4	6	6			3
	Salted		73.33	252.50	4.15			
			20.00-100.00	70.00-500.00	1.60-7.00			
			3	4	4			
	Salted & Dried		44.50	200.00	3.84			4.12
			19.00-70.00	50.00-310.00	0.20-8.60			1.20-10.00
			2	5	5			2
	Smoked		56.00	47.00	2.20			1.41
				24.00-83.00	1.49-2.90			1.05-2.02
				3	2			4
	Whole							
	Raw		71.00	37.00	3.23			0.52
Coral Cod	Muscle							
Cephalopholis miniatus	Raw		20.00	40.00	1.70			
Corb, Brown Meagre	Muscle							
Sciaena umbra	Raw							2.27
Cornetfish	Muscle							
Fistulariidae	Raw							0.20
Crevalle, Jack	Muscle							
Caranx carangus	Salted & Dried		150.00	91.00	7.90			10.10
Croaker	Muscle							
Pseudosciaena amblyceps	Raw	46.80						
Croaker	Muscle							
Pseudosciaena undovittata	Raw	73.20						
Croaker	Muscle							
Sciaena coitor	Raw				0.53	14.10		13.70
Croaker	Muscle							
Sciaena deliciosa	Raw	7.44	60.00	120.00	3.70			
	Salted & Dried		70.00	130.00	2.75			
Croaker	Muscle							
Sciaena diacanthus	Raw	19.90	22.00	530.00	1.58			
Croaker	Muscle							
Sciaena schlegeli	Raw	57.50						
Croaker, Atlantic	Muscle		81.00	100.00	5.50			
Micropogon undulatus	Raw							
	Cooked							
	Baked		118.00	117.00	5.70			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
	Whole							
	Raw		155.00					
Croaker, Roncador	Muscle							
Ophioscion venezuelae	Raw		115.00	65.00	4.18			1.70
Croaker, Smooth Scaled	Muscle							
Pseudosciaena anea	Raw		28.00	59.00	2.32			2.52
	Dried		10.00	80.00	4.30			
	Salted & Dried		7.00	80.00	4.25			
Croaker, Smooth Scaled	Muscle							
Sciaena dussumieri	Raw		30.00	47.00	3.40			
Croaker, Verrugato, Corb	Muscle							
Sciaena cirrosa	Raw							6.12
Croaker, White, Nibe	Muscle							
Argyrosomus argentata	Raw		71.00	81.00	2.70			0.20
Croaker	Muscle							
Sciaenidae	Raw		70.00	90.00	3.00			2.50
			50.00-90.00	60.00-50.00	1.70-4.80			
			2	4	4			
	Canned							
	In Oil	33.00	10.00	110.00	0.80			
	Salted & Dried		70.00	160.00	10.40			
			60.00-80.00	40.00-280.00				
			2	2				
Cusk	Muscle							
Brosme brosme	Raw	30.00	41.50	143.50	2.71			1.00
			32.00-51.00	94.00-180.00	2.33-3.00			
			2	4	3			
	Cooked							
	Baked		37.00	104.00	2.34			
Cusk-Eel	Muscle							
Lepophidium brevibarbe	Raw		172.00	37.00	1.40			0.90
			169.00-175.00					
			2					
Cusk-Eel	Muscle							
Ophidiidae	Raw			32.00	2.20		1.98	0.30
Cutlassfish	Muscle							
Trichiurus japonicus	Raw	50.00						0.06
Cutlassfish, Ribbonfish	Muscle							
Trichiurus haumela	Raw	57.00	78.00	103.00	3.10		6.31	1.13
		50.00-64.00	16.00-140.00	76.00-130.00	3.00-3.20			
		2	2	2	2			
Cutlassfish	Muscle							
Trichiuridae	Raw		180.00	290.00	2.00			0.06
					1.90-2.10			
					2			
	Salted	17.00	90.00	140.00	2.90		6.30	1.10
Dogfish	Muscle							
Squalus mitsukurii	Raw	22.00						
Dogfish, Cazon	Muscle							
Carcharias aethalorus	Raw		26.00	45.00	2.41			
Dogfish, Smooth	Muscle							
Mustelus canis	Raw		55.00	70.00	5.18			0.01

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Dogfish, Spiny *Squalus acanthias*	Muscle Raw	5080.09 405.00-9755.17 2	55.33 50.00-66.00 3	150.00	5.00		3.20	0.92 0.04-1.80 2
	Canned		40.00	83.00	6.29			1.20
Dogfish, White *Mustelus dorsalis*	Muscle Dried	9735.00						
Dogfish Squalidae	Muscle Raw	10900.00	40.00	110.00	2.90	0.00	3.20	1.80
Dolphin, Mai Mai, Dorado *Coryphaena hippurus*	Muscle Raw	179.25 25.50-333.00 2	20.00	70.00	6.10			0.60
Dory, John *Zeus japonicus*	Muscle Raw							0.03
Dragonet *Callionymus lyra*	Muscle Raw							4.70
Drepane, Concertinafish *Drepane punctata*	Muscle Raw		28.50 27.00-30.00 2	110.00 81.00-140.00 2	3.23 2.80-3.66 2			
Drum *Sciaena regiae*	Muscle Raw							9.40
Drum, Corvina *Sciaena gilberti*	Muscle Raw		75.00	105.00	2.90			
Drum, Dhoma *Sciaena glauca*	Muscle Raw		3420.00	2470.00				
Drum, Fresh Water *Aplodinotus grunniens*	Whole Fishmeal		205.00	480.00	3.55			17.00
Drum, Queenfish *Seriphus politus*	Muscle Salted & Dried		50.00	150.00	4.64			4.00
Drum Sciaenidae	Muscle Raw	30.00	65.00 30.00-100.00 2	174.00 70.00-282.00 3	2.35 0.63-3.93 3			
Eel, Conger *Conger conger*	Muscle Raw					1.00		
Eel, Conger *Conger myriaster*	Muscle Raw		60.00	40.00	5.00			
Eel, Conger Congridae	Muscle Raw	500.00	60.00	40.00	4.25 3.50-5.00 2			3.00
	Whole Raw			392.50				
Eel, Fresh Water *Anguilla aucklandii*	Muscle Raw	4578.50 4295.00-4862.00 2						
Eel, Fresh Water, American *Anguilla rostrata*	Muscle Raw			455.00				

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Eel, Fresh Water, European Anguilla anguilla	Muscle Raw	3141.67 250.00-5700.00 3	120.00	1125.00 100.00-2150.00 2		4.00		0.60
Eel, Fresh Water, Japanese Anguilla japonica	Muscle Raw	2093.25 433.00-3753.50 2	190.00	190.00	2.80	0.95 0.20-1.70 2	69.05 13.10-125.00 2	0.87 0.60-1.00 3
	Cooked Broiled & Seasoned		70.00	20.00	3.50			
Eel, Fresh Water Anguillidae	Muscle Raw	2700.00 1500.00-4500.00 4	146.00 10.00-280.00 4	223.33 100.00-370.00 3	2.63 1.40-3.50 3	1.50		1.00
	Whole Raw	4000.00	200.00	350.00	1.50			
Eel, Moray Gymnothorax kidako	Muscle Raw							0.44
Eel, Moray Muraena pardalis	Muscle Raw							0.10
Eel, Moray Muraenidae	Muscle Raw		17.50 10.00-25.00 2	30.00	3.09			
Eel, Pike Conger, Silver Muraenesox cinereus	Muscle Raw	1010.50 21.00-2000.00 2	85.50 10.00-101.00 3	78.00 44.00-100.00 3	2.56 2.47-2.70 3			0.18
Eel, Snake Ophicephalus argus	Muscle Raw		53.00					0.04
Eel, Snake, Murrel Ophicephalus punctatus	Muscle Raw				1.00			
Eel, Snake, Murrel Ophicephalus striatus	Muscle Raw	17.00	23.75 0.00-50.00 4	75.00 30.00-120.00 2	2.33 0.50-4.20 3		45.70 27.09-55.00 3	1.52 1.00-2.55 3
	Cooked Boiled						72.00	
	Fried In Mustard Oil						64.00	0.30
	Dried		240.00	203.00	5.14			3.60
	Fermented			99.00	0.64			2.30
Eel, Snake Ophichthidae	Muscle Raw							19.70
	Cooked Fried				0.60			
Eel, Spiny Mastacembelus favus	Muscle Raw		60.00					
Eel, Swamp, Field Fluta alba	Muscle Raw		40.00	220.00	1.80			
Eel, Swamp, Palos Synbranchus bengalensis	Muscle Raw	62.00	130.00	50.00	2.50			
Emperor Lethrinus opercularis	Muscle Raw		10.00	24.00	7.36		0.40	1.33 1.06-1.60 2

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
					Per 100 grams			
Featherback Notopterus notopterus	Muscle Raw Smoked		30.00	172.00	0.84 4.43	5.60		2.90
Featherback, Chitala Notopterus chitala	Muscle Raw	33.00	70.00 40.00-120.00 3	70.00	8.50			
Featherback Notopteridae	Muscle Raw							13.20
Flathead, Indian Platycephalus indicus	Muscle Raw	70.00	23.00 19.00-30.00 3	90.00 30.00-150.00 3	7.12 4.30-12.00 3			
Flounder Cleisthenes pinctorum herzensteini	Muscle Raw		100.00	100.00	3.50	2.00	5.00	
Flounder Limanda augustirostris	Muscle Raw	30.00					5.00	
Flounder, Frog Pleuronichthys cornutus	Muscle Raw	73.00						
Flounder, Starry Platichthys stellatus	Muscle Raw		58.00	43.00				1.00
Flounder, Starry, Hirame Paralichthys olivaceus	Muscle Raw	63.09 0.00-126.17 2	100.00	100.00	5.70	2.00	3.00	0.05
Flounder, Stone Kareius bicoloratus	Muscle Raw							0.10
Flounder, Winter Pseudopleuronectes americanus	Muscle Raw			201.50 68.00-335.00 2				
Flounder Bothidae/Pleuronectidae	Muscle Raw	110.00 30.00-400.00 7	110.77 30.00-400.00 13	83.72 20.20-200.00 10	3.36 1.70-5.25 10	1.67 0.00-3.00 3		2.98 0.10-10.00 4
	Cooked Fried		75.00	140.00	1.71			
Fluke Pleuronectes flesus	Muscle Raw	40.00	150.00	200.00	3.50			
Flyingfish Cypselurus agoo	Muscle Raw							0.25
Flyingfish, Small Scaled Cypselurus oligolepis	Muscle Raw		26.00	63.00	5.55			
Flyingfish Exocoetidae	Muscle Raw	10.00	15.00 10.00-20.00 2	85.00 80.00-90.00 2	4.00 4.00-4.00 2		2.80	
Gar Lepisosteidae	Muscle Raw	25.00						

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
Garfish	Muscle							
Tylosurus giganteus	Raw		4.00	37.00	0.86			1.92
Garfish, Foli	Muscle							
Belone belone	Raw	30.00						
Garfish, Houndfish	Muscle							
Tylosurus crocodilus	Raw			40.00	0.90			
Giant Perch	Muscle							
Lates calcarifer	Raw		56.50	266.33	1.41	96.00	65.00	3.40
			48.00-80.00	59.00-440.00	0.73-3.10			
			4	3	4			
	Cooked							
	Boiled						3.30	1.00
	Fried							
	In Mustard Oil						2.30	0.50
	Unspecified						2.30	0.50
Goatfish, Ca'Phen	Muscle							
Parupeneus indicus	Raw		43.00					
Goatfish, Yellow	Muscle							
Upenoides sulphureus	Raw	104.00	24.50	38.00	1.41		5.43	
Goatfish	Muscle							
Mullidae	Raw		40.00	80.00	1.60			
Goby	Muscle							
Boleophthalmus boddaerti	Raw					0.50		
Goby	Muscle							
Gobius lota	Raw					0.50		
Goby, Banner	Muscle							
Microgobius microlepis	Raw		70.00	270.00	1.30			
Goby, Flathead	Muscle							
Glossogobius giurus	Raw		23.67	41.75	2.23	3.10	16.03	3.14
			13.00-38.00	40.00-43.50	0.32-3.20		8.10-20.00	2.20-4.10
			3	2	3		3	4
	Cooked							
	Boiled						16.00	
	Fried							
	In Mustard Oil						8.50	2.20
Goby, Long tailed	Muscle							
Gobionellus longicaudus	Raw		71.00	270.00	1.30			
Goby, Pointed-tailed	Muscle							
Apocryptes lanceolatus	Raw						26.00	2.60
	Cooked							
	Fried							
	In Mustard Oil						4.00	0.24
Goby, Sea Trout, Merluzza	Muscle							
Macrodon ancylodon	Raw		108.50	100.00	5.96			0.80
			54.00-163.00					
			2					
Goby, Yellowfin	Muscle							
Gobius flavimanus	Raw						10.50	0.70
Goby	Muscle							
Gobiidae	Raw	470.50	84.67	112.00	1.92			
		50.00-891.00	54.00-100.00	50.00-174.00	1.83-2.00			
		2	3	2	2			
	Salted & Fermented		30.00	180.00	1.50			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
Goldfish, Funa Carassius auratus	Muscle Raw	82.22 67.50-96.95 2	50.00	70.00	2.40	2.05 1.70-2.40 2		0.05
Goosefish, Monkfish Lophius piscatorius	Muscle Raw	165.00	25.00					
Goosefish, Monkfish Lophiomus setigerus	Muscle Raw		30.00	60.00	5.00			0.02
Goosefish, Monkfish Lophiidae	Muscle Raw	100.00	30.00	60.00	5.00			
	Cooked Parboiled		40.00	110.00	1.20	0.00		
Greeneye Chlorophthalmus albatrossis	Muscle Raw							1.10
Greenling, Atka, Mackerel Pleurogrammus azonus	Muscle Raw		90.00	40.00			7.40	
Greenling, Atka, Mackerel Pleurogrammus monopterygius	Muscle Raw						7.35	
Greenling, Masked Hexagrammos octogrammus	Muscle Raw		105.00	44.00				
Grouper Epinephelus septemfasciatus	Muscle Raw	143.00						
Grouper, Black Garrupa nigrita	Muscle Raw		170.00					
Grouper, Merou Epinephelus aeneus	Muscle Raw							1.30
Grouper, Red Epinephelus morio	Muscle Raw		112.00	374.00	1.40			
Grouper, Spotted Epinephelus corallicola	Muscle Raw		38.00	35.00	4.30		8.80	9.10
	Dried		10.00	10.00	2.60			
Grouper, Yellowbelly Epinephelus gigas	Muscle Raw		40.00	122.00	0.40			0.50
	Cooked Baked		31.00	138.00				0.50
	Boiled		23.00	135.00	0.40			0.50
Grouper Serranidae	Muscle Cooked Baked		14.80	18.30				0.12
	Boiled		20.40	12.20	0.10			0.06
Grunt Anisotremus scapularis	Muscle Raw	50.00	73.00 56.00-90.00 2	46.00 40.00-52.00 2	5.35 5.30-5.40 2			
	Cooked Baked		90.00	90.00		0.00		
Grunt Parapristipoma trilineatum	Muscle Raw	136.00	200.00	200.00	3.00		6.95 3.50-10.40 2	1.40
Grunt, Besugo, Bangoknok Pomadasys argyreus	Muscle Raw		18.00	240.00	3.10			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Grunt, Dorade	Muscle							
Parapristipoma mediterraneum	Raw		70.00	60.00	4.50			
Grunt, Silver Spotted	Muscle							
Pristipoma commersonii	Raw		60.00	960.00	1.97			
Grunt, White	Muscle							
Haemulon plumieri	Raw		58.00	46.00	5.40			
			34.00-80.00	32.00-60.00	2.19-8.60			
			3	2	2			
Grunt	Muscle							
Pomadasyidae	Raw	150.00	145.00	165.00				
			90.00-200.00	130.00-200.00				
			2	2				
Guitarfish, Fiddlefish	Muscle							
Rhinobatus hynnicephalus	Raw		70.00	80.00	1.70			
Guitarfish, Guitarra	Muscle							
Rhinobatus planiceps	Salted & Dried	2285.00						
Gurnard, Red	Muscle							
Chelidonichthys kumu	Raw	42.50	10.00	70.00	2.10		1.80	0.30
		26.00-59.00						
		2						
Haddock	Muscle							
Melanogrammus aeglefinnus	Raw	36.50	64.02	145.27	3.02		0.81	1.21
		16.00-50.00	9.00-150.00	24.50-590.00	0.90-4.00			0.53-1.80
		4	11	12	10			6
	Canned			57.20				
	Cooked							
	Baked		32.00	142.00	3.34			
	Fried							
	Breaded		35.30	70.60	3.20	2.40		
	Unspecified					1.90		
	Steamed		18.50	37.12	3.85			0.90
	Salted		130.00					
	Smoked		48.67	62.00	3.36			3.05
			47.33-50.00	24.00-100.00	2.50-4.22			1.00-5.10
			2	2	2			2
	Whole							
	Raw		53.00	21.00	7.82			2.03
			26.00-80.00		3.39-12.25			1.26-2.80
			2		2			2
	Offal							
	Fishmeal		80.00	270.00	12.25			2.80
Hake, European	Muscle							
Merluccius merluccius	Raw	35.00	64.50	102.00	1.10	1.00		3.42
			34.00-95.00	80.00-124.00	1.00-1.20			1.60-5.24
			2	2	2			2
	Cooked							
	Baked		31.00	135.00	1.22			1.52
	Boiled		19.00	95.00	0.89			1.08
	Dried	62.00						
Hake, Pacific	Whole							
Merluccius productus	FPC			577.00	7.61		44.91	20.80
Hake	Muscle							
Gadidae	Raw		61.50	106.00	1.69			1.59
			34.00-132.00	70.00-124.00	1.18-2.16			
			4	3	3			
	Canned							
	In Olive Oil		15.00	160.00	7.50			
	Cooked							
	Baked		13.90	36.00	0.40			0.68
	Boiled		17.30	42.20	0.42			0.70

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
			Per 100 grams					
	Whole Raw		35.00	125.00	0.70			
Halfbeak, Non-spotted *Hemirhamphus georgii*	Muscle Raw		4.00	42.00	3.05			1.30
Halfbeak Exocoetidae	Muscle Raw	17.00		40.00	3.00			1.30
Halibut, Arctic *Hippoglossus vulgaris*	Muscle Raw		70.00	180.00	6.80			
Halibut, Atlantic *Hippoglossus hippoglossus*	Muscle Raw		89.92 40.00-105.00 5	94.87 60.00-185.00 5	4.47 3.00-6.00 3			0.85 0.80-0.90 2
	Dark meat Cooked Baked Grilled Salted		35.00 73.00 92.00	250.00 83.00 140.00	3.10 7.58			5.00
Halibut, Pacific *Hippoglossus stenolepis*	Muscle Raw		125.00 70.00-180.00 2	60.00	9.20			
Halibut Pleuronectidae	Muscle Raw	440.00	100.35 40.00-114.00 6	75.47 50.00-176.20 7	7.10 2.80-11.00 8	0.00	2.00	0.87 0.70-1.00 3
	Cooked Fried			93.00 86.00-100.00 2	10.92 8.85-13.00 2	34.60		
	Steamed		80.00	62.67 44.00-100.00 3	9.60 5.00-13.40 3			
Herring *Harengus minor*	Muscle Raw	275.00 250.00-300.00 2						
Herring, Anchova *Temnodon saltator*	Whole Raw		190.00	395.00	13.20			10.10
Herring, Atlantic *Clupea harengus*	Muscle Raw	161.57 124.70-210.00 3	82.60 15.00-300.00 5	266.00 136.00-414.00 5	4.53 3.90-5.43 4	2.70	1.60	10.00
	Canned In Oil Unspecified	223.30	15.00	210.00 186.67 170.00-200.00 3	4.80		1.60	8.00
	Smoked			400.00				
	Whole FPC		12.00	530.00	9.60			33.20
Herring, Bachiva, Bacha *Clupisoma garua*	Muscle Raw				0.61	11.00		
Herring, Deep Bodied *Sardinella perforata*	Muscle Raw		15.00 10.00-20.00 2	91.50 33.00-150.00 2	6.20 2.41-10.00 2			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Herring, Fimbriated, Tunsoy Sardinella fimbriata	Muscle							
	Raw	92.00	8.67	131.50	5.02			
			6.00-10.00	70.00-250.00	2.50-7.54			
			3	3	2			
	Dried		10.00	240.00	7.10			
	Salted & Smoked		6.00	245.00	7.09			
Herring, Fresh Water Harengula tawilis	Muscle							
	Raw							3.37
Herring, Japanese Clupanodon punctatus	Muscle							
	Raw						1.70	3.80
Herring, Machete Ethmidium chilcae	Muscle							
	Raw		10.00	80.00	4.70			
	Cooked							
	Roasted	84177.70						
Herring, Pacific Clupea pallasi	Muscle							
	Raw	100.00	64.33	195.67	2.20			1.72
			20.00-150.00	150.00-220.00				1.44-2.00
			3	3				2
	Canned							
	In Brine		20.00	160.00	1.60			
	Unspecified				0.25			
	Dried		90.00	55.00	3.15	20.00		
	Pickled			403.33				
	Salted		20.00	215.00	3.40			
				90.00-340.00				
				2				
	Smoked		10.00	310.00	9.00			
	Whole							
	FPC							119.00
								30.68-140.00
								2
Herring, Round Etrumeus micropus	Muscle							
	Raw							1.60
Herring, Round Etrumeus teres	Muscle							
	Raw	60.00	20.00	80.00	8.50			
Herring, Wolf Chirocentrus dorab	Muscle							
	Raw		27.50	154.00	3.79			
			20.00-35.00	58.00-250.00	0.99-6.59			
			2	2	2			
Herring Clupeidae	Muscle							
	Raw	104.50	33.62	293.01	3.82			22.80
		0.00-200.00	6.00-105.00	110.10-530.00	0.01-9.60			10.00-34.00
		7	13	10	13			4
	Canned							
	Grilled	65.00	10.00	130.00	3.90			
	In Bouillon			240.00	3.20			10.70
	In Cream Sauce	90.00	30.00	200.00	3.20			
	In Mustard	43.00	20.00	170.00	2.90			
	In Oil							
	Drained	227.00					1.60	
	Smoked	40.00	40.00	150.00	3.60			
	Unspecified	62.00	22.00	190.00	4.48			
			20.00-24.00		3.40-5.57			
			2		2			
	In Tomato Sauce	75.00	85.05	232.50	3.31	1.00		5.25
		40.00-110.00	60.00-110.10	180.00-285.00	2.60-3.80			1.30-9.20
		2	2	2	3			2
	Kippered			325.00				
	Dried	20.00	51.90	583.33	2.73			45.70
			10.00-131.00	300.00-950.00	0.00-5.00			
			3	3	3			
	Kippered			370.00	3.66			1.50
					3.13-4.80			
					4			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
	Pickled	160.00						
	Salted		20.00	235.00	3.00			
				170.00-300.00	2.00-4.00			
				2	2			
	Salted & Smoked							7.00
	Smoked	45.00	10.00	290.00	6.72			7.90
				270.00-310.00	4.45-9.00			1.30-14.50
				2	2			2
	Whole							
	Raw	300.00	40.00	300.00	4.00			14.00
	Fishmeal		48.75	785.19	9.56		40.40	33.07
			10.00-87.50	380.00-1320.00	6.86-14.16			25.80-58.80
			2	8	6			6
	FPC		300.00	660.00	5.00		200.00	
Japanesefish	Muscle							
Labracoglossus argentiventris	Raw	205.50						
Jewfish, California	Muscle							
Stereolepis gigas	Raw		100.00	52.00	2.44			
Katsuo	Muscle							
Euthynnus (Katsuwonus) vagans	Raw		292.00	484.50	18.35			9.35
			61.00-523.00	40.00-929.00	12.20-24.50			2.50-16.20
			2	2	2			2
Ladyfish	Muscle							
Elops saurus	Raw				1.60			
Lamprey	Muscle							
Petromyzon fluviatilis	Raw	20.00						
Lamprey	Muscle							
Petromyzontidae	Raw	25000.00	850.00	6000.00	4.70			
	Dried	150000.00	1000.00	6000.00	7.00			
Lance, Sand	Whole							
Ammodytes americanus	Fishmeal		20.00	1250.00	8.91		32.10	17.70
Lance, Sand	Muscle							
Ammodytes personatus	Raw		350.00					
Lance, Sand	Muscle							
Ammodytidae	Raw	20.00	400.00	80.00	2.00			
Leatherjacket	Muscle							
Lichia glauca	Salted & Dried	70.00	205.00	176.00	16.00			9.20
Leatherjacket	Muscle							
Oligoplites saurus	Raw	421.00						
Leatherjacket, Yellow	Muscle							
Scomber lyson	Raw		20.00		3.60		5.70	
	Cooked							
	Steamed		16.00	81.00	3.56			
Leerfish	Muscle							
Lichia amia	Salted & Dried		400.00	53.00	9.55			3.10
Levovangan	Muscle							
Monotaxes grandoculis	Raw		42.00	112.50	4.60			
Ling	Muscle							
Molva molva	Raw	35.00		80.00	2.50			0.55
					2.30-2.70			0.50-0.60
					2			2
Ling Cod	Muscle							
Ophiodon elongatus	Raw		46.00	55.50				10.80
			43.00-49.00	38.00-73.00				3.60-18.00
			2	2				2

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Lizardfish Saurida tumbil	Muscle Raw		104.00	28.00	3.42			
Lizardfish Synodontidae	Muscle Raw		80.00	50.00	2.40	3.00		
Loach Cobitidae	Muscle Raw	100.00	10.00	200.00	5.00			
Longaray Ambassidae	Muscle Raw		11.00	39.00	1.53			
Longfish Caranx mate	Muscle Raw						13.83	5.88
Lookdown Selene vomer	Muscle Raw	163.00	463.00	90.00	6.03			1.40
Lumpfish Cyclopterus lumpus	Muscle Raw	60.00						
Maasbanker, Mackerel, Jack Trachurus trachurus	Muscle Raw	28.75 11.00-46.50 2	137.00 95.00-179.00 2	142.50 135.00-150.00 2	3.35 1.50-5.20 2		350.00	6.08 0.80-12.70 3
Mackerel, Atlantic Scomber scombrus	Muscle Raw	131.67 0.00-245.00 3	84.60 20.00-150.00 5	372.86 160.00-660.00 7	7.68 5.80-10.70 4	4.00	1.30	5.25 1.50-9.00 2
	Dark meat		370.00	1380.00	9.70			11.00
	Canned	433.00	58.00	220.00 200.00-240.00 2	5.80		1.30	
	Salted & Smoked							12.00
Mackerel, Frigate Auxis hira	Muscle Raw	56.00						
Mackerel, Frigate Auxis maru	Muscle Raw	16.50						
Mackerel, Frigate Auxis thazard	Muscle Raw	75.00	71.55 43.00-100.10 2	267.00 144.50-390.00 2	16.22 15.64-16.80 2			0.40
	Dark meat							4.40
Mackerel, Horse Trachurus capensis	Muscle Salted & Dried		130.00	155.00	10.80			8.60
Mackerel, Horse Carangidae	Muscle Dried		60.01	310.64	4.59			
Mackerel, Jack Caranx delicatissimus	Muscle Raw					3.30		
Mackerel, Jack Trachurus japonicus	Muscle Raw	6.60	144.50 129.00-160.00 2	140.00	6.50	2.00		3.52 0.30-13.00 5
	Dark meat							9.50 7.80-11.20 2
	Canned Seasoned		50.00	90.00	2.00			
	Salted & Dried		30.00	150.00	7.00			8.60

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Mackerel, Jack	Muscle							
Trachurus symmetricus	Dried		30.00	110.00	11.30			
Mackerel, Jack	Muscle							
Carangidae	Raw	40.00	175.00	192.50	7.20	1.00		
			120.00-240.00	100.00-330.00	2.90-14.40			
			5	4	5			
	Canned							
	Seasoned		50.00	90.00	0.20			
	Salted & Dried		30.00	150.00	7.00			
	Whole							
	Fishmeal		63.00	1640.00	21.80			36.00
Mackerel, King, Seer	Muscle							
Scomberomorus commersonii	Raw	43.00	40.33	129.00	4.50			1.23
			23.00-70.00	88.00-170.00	2.70-6.60			0.08-2.38
			3	2	3			2
	Dried		50.00	20.00	9.70			
	Salted & Dried		22.00	80.41	7.46			3.20
			8.00-40.00	22.00-192.00	2.91-12.00			
			3	3	2			
Mackerel, Long-jawed	Muscle							
Rastrelliger canagurta	Raw	390.00	33.82	329.12	8.80			7.75
		69.00-711.00	10.00-56.00	66.00-920.50	2.85-17.90			
		2	4	4	4			
	Brined	5.32	48.00	2517.50	10.63			
	Dried	6.35	63.00	3150.00	11.74			
	Salted & Dried	10.00		120.50	11.00			6.00
				68.00-173.00	7.42-14.58			
				2	2			
Mackerel, Pacific Chub	Muscle							
Scomber japonicus/colias	Raw	79.00	126.60	182.60	12.50	3.00	3.80	3.10
		44.00-120.00	46.00-265.00	270.00-350.00	8.40-15.90		1.80-5.80	0.90-9.50
		4	5	5	5		2	6
	Dark meat		265.00	676.00	7.90		5.80	4.20
	Canned	26.67	26.00	330.00	8.70		0.60	
	Dried		30.00	50.00	25.00			
	Salted		20.00	100.00	6.50			
Mackerel, Short-bodied, Hasa Hasa	Muscle							
Rastrelliger brachysomus	Raw		39.00	105.00	8.19			8.60
			20.00-58.00	90.00-120.00	6.58-9.80			
			2	2	2			
	Smoked		19.00	85.00	9.75			
Mackerel, Spanish	Muscle							
Scomberomorus maculatus	Raw		144.50	183.50	5.50			1.40
			113.00-180.00	180.00-187.00	4.12-6.89			
			4	2	2			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Mackerel, Spotted Spanish Scomberomorus guttatus	Muscle Raw		140.00	295.00 100.00-675.00 3	82.00			
	Cooked Fried In Coconut Oil			120.00				
Mackerel Scombridae	Muscle Raw	100.00 10.00-175.00 6	102.00 26.00-150.00 17	192.47 30.00-500.00 15	8.63 1.20-21.40 14	1.65 0.00-5.10 4	0.92 0.60-1.24 2	19.49 0.70-90.00 6
	Dark meat		880.00	280.00	19.80			8.00
	Canned Boiled	5.00	20.00	100.00	6.50			
	Drained	96.66		200.00		1.20		
	Marinated		100.00	400.00	8.30			9.40
	In Natural Juice		38.00	650.00	7.50			
	In Oil		67.50 55.00-80.00 2	417.75 407.50-428.00 2	8.04 6.78-9.30 2			9.05
	In Portuguese Sauce		27.00	563.00	8.60			
	In Tomato Sauce		72.50 45.00-100.00 2	517.50 315.00-720.00 2	7.56 6.33-8.80 2			5.40
	Unspecified	232.40 26.70-438.10 2	52.00 50.00-53.00 3	190.82 110.00-262.45 3	9.51 5.70-13.50 3		0.60	4.57
	Cooked Baked		137.00	450.00	9.16			
	Steamed		76.00	54.00	15.80			0.70
	Dried		30.00	50.00	25.00			
	Pickled		33.00		5.67			
	Salted	5.00	66.00	173.00	9.75			4.50
	Salted & Dried		10.00	70.00	14.50			
	Smoked		20.00	227.50 80.00-375.00 2	8.20 6.60-9.80 2			12.00
Menhaden, Atlantic Brevoortia tyrannus	Whole Fishmeal			935.00	15.40			24.00
Menhaden Clupeidae	Whole Raw	420.00						
	Fishmeal			392.23 316.70-460.00 3	5.79 5.28-6.60 3			15.40
Milkfish Chanos chanos	Muscle Raw	536.50 400.00-673.00 2	56.50 13.00-100.00 2	77.00 54.00-100.00 2	6.44		15.91	3.40
	Dried		20.00	30.00	8.00			
	Smoked		16.00	28.00	7.72			
Minnow, Common Zacco platypus	Muscle Raw	74.40 70.00-78.80 2	30.00	100.00	3.50	0.00		
Mojarra Diapterus evermanni	Muscle Raw		96.00 92.00-100.00 2	90.00	4.45			3.40
Mojarra, Spotted Gerres filamentosus	Muscle Raw	62.00	31.00	85.00	5.31		21.40	1.89

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
Mola *Amblypharyn godonmola*	Muscle Raw					5.20		
Moonfish, Pacific *Vomer declivifrons*	Muscle Raw		35.00	87.00	10.73			
Mullet *Mugil kalaartii*	Muscle Raw		55.00	550.00				
Mullet *Mugil oeur*	Muscle Raw		100.00	1415.00	44.95			
Mullet, Bhangar *Mugil tade*	Muscle Raw				1.77			
Mullet, Black Fin *Mugil melinopterus*	Muscle Raw Dried		41.00	297.00 100.00	4.73 2.50		2.65	1.89
Mullet, Ca'Doi *Mugil affinos*	Muscle Raw		20.00					
Mullet, Green-backed *Mugil dussumieri*	Muscle Canned		1.00	99.00	2.53			
Mullet, Grey, Boi *Mugil speigleri*	Muscle Raw	400.00						
Mullet, Long-finned *Mugil vaigiensis*	Muscle Raw	106.00	23.00	186.00	5.72		29.55	
Mullet, Parsey *Mugil parsia*	Muscle Raw		30.00		0.77	6.20	51.50 39.00-64.00 2	4.60
	Cooked Boiled						5.30	2.20
	Fried In Mustard Oil						4.50 3.80-5.20 2	1.50
Mullet, Striped *Mugil cephalus*	Muscle Raw	150.00	85.50 6.00-250.00 4	82.00 50.00-100.00 4	5.16	0.60 0.00-1.20 2	8.50	0.22 0.15-0.30 2
Mullet Mugilidae	Muscle Raw	150.00	52.31 10.00-86.93 3	149.79 100.00-230.00 3	3.02 1.18-5.20 7			
	Cooked Fried In Oil	33.00	10.00	30.00	16.50			
	Salted & Dried		10.00	345.00	3.85			10.00
Nemipterid, Longtailed *Nemipterus japonicus*	Muscle Raw	95.00	10.00	30.00	1.40			
Nemipterid, Ribbon-finned *Nemipterus taeniopterus*	Muscle Raw	138.00	33.00	19.00	2.74		7.62	2.83
	Dried		20.00	10.00	6.50			
	Salted & Dried		16.00	11.00	6.48			
Nemipterid, Roncador *Nemipterus virgatus*	Muscle Raw		40.00					0.02
Palometa, Permit *Trachinotus goodei*	Muscle Raw		110.00	94.00	3.02			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Parrotfish *Scarus mechipunctatus*	Muscle Raw		5.00	52.00	1.36			
Parrotfish, Loro *Sparisoma squalidum*	Muscle Raw		36.00 19.00-53.00 2	70.00	1.54			0.06
Perch *Acerina cernua*	Muscle Raw	145.00						
Perch *Lucioperca lucioperca*	Muscle Raw	60.00				1.12		
Perch, Blue, Walleye *Stizostedium vitreum glaucus*	Muscle Raw		250.00	160.00	2.30			
	Cooked Baked		370.00	210.00	2.03			
	Fried		290.00	230.00	2.59			
Perch, Chinese *Siniperca chuatsi*	Muscle Raw	30.00						
Perch, Climbing *Anabas testudenicus*	Muscle Raw		24.67 19.00-30.00 3	361.00	2.23 0.79-3.67 2	32.00	4.60 4.00-5.20 2	1.90
	Cooked Fried In Mustard Oil						4.00	1.10
Perch, Climbing, Gourami *Trichogaster fasciata*	Muscle Raw		99.00					
Perch, Climbing, Gourami *Trichogaster pectoralis*	Muscle Raw	218.00	1000.00	190.00	2.00		0.99	
	Salted & Dried		60.00	663.00	2.77		2.70	
Perch, Climbing, Gourami *Trichogaster trichopterus*	Muscle Raw		40.00					
Perch, Climbing Anabantidae	Muscle Raw		20.00	270.00	3.20			
	Dried		60.01	310.64	4.59			
Perch, Ocean Serranidae	Muscle Raw			110.00	2.00			1.00
	Cooked Fried Breaded		94.00	105.90	1.80			
Perch, Sand *Psammoperca waigiensis*	Muscle Raw		150.00	150.00	1.50			
Perch, Yellow *Perca flavescens*	Muscle Raw	40.00	60.00	120.00 70.00-170.00 2	1.78	1.18		
	Cooked Fried		60.00	270.00	1.93			
Perch Percidae	Muscle Raw	17.00	75.00 0.00-150.00 2	74.00 28.00-120.00 2	1.25 0.68-1.70 3	2.20		
	FPC				5.10			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
Pike, Northern *Esox lucius*	Muscle Raw	70.00	270.00					
Pike Esocidae	Muscle Raw	0.00						
Pilchard, European *Clupea pilchardus*	Muscle Raw		105.00 100.00-111.00 2	213.33 50.00-390.00 3	2.00 1.50-2.50 2	0.80		34.06
	Canned In Oil Drained	333.00	90.00		1.30			
Pilchard, Japanese *Sardinops melanosticta*	Muscle Raw	83.00					2.00	1.81 1.12-2.50 2
	Canned In Oil		50.00	80.00	7.00			
	In Tomato Sauce		30.00	60.00	8.00			
	Plain		40.00	130.00	9.00			
	Seasoned		40.00	130.00	9.00			
	Dried	17.00	90.00	300.00	13.00			
	Salted		30.00	200.00	10.10			
Pilchard, Pacific *Sardinops (Sardina) caerulea*	Muscle Raw			5400.00				
	Canned Drained	26.70						
	In Natural Juices	26.67	7.00	300.00			0.50	
	In Oil Drained	230.00						
	Unspecified	281.25						
	In Tomato Sauce	26.68	10.00	290.00 250.00-330.00 2	5.00		0.80	
	Unspecified		10.00	300.00	7.40			
Pilchard Clupeidae	Muscle Canned In Tomato Sauce			250.00	5.04			
	Whole Fishmeal			1290.00				
Pintadilla *Cheilodactylus variegatus*	Muscle Raw		160.00	80.00	3.40			
Plaice, American *Hippoglossoides platessoides*	Muscle Raw	30.00						
Plaice, American *Pleuronectes platessa*	Muscle Raw	40.00	200.00	130.00	4.00			1.60 1.00-2.20 2
Plaice Pleuronectidae	Muscle Raw		105.00	195.00				1.00
Pollock, Saithe, Coalfish *Pollachius virens*	Muscle Raw	35.00	66.67 45.00-105.00 3	134.33 80.00-200.00 3	2.48 1.57-3.40 2			2.95 1.80-3.50 4

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
	Cooked							
	Baked		50.00	130.00	1.60			
	Offal							
	Fishmeal	270.00	480.00	580.00			56.50	6.60
Pollock, Walleye	Muscle							
Theragra chalcogramma	Raw		170.00	170.00			3.10	0.30
	Dark meat							2.40
	Whole							
	Raw		180.00	240.00				0.08
Pollock	Muscle							
Gadidae	Raw	32.00	95.00	133.33	3.03			1.05
			45.00-160.00	100.00-200.00	1.90-4.20			1.00-1.10
			3	3	3			2
	Dried		100.00	150.00	11.00			
Pomfret	Muscle							
Parabramis bramula	Raw	29.50						
Pomfret, Silver	Muscle							
Pampus argenteus	Raw		190.00	80.00	0.40			
Pompano, Florida	Muscle							
Trachinotus carolinus	Raw		562.00	118.00	3.00			
Pompano, Pacific	Muscle							
Neptomenus crassus	Raw	5.10	90.00	60.00	8.10	0.00		
Pompano	Muscle							
Carangidae	Raw		263.33	200.33	4.32			
			110.00-413.00	90.00-400.00	3.00-5.71			
			3	3	3			
	Salted & Dried		300.00	110.00	12.80			
Porgy	Muscle							
Pagrosomus unicolor	Raw						0.45	
	Dark meat						0.70	
Porgy, Large-eyed Dentex	Muscle							
Dentex macrophthalmus	Raw		57.00	92.00	5.08			1.84
			30.00-84.00	39.00-145.00	3.30-6.85			0.88-2.80
			2	2	2			2
	Salted & Dried		30.00	39.00	6.85			2.80
Porgy, Pargo	Muscle							
Pagrus ehrenbergii	Salted & Dried		80.00	22.00	6.75			2.50
Porgy	Muscle							
Sparidae	Raw	90.00	106.80	97.00	4.08			1.37
			20.00-160.00	50.00-145.00	3.25-5.60			
			5	5	3			
	Cooked							
	Baked		36.10	43.50	0.60			0.28
	Boiled		29.40	21.80	0.90			0.08
	Dried		30.00	40.00	0.68			
	Salted & Dried		80.00	20.00	6.70			
Puffer, Swellfish	Muscle							
Sphoeroides pardalis	Raw		50.00					0.08
Puffer, Swellfish	Muscle							
Sphoeroides porphyreus	Raw		200.00	100.00				
Puffer, Swellfish	Muscle							
Sphoeroides spengleri	Raw							1.85

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
			Per 100 grams					
Puffer, Swellfish Tetraodontidae	Muscle Raw	10.00	20.00			0.00		
Rabbitfish Siganus fuscescens	Muscle Raw							0.06
Rabbitfish Siganus (Teuthis) javis	Muscle Raw		202.50 160.00-245.00 2	128.50 127.00-130.00 2	4.74 4.40-5.09 2			
	Dried Salted & Fermented		5.00 10.00	80.00 210.00	5.60 3.70			
Ratfish Chimaera barbouri	Muscle Raw						2.70	
Ray, Eagle Actobatus peruvianus	Muscle Cooked Roasted		1590.00	150.00	3.85			
Redfish, Ocean Perch Sebastes marinus	Muscle Raw	125.00						1.00
	Whole Fishmeal							9.40
Redfish Scorpaenidae	Muscle Dried		148.00	48.00	3.51			
	Whole Fishmeal			660.00	4.10			
Roach Rutilus rutilus	Muscle Raw	30.00				13.00 0.96-25.04 2		
Rockfish Sebastiscus marmoratus	Muscle Raw							0.04
Rockfish, Kichijj Sebastolobus macrochir	Muscle Raw						0.90	
Rockfish, Red Sebastes matsubarae	Muscle Raw		150.00	150.00	3.00			
Rockfish, Red Sebastes ruberrimus	Muscle Raw Dried		55.00	111.00				12.00
Rockfish Scorpaenidae	Muscle Raw		55.00 29.00-81.00 2	121.50 90.00-153.00 2				
Runner, Rainbow Elagatis bipinnulata	Muscle Raw		54.00	58.00	5.97			
Sablefish Anoplopoma fimbria	Muscle Raw	1586.00	105.00 97.00-113.00 2	88.50 88.00-89.00 2				
Salmon, Atlantic Salmo salar	Muscle Raw Canned	40.00	80.00	140.00 110.00	8.00			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
Salmon, Cherry	Muscle							
Oncorhynchus masou	Raw							2.00
Salmon, Chinook	Muscle							
Oncorhynchus tschawytscha	Raw	455.00	100.33	222.75	7.20			
		310.00-600.00	100.00-101.00	200.00-231.00				
		2	3	4				
	Canned	229.65	65.00	185.00	7.25			
		229.30-230.00						
		2						
Salmon, Chum	Muscle							
Oncorhynchus keta	Raw	46.90	90.00	79.50				0.14
		28.00-82.70	80.00-100.00	59.00-100.00				
		3	2	2				
	Dark meat	117.00						
	Canned	49.60	20.00	160.00	7.10			
		28.60-60.20						
		3						
	Offal							
	Fishmeal							27.00
Salmon, Coho	Muscle							
Oncorhynchus kisutch	Raw		173.50	164.50	7.00	1.30		
			87.00-260.00	109.00-220.00				
			2	2				
	Canned	80.00	65.00	140.00	7.40			
			30.00-100.00	100.00-180.00				
			2	2				
	Salted		80.00	125.00	7.00			
			60.00-100.00	100.00-150.00	6.00-8.00			
			2	2	2			
	Smoked		100.00	150.00	10.00			
Salmon, Land-locked	Muscle							
Oncorhynchus rhodurus	Raw	57.50						
Salmon, Longtooth	Muscle							
Otolithus ruber	Raw	508.00						
Salmon, Pink	Muscle							
Oncorhynchus gorbuscha	Raw	108.65	171.00	56.00	7.00			
		100.00-117.30	143.00-220.00	46.00-70.00				
		2	3	3				
	Dark meat	244.00						
	Canned							
	Boiled		50.00	130.00	6.00			
	Unspecified	62.54	27.82	151.95	6.27			
		10.10-99.10	8.81-50.00	130.00-188.20	3.88-8.00			
		5	5	4	4			
	Salted		150.00	150.00	9.00			
	Offal							
	Fishmeal							19.00
Salmon, Sockeye	Muscle							
Oncorhynchus nerka	Raw	82.00	135.50	128.17			4.26	0.19
		10.00-154.00	108.50-150.00	72.00-222.50				0.12-0.26
		2	3	3				2
	Canned	233.91	25.40	204.67	4.50			
		91.30-304.34	20.00-30.80	130.00-264.00	0.35-7.21			
		4	2	3	3			
Salmon	Muscle							
Salmonidae	Raw	192.10	127.46	162.83	7.38	9.00	30.32	2.99
		8.00-322.00	30.00-348.00	99.00-220.00	5.63-8.80		0.50-88.30	2.07-4.00
		9	13	11	15		3	3

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine mg	Riboflavin mg	Niacin mg	Ascorbic Acid mg	Folic Acid mg	Vitamin B_{12} mg
				Per 100 grams				
	Canned							
	Boiled	10.00	20.00	120.00	7.00			
	Dark meat							
	Drained	156.65						
		68.30-245.00						
		2					6.30	
	Drained				4.35			
	In Olive Oil				6.76	0.76	1.66	4.44
	Unspecified	170.12	29.83	126.78	2.70-7.81		0.50-5.00	2.00-6.89
		80.00-300.00	4.40-150.00	8.00-292.00	12		4	2
		8	14	9				
	Cooked							
	Fried			170.00	6.90			
	Unspecified		116.00	144.47	6.78		38.14	
				124.00-164.94	6.51-7.05			
				2	3			
	Cured	20.00	100.00	150.00	6.00			7.00
	Salted		287.50	100.00	8.00			7.00
	Salted & Smoked							
	Smoked		105.00	170.00	7.50			
	Offal							
	Fishmeal			900.00				
Sandfish	Muscle							
Arctoscopus japonicus	Raw	17.00	100.00	50.00				7.80
	Dried & Salted		40.00	80.00				
Sardine	Muscle							
Clupanodon pseudohispanicus	Raw		9.00	350.00	9.74			9.00
Sardine, Indian	Muscle							
Sardinella longiceps	Raw	50.00	51.67	177.00	8.73			
			10.00-135.00	67.00-394.00	7.90-10.35			
			3	3	3			
	Dried		10.00	105.00	14.49			
	Smoked		9.67	91.00	5.01			
			9.00-10.00	90.00-93.00	5.00-5.02			
			3	3	3			
Sardine, Pacific	Muscle							17.00
Sardinops sagax	Raw							
Sardine, Spotted	Muscle						9.80	1.81
Sardinella sirum	Raw							
	Dried		10.00	110.00	14.50			
Sardine	Muscle							
Clupeidae	Raw	229.25	83.33	228.78	8.15	1.00		
		60.00-303.00	20.00-270.00	53.20-387.00	3.90-10.50			
		4	9	8	6			
	Canned							
	Drained	220.00	20.00	170.00	4.80			
	In Oil							
	Drained			0.11				
	Smoked		45.00	270.00	4.40			
	Unspecified	311.86	30.20	147.50	3.84			10.00
		136.00-710.00	10.00-50.00	20.00-325.00	0.43-5.70			
		5	5	6	6			
	In Olive Oil		57.00	410.00	4.16			
					3.50-4.83			
					2			
	In Tomato Sauce							
	Drained			0.18				

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
					Per 100 grams			
	Smoked		45.00	290.00	4.10			
	Unspecified	30.00	27.50	286.66	5.76			10.00
			10.00-45.00	270.00-300.00	5.30-6.20			
			2	2	3			
	Marinated			245.00	4.70			
	Not Drained	29.70						
	Unspecified	188.33	84.84	308.92	6.86		0.50	6.06
		30.00-357.00	9.00-272.00	32.00-485.00	3.83-9.33			0.16-12.30
		6	13	12	10			9
	Cooked							
	Boiled							
	Dried		414.00					
			400.00-428.00					
			2					
	Salted & Dried	200.00	30.00	300.00	28.00			
	Salted							
	Half Dried	60.00	30.00	100.00	10.00			
	Smoked	400.00						
		387.00-413.00						
		2						
	Whole							
	Raw	200.30	600.00					
		0.60-400.00						
		2						
	Fishmeal			487.10	6.92			
				436.30-550.00	6.20-7.45			
				3	3			
Saury, Pacific	Muscle							
Cololabis saira	Raw	1074.08	50.40	112.40	6.00	1.00		4.30
		58.25-3044.00	48.00-54.00	87.00-132.00		0.00-2.00		2.20-6.40
		3	5	5		2		2
	Canned							
	Half Dried		40.00	100.00				
	Seasoned		60.00	100.00	7.00			
	With Tomato		90.00	140.00	9.00			
	Dried & Seasoned		40.00	150.00	8.00			
	Salted		40.00	110.00	7.00			
Sawfish	Muscle							
Pristidae	Raw		140.00	190.00	4.10	0.00		
Scad, Big-Bodied	Muscle							
Decapterus macrosoma	Raw	154.00	109.25	194.00	10.97		6.58	16.76
		122.00-185.20	49.50-169.00					0.18-8.58
		2	2					4
	Canned		18.00	89.00	12.31			
	Salted & Dried		20.00	50.00	16.20			
Scad, Big-eyed	Muscle							
Caranx crumenophthalmus	Raw		26.50	72.50	5.78			4.49
			23.00-30.00	65.00-80.00	3.20-8.36			
			2	2	2			
	Dried		20.00	50.00	13.50			
	Smoked		10.00	80.00	8.70			
Scad, Golden	Muscle							
Caranx kalla	Raw		15.00	77.00		3.90		
Scad	Offal							
Carangidae	Fishmeal		280.00	900.00	12.10			30.00
Scorpionfish, Akodai	Muscle							
Sebastodes iracundus	Raw						0.40	
Scorpionfish, Longnose	Muscle							
Pontinus castor	Raw	0.00	40.00	80.00		0.00		

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Scorpionfish Scropaenidae	Muscle Raw							7.60 3.20-12.00 2
Sculpin Cottus pollux	Muscle Raw Dried	0.00	100.00	150.00		0.00		6.10
Sea Cucumber Cucumaria miniata	Whole Raw							1.20
Sea Cucumber Holothuria edulis	Muscle Raw					0.00		
Sea Cucumber Molpodia arenicola	Whole Raw							2.00
Sea Cucumber Stichopus japonicus	Muscle Raw Dried Dried & Soaked	150.00 33.00	70.00 40.00 10.00	90.00 70.00 20.00	0.50 0.40 0.10			
Sea Cucumber, Red Stichopus californias	Muscle Raw		35.00	90.00				
	Whole Raw							1.70
Sea Cucumber Holothuroidae	Muscle Raw	10.00	10.00 10.00-10.00 2	20.00	0.90			
Sea Robin, Gurnard, Grey Trigla gurnardus	Muscle Raw	65.00						
Sea Robin, Gurnard, Yellow Trigla lucerna	Muscle Raw	30.00				1.00		
Sea Robin Triglidae	Muscle Raw		90.00					
Sea Trout, Spotted Cynoscion nebulosus	Muscle Salted & Dried		90.00	31.00	8.85			5.30
Shad Hilsa reevesii	Muscle Raw	50.00						
Shad, American Alosa sapidissima	Muscle Raw Canned Salted		150.00 140.00	240.00 185.00	8.40			
Shad, Gizzard Anodontostoma chacunda	Muscle Raw Salted & Dried Smoked	138.00	10.50 10.00 30.00	98.50 140.00 60.00	3.14 3.80 4.10			3.84
Shad, Gizzard Dorosoma cepedianum	Muscle Raw		100.00	150.00	5.00			
Shad, Indian Hilsa ilisha	Muscle Raw	4531.20	30.00		2.11 0.76-4.70 3	25.90 24.10-27.70 2	11.00	4.00
	Cooked Boiled Fried In Mustard Oil							4.50 0.16

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
			Per 100 grams					
Shad, Slender	Muscle							
Ilisha elongata	Raw	139.90						
	Dried, Soaked, & Drained			120.00	5.20			
Shad	Muscle							
Clupeidae	Raw	0.00						
	Cooked							
	Baked							
	With Fat & Bacon	23.50	129.40	258.80	8.60			
Shadefish, Meagre	Muscle							
Sciaena aquila	Salted & Dried		85.00	45.00	10.40			
Shark, Blue	Muscle							
Carcharhinus glaucus	Raw	30.00	110.00	110.00	0.90			
Shark, Cat	Muscle							
Scyliorhinidae	Raw							1.25
Shark, Gummy	Muscle							
Mustelus antarcticus	Canned							
	Boiled		50.00	105.00	11.00			
	In Oil		20.00	60.00	11.00			
	Seasoned		60.00	85.00	9.00			
Shark, Hammerhead, Smooth	Muscle							
Sphyrna zygaena	Raw		14.00	81.00	3.21			
Shark, Mackerel, Blue-Pointer	Muscle							
Lamna glauca	Salted & Dried		130.00	81.00	12.10			3.40
Shark, Mackerel	Muscle							
Isuridae	Raw		80.00	100.00	7.00			2.60
Shark, Porbeagle, Mackerel	Muscle							
Lamna cornubica	Raw			150.00	7.50			2.50
Shark, Requiem	Muscle							
Carcharhinidae	Raw		16.25	43.00	3.25			
			5.00-20.00	19.00-80.00	2.10-4.40			
			4	3	2			
Shark, Sand Tiger	Muscle							
Odontaspididae	Raw	51.00						
Shark, Sharpnose	Muscle							
Scoliodon palasorrah	Raw		25.00	33.00	6.55			
	Dried			60.00				
Shark, Sharpnose, Pacific	Muscle							
Scoliodon longurio	Raw		20.00	80.00	3.40	0.00		
Shark, Shortfin Mako	Muscle							
Isurus oxyrinchus	Raw			95.00	9.90			1.20
Shark, Smoothhound	Muscle							
Triakidae	Raw		26.00	27.00	5.60			0.50
Sheathfish	Muscle							
Krytopterus krytopterus	Raw	67.00	10.00	40.00	1.40			
Sheathfish	Muscle							
Parasilurus asotus	Raw						1.90	0.06
Shiner, Ghost	Muscle							
Notropis buchanani	Raw							1.39
	Cooked							
	Boiled							3.00

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
	Fried In Mustard Oil							0.54
Silverside Atherina forskali	Muscle Dried, Rinsed, & Drained	33.00	160.00	40.00				
Silverside Atherina presbyter	Muscle Raw			130.00				
Silverside Atherinidae	Muscle Raw		10.00	50.00	4.50	0.00		
Skate, Flatback Raja kenojei	Muscle Raw	13.50	230.00	80.00	1.30			
Skate, Thornback Raja clavata	Muscle Raw	35.00						
Skate Rajidae	Muscle Raw	10.00	17.50 10.00-25.00 2	10.00	2.00	0.00		
Sleeper Oxyeleotris marmorata	Muscle Raw		26.00					
Slimy, Soapy Leiognathus argenteus	Muscle Raw		40.50					
Slimy, Soapy, Ponyfish Leiognathus equula	Muscle Raw		0.20	40.00	1.90		23.58	3.58
Slipmouth, Black-Finned Leiognathus daura	Muscle Raw	33.00	43.50 17.00-70.00 2	38.50 37.00-40.00 2	2.08 1.94-2.50 2			
Slipmouth Leiognathidae	Muscle Raw		13.00	40.00	2.04			
Smelt Osmerus eperlanus	Muscle Raw	200.00						
Smelt, Eulachon Thaleichthys pacificus	Whole Raw		35.00					
Smelt, Lake Osmerus mordax	Muscle Raw		10.00	127.00 120.00-134.00 2	1.25			
	Dried		5.00					
Smelt, Pond Hypomesus olidus	Muscle Raw	100.00	130.00	360.00	2.00			
Smelt, Sweet, Ayu Plecoglossus altivelis	Muscle Raw	107.95 95.90-120.00 2	34.90 29.80-40.00 2	100.00	3.00	0.93 0.00-2.80 3	6.30	0.21
Smelt Osmeridae	Muscle Raw			122.85 120.00-125.70 2	1.45		3.66	3.44

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine B_1 µg	Riboflavin B_2 µg	Niacin mg	Ascorbic Acid C mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
	Whole							
	Raw	100.00	130.00	350.00				
Snapper	Muscle							
Lutianus analis	Raw		40.00					
Snapper	Muscle							
Lutianus rivulatus	Raw	186.90						
Snapper, Grey	Muscle							
Lutianus griseus	Raw		170.00					
Snapper, Malabar	Muscle							
Lutianus malabaricus	Raw		70.00	131.00	5.21			
Snapper, Pargo	Muscle							
Lutianus colorado	Raw		94.00	64.00	2.50			
Snapper, Red	Muscle							
Lutianus campechanus (blackfordii)	Raw		125.50 76.00-175.00 2	48.00	1.82			
Snapper	Muscle							
Lutianidae	Raw		67.50 46.00-90.00 4	69.33 38.00-110.00 3	3.35 2.50-4.70 3	1.60 0.00-3.20 2		0.30
	Cooked							
	Unspecified		105.00	129.00	2.82			
Snook, Constantino	Muscle							
Centropomus robalito	Raw		98.00	4.00	0.68			
Snook, Robalo	Muscle							
Centropomus armatus	Raw		346.00	74.00	0.93			
Snook	Muscle							
Centropomidae	Raw		200.00 50.00-350.00 2	65.00 60.00-70.00 2	2.00 0.90-3.10 2			
Sole	Muscle							
Clioderma aspirrimum	Raw						2.90	
Sole	Muscle							
Eopsetta grigorjewi	Raw							0.10
Sole	Muscle							
Microstomus kitaharae	Raw	40.00						
Sole	Muscle							
Microstomus stelleri	Raw						4.00	
Sole, Dover	Muscle							
Microstomus pacificus	Raw		59.00	57.00				
Sole, English	Muscle							
Parophrys vetulus	Raw		62.00	44.00				0.80
Sole, European	Muscle							
Solea vulgaris	Raw		81.00	120.00	3.79			1.55
	Cooked							
	Baked		50.00	114.00	3.55			1.57
	Boiled		74.00	98.00	2.90			1.51

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
					Per 100 grams			
Sole, Flathead Hippoglossoides elassodon	Muscle Raw		80.50 41.00-120.00 2	392.00 51.00-733.00 2			3.05	
Sole, Lemon Microstomus kitt	Muscle Raw		90.00	80.00	3.50			1.50 0.80-2.20 2
Sole, Petrale Eopsetta jordani	Muscle Raw		68.00	49.00				
Sole, Rex Glyptocephalus zachirus	Muscle Raw		38.00	47.00				
Sole, Rock Lepidopsetta bilineata	Muscle Raw		62.00	37.00				
Sole Soleidae/Pleuronectidae	Muscle Raw	44.80	73.00 60.00-88.10 4	50.00	1.42 1.13-1.70 2			
Spadefish Chaetodipterus faber	Muscle Raw		147.50 137.00-158.00 2	170.00	4.97			2.60
Spadefish Scatophagus argus	Muscle Raw	98.00	21.00	151.00	5.26			2.63
Sprat Sprattus sprattus	Muscle Raw	215.50 140.00-291.00 2	36.00					
	Canned Smoked In Oil		30.00	325.00	6.70			10.80
	In Tomato Sauce		30.00	325.00	5.70			11.70
	Unspecified	306.00						
	Smoked	281.00						
	Whole Raw	1140.00	42.50 40.00-45.00 2	260.00	2.40 0.01-4.80 2			10.55 10.50-10.60 2
	Canned	123.00	822.00					33.50
Stargazer Uranoscopus japonicus	Muscle Raw							0.09
Steenbras, Sand, Seebes Lithognathus mormyrus	Muscle Raw	40.00						
Stingray, Blue Spotted Dasyatis kuhlii	Muscle Raw		38.00 36.00-40.00 2	48.00 46.00-50.00 2	2.49			
Stingray, Marbled Dasyatis uarnak	Muscle Raw		61.50 43.00-80.00 2	40.00 30.00-50.00 2	4.48 4.37-4.60 2			

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Stingray Dasyatidae	Muscle Raw Salted & Dried	31.50	20.00 160.00	139.00	8.93			5.30
Sturgeon Acipenser sturio	Muscle Raw	700.00						
Sucker, Carp Carpiodes meridionalis	Muscle Raw		36.00	50.00	1.98			
Sucker, Common Catostomus commersonii	Muscle Raw		4.50 4.00-5.00 2		1.22 1.19-1.25 3			
	Cooked Baked Dried Smoked				1.30 5.70 2.70			
Sunfish, Largemouth Bass Centrarchidae	Muscle Raw Dried		101.00	28.00	0.48 2.12			
Surfperch, Sea Chub Ditrema temmincki	Muscle Raw	62.15						0.07
Surgeonfish Acanthurus bleekeri	Muscle Raw Cooked Unspecified		27.00	26.00	3.82		9.99	0.60 0.56
Surgeonfish Prionurus microlepidotus	Muscle Raw					1.30		
Surgeonfish Xesurus scalprum	Muscle Raw							0.40
Swordfish Xiphias gladius	Muscle Raw	1595.00 1585.00-1600.00 3	54.33 40.00-70.00 3	77.25 49.00-110.00 4	7.60 6.20-9.10 4	2.00	2.04	0.56 0.10-1.00 3
	Canned	1680.00	13.00	47.00	15.30			
	Cooked Broiled	2290.00	25.00	34.00	10.00			
	Broiled With Butter	2059.00	35.30	47.00	10.90			
	Dried	965.00	26.00	92.00	7.10			
Tarpon, Bidbid Elops hawaiiensis	Muscle Raw		90.00	44.50 39.00-50.00 2	3.05 2.10-4.00 2			
Tarpon, Buan-Buan Megalops cyprinoides	Muscle Raw		16.00	60.00	5.11			
Tench Tinca tinca	Muscle Raw	30.00	220.00					
Therapon Therapon plumbeus	Muscle Raw Dried		70.00	390.00	4.20			9.20
Therapon Therapon oxyrhynchus	Muscle Raw	28.50						
Therapon, Large Scaled, Banded Grunter Therapon theraps	Muscle Raw		28.00	81.00	6.22			2.65

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine	Riboflavin	Niacin	Ascorbic Acid	Folic Acid	Vitamin B_{12}
			μg	μg	mg	mg	μg	μg
					Per 100 grams			
Therapon, Tigerfish Therapon jarbua	Muscle Raw		21.00	63.00	5.13			
Therapon Theraponidae	Muscle Raw		20.00	70.00	4.50			2.70
Threadfin Polynemus indicus	Muscle Raw	172.00	40.00	160.00	1.51			
Threadfin Polynemus paradiseus	Muscle Raw		31.00 22.00-40.00 2	36.00 20.00-52.00 2	2.66 1.83-3.50 2		70.00	8.00
	Cooked Boiled			70.00			16.00	1.00
	Fried In Mustard Oil						19.50	0.47
	Dried		84.70	310.60	4.59			
Threadfin, Four-rayed Polynemus tetradactylus	Muscle Raw		20.00	50.00	1.80			
	Salted & Dried		90.00	257.00	5.36			6.70
Threadfin, Small-mouth Polynemus microstoma	Muscle Raw		19.00	110.00	4.57			
Threadfin Polynemidae	Muscle Salted & Dried		80.00	310.00	4.60			
Tilapia, Mozambique Mouthbrooder Tilapia mossambica	Muscle Raw	58.00 17.00-99.00 2	30.00	120.00	3.10	0.95	5.72	2.08 2.07-2.10 2
Tilefish Branchiostegidae	Muscle Raw	58.50 17.00-100.00 2	115.00 80.00-150.00 2	155.50 111.00-200.00 2	2.90 2.80-3.00 2			
Tonguefish Cynoglossidae	Muscle Raw		50.00	150.00	3.30			
Torpedo, Panga Megalaspis cordyla	Muscle Raw		70.00	128.00 126.00-130.00	8.40 6.00-10.81 2			
Trevally Caranx mertensi	Muscle Raw		170.00	580.00				
Trevally, Great, Talakitok Caranx sexfasciatus	Muscle Raw	124.50	122.00	81.00	5.52			9.10
	Dried		110.00	20.00	6.80			
Triggerfish Monacanthus chinensis	Muscle Raw				0.43			
Triggerfish Monacanthus cirrhifer	Muscle Raw	3273.50						
Triggerfish Balistidae	Muscle Raw		40.00	60.00				
Trout Salmo clarkii	Muscle Raw		56.00	93.00				
Trout, Brook Salvelinus fontinalis	Muscle Raw			93.00 65.00-135.00 3				1.54 0.08-3.00 2

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Trout, Brown	Muscle							
Salmo trutta	Raw		90.00	365.00		2.00		
				50.00-680.00				
				2				
Trout, Dolly Varden	Muscle							
Salvelinus malma	Raw		61.00	38.00				
Trout, Lake	Muscle							
Salvelinus namaycush	Cooked							
	Baked		100.00	130.00	2.19			
	Fried		100.00	160.00	1.89			
Trout, Rainbow	Muscle							
Salmo gairdneri	Raw	20.00	107.75	183.83	5.00	2.20		3.00
			75.50-140.00	150.00-201.50				1.01-5.00
			2	3				2
Trout	Muscle							
Salmonidae	Raw	91.30	86.56	72.22	4.46			4.50
		40.60-142.00	10.00-200.00	9.00-210.00	2.73-7.80			4.00-5.00
		2	9	8	9			2
	Canned			160.00				
	Whole							
	Raw	188.60						
Tuna, Albacore	Muscle							
Thunnus alalunga	Raw							0.17
	Canned							
	In Oil							
	Drained		12.50	68.80	8.19			
	In Olive Oil		170.00	350.00	9.10			
	Salted & Dried		136.00	129.00	22.89			9.60
			70.00-190.00	118.00-140.00	22.40-23.35			4.30-12.90
			2	2	2			2
Tuna, Albacore, Long-finned	Muscle							
Tonbo magura	Raw							0.20
Tuna, Big-eye	Muscle							
Thunnus obesus	Raw		156.50	117.80	10.80			3.35
			57.00-256.00	30.40-263.00	7.30-14.30			0.50-6.20
			2	3	2			2
	Dark meat	129.00						
Tuna, Black	Muscle							
Promethichthys prometheus	Raw	56.17						0.09
		39.00-66.10						
		3						
Tuna, Bluefin	Muscle							
Thunnus thynnus	Raw	963.00	166.67	96.67	11.10			15.86
			100.00-250.00	60.00-150.00	10.00-12.00			0.27-47.00
			3	3	2			3
	Dark meat		380.00	785.00				22.90
			330.00-430.00	780.00-790.00				7.80-38.00
			2	2				2
	Canned	19.00	89.00	13.60			1.80	
Tuna, Skipjack	Muscle							
Euthynnus pelamis	Raw	30.02	93.33	76.50	21.95	7.25	186.55	66.50
		24.80-35.25	30.00-190.00	8.00-150.00	18.00-24.50	2.00-12.50	3.10-370.00	1.90-250.00
		2	3	4	3	2	2	4
	Dark meat	44.00	520.00	690.00	12.20			16.50
	Canned							
	In Oil		50.00	60.00	11.00			
	Seasoned		190.00	140.00	10.00			
	Unspecified		20.00	150.00	16.00	17.23		
	Cooked							
	Unspecified					14.60		
	Dried		30.00	275.00	40.00			
	Salted & Dried		190.00	118.00	23.30			12.90

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
	Whole							
	Fishmeal	300.00	540.00	1130.00	50.00			25.00
Tuna, Skipjack	Muscle							
Scombridae	Raw	40.00	30.00	150.00	18.00	2.00		
	Whole							
	Fishmeal			640.00	14.20			34.00
Tuna, Yellowfin	Muscle							
Thunnus albacares	Raw	30.00	211.33	70.80	12.17	1.00	1.92	0.52
		20.00-40.00	100.00-434.00	26.00-150.00	9.80-14.50		0.64-3.20	0.08-1.10
		2	3	5	3		2	3
	Canned							
	In Oil		50.00	130.000	12.00			
	Seasoned		70.00	30.00	8.00			
	Unspecified		80.00	150.00	11.00			
	Whole							
	Raw			140.00	22.40			4.30
	Offal							
	Fishmeal			420.00	6.70			22.00
Tuna	Muscle							
Scombridae	Raw	46.33	100.00	157.20	10.98		0.60	2.75
		20.00-94.00	80.00-163.00	56.00-320.00	7.50-15.90			0.70-4.80
		3	5	5	5			2
	Canned							
	Baby Food			80.00				
	Drained	61.53	50.00	120.00	12.80			
		26.60-80.00						
		3						
	In Oil							
	Drained	40.12	29.75	124.40	10.70		0.60	
		11.25-82.40	12.50-47.00	117.60-131.20	9.50-11.90			
		3	2	2	2			
	Unspecified	125.00	54.33	145.67	10.06			
		50.00-200.00	40.00-83.00	90.00-227.00	6.07-12.80			
		2	3	3	3			
	Unspecified	220.50	69.78	85.18	11.42		0.45	1.41
		220.00-221.00	25.00-201.00	39.64-140.00	9.00-14.00			0.55-2.50
		2	7	5	8			6
	Cooked							
	Steamed		76.00	54.00	15.80			0.70
	Salted & Dried		130.00	160.00	10.80			
	Whole							
	Fishmeal	27100.00	7.00	683.31	10.85			26.28
				560.00-880.00	6.60-15.20			20.00-33.00
				4	4			3
Turbot	Muscle							
Reinhardtius hippoglossoides	Raw	39.00	68.00	60.00	1.05			1.25
			60.00-84.00	40.00-80.00	0.60-1.50			1.00-1.50
			3	2	2			2
	Smoked			170.00	1.50			0.60
Turbot	Muscle							
Reinhardtius matsuurae	Raw						2.90	0.70
	Cooked							
	Fried		75.00					
Turbot	Muscle							
Scopthalmus maximus	Raw	45.00		910.00	2.30			
Turbot, Arrowtooth	Muscle							
Atheresthes stomias	Raw		60.00	52.00				
Turbot, Indian	Muscle							
Psettodes erumei	Raw						1.22	6.42

Table 22.--Vitamin composition of finfishes, whales, and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B12 µg
				Per 100 grams				
Turbot	Muscle							
Pleuronectidae	Raw		18.00	118.35				
				100.00-136.70 2				
	Cooked							
	Steamed		20.00	150.00				
Viperfish	Muscle							
Chauliodus sloani	Raw		50.00					
Whale	Muscle							
Balaenoptera musculus	Raw	275.00	486.00	3130.00	5.07			
Whale, Fin	Muscle							
Balaenoptera phepaleus	Raw	275.00	357.00	2500.00	5.34			
Whale	Muscle							
Unspecified	Raw	2500.00						
	Dried			600.00				80.00
	Fishmeal			1060.00	12.80			7.90
	Muscle With Bone							
	Fishmeal			379.00				3.50
	Whole							
	Fishmeal			397.00	9.00			
Whitefish	Muscle							
Coregonus oxyrhynchus	Raw	120.00						
Whitefish, Lake	Muscle							
Coregonus clupeaformis	Raw		140.00	120.00	2.99			
	Cooked							
	Baked		150.00	110.00	2.99			
	Fried		170.00	150.00	2.71			
Whitefish	Offal							
Salmonidae	Fishmeal			650.00				
Whiting	Muscle							
Merlangus merlangus	Raw		90.00					
Whiting, Australian	Muscle							
Sillago sihama	Raw	53.50	35.50	80.00	6.12			
		0.00-107.00 2	21.00-50.00 2	60.00-100.00 2	5.40-6.85 2			
Whiting, Blue	Muscle							
Micromesistius poutassou	Raw		80.00	90.00	1.80			
Wolffish, Atlantic	Muscle							
Anarhichas lupus	Raw	375.00						2.00
Wrasse	Muscle							
Duymaeria flagellifera	Raw							0.38
								0.03-0.72 2
Wrasse	Muscle							
Pseudolabrus japonicus	Raw	48.36						3.00
								0.50-5.30 2
Wrasse, Peacock	Muscle							
Crenilabrus pavo	Raw					1.00		
Wrasse, Spinola	Muscle							
Labrus turdus	Raw					1.00		
Yellowtail	Muscle							
Carangidae	Raw	40.00	140.00	100.00	7.00	2.00		
	Canned							
	In Oil							
	Smoked		50.00	90.00	6.60			
Zanthe	Muscle							
Abramis vimba	Raw					0.86		

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 23.--Vitamin composition of crustaceans and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Crab Hemigrapsus oregonensis	Whole Raw Without Shell							4.90
Crab Portunus sanguinolatus	Muscle Raw		8.00	500.00		14.20		
Crab Portunus trituberculatus	Muscle Raw							1.80
Crab, Blue Callinectes sapidus	Muscle Raw	5.00	83.40 [1/] 50.00-140.00 [2/] 5 [3/]	45.00 [1/] 30.00-60.00 [2/] 2 [3/]	2.70	3.00		
	Canned		115.50 1.00-230.00 2	147.00 144.00-150.00 2	2.48	12.00	0.40	
Crab, Blue, Deep Sea Portunus pelagicus	Muscle Raw		45.63 10.88-87.00 3	477.33 68.00-870.00 3	2.43 [1/] 1.06-3.94 [2/] 3 [3/]	15.20	13.80	5.57
Crab, Bombay Charybdis cruciata	Muscle Raw		12.30	840.00				
Crab, Chinese Eriocheia sinensis	Muscle Raw	201.21	271.81	98.84	3.88			
Crab, Dungeness Cancer magister	Muscle Raw		176.00	20.00				
Crab, Edible Cancer pagurus	Muscle Raw	90.00	135.00	247.50 145.00-350.00 2	2.80	3.50		
	Cooked Unspecified [4/]		230.00	150.00				
Crab, Hermit Pagurus hirsutiusculus	Whole Raw Without Shell							9.60
Crab, King Paralithodes camtschatica	Muscle Raw	10.00	86.66 10.00-240.00 3	56.66 20.00-130.00 3	3.33 2.50-5.00 3			
	Canned Boiled	10.00	10.00	2.00				
Crab, Necora, Cangrejos Cancer polydon	Muscle Cooked Roasted			1100.00	2.00	0.00		
Crab, Red Podaphehalmus vigil	Muscle Cooked Unspecified			30.00				
Crab, Samoan Scylla serrata	Muscle Raw	887.00	130.90 2.20-840.00 7	420.88 118.00-940.00 9	1.46 1.00-2.34 9	13.10	56.63	2.22
	Cooked Unspecified		3.75 3.00-4.50 2	510.50 297.00-724.00 2	1.05 0.70-1.40 2			

Table 23.--Vitamin composition of crustaceans and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
	Whole							
	Raw		2.68	413.50	1.20			
			0.43-4.30	310.00-555.00	0.99-1.50			
			5	6	6			
Crab, Small	Muscle							
Potamon grapsoides	Raw		50.00	789.00	2.88		53.27	25.22
Crab, Spider	Muscle							
Fulvia muticum	Raw				2.50			
Crab, Spider, Spinous	Muscle							
Maia squinado	Raw					2.00		
Crab	Muscle							
Unspecified	Raw	150.00	79.71	201.50	2.51	7.00[1/]	44.25[1/]	8.70 [1/]
			30.00-140.00	60.00-395.00	1.37-3.00	1.00-13.00[2/]	35.20-53.30[2/]	3.90-13.50[2/]
			7	6	9	2 [3/]	2[3/]	2[3/]
	Canned		46.00	74.80	29.24	1.90	0.30	5.23
				58.00-84.00	2.47-82.40			0.46-10.00
				3	3			2
	Cooked							
	Boiled		100.00	430.00	2.50			0.50
				150.00-710.00				
				2				
	Canned		50.00	60.00	2.50			
	Unspecified		60.00	80.00	0.44			
	Dressed		50.00	250.00				
	Paste		60.00	185.00				43.90
	Salted	26.50	90.00	265.00	2.10			
		20.00-33.00	80.00-100.00	30.00-500.00	2.00-2.20			
		2	2	2	2			
	Meal			790.00	3.70			
Crayfish	Muscle							
Astacus fluviatilis	Raw					4.50		
Crayfish	Muscle							
Astacus leptodactylus	Raw					1.26		
Crayfish	Muscle							
Unspecified	Raw		150.00	95.00	2.40	5.00		2.70
				60.00-130.00				
				2				
Lobster	Muscle							
Homarus vulgaris	Raw		157.50	130.00		5.00		
			150.00-165.00					
			2					
Lobster, European	Muscle							
Homarus gammarus	Raw	65.00						
Lobster, Northern	Muscle							
Homarus americanus	Raw			55.00				
Lobster, Norway	Whole							
Nephrops norvegicus	Cooked							
	Boiled	2.92						
Lobster, Spiny, Japanese	Muscle							
Panulirus regius	Raw		12.30					
Lobster	Muscle							
Unspecified	Raw	17.00	81.40	57.86	2.26	2.00	0.56	0.48
			7.00-130.00	46.00-80.00	1.24-4.25		0.55-0.56	0.46-0.50
			5	7	7		2	3
	Canned		32.50	65.25	2.22			
			30.00-35.00	60.50-70.00	2.20-2.23			
			2	2	2			

Table 23.--Vitamin composition of crustaceans and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
	Cooked Unspecified		10.00	45.50 41.00-50.00 2	1.72 1.50-1.93 2			
Shrimp Crangon allmani	Muscle Raw	40.00						
	Whole Cooked Boiled	32.00						
Shrimp Crangon vulgaris	Muscle Raw	85.00 1/ 20.00-150.00 2/ 23/						
Shrimp Cryphiops caementarius	Muscle Raw		20.00	130.00	1.40			
Shrimp Penaeus incisipes	Muscle Raw		6.00	29.00	3.74 2.37-5.12 2			
Shrimp Penaeus semisulcatus	Muscle Raw						26.53	
Shrimp, Alaskan, Sidestripe Pandalus dispar	Muscle Raw		47.00	133.00				
Shrimp, Bagda Palaemon carcinus	Muscle Raw					6.50		
Shrimp, Brine Artemia salina	Whole Dried			930.00		0.00		
Shrimp, Fresh Water Unspecified	Muscle Raw	80.00 60.00-100.00 2	43.00 39.00-50.00 3	120.25 80.00-140.00 4	1.76 0.80-2.20 4			
Shrimp, Indian Palaemonetes vulgaris	Muscle Raw	129.00						
Shrimp, Indian Penaeus carinatus	Muscle Raw	201.21	70.60	98.84	3.88			
Shrimp, Indian Squilla mantis	Muscle Raw					2.00		
Shrimp, Indian Prawn Penaeus styliferus	Muscle Raw	297.00	90.00					
Shrimp, Jumbo Penaeus monodon	Muscle Raw		17.00	54.00	3.97			2.99
Shrimp, Opossum, Kuruma Penaeus japonicus	Muscle Raw Dried		100.00 100.00	150.00 300.00	1.80 5.00			
Shrimp, Pink, Maine Pandalus borealis	Muscle Raw		75.75 57.00-90.00 4	194.25 142.00-250.00 4				
Shrimp, White Penaeus indicus	Muscle Raw		8.00	45.00	3.47			

Table 23.--Vitamin composition of crustaceans and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Shrimp, White	Whole							
Penaeus schmitti	Raw		49.00					
Shrimp, White	Muscle							
Penaeus setiferus	Raw		50.00	70.00	1.64			
	Canned						1.80	
Shrimp	Muscle							
Unspecified	Raw	188.88	42.20	65.52	2.54	2.28	9.64	3.72
		2.20-1030.00	10.00-150.00	13.00-160.00	0.77-4.87	2.00-3.00	3.00-29.28	0.90-8.12
		7	24	25	24	6	5	7
	Canned							
	Boiled		40.00	40.00	2.00			
	Drained	61.53	15.00	30.00	1.38			
	Dry Pack	56.66	9.00		1.50			
					0.77-2.23			
					2			
	Wet Pact	60.00	8.00		0.84			
					0.33-1.36			
					2			
	Unspecified	59.60	10.97	31.23	126.00		1.80	0.83
		58.80-60.00	4.50-23.50	0.03-69.60	0.22-2.23			0.82-0.83
		3	7	8	11			2
	Cooked							
	Boiled							
	Dried		90.00	97.00	3.37			
	Unspecified	10.00			2.00			
	Dried		48.00	123.00	2.22		9.00	
	Unspecified		17.28	48.86	0.79		2.93	
			5.00-45.00	20.00-119.00	0.17-3.00		2.00-4.00	
			7	7	7		3	
	Dried	211.33	105.60	317.20	5.31		24.00	
		210.00-214.00	45.00-143.00	107.00-430.00	2.35-6.50			
		3	5	5	5			
	Salted		30.00	110.00	3.40			
	Dried		80.00	133.50	5.90			
			60.01-100.00	80.00-187.00	4.59-7.20			
			2	2	2			
	Fermented						8.76	
	Whole							
	Cooked							
	Boiled							0.73

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited

4/ Method of processing was not clearly described or the fish was identified only by common name.

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Abalone Haliotis discus	Muscle Raw						5.00	
Abalone Haliotis gigantea	Muscle Raw		240.00	60.00	1.60		5.00	0.73
	Canned							
	Seasoned		50.00	60.00	1.00			
	With liquid		40.00	40.00	1.00			
	Without liquid	30.00	10.00	40.00	0.20			
Abalone Haliotis japonica	Muscle Raw	10.00			1.50			
Abalone Haliotidae	Muscle Raw	5.00	193.33 [1/] 180.00-200.00 [2/] 3 [3/]	100.00 [1/] 60.00-140.00 [2/] 2 [3/]	1.53 [1/] 1.19-2.00 [2/] 3 [3/]	2.00		
	Canned		62.20 38.80-120.00 4	73.33 40.00-120.00 3	1.06 1.00-1.20 3			
	Cooked Unspecified [4/]		560.00	60.00	4.50			
	Dried		410.00	370.00	3.60			
Clam, Arkshell Anadara broughtoni	Muscle Raw						17.00	7.20
Clam, Arkshell Anadara suborenata	Muscle Raw							20.00
Clam, Arkshell Arca binakayanesis	Muscle Raw						12.08	
Clam, Arkshell Arcididae	Muscle Raw	271.55 [1/] 100.00-635.00 [2/] 4 [3/]	65.35 2.00-200.00 4	177.21 98.84-210.00 4	2.63 1.51-3.88 3	10.00		
	Canned Seasoned	5.00	10.00	70.00	2.00	0.00		
Clam, Donax, Bean Donax radians	Whole Raw		2.00	120.00	2.33	1.87		
Clam, Donax Donacidae	Whole Raw	1317.00		120.00	2.30	2.00		
Clam, Fresh Water Corbicula fluminea	Whole Raw	511.00	1.00	161.00	1.15		1.15	
	Cooked		2.00	236.00	1.11			
Clam, Fresh Water Corbicula leana	Whole Raw			150.00				
Clam, Fresh Water, Corbshell Corbicula japonica	Whole Raw						17.00	12.10
Clam, Fresh Water Corbiculadidae	Whole Raw		40.00 20.00-40.00 2	165.00 150.00-180.00 2	1.20	9.50 [1/] 9.00-10.00 [2/] 2 [3/]	79.50 [1/] 77.53-81.47 [2/] 2 [3/]	
Clam, Green Cyrena ventricosa	Whole Raw	474.00	9.00 2.00-16.00 2	78.00 74.00-82.00 2	1.04 0.80-1.27 2			

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Clam, Mactra Mactra corallina	Muscle Raw					17.00		
Clam, Mactra Mactra veneriformis	Muscle Raw		10.00					0.20
Clam, Mactra, Hen Mactra sulcataria	Muscle Raw	40.00	17.50 15.00-20.00 2	130.00	0.70	3.00		0.23
Clam, Mactra, Pacific Gaper Tresus nuttalli	Muscle Raw		128.00	98.00				0.25
Clam, Mactra Mactridae	Muscle Raw	66.50 33.00-100.00 2	35.00 20.00-50.00 2	140.00 130.00-150.00 2	1.10 0.70-1.50 2	4.00 3.00-5.00 2		
	Canned Seasoned	7.00	20.00	50.00				
Clam, Razor Solen gouldi	Whole Raw							8.60
Clam, Razor Solenidae	Whole Raw	17.00	90.00	490.00	1.50	7.70		
Clam, Softshell Mya arenaria	Whole Raw	300.00	10.92 0.80-79.00 8	135.55 95.00-243.00 9	1.75 1.13-2.53 7			85.51 [1/] 7.10-109.00 [2] 8 [3/]
	Canned			95.00				
	Cooked Heat processed		1.66 1.00-3.00 3	194.66 192.00-197.00 3	1.99 1.84-2.13 3			76.66 71.00-83.00 3
	Steamed Vacuum-packed		1.00	213.00	1.13			68.00
	Unspecified		0.90 0.50-1.20 5	212.40 207.00-218.00 5	1.58 0.91-2.25 5			117.60 66.00-115.00 5
	Vacuum-packed		1.00	237.00	1.13			68.00
	Unspecified		1.20	212.00	0.98			69.00
Clam, Tellin Tellinidae	Whole Raw		10.00	20.00	2.20		10.90	
Clam, Venus Dosinia japonica	Whole Raw							4.50
Clam, Venus Venus verrucosa	Whole Raw					5.00		
Clam, Venus, Butter Saxidomus giganteus	Whole Raw		119.50 100.00-139.00 2	224.00 180.00-269.00 2	0.16			
Clam, Venus, Hard Venus lusoria	Whole Raw				1.68 1.36-2.00 2		11.00	2.34 0.20-7.00 12
Clam, Venus, Littleneck, Japanese Tapes (Venerupis) decussata	Whole Raw	150.00	23.50 9.00-60.00 6	275.50 150.00-547.00 6	0.98 0.60-2.00 6	7.00	58.00	12.27 1.50-20.00 8

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine	Riboflavin	Niacin	Ascorbic Acid	Folic Acid	Vitamin B_{12}
			μg	μg	mg	mg	μg	μg
					Per 100 grams			
	Canned							
	Seasoned	66.00	20.00	60.00	1.20			
	Unspecified	66.60	10.00	169.00	0.80		26.00	12.00
				90.00-244.00				
				2				
	Cooked							
	Boiled		18.00	356.00	1.00		42.00	16.00
Clam, Venus, Littleneck, Pacific	Whole							31.00
Paphia staminea	Raw							
	Meal							250.00
Clam, Venus, Northern Quahog, Cherrystone	Whole							3.90
Mercenaria mercenaria	Raw						2.00	
	Canned		9.00	109.50	0.95			
				93.00-126.00				
				2				
Clam, Venus, Ocean Quahog	Whole							
Artica islandica	Raw					8.30		
Clam, Venus, Waved	Whole							
Venus squamosa	Raw	420.00	75.00	174.00			17.81	
Clam, Venus	Whole							
Veneridae	Raw	124.25	39.02	108.30	1.22	15.14	2.65	60.65
		11.00-200.00	2.00-94.10	12.00-188.00	1.00-1.50	9.30-30.00		59.00-62.30
		4	4	5	6	5		2
	Canned	7.00	20.00	50.00				
Clam	Whole							
Unspecified	Raw	80.00	75.00	165.00	1.55	5.00		
		50.00-110.00	50.00-100.00	150.00-180.00	1.50-1.60			
		2	2	2	2			
	Canned	47.41	25.90	87.47	0.89			38.00
		30.00-82.40	11.80-46.00	60.00-105.90	0.11-1.20			
		3	3	4	6			
Cockle	Whole							
Cardium tuberculatum	Raw					15.00		
Cockle, Pacific	Whole							
Cardium corbis	Raw		69.00	156.00				
Cockle, Sand	Whole							
Hemidonax donaciformus	Raw		1.00	151.50	6.19			
				150.00-153.00	6.18-6.20			
				2	2			
Cockle	Whole							
Cardiidae	Dried		75.00	220.00	3.40	5.00	11.00	98.00
			70.00-80.00	140.00-300.00	1.80-5.00			
			2	2	2			
	Salted			270.00	3.00			
	Smoked	283.00	20.00		0.60			
Cuttlefish	Muscle							
Sepia japonica	Raw	6.70						
Cuttlefish	Muscle							
Sepia officinalis	Raw			1.00		3.00		3.00
Cuttlefish	Muscle							
Sepia orientalis	Raw		9.30	0.91	1.22	5.25		
Cuttlefish	Muscle							
Sepiidae	Raw		132.95	50.00	1.35	0.00		
			40.00-211.80		0.71-2.90			
			4		6			

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
				Per 100 grams				
	Canned							
	Salted							
	Seasoned	33.00	20.00	70.00	0.40			
	Cooked							
	Unspecified		50.00	220.00	1.80	0.00		
	Dried		7.06					
Mussel	Whole							
Anodonta cygnea	Raw					1.30		
Mussel	Whole							
Dreissensia polymorpha	Raw					1.08		
Mussel	Whole							
Gebbula umbilicalis	Canned							
	In Own Juices		10.00	230.00	0.24			
Mussel	Whole							
Unio pictorum	Raw					1.39		
Mussel, Blue	Whole							
Mytilus edulis	Raw		162.00	212.00				12.00
				175.00-249.00				
				2				
	Canned			127.00				
Mussel, European	Whole							
Mytilus galloprovincialis	Raw					6.00		
Mussel, Salt Water	Whole							
Mytilus smaragdinus	Raw	24.18					41.83	10.20
Mussel	Whole							
Mytilidae	Raw	156.50	20.00	150.00	1.60	7.50	41.80	10.20
		33.00-280.00		120.00-180.00	1.20-2.00	6.00-9.00		
		2		2	2	2		
Mussel	Whole							
Unspecified	Cooked							
	Boiled							
	Dried		30.00	680.00	1.96			37.00
Octopus	Muscle							
Octopus bimaculatus	Raw		27.00	41.50				
			25.00-29.00	40.00-43.00				
			2	2				
Octopus, Devil Fish	Muscle							
Octopus vulgaris	Raw	31.53	120.00	110.00	5.30	5.00		
	Dried		180.00	380.00				
Octopus	Muscle							
Octopodidae	Raw	10.00	50.00	96.66	2.14	0.00		
			20.00-140.00	70.00-120.00	1.30-3.00			
			4	3	4			
Octopus	Muscle							
Unspecified	Canned							
	In Olive Oil and Ink		20.00	380.00	20.00			
Oyster	Whole							
Ostrea echinata	Raw				1.20			
Oyster, Common	Whole							
Ostrea edulis	Raw					3.00		4.80

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine μg	Riboflavin μg	Niacin mg	Ascorbic Acid mg	Folic Acid μg	Vitamin B_{12} μg
			Per 100 grams					
	Cooked Steamed		300.00	150.00	1.00	8.00		
Oyster, Eastern Ostrea virginica	Whole Raw	300.00	147.40 9.00-240.00 27	190.94 16.00-340.00 18	1.96 1.92-2.00 2			18.00
	Canned		20.00	200.00				
Oyster, Giant Pacific Ostrea gigas	Whole Raw				2.22 1.13-3.30 2	22.30	9.60	16.00
	Canned					11.80		
Oyster, Native Pacific Ostrea lurida	Whole Raw					38.10		
Oyster, Portuguese Ostrea angulata	Whole Raw			125.00		0.13		
Oyster, Talaba Ostrea malabonensis	Whole Raw						9.56	20.90
Oyster Ostreidae	Muscle Raw	272.66 190.00-320.00 3	173.65 49.42-300.00 6	155.64 79.00-200.00 5	2.04 1.20-3.88 5	5.00	121.85 3.70-240.00 2	20.86 14.60-33.00 3
	Canned Boiled Unspecified	12.00 10.00	20.00 34.33 23.00-50.00 3	150.00 218.66 90.00-316.00 3	0.79 0.70-0.88 2		11.30	14.31
Penshell Atrina kinoshitae	Muscle Raw		300.00		1.50			
Scallop Pecten caurinus	Muscle Raw							24.00
Scallop, Common Pecten yessoensis	Muscle Raw	50.00	70.00	190.00	1.30	2.00		
	Canned Seasoned		20.00	40.00	2.80			
	Unspecified		20.00	150.00	1.80			
	Dried		10.00	280.00	4.00			
Scallop, Coquille St. Jacques Pecten maximus	Muscle Cooked Unspecified					3.00		
Scallop Unspecified	Muscle Raw		40.00	88.33 65.00-100.00 3	1.40	3.00	0.51	1.28 1.20-1.36 2
	Canned		20.00	55.00 40.00-70.00 2				
	Dried		75.00 20.00-130.00 2	275.00 150.00-400.00 2	5.20			
Snail Acmaea scutum patina	Whole Raw Without Shell							19.00
Snail Helix pomatia	Whole Raw	60.00						

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine µg	Riboflavin µg	Niacin mg	Ascorbic Acid mg	Folic Acid µg	Vitamin B_{12} µg
				Per 100 grams				
Snail Pila luzonica	Whole Raw						31.75	12.80
Snail Pleurophyllidia californica	Whole Raw							
	Without Shell							9.00
Snail Terebralia sulcatus	Whole Raw	427.00					21.08	12.58
Snail Thais lima	Whole Raw							
	Without Shell							55.00
Snail, Pond Ampullaria luzonica	Whole Raw		2.00	58.00	1.29			
Snail, River Vivipara chinensis	Whole Raw							1.50
Snail Viviparadidae	Whole Raw	83.00	110.00	280.00	1.60	0.00		
Snail Unspecified	Whole Raw					15.00		43.65 21.75-77.00 3
	Dried		30.00	100.00	2.20			
Squid Loligo bleekeri	Muscle Raw							1.60
Squid Loligo ommastrephes	Muscle Raw		30.00	80.00	3.20		12.50	1.30
	Canned Soaked & Drained	33.00	10.00	70.00	0.80			
	Cooked Unspecified		10.00	30.00	1.70			
	Dried		130.00	170.00	6.80			
Squid Rossia pacifica	Muscle Raw							13.00
Squid Sepioteuthis lessoniana	Muscle Raw				2.60 2.00-3.20 2			
Squid Watasemia scintillans	Muscle Raw		150.00	200.00	4.00			
Squid, Common Loligo vulgaris	Muscle Raw		8.40	0.84	1.21	4.90		5.49
Squid, Japanese Ommastrephes sloani pacificus	Muscle Raw				2.15 2.00-2.30 2			
Squid, Long-finned Loligo pealei	Muscle Raw						12.50	1.33
	Dried		20.00	70.00	9.00			
Squid Loliginidae	Whole Raw		68.00					
Squid Unspecified	Muscle Raw	5.00	25.16 9.00-43.30 8	91.59 8.00-146.70 8	2.24 1.40-4.08 8			

Table 24.--Vitamin composition of mollusks and products.

Common and Scientific Name	Description	Vitamin A I. U.	Thiamine	Riboflavin	Niacin	Ascorbic Acid	Folic Acid	Vitamin B_{12}
					mg Per 100 grams	mg		
	Canned							
	In Olive Oil and Ink		60.00	470.00	1.70			
	Cooked							
	Unspecified		57.00	88.50	6.86			
			14.00-100.00	27.00-150.00	1.71-12.00			
			2	2	2			8.40
	Dried		68.40	308.40	5.92			
			23.00-60.00	80.00-420.00	4.60-9.03			
			5	5	5			
Topshell Trochidae	Muscle Raw		60.00					
Turban Crytogramma squamosa	Muscle Raw							25.67
Turban Turbo cornutus	Muscle Raw	233.00	60.00	60.00	2.54	2.00	7.30	1.05
					1.60-3.00			0.30-1.80
					4			2
	Canned Seasoned	33.00	20.00	40.00	4.00			
Whelk Eburna japonica	Muscle Raw		40.00	90.00	3.10			
Whelk, Common, Northern Buccinum undatum	Muscle Raw					3.60		
Whelk Unspecified	Muscle Dried		50.00	270.00	4.70			

1/ Average of the means obtained from the literature cited.

2/ Range of the means found in literature cited.

3/ Number of mean values, which were reported in the literature cited.

4/ Method of processing was not clearly described or the fish was identified only by common name.

Scientific name	Common name	Pages
Abramis brama	Bream, bronze	42, 191, 248, 337
Abramis vimba	Zanthe	373
Abudefduf saxatilis	Sargeant major	93
Acanthias vulgaris	Dogfish	257
Acanthistius pictus	Bass, sea, cherlo	40, 190, 246
Acanthocybium solanderi	Wahoo	115, 231
Acanthogobius (Gobius) flavimanus	Goby, yellowfin	63, 183
Acanthopagrus berda	Bream, mud	43, 191, 248, 337
Acanthopagrus butcheri	Bream, black	248
Acanthopagrus schlegeli	Bream, sea, black	248, 337
Acanthurus bleekeri	Surgeonfish	108, 227, 298, 369
Acerina cernua	Perch	357
Achatina marginata	Snail	132, 241, 320
Acipenser brevirostrum	Sturgeon, shortnose	329
Acipenser fulvescens	Sturgeon, lake	107, 296
Acipenser medirostris	Sturgeon, green	296
Acipenser oxyrhnchus	Sturgeon, Atlantic	296
Acipenser sinensis	Sturgeon	296
Acipenser sturio	Sturgeon	107, 227, 296, 369
Acipenser transmontanus	Sturgeon, white	296
Acipenseridae	Sturgeon	107, 185, 227, 296
Acmaea scutum patina	Snail	382
Actobatus peruvianus	Ray, eagle	87, 217, 282, 360
Aeoliscus punctulatus	Razorfish, shrimpfish	87
Aequipecten gibbus	Scallop, calico	131, 180, 241, 319, 334
Aequipecten irradians	Scallop, Atlantic bay	131, 180
Aesopia cornuta	Sole	225, 293
Alburnus lucida	Bleak	41, 247
Aldrichetta forsteri	Mullet, yelloweye	276
Alectis ciliaris	Trevally, pennant	111
Alectis indicus	Pompano, Indian	85, 216
Alepisaurus ferox	Lancetfish, longnose	270
Alopias vulpinus	Shark, thresher	100, 185, 244
Alopiidae	Shark, thresher	291
Alsoa chrysochloris	Herring, skipjack	93
Alosa mediocris	Shad, hickory	97, 222
Alosa pseudoharengus	Alewife	36, 136, 188, 244, 335
Alosa sapidissima	Shad, American	97, 158, 221, 288, 364
Ambassidae	Longaray	74, 209, 272, 353
Ambloplites rupestris	Sunfish, rock bass	108, 298
Amblyopsis godonmola	Cavefish	48, 195, 253
Amblypharyn godonmola	Mola	356
Amia calva	Bowfin, mudfish	42, 248
Amigdola decussata	Goby	263
Ammodytes americanus	Lance, sand	148, 209, 270, 352
Ammodytes lanceolatus	Lance, sand	72
Ammodytes personatus	Lance, sand	72, 352
Ammodytidae	Lance, sand	352
Ampullaria luzonica	Snail, pond	133, 242, 383
Anabantidae	Perch, climbing	81, 214, 278
Anabas testudenicus	Perch, climbing	81, 214, 277, 358
Anadara broughtoni	Clam, arkshell	125, 170, 237, 313, 378
Anadara suborenata	Clam, arkshell	378
Anarhichadidae	Wolffish	305
Anarhichas denticulatus	Wolffish, Atlantic	305
Anarhichas lupus	Wolffish, Atlantic	117, 164, 231, 373
Anarhichas minor	Wolffish, spotted	305
Anchoa hepsetus	Anchovy, striped	38
Anguilla anguilla	Eel, fresh water, European	57, 142, 200, 259, 345
Anguilla aucklandii	Eel, fresh water	344
Anguilla bastoniensis	Eel, American	183
Anguilla japonica	Eel, fresh water, Japanese	57, 142, 200, 259, 345
Anguilla rostrata	Eel, fresh water, American	57, 142, 200, 259, 344
Anguilla vulgaris	Eel, fresh water	200
Anguillidae	Eel, fresh water	57, 142, 200, 259, 297, 345
Anisotremus interruptus	Grunt, mojaria	65, 205
Anisotremus scapularis	Grunt	64, 204, 265, 348
Anodonta cygnea	Mussel	381

Anodontostoma chacunda	Shad, gizzard	97, 222, 288, 364
Anoplopoma fimbria	Sablefish	89, 156, 218, 283, 360
Anoplopomatidae	Sablefish	156
Aplodinotus grunniens	Drum, fresh water	56, 142, 199, 258, 344
Apocryptes lanceolatus	Goby, pointed-tailed	347
Apongonichthys ellioti	Cardinalfish	193
Aporrhais pespelecani	Snail, pelican	132, 242
Apristurus brunneus	Shark, cat, brown	289
Arca binakayanesis	Clam, arkshell	377
Arca granosa	Clam, arkshell	125, 313
Arca inflata	Clam, arkshell	125, 188
Arca noae	Clam, arkshell	125, 237, 313
Arcidae	Clam, arkshell	125, 237, 313, 333, 378
Archidoris brittanicus	Snail, land	242, 320
Archidoris montergyensis	Snail	320
Archosargus probatocephalus	Porgy, sheepshead	216, 281
Arctoscopus japonicus	Sandfish	91, 219, 285, 362
Argentina semifasciata	Argentine, sea smelt	181
Argentina silus	Argentine, Atlantic	38, 138, 189, 245, 336
Argyropelecus affinis	Hatchetfish	68
Argyrops spinifer	Porgy, redfin	86
Argyrosomus argentata	Croaker, white nibe	53, 197, 343
Ariidae	Catfish, sea	48, 140, 195, 252, 341
Aristeus antennatus	Shrimp, charigo blanco	310
Arius arius	Catfish, sea	48, 252, 341
Arius dussumieri	Catfish, sea, shingal	48, 195, 252
Arius felis	Catfish, sea, hardhead	48, 252
Arius leiotetocephalus	Catfish, sea	48, 195, 252, 341
Arius manillensis	Catfish, sea, Manila	48, 195, 252, 341
Arius thalassinus	Catfish, sea	48
Arnoglossus roscii	Flounder, scaldfish	202
Arripis georgianus	Salmon, Australian	218
Arripis trutta	Salmon, Australian	89, 218, 284
Artemia salina	Shrimp, brine	122, 167, 179, 234, 310, 376
Artemesia longinaris	Shrimp	167, 310
Artica islandica	Clam, venus, ocean quahog	380
Astacus fluviatilis	Crayfish	121, 233, 308, 375
Astacus leptodactylus	Crayfish	166, 375
Astraea undosa	Turban, wavy	321
Atelecyclus septemdentatus	Crab	306
Atheresthes evermanni	Turbot, Greenland	115
Atheresthes stomias	Turbot, arrowtooth	115, 164, 231, 303, 372
Atherina boyeré	Silverside	291
Atherina forskali	Silverside	101, 223, 366
Atherina presbyter	Silverside	101, 223, 291, 366
Atherinidae	Silverside	101, 366
Atherinopsis californiensis	Smelt, blue	292
Atopomycterus nichthemens	Porcupinefish	281
Atractoscion aequidens	Teraglin, geelbeck	109, 299
Atrina japonica	Pen shell	131, 241
Atrina kinoshitae	Pen shell	131, 382
Atrina pectinata	Pen shell	187
Aulacomya ater	Mussel, cholga	316
Aurata aurata	Dolphin, dorado	55, 199, 258
Austroglossus pectoralis	Sole, tong	105
Austromenidia regia	Silverside	101, 223, 291
Austropotamobius pellipes	Crayfish	308
Auxis bisus	Bonito	42, 191, 248
Auxis hira	Mackerel, frigate	353
Auxis maru	Mackerel, frigate	353
Auxis rochei	Mackerel, frigate	272
Auxis tapernosoma	Mackerel, frigate	75, 210, 272
Auxis thazard	Mackerel, frigate	75, 210, 353
Avocettina infans	Eel, snipe	58
Bagarius bagarius	Goonch	63
Bagarius yarreli	Catfish, fresh water, kired	47, 194
Bagre macracanthus	Catfish, sea	48, 195, 252, 341
Bagre marinus	Catfish, sea	195, 341
Bairdiella chrysura	Perch, silver	81
Balaenoptera borealis	Whale, sei	164
Balaenoptera musculus	Whale	373
Balaenoptera phepaleus	Whale, fin	116, 164, 373
Balaenoptera physiculus	Whale	164

Balistidae	Filefish	59
Balistidae	Triggerfish	111, 300, 370
Barbus meridionalis	Barbel, southern	38
Barbus (punitus) sophore	Carp, Indian, puti	45, 181, 193, 250
Barbus putitora	Carp, Indian	45, 193, 339
Barbus sarana	Carp, Indian, puti	46, 181, 193, 250
Barbus stigma	Carp, Indian	45, 181, 193
Barbus tor	Carp, mahasole	46, 181, 194, 251
Basilichthys bonariensis	Silverside, pejerrey	291
Basilichthys incisus	Silverside, cornalito	291
Belone acus	Garfish	61, 202
Belone belone	Garfish, foli	61, 262, 347
Belonidae	Garfish	61, 202
Beryx decadactylus	Bream, red	43, 248
Beryx splendens	Alfoncino	36, 188, 244, 335
Blennius gattoruggine	Combtooth, tompot blenny	52, 254
Blennius ocellaris	Combtooth, butterfly blenny	51
Blennius palmicornis	Combtooth blenny	51
Blennius pavo	Combtooth blenny	51
Blennius tentacularis	Combtooth blenny	51
Boleophthalmus boddaerti	Goby	347
Boleophthalmus dussumieri	Goby, mudskipper	63, 263
Bothidae/Pleuronectidae	Brill	181, 192, 249
Bothidae/Pleuronectidae	Flounder	61, 144, 183, 202, 262, 346
Bothidae/Pleuronectidae	Sole	226
Botoelagadidae	Snail	132
Brama brama	Pomfret, Atlantic	84
Bramidae	Pomfret	85
Branchiostegidae	Tilefish	111, 228, 299, 370
Branchiostegus japonicus	Tilefish	110, 228, 299
Brevoortia gunteri	Menhaden, gulf	275
Brevoortia patronus	Menhaden, gulf	77
Brevoortia tyrannus	Menhaden, Atlantic	77, 152, 212, 275, 355
Brosme brosme •	Cusk	53, 142, 256, 343
Buccinum humphreyssanu	Whelk	321
Buccinum undatum	Whelk, common northern	238, 321, 384
Buccinum verkruzeni	Whelk	136, 174
Caesio caerulaureus	Caesio, sulid	44, 339
Caesio chrysozonus	Caesio, golden	44, 192, 249, 338
Caesio cuning	Caesio, golden	44, 193, 249, 339
Caesio lunaris	Caesio, moon	44, 193
Callichrous bimaculatus	Catfish, fresh water, butter, pabda	47, 182, 340
Callichrous pabda	Catfish, fresh water, pabda	47
Callinectes hastatus	Crab	306
Callinectes sapidus	Crab, blue	118, 166, 179, 187, 232, 306, 332, 374
Callionymus lyra	Dragonet	344
Callorhinchus milii	Shark, elephant	98, 222, 253
Campostoma anomalum	Minnow, stoneroller	275
Cancer borealis	Crab, Jonah	199, 232
Cancer irroratus	Crab, rock	233, 307
Cancer magister	Crab, Dungeness	118, 166, 179, 232, 306, 332, 374
Cancer pagurus	Crab, edible	119, 232, 306, 374
Cancer polydon	Crab, necora, cangrejos	119, 232, 307, 374
Carangidae	Amberjack	188, 244, 335
Carangidae	Crevalle	52
Carangidae	Kingfish	72
Carangidae	Mackerel, horse	75, 210, 272, 353
Carangidae	Mackerel, jack	150, 184, 210, 354
Carangidae	Pompano	85, 216, 281, 359
Carangidae	Scad	94, 158, 287, 363
Carangidae	Yellowtail	186, 231, 373
Carangoides ajax	Crevalle, jack	52, 140, 182
Caranthus blochii	Hottentot	71, 269
Caranx carangus	Crevalle, jack	52, 197, 255, 342
Caranx crumenopthalmus	Scad, bigeyed	94, 185, 220, 287, 363
Caranx crysos	Runner, blue	89, 156, 218, 283
Caranx delicatissimus	Mackerel, jack	210, 353
Caranx diedaba	Crevalle	52, 197, 255
Caranx equulus	Kingfish	208
Caranx georgianus	Trevally	229, 300
Caranx gumnostethades	Scad	93
Caranx ignobilis	Pompano	85

Caranx kalla	Scad, golden	94, 178, 220, 287, 363
Caranx lutecens	Mackerel, horse	75
Caranx malabaricus	Pompano, talakitok	85, 216
Caranx mate	Longfish	353
Caranx melampygus	Mackerel, horse	75, 210, 272
Caranx mertensi	Trevally	186, 370
Caranx ronchus	Mackerel, horse	75, 210
Caranx sexfasciatus	Trevally, great, talakitok	111, 229, 300, 370
Caranx speciosus	Kingfish, cavalla	72
Caranx stellatus	Pompano	85
Carassius auratus	Goldfish, funa	63, 176, 203, 263, 348
Carcharhinidae	Shark, requiem	99, 223, 290, 365
Carcharhininus albimarginatus	Shark, whitetip	100, 160, 291
Carcharhinus bracyurus	Shark, blue	98
Carcharhinus falciformis	Shark, silky	100, 290
Carcharhinus gangeticus	Shark, bull	98
Carcharhinus glaucus	Shark, blue	98, 185, 222, 289, 365
Carcharhinus limbatus	Shark, blacktip	98, 222, 289
Carcharhinus longimanus	Shark, oceanic whitetip	185
Carcharhinus melanopterus	Shark, blackfinned	222, 289
Carcharhinus milberti	Shark, sandbar	290
Carcharhinus obscurus	Shark, dusky	289
Carcharias aetholorus	Dogfish, cazon	55, 198, 343
Carcharias glaucas	Shark, sand	223
Carcharias laticanous	Shark, sand	99
Carcharias menisorrah	Shark, sand	99
Carcinus maenas	Crab, shore, common, green	233, 307, 332
Cardiidae	Cockle	128, 172, 239, 316, 333, 380
Cardium corbis	Cockle, Pacific	128, 316, 380
Cardium edule	Cockle, Atlantic	128, 172, 239, 316
Cardium muticum	Cockle	128, 239
Cardium tuberculatum	Cockle	239, 315, 380
Caridina nilotica	Shrimp, fresh water	168
Carpiodes cyprinus	Sucker, quillback	297
Carpiodes difformis	Sucker, carp	296
Carpiodes meridionalis	Sucker, carp	108, 227, 369
Carpiodes thompsoni	Sucker, carp	108
Catla buchanani	Carp, katla	339
Catla catla	Carp, katla	46, 181, 194, 250, 339
Catostomidae	Sucker	108, 227, 297
Catostomus catostomus	Sucker, longnose	297
Catostomus commersoni	Sucker, common	108, 296, 369
Centracantidae	Picarel	82
Centrarchidae	Sunfish	369
Centrarchidae	Largemouth bass	369
Centrolophus japonicus	Butterfish	182
Centropomidae	Snook	293, 367
Centropomus armatus	Snook, robalo	104, 225, 367
Centropomus robalito	Snook, constantino	104, 225, 367
Centropomus undecimalis	Snook	225, 293
Centropristes ocyurus	Bass, sea, bank	40
Centropristes striatus	Bass, sea, black	40, 190, 246
Centroscyllium fabricii	Dogfish, black	257
Cephalopholis miniatus	Coral Cod, seabass	52, 197, 255, 342
Ceratoscopelus warmingil	Lanternfish	270
Cetorhinus maximus	Shark, basking	289
Chaetodipterus faber	Spadefish	105, 226, 294, 368
Chaetodontidae	Angelfish	245
Chaetodontidae	Butterflyfish	44, 192, 249, 338
Chanos chanos	Milkfish	78, 152, 212, 275, 355
Characidae	Characin	195, 341
Charybdis cruciata	Crab, Bombay	374
Chascanopsetta lugubris	Flounder, pelican	176
Chauliodus sloani	Viperfish	115, 231, 303, 373
Cheilodactylus fasciatus	Steenklipvis, steenvis	106
Cheilodactylus macropterus	Gurnard	205, 265
Cheilodactylus variegatus	Pintadilla	83, 215, 279, 358
Chela bacila	Carp	45, 193, 250
Chelidonichthys kumu	Gurnard, red	65, 183, 205, 266, 349
Chiloscyllium plagiosum	Shark, cat	98
Chimaera barbouri	Ratfish	360
Chimaera monstrosa	Ratfish	87, 154

Chimaera phantasma	Ratfish	177
Chimaeridae	Chimaera	253
Chione undatella	Clam, venus	314
Chionoectes angulatus	Crab, tanner	308
Chionoectes bairdi	Crab, snow	119, 166
Chionoectes opilio	Crab, queen	119, 232
Chionoectes tanneri	Crab, tanner	120, 166
Chirocentrus dorab	Herring, wolf	70, 207, 268, 351
Chlamys glabra	Scallop	131, 241, 319
Chlamys opercularis	Scallop, green	132, 319
Chlorophthalmus albatrossis	Greeneye	176, 348
Chloroscombrus chrysurus	Bumper, Atlantic	43
Chorinemus tol	Queenfish, leatherjacket	86, 217, 282, 360
Chpiso magarua	Catfish, fresh water	340
Chromis chromis	Damselfish	55, 198
Chrysichus nigrodigitatis	Catfish, fresh water	47
Chrysophrys aurata	Bream, gilthead	43, 191, 248, 337
Chrysophrys datnia	Bream, silver, Japanese	338
Chrysophrys guttulatus	Snapper	103, 224, 293
Chrysophrys major	Bream, sea, red	43, 139, 181, 191, 249
Cichlidae	Chichlid	49, 196, 253, 341
Cichlidae	Tilapia	110
Cilus monti	Sea trout, corvina	96, 221, 263
Cirrhina mrigala	Carp, mrigala	46, 194, 251, 340
Cirrhina reba	Carp, reba	46, 194, 251
Citharichthys arctifrons	Flounder, Gulf Stream	144
Citharinus citharinus	Citharinus	49
Citharus linguatula	Flounder, spotted	202, 261
Clarias batrachus	Catfish, air-breathing, hito	47, 182, 194, 251, 340
Clarias fuscus	Catfish, air-breathing	46, 194, 251
Clarias lazaiae	Catfish, air-breathing, karmouth	47, 194, 251
Clarias magur	Catfish, air-breathing	46, 182, 194
Cleisthenes pinetorum herzensteini	Flounder	201, 261, 346
Clibanarius strigimans	Crab, hermit	307
Clinostomus funduloides	Dace, rosyside	257
Clioderma aspirrimum	Sole	367
Clupanodon punctatus	Herring, Japanese	351
Clupanodon pseudohispanicus	Sardine	91, 219, 285, 362
Clupea alosa	Shad	96, 221, 288
Clupea harengus	Herring, Atlantic	68, 146, 177, 183, 207, 267
Clupea pallasi	Herring, Pacific	70, 148, 177, 183, 207, 268
Clupea pilchardus	Pilchard, European	82, 154, 214, 279, 358
Clupea toli	Shad, Indian	97, 222, 288
Clupeidae	Herring	70, 148, 177, 184, 208, 268, 351
Clupeidae	Menhaden	78, 152, 177, 212, 275, 355
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