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INVENTAIRE DES TABLES PRÉSENTANT  
LES VALEURS NUTRITIVES DES  
POISSONS, MOLLUSQUES ET CRUSTACÉS

ARCHIVES DU MAPAQ  
NE PEUT PAS ÊTRE EMPRUNTÉ

MINISTÈRE DE L'AGRICULTURE,  
DES PÊCHERIES ET DE L'ALIMENTATION  
(M.A.P.A.)

INVENTAIRE DES TABLES  
PRÉSENTANT LES VALEURS NUTRITIVES  
DES POISSONS, MOLLUSQUES ET CRUSTACÉS

DIRECTION DES POLITIQUES ALIMENTAIRES

NOVEMBRE 1986



Le présent document est un inventaire non exhaustif et non analytique de diverses tables présentant les valeurs nutritives des produits de la pêche.

Ce document se divise en deux (2) sections:

SECTION I : Tables pour lesquelles une copie est jointe à ce document.

SECTION II: Titres d'ouvrages

1) permettant de supposer que leur contenu traite des produits de la pêche ou;

2) qui ont servi de références pour la constitution d'autres tables connues portant sur les poissons et fruits de mer.

N.B.: 1) Sont ici également répertoriées des tables américaines puisqu'elles ont servi à la constitution de la plupart des tables canadiennes.

2) Pour avoir les coordonnées des divers distributeurs, il faut référer à l'annexe 1 du "Répertoire des documents écrits et audiovisuels traitant des poissons, mollusques et crustacés (consommation)" - M.A.P.A., Direction des politiques alimentaires - novembre 1986.



## PRÉAMBULE

Dans plusieurs bibliothèques scientifiques se trouvent de nombreux livres de nutrition, d'analyse alimentaire ou des rapports gouvernementaux (américains surtout) qui font mention de la valeur nutritive des produits de la pêche.

Cependant, certains de ces documents datent souvent de plusieurs années. A cet égard, le centre de documentation du sous-ministériat des pêches maritimes (M.A.P.A.) ne fait pas exception. En effet, s'y trouvent quelques documents sur ce sujet datant parfois de plus de 30 ou 40 ans. Comme les données risquent d'être désuètes ou d'être reprises dans les documents plus récents, il n'a pas été jugé bon d'en faire part ici.

Toutefois, mentionnons que ce Centre de documentation possède un livre qui pourrait être utile aux intervenants (diététistes, médecins, biologistes, etc.) intéressés par la recherche:

### **"FISH IN NUTRITION"**

Édité par Eirik Heen et Rudolf Kreuzer  
Technology Branch, Fisheries Division, Food and Agriculture Organization of the United Nations (F.A.O.) Rome, Italy, 1962, 447 pages.

Publié par Fishing News (Books) Ltd, London.

Son contenu porte entre autres sur les composés chimiques du poisson (protéines, lipides, vitamines, minéraux) et leur variation sous l'influence de divers traitements. Y figurent divers tableaux sur la valeur nutritive.



## SECTION I

\* Une photocopie de la table (et parfois de la page couverture de l'ouvrage dont elle est issue) suit immédiatement sa description.

TITRE DE LA TABLE: -

LIEU DE PRODUCTION: Apparaît dans le guide:

Technologie des produits marins. "Valeur nutritive et méthodes de cuisson des produits marins".

Par: Conseil des Denrées Alimentaires du Québec  
(C.D.A.Q.), M.A.P.A.

ANNÉE: Juillet 1981

DESCRIPTION:

- Une page
- Teneur en eau, protéines, lipides et cendres de poisson et fruits de mer.

OÙ SE LE PROCURER:

- Gouvernement du Québec, M.A.P.A. ;
  - . Direction des Communications:  
Centre de distribution ou au comptoir de ventes.
  - . Sous-ministériat des pêches maritimes:  
Centre de documentation

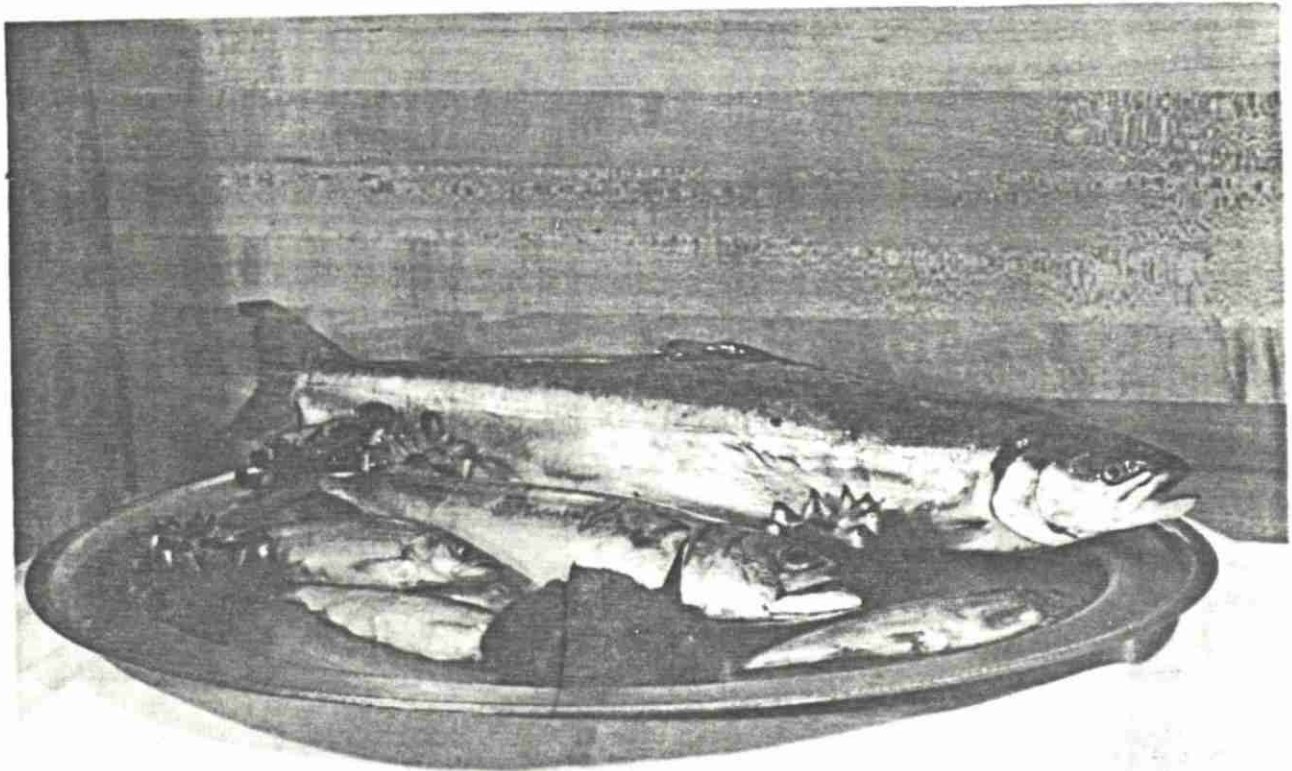




Gouvernement du Québec  
Ministère de l'Agriculture, des Pêcheries  
et de l'Alimentation

Technologie des  
produits marins

## “Valeur nutritive et méthodes de cuisson des produits marins”



**Ministère de l'Agriculture, des Pêcheries  
et de l'Alimentation**

Centre de documentation Pêche Maritime  
Gaspé, (Québec) C.P. 1070, Tél.: (418) 368-2642  
GOC 1R0



## Composition

ESPÈCES	EAU	PROTÉINES	LIPIDES	CENDRES
Anguille	6,46	15,9	18,3	1,0
Baudroie	N.D.	N.D.	N.D.	N.D.
Capelan	N.D.	N.D.	N.D.	N.D.
Aiglefin	80,5	18,3	0,1	1,4
Eperlan	79	18,6	2,1	1,1
Esturgeon noir	78,7	18,1	1,9	1,4
Flétan	76,5	20,9	1,2	1,4
Flétan du Groenland	74,5	16,4	8,4	1,0
Goberge (lieu noir)	77,4	20,4	0,9	1,3
Hareng Atlantique	69,0	17,3	11,3	2,1
Limande à queue jaune	81,3	16,7	0,8	1,2
Lompe	N.D.	N.D.	N.D.	N.D.
Loup de l'Atlantique	78	17,6	3,1	1,3
Loup tacheté	N.D.	N.D.	N.D.	N.D.
Maquereau	67,2	19,0	12,2	1,6
Merlu argenté	81,8	16,5	0,4	1,3
Merluce	81,8	16,5	0,4	1,3
Morue (cabillaud)	81,2	17,6	0,3	1,2
Plie canadienne	81,3	16,7	0,8	1,2
Plie grise	81,3	16,7	0,8	1,2
Plie rouge	81,3	16,7	0,8	1,2
Raie	77,8	21,5	0,7	1,2
Saumon de l'Atlantique	63,6	22,5	13,4	1,4
Sébaste	79,7	18,0	1,2	1,1
Truite de mer	77,7	19,2	2,1	1,2
Crabe commun	78,5	17,3	1,9	1,8
Crabe des neiges (crabe araignée)	61 - 84,7)	72 - 22,4)	,1 - 12,5)	+ 1,2
Crabe nordique	N.D.	N.D.	N.D.	N.D.
Crevette blanche	78,2	18,1	0,8	1,4
Crevette grise	N.D.	N.D.	N.D.	N.D.
Crevette verte	N.D.	N.D.	N.D.	N.D.
Crevette de roche	N.D.	N.D.	N.D.	N.D.
Homard	78,5	16,9	1,9	2,2
Bigorneau	N.D.	N.D.	N.D.	N.D.
Buccin	N.D.	(20,6 -15,6)	N.D.	N.D.
Encornet (calmar)	80,2	16,4	0,9	1,0
Encornet nordique	80,2	16,4	0,9	1,0
Coque	N.D.	N.D.	N.D.	N.D.
Couteau	N.D.	N.D.	N.D.	N.D.
Huître	84,6	8,4	1,8	1,8
Mactre de l'Atlantique (palourde)	79,8	11,1	0,9	2,3
Moule	78,6	14,4	2,2	1,5
Mye	80,8	14,0	1,9	2,0
Palourde américaine	79,8	11,1	0,9	2,3
Quahog nordique	79,8	11,1	0,9	2,3
Pétoncle	79,8	13,3	0,2	1,4
Oursin vert	N.D.	N.D.	N.D.	N.D.

N.D.: Non disponible



TITRE DE LA TABLE: Tableau 1. - Poissons de mer:  
Teneur en gras.

Table 2. - Poissons anadromes:  
Teneur en gras.

Tableau 3. - Poissons d'eau douce:  
Teneur en gras.

Tableau 4. - Poissons catadromes:  
Teneur en gras.

Tableau 5. - Fruits de mer:  
Teneur en gras.

LIEU DE PRODUCTION: Apparaît dans le livre:

"Le poisson à votre portée"  
(Nouvelle Édition)

Par: Institut national des viandes Inc., Montréal.

ANNÉE: 1982

DESCRIPTION:

- Trois pages
- Nom français, nom anglais,  
teneur quantitative en gras,  
nombre de lots analysés,  
classification
- Comme il est indiqué en page 75 (ci-jointe) de ce  
livre, les données ont été extraites d'un article  
paru dans le Marine Fisheries Review vol. 36, no 3,  
mars 1974. Cet article en question est répertorié  
dans le présent inventaire.



OO SE LE PROCURER:

- Gouvernement du Québec, M.A.P.A.,  
sous-ministériat des pêches maritimes,  
centre de documentation.
  
- Suggestion: contacter les librairies ou l'Institut  
national des viandes, Inc.



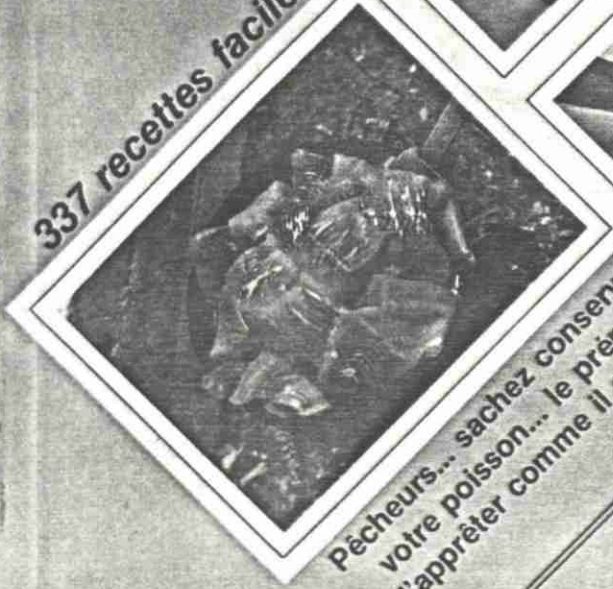
# LEÇON à votre portée

NOUVELLE ÉDITION



... les poissons et  
les fruits de mer  
qui font les délices  
des gastronomes.

337 recettes faciles...



Pêcheurs... sachez conserver  
votre poisson... le préparer  
et l'apprêter comme il se doit.



  
**INSTITUT NATIONAL  
DES VIANDES, INC.**



chez les poissons des spécimens à grosse tête. Bien entendu que chez les poissons amaigris la teneur en gras est plus faible.

Il y a déjà un certain nombre de poissons et de fruits de mer qui, en vue d'évaluer leur valeur alimentaire, ont fait l'objet d'analyses en laboratoire pour déterminer leur composition chimique, notamment leur teneur en gras. Cependant, les résultats de ces analyses, qui ont été publiés dans des revues scientifiques un peu partout à travers le monde, sont difficiles d'accès, même pour les spécialistes.

Voilà pourquoi un groupe de travailleurs scientifiques\* du National Marine Fisheries Service, College Park, Md, U.S.A., ont entrepris récemment de faire un relevé de la littérature mondiale sur ce sujet. Le résultat de leur inventaire a été publié dans l'édition de mars 1974 du *Marine Fisheries Review*, vol. 36, no 3. Les données concernant la teneur en gras qui figurent dans les tableaux ci-joints ont été extraites de cette publication, nous limitant, bien entendu, aux espèces qui vivent dans les eaux du Québec ou que l'on peut se procurer chez les marchands de poissons.

De fait, il y a encore relativement peu d'espèces de poisson qui ont fait l'objet d'analyses en laboratoire pour leur valeur alimentaire et leur teneur en gras. L'inventaire de la littérature a mis en lumière les carences qu'il y a dans ce domaine et le travail qu'il y a encore à faire, concernant même des espèces de toute première importance, tel le saumon de l'Atlantique. Par ailleurs, dans les documents publiés, on ne spécifie pas toujours de quelle espèce particulière il s'agit: on s'en tient au genre et au groupe. De plus, il y a des analyses qui sont faites globalement sur des lots groupant plusieurs espèces, ou des spécimens capturés dans des conditions différentes. Il s'ensuit que, d'après les données dont on dispose, il n'est pas toujours facile de trancher net si telle espèce particulière doit être classée dans la catégorie des poissons gras ou des poissons maigres.

D'une façon générale, si l'écart maximum n'est pas démesurément élevé et si la moyenne des analyses effectuées ne dépasse pas deux grammes de gras par cent gramme de chair comestible (2 g/100 g), le poisson est considéré comme maigre. Sinon, il est classé dans la catégorie des poissons gras. On parle parfois de poissons mi-gras ou semi-gras: sur la base des analyses dont on dispose, il n'est guère possible pour le moment d'établir de façon valable les critères qui permettraient d'établir et de distinguer cette catégorie intermédiaire.

\*Virginia D. Sidwell, Pauline R. Foncanon, Nancy S. More et James L. Bonnet, College Park Fishery Products Technology Laboratory, College Park, Md, U.S.A.



Tableau 1. — POISSONS DE MER: TENEUR EN GRAS  
G: poisson gras; M: poisson maigre

NOM FRANÇAIS	NOM ANGLAIS	GRAS: g/100 g			NOMBRE DE LOTS ANALYSÉS	CLASSIFICATION
		MIN.	MAX.	MOYENNE		
Acoupa royal	Weakfish	1.4	4.3	3.2 ±0.4	7	G
Aiglefin	Haddock	0.1	1.2	0.5 ±0.2	5	M
Albacore à nageoires jaunes	Yellowfin tuna	0.1	9.5	2.2 ±0.5	25	G
Anchois	Anchovies	0.5	3.8	2.4 ±0.8	4	G
Baudroies	Goosefishes	0.3	2.5	1.2 ±0.5	4	M
Bonites	Bonita	1.5	10.2	4.5 ±0.2	4	G
Dauphin	Dolphin	0.7	3.2	1.6 ±0.8	3	M
Espadon	Swordfish	2.0	6.4	4.1 ±0.7	6	G
Exocets	Flyingfishes	0.2	1.4	1.1 ±0.2	7	M
Flétan de l'Atlantique	Atlantic halibut	0.7	5.2	2.4 ±0.9	5	G
Flétan du Pacifique	Pacific halibut	0.6	3.6	1.1 ±0.2	13	M
Germon de l'Atlantique	Albacore	0.7	18.2	5.4 ±0.9	19	G
Goberge	Pollack	0.2	1.0	0.5 ±0.1	7	M
Hareng de l'Atlantique	Atlantic herring	2.4	29.1	15.7 ±1.9	17	G
Hareng du Pacifique	Pacific herring	8.0	12.8	11.1 ±1.6	3	G
Harenguet	Sprat	1.8	11.6	6.7	2	G
Lançons	Sandlances	—	—	1.5	1	M
Limandes	Flounders	0.1	1.3	1.0 ±0.2	6	M
Maquereaux	Mackerels	0.3	18.1	5.3 ±0.7	42	G
Maquereau bleu	Atlantic mackerel	0.7	24.0	16.3 ±2.1	17	G
Maquereau du Pacifique	Pacific mackerel	1.6	9.5	4.6 ±2.5	3	G
Merluches et merlus	Hakes	0.6	2.7	1.2 ±0.5	4	M
Merlu argenté	Silver hake	0.2	2.0	1.2 ±0.3	6	M
Morues	Cods	0.1	1.0	0.5 ±0.2	5	M
Morue franche	Atlantic cod	0.1	0.8	0.3 ±0.1	8	M
Morue charbonnière	Sablefish	12.8	15.2	14.0	2	G
Muge cabot	Striped mullet	0.2	14.8	5.5 ±1.3	12	G
Orphies	Needlefishes	0.3	2.1	1.1 ±0.5	3	M
Piquitinga	Striped anchovy	1.6	4.6	2.8 ±0.2	21	G
Plies	Flounders	0.1	2.9	1.0 ±0.2	21	M
Plie rouge	Winter flounder	0.2	3.0	0.8 ±0.5	6	M
Raies	Skates, rays	—	—	0.2	1	M
Rougets	Goatfishes	0.4	4.7	2.0 ±0.5	9	M
Scorpènes	Rockfishes	0.2	2.4	1.2 ±0.2	14	M
Sébaste de l'Atlantique	Atlantic redfish	0.6	2.2	1.3 ±0.2	7	M
Sébaste du Pacifique	Pacific ocean perch	1.2	1.5	1.4 ±0.1	3	M
Serranidés	Groupers	0.2	2.3	0.8 ±0.2	13	M
Soles	Soles	0.2	1.7	1.07 ±0.5	3	M
Sole de Douvres	Dover sole	0.6	1.2	0.8 ±0.1	6	M
Spare doré	Scup	1.2	5.9	3.7 ±0.8	5	G
Stromatées	Butterfishes	0.9	24.5	7.2 ±1.9	13	G
Tambours	Drums	0.9	1.9	1.5 ±0.2	4	G
Thonine à ventre rouge	Skipjack tuna	0.3	7.4	3.4 ±0.6	14	G
Thon rouge	Bluefish tuna	1.2	8.0	3.9 ±0.6	13	G
Thon ventru	Bigeye tuna	0.6	2.0	1.3 ±0.3	4	M
Turbots	Lefteye flounders	0.1	2.5	0.9 ±0.2	11	M
Turbot (Europe)	Turbot	—	—	2.9	2	G



Tableau 2. — POISSONS ANADROMES: TENEUR EN GRAS  
G: poisson gras M: poisson maigre

NOM FRANÇAIS	NOM ANGLAIS	GRAS: g/100 g			NOMBRE DE LOTS ANALYSÉS	CLASSIFICATION
		MIN.	MAX.	MOYENNE		
Alose savoureuse	American shad	1.7	15.2	8.3±1.7	9	G
Bars	Basses	.1	3.0	1.6±0.4	7	M
Éperlans	Smelts	2.3	6.7	3.9±0.7	9	G
Saumon chinook	Chinook salmon	2.2	19.0	11.5±2.4	8	G
Saumon coho	Coho salmon	3.1	9.0	5.7±0.5	14	G
Saumon keta	Chum salmon	1.3	4.8	4.3±0.6	11	G
Saumon kokani	Sockeye salmon	1.6	19.2	7.5±1.2	16	G
Saumon rose	Pink salmon	2.0	9.4	5.3±0.4	36	G

Tableau 3. — POISSONS D'EAU DOUCE: TENEUR EN GRAS  
G: poisson gras; M: poisson maigre

NOM FRANÇAIS	NOM ANGLAIS	GRAS: g/100 g			NOMBRE DE LOTS ANALYSÉS	CLASSIFICATION
		MIN.	MAX.	MOYENNE		
Barbottes et barbues	Fresh water catfishes	0.3	11.0	3.2±1.8	10	G
Brochets	Pikes	1.2	1.2	1.2	2	M
Carpe allemande	German carp	3.3	14.8	6.2±1.2	9	G
Cisco de lac	Lake herring	1.5	7.2	3.3±1.04	6	G
Corégone de lac	Lake whitefish	1.7	18.5	7.6±1.2	17	G
Doré jeune	Walleye	0.8	1.9	1.5±0.3	4	M
Esturgeons	Sturgeons	0.4	3.8	1.3±0.5	6	M
Lotta	Burbot	0.6	1.2	0.8±0.2	3	M
Malachigan	Freshwater drum	1.0	8.4	5.5±0.7	11	G
Perchlude	Yellow perch	0.5	1.2	0.9±0.1	8	M
Truite arc-en-ciel	Rainbow trout			11.7	1	G
Truite dolly varden	Dolly varden trout			6.5	1	G
Truite grise (touladi)	Lake trout	9.1	36.0	14.9±2.7	10	G
Truite mouchetée	Speckled trout	3.4	5.5	4.5	2	G

Tableau 4. — POISSONS CATADROMES: TENEUR EN GRAS  
G: poisson gras

NOM FRANÇAIS	NOM ANGLAIS	GRAS: g/100 g			NOMBRE DE LOTS ANALYSÉS	CLASSIFICATION
		MIN.	MAX.	MOYENNE		
Anguilles	Freshwater eels	12.7	21.5	17.3±2.6	3	G

Tableau 5. — FRUITS DE MER: TENEUR EN GRAS  
M: poisson maigre

NOM FRANÇAIS	NOM ANGLAIS	GRAS: g/100 g			NOMBRE DE LOTS ANALYSÉS	CLASSIFICATION
		MIN.	MAX.	MOYENNE		
<b>CRUSTACÉS</b>	<b>CRUSTACEA</b>					
Crabe bleu	Blue crab	0.4	1.5	1.0±0.1	18	M
Crabe dormeur	Dungeness crab	0.7	2.2	1.4±0.1	14	M
Crabe rouge	Deep sea red crab			0.5	1	M
Crabe royal	King crab	0.2	1.4	0.7±0.2	6	M
Crevettes	Shrimps	0.1	3.2	1.1±0.2	19	M
Écrevisses	Crayfishes			1.7	1	M
Homards	Lobsters	0.6	1.9	1.3±0.2	6	M
<b>MOLLUSQUES</b>	<b>MOLLUSKS</b>					
Calmar	Squid	0.5	1.4	1.0±0.3	6	M
Huitres	Oysters	0.7	2.6	1.5±0.1	21	M
Mye	Soft shell clam	1.4	2.5	2.0	2	M
Pétoncles	Scallops	0.3	1.6	0.7±0.2	7	M



TITRE DE LA TABLE: TABLEAU 6. Valeur nutritive de quelques espèces de poisson d'eau douce (par portion de 100 g (3 1/2 onces) de poisson cru).

LIEU DE PRODUCTION: Apparaît dans le livre:

Guide - Préparation et cuisson poisson d'eau douce.

Auteurs: David G. Iredale et Roberta K. York.

Publié par: Direction du développement des pêches,  
Ministère des Pêches et des Océans (M.P.O.)  
Canada,  
Institut des eaux douces.

ANNÉE: 1984

DESCRIPTION: - une (1) page  
- teneur en

Calories	thiamine	potassium
humidité	riboflavine	calcium
protéines	niacine	phosphore
lipides	fer	cholestérol
cen dre	sodium	

- un paragraphe sur la valeur nutritive du poisson d'eau douce est ici annexé.

OÙ SE LE PROCURER: - Suggestion: . contacter le Gouvernement du Canada  
M.P.O., Institut des eaux douces.

. Gouvernement du Canada, Approvisionnement  
et Services, numéro de catalogue  
Fs 23-44/1983F

N.B.: La version anglaise de ce livre s'intitule:

"A guide to handling and preparing freshwater fish".



 Pêches et Océans Fisheries and Oceans



# Guide Préparation et Cuisson

## POISSON D'EAU DOUCE

David G. Iredale  
et  
Roberta K. York





légumes.

Avec les mains mouillées à l'eau froide, former des boulettes de 30 à 45 g (1 à 1½ oz). Les placer dans le bouillon et laisser mijoter 2 à 3 h.

Servir chaud ou réfrigéré avec du raifort au vinaigre.

On peut conserver ces boulettes pour consommation ultérieure en les plaçant au congélateur. Retirer le poisson « Géfilte » du bouillon, emballer individuellement et entreposer en paquets bien scellés ou en récipients couverts. Pour réchauffer, préparer à nouveau du bouillon et laisser mijoter brièvement les boulettes de poisson « Géfilte ».

## La valeur nutritive du poisson d'eau douce

Une évaluation générale de la composition nutritive du poisson d'eau douce montre qu'il est composé de 65 à 80 % d'eau, de 15 à 20 % de protéines et de 1 à 15 % de matières grasses. Il apporte à un régime varié une contribution importante en vitamines et en minéraux. La teneur en calories des produits de la pêche varie selon la teneur en matières grasses des différentes espèces. Elle varie aussi selon la préparation choisie; un produit enrobé de pâte et cuit en friture contient plus de calories qu'un produit qui a été poché, cuit à la vapeur, au four ou au gril. Une espèce à faible teneur en matières grasses, comme le doré, contient environ 84 cal pour 100 g, alors qu'une espèce à plus forte teneur en matières grasses, comme le touladi (la truite grise), contient environ 163 cal pour 100 g.

Les protéines constituent une des substances nutritives les plus importantes fournies par le poisson et les produits de la pêche. Elles sont nécessaires à la croissance et au maintien du corps en bonne santé. Le poisson est une source de protéines complète et de haute qualité. Sa teneur en protéines est de 15 à 20 %, c'est-à-dire l'équivalent de celle de la viande rouge et de la volaille. Contrairement à certaines viandes, la chair du poisson contient peu ou pas de tissu conjonctif, ce qui le rend facilement assimilable par l'organisme. C'est pourquoi le poisson est particulièrement utile dans le régime alimentaire des enfants, des personnes âgées et des convalescents.

La teneur en matières grasses du poisson varie selon l'espèce, la saison et l'endroit de la prise. La graisse est présente sous la forme d'huiles faciles à digérer et elle est répartie uniformément à travers la chair, à l'exception de quelques zones de réserves de matières grasses le long de la colonne vertébrale, à la base de la cavité abdominale et sous la surface de la peau.

Les produits de la pêche constituent une bonne source de minéraux — phosphore, calcium, iode, cuivre et fluor. Le phosphore et le calcium se trouvent principalement dans les arêtes et la peau du poisson. Si l'on consomme les arêtes ramolies par la cuisson du poisson en conserves, on obtient ainsi une bonne source de ces minéraux. Le poisson d'eau douce est naturellement faible en sodium. À moins que du sel ait été ajouté au cours de la préparation, on peut l'utiliser à volonté dans les régimes sans sel.

Le poisson contient des quantités utiles de vitamines du groupe B. Les vitamines grasses et solubles des groupes A et D sont surtout présentes chez les espèces à chair grasse.

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**TABEAU 6** Valeur nutritive de quelques espèces de poissons d'eau douce (par portion de 100 g (3 1/2 onces) de poisson cru)

Source: M. Hendzel, chimiste régional, Direction des opérations dans le Sud, Ministère des Pêches et des Océans, Winnipeg

	Calories <sup>1</sup>	Humidité %	Protéines (en g)	Lipides <sup>2</sup> (en g)	Cendre (en g)	Thiamine (en mg)	Riboflavine (en mg)	Niacine (en mg)	Fer (en mg)	Sodium (en mg)	Potassium (en mg)	Calcium (en mg)	Phosphore (en mg)	Cholestérol (en mg)
1. Carpe (Cyprinus carpio)	201	68.8	15.5	15.4	1.1	0.010	0.34	3.80	0.94	53.9	323	8.0	183	54.4
2. Cisco (Coregonus)	111	77.3	16.9	4.8	1.1	0.009	0.38	2.53	0.36	63.6	703	49.4	198	18.5
<sup>3,4</sup> 3. Corégone (Coregonus clupeaformis)	173	69.2	19.1	10.7	1.3	0.013	0.12	2.99	0.27	61.9	317	5.4	230	37.2
4. Doré jaune (Stizostedion vitreum)	91	79.6	18.3	2.0	1.1	0.015	0.52	1.79	0.21	79.8	330	10.9	176	33.5
5. Doré noir (Stizostedion canadense)	78	81.1	17.1	1.1	1.1	0.031	0.39	—	0.44	78.7	318	7.6	186	57.5
6. Esturgeon jaune (Acipenser fulvescens)	179	71.7	16.6	12.5	0.9	0.061	0.31	2.30	1.48	50.3	270	13.5	147	17.0
7. Grand brochet (Esox lucius)	82	80.3	18.3	1.0	1.1	0.008	0.11	3.21	0.15	47.6	362	27.1	183	19.7
8. Inconnu (Stenodus leucichthys)	236	65.0	16.8	18.8	1.0	0.062	0.30	4.44	0.23	36.4	329	16.0	166	43.4
9. Laquaiche aux yeux d'or (Hiodon alosoides)	126	76.8	16.3	6.8	1.0	0.013	0.34	1.80	0.76	70.8	279	92.4	167	36.3
10. Meunier noir ou carpe noire (Catostomus commersoni)	95	80.4	16.5	3.2	1.1	0.005	0.27	1.70	0.39	52.2	678	42.4	164	32.6
11. Omble chevalier (Salvelinus alpinus)	154	71.0	20.2	8.1	1.4	0.306	0.30	9.65	0.23	51.0	551	7.2	257	27.0
12. Truite arc-en-ciel (Salmo gairdneri)	142	74.4	15.7	8.8	1.1	0.026	0.34	2.85	0.34	33.5	402	24.1	—	68.8
13. Touladi (truite grise) (Salvelinus namaycush)	163	72.9	18.6	9.8	1.0	0.010	0.36	3.89	0.24	47.4	304	7.4	167	21.1
14. Perchaude (Perca flavescens)	76	81.1	16.2	1.2	1.3	0.008	0.55	1.83	0.41	64.9	320	110.4	183	15.9

1 Obtenu par des calculs d'après des valeurs pour une composition approximative.

2 Désignations pour la teneur en lipides:  
faible teneur en lipides: moins de 5%  
teneur moyenne en lipides: 5 à 10%  
forte teneur en lipides: plus de 10%

3 D'après J. Tabacheck, biologiste spécialisé dans la nutrition et le poisson, Direction de la recherche arctique et d'eau douce, ministère des Pêches et des Océans, Winnipeg. (1982, communication personnelle).

4 La teneur en lipides du corégone peut varier considérablement selon sa source, allant de 2% jusqu'à 13%, avec une moyenne approximative de 8%.



TITRE DE LA TABLE: Valeur nutritive  
Poisson ou fruit de mer

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- Teneur en:
  - . humidité
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  - . protéines
  - . hydrates de carbone
  - . lipides
  - . cendres
  - . calcium
  - . phosphore
  - . fer
  - . sodium
  - . potassium
  - . vitamine A
  - . thiamine
  - . riboflavine
  - . niacine
  - . vitamine C
- Un paragraphe explicatif du tableau des valeurs nutritives est ici annexé.

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N.B.: La version anglaise du livre s'intitule: "The Canadian Fish Cookbook".



*Tout sur le poisson et les fruits de mer:  
comment acheter, préparer, conserver  
et cuire la plupart des espèces vendues  
au Canada; quelque 170 recettes.*

# *Délices de la mer du Canada*

*A. Ian Howarth*



transporte l'oxygène et le bioxyde de carbone dans le sang. La fluorine est également présente en quantité suffisante. Par exemple, 112 g (4 onces) de saumon en conserve dont on a gardé les arêtes comestibles fournira, s'il est consommé tous les jours, la fluorine nécessaire pour prévenir la carie chez un enfant en période de croissance. Le poisson en conserve dont on a gardé les arêtes comestibles est une bien meilleure source de minéraux essentiels que la chair du poisson frais ou congelé. Une portion normale de 112 g (4 onces) de poisson en conserve (à l'exception du thon, qui est mis en conserve les arêtes déjà enlevées) fournit de 28 à 54 pour cent du phosphore nécessaire et de 7 à 44 pour cent du fer nécessaire (pour prévenir l'anémie). Même si beaucoup de gens pensent que le poisson récolté en eau salée contient plus de sodium que d'autres aliments, c'est plutôt le contraire qui est vrai; le poisson qui vient de la mer ne contient pas plus de sodium, et dans certains cas il en contient beaucoup moins que le boeuf, le porc ou l'agneau. Aussi convient-il mieux à ceux qui suivent une diète hyposodique.

## TABLEAU DES VALEURS NUTRITIVES

La valeur nutritive de plusieurs poissons varie, surtout en gras, selon la zone et la période de l'année où on le pêche. Notre tableau donne une bonne indication de la valeur nutritive approximative de la plupart des espèces de poisson et de fruits de mer de l'Atlantique, du Pacifique et des eaux douces qu'on trouve habituellement sur le marché. Certaines espèces n'apparaissent pas parce que les données statistiques relatives à celles-ci ne sont pas connues.

Les valeurs nutritives sont données par 100 g (3,6 onces) dans le tableau. Les tirets indiquent qu'il n'y a pas de données fiables pour une quantité mesurable. À noter que dans la colonne du tableau où l'on indique la portion moyenne du poisson cuit, on indique le nombre de calories et le poids des portions moyennes de poisson cuit ou en conserve. Le poisson et les fruits de mer frits ont été trempés dans un mélange d'oeuf, de lait et de chapelure. À moins d'avis contraire, tous les autres poissons et fruits de mer cuits ont été grillés.

Pour les poissons et les fruits de mer mis en conserve, toutes les valeurs en vitamines sont celles de matières solides égouttées.



VALEUR NUTRITIVE

POISSON OU FRUIT DE MER	HUMIDITÉ	ÉNERGIE ALIMENTAIRE	PROTÉINES	HYDRATES DE CARBONE	LIPIDES	CENDRES	CALCIUM	PHOSPHORE
	%	k cal	g	g	g	g	mg	mg
Ormeau, cru	75,8	98	18,7	3,4	0,5	1,6	37	191
Gaspereau, cru	74,4	127	19,4	0	4,9	1,5	—	218
Omble chevalier, congelé	71,0	134	20,8	0	5,2	—	36	56
Omble chevalier, en conserve	64,2	176	25,6	0	8,2	—	149	368
Capelan, cru	79,0	98	18,6	0	2,1	1,1	—	272
Caviar (esturgeon)	46,0	264	27,0	3,2	15,4	—	278	360
Clams, crus (chair et liquide)	85,0	54	8,6	2,0	1,0	2,6	—	208
Clams, en conserve (chair et liquide)	86,3	52	7,9	2,8	0,7	2,3	55	137
Morue, crue	81,2	78	17,6	0	0,3	1,2	10	194
Morue, cuite (grillée)	64,6	170	28,5	0	5,3	—	31	274
Morue, séchée, salée	52,4	130	29,0	0	0,7	19,7	225	—
Morue, croquettes congelées	52,9	270	9,2	17,2	17,9	2,8	—	—
Crabe, frais, cuit	78,5	93	17,3	0,5	1,9	1,8	43	175
Crabe en conserve (chair seulement)	77,2	101	17,4	1,1	2,5	1,8	45	182
Brosme, cru	81,3	75	17,2	0	0,2	0,9	—	—
Aiguillat, cru	72,3	156	17,6	0	9,0	1,0	—	—
Anguille commune, crue	64,6	233	15,9	0	18,3	1,0	18	202
Anguille commune, fumée	50,2	330	18,6	0	27,8	2,4	—	—
Bâtonnets de poisson, panés, congelés	65,8	176	16,6	6,5	8,9	2,2	11	167
Sole, plie (tout poisson plat)	81,3	79	16,7	0	0,8	1,2	12	195
Aiglefin, cru	80,5	79	18,3	0	0,1	1,4	23	197
Gades fumés (aiglefin fumé)	72,6	103	23,2	0	0,4	3,1	—	—
Merlu, cru	81,8	74	16,5	0	0,4	1,3	41	142
Flétan, cru	76,5	100	20,9	0	1,2	1,4	13	211
Hareng, cru (Atlantique)	69,0	176	17,3	0	11,3	2,1	—	256
Hareng, cru (Pacifique)	79,4	98	17,5	0	6,6	1,2	—	225
Hareng, mariné	59,4	223	20,4	0	15,1	4,0	—	—
Hareng, kipper	61,0	211	22,2	0	12,9	4,0	66	254
Hareng, en conserve, ordinaire	62,9	208	19,9	0	13,6	3,7	147	297
Inconnu, cru	72,0	146	19,9	0	6,8	1,3	—	—
Homard, cru (entier)	78,5	91	16,9	0,5	1,9	2,2	29	183
Homard, en conserve ou cuit	76,8	95	18,7	0,3	1,5	2,7	65	192
Maquereau cru (Atlantique)	67,2	191	19,0	0	12,2	1,6	5	239
Maquereau cru (Pacifique)	69,8	159	21,9	0	9,3	1,4	8	274
Maquereau, en conserve, liquide et solide <sup>a</sup>	66,0	183	19,3	0	11,1	3,2	185	274
Moule commune, chair crue seulement	78,6	95	14,4	3,3	2,2	1,5	88	236
Grand brochet, cru	80,0	88	18,3	0	1,1	1,1	—	—
Sébaste, cru	79,0	95	19,0	0	1,5	1,1	—	—
Sébaste, cuit, frit <sup>a</sup>	59,0	227	19,0	6,8	13,3	1,9	33	226
Poulpe	82,2	73	15,3	0	0,8	1,5	29	173
Huitres, crues (Atlantique)	84,6	46	8,4	3,4	1,8	—	94	143
Huitres, crues (Pacifique)	79,1	91	10,6	6,4	2,2	1,7	85	153
Huitres, cuites, frites <sup>a</sup>	54,7	239	8,6	18,6	13,9	1,5	152	241
Huitres, en conserve, solides et liquide	82,2	76	8,5	4,9	2,2	2,2	28	124
Doré jaune, cru	78,3	93	19,3	0	1,2	1,2	0	214



FER	SODIUM	POTASSIUM	VITAMINE A	THIAMINE	RIBOFLAVINE	NIACINE	VITAMINE C	Total de calories	MESURE	Poids en onces
mg	mg	g	UI	mg	mg	mg	mg			
2,4	—	—	—	0,18	0,14	—	—	88	90 g	3
—	—	—	—	—	—	—	—	114	90 g filet	3
8,2	—	—	—	0,13	0,58	3,2	1,0	150	112 g filet	4
—	—	—	—	0,09	0,83	4,5	—	158	90 g	3
0,4	—	—	—	0,01	0,12	1,4	—	88	90 g (6 capelans grillés)	3
11,8	2228	182	—	—	—	—	—	42	16 g	0,5
—	—	—	—	—	—	—	—	92	112 g	4
4,1	—	140	—	0,01	0,11	1,0	—	88	90 g (¼ boîte, solides, égouttés)	3
0,4	70 <sup>2</sup>	382	—	0,06	0,07	2,2	2	85	112 g filet	4
1,0	110	407	180	0,08	0,11	3,0	—	153	90 g filet	3
—	—	—	—	—	—	—	—	120	90 g filet	3
—	—	—	—	—	—	—	—	270	approx. 100 g (1 croquette)	3,5
0,8	—	—	2170	0,16	0,08	2,8	2	90	86 g	3
0,8	1000 <sup>2</sup>	110	—	0,08	0,08	1,9	—	90	86 g	3
—	—	—	—	0,03	0,08	2,3	—	84	112 g filet	4
—	—	—	—	0,05	—	—	—	156	100 g filet	3,5
0,7	—	—	1610	0,22	0,36	1,4	—	210	90 g (morceaux)	3
—	—	—	—	—	—	—	—	297	90 g (morceaux)	3
0,4	475	208	0	0,04	0,07	1,6	—	170	90 g (3 bâtonnets)	3
0,8	78	342	—	0,05	0,05	1,7	—	88	112 g filet	4
0,7	61	304	—	0,04	0,07	3,0	—	188	112 g filet (frit)	4
—	—	—	—	0,06	0,05	2,1	—	92	90 g filet	3
—	74	363	—	0,10	0,20	—	—	84	112 g filet (à la vapeur)	4
0,7	54 <sup>3</sup>	449	440	0,07	0,07	8,3	—	145	112 g filet	4
1,1	—	—	110	0,02	0,15	3,6	—	197	112 g	4
1,3	74	420	100	0,02	0,16	3,5	3	120	100 g	1
—	—	—	—	—	—	—	—	112	50 g filet	1,5
1,4	—	—	30	—	0,28	3,3	—	211	100 g	3,5
1,8	—	—	—	—	0,18	—	—	884	425 g (boîtes)	15
—	—	—	—	—	—	—	—	166	112 g filet	4
0,6	—	—	—	0,40	0,05	1,5	—	138	145 g (chair cuite)	5
0,8	210	180	—	0,10	0,07	—	—	485	250 g (homard Newburg)	8
1,0	—	—	(450)	0,15	0,33	8,2	—	248	105 g filet	3,5
2,1	—	—	120	—	—	—	—	204	112 g filet	4
2,1	—	—	430	0,06	0,21	5,8	—	765	425 g (boîtes)	15
3,4	289	315	—	0,16	0,21	—	—	85	90 g (chair seulement)	3
—	—	—	—	—	—	—	—	99	112 g filet	4
—	63	390	—	—	—	—	—	95	105 g (à la vapeur)	3,5
1,3	153	284	—	0,10	0,11	1,8	—	227	105 g filet	3,5
—	—	—	—	0,02	0,06	1,8	—	66	90 g (chair)	3
5,5	73	121	310	0,14	0,18	2,5	—	19	28 g (2 moyennes)	1
7,2	—	—	—	0,12	—	1,3	30	200	238 g (13-19 moyennes)	8
8,1	206	203	440	0,17	0,29	3,2	—	108	45 g (4 moyennes)	1,5
5,6	—	70	—	0,02	0,20	0,8	—	224	340 g (boîte)	12
0,4	51	319	—	0,25	0,16	2,3	—	105	112 g filet	4



## VALEUR NUTRITIVE

POISSON OU FRUIT DE MER	HUMIDITÉ	ÉNERGIE ALIMENTAIRE	PROTÉINES	HYDRATES DE CARBONE	LIPIDES	CENDRES	CALCIUM	PHOSPHORE
	%	k cal	g	g	g	g	mg	mg
Goberge	77,4	95	20,4	0	0,9	1,3	—	—
Sébaste, cru	79,7	88	18,0	0	1,2	1,1	20	207
Morue charbonnière, crue	71,6	190	13,0	0	14,9	1,0	—	—
Saumon (frais), grillé ou au four	63,4	182	27,0	0	12,4	1,6	—	414
Saumon, fumé	58,9	176	21,6	0	9,3	—	14	245
Sockeye, en conserve, solides et liquide	67,2	171	20,3	0	9,3	2,7	259 <sup>5</sup>	344
Coho, en conserve, solides et liquide	69,3	153	20,8	0	7,1	2,4	244 <sup>5</sup>	288
Rose, en conserve, solides et liquide	70,8	141	20,5	0	5,9	2,3	196 <sup>5</sup>	286
Sardines, en conserve dans l'huile, solides seulement	57,4	214	25,7	1,2	11,0	4,7	386	586
Doré noir	80,8	84	17,9	0	0,8	1,1	—	—
Pétoncles, crus	80,3	78	14,8	3,4	0,1	1,4	26	208
Alose, crue	70,4	170	18,6	0	10,0	1,3	20	260
Crevettes, crues	70,0	91	18,0	2,0	1,0	1,4	63	—
Crevettes, frites (en pâte)	56,9	225	20,3	10,0	10,8	2,0	72	191
Crevettes, en conserve, solides seulement	66,2	127	26,8	—	1,4	5,8	115	263
Raie	77,8	98	21,5	0	0,7	1,2	—	—
Eperlan (eulachon), cru	79,6	118	14,6	0	6,2	1,2	—	—
Calmar, cru	80,2	84	16,4	1,5	0,9	1,0	12	119
Espadon, cru	75,9	118	19,2	0	4,0	1,3	19	195
Truite (touladi), crue	73,1	144	19,9	0	6,5	1,2	—	—
Truite (touladi), congelée	70,6	168	18,3	0	10,0	—	—	238
Truite (touladi), en conserve	59,6	220	23,1	0	14,1	—	52	47
Cisco	79,7	91	17,7	0	2,3	1,1	12	206
Thon, frais (rouge), cru	70,5	145	25,2	0	8,1	1,3	—	—
Thon, en conserve, solides et liquide (dans le bouillon et dans l'huile)	61,3	207	26,1	0	10,6	1,8	11	242
Flétan (Groenland), cru	74,5	146	16,4	0	8,4	1,0	—	210
Corégone, cru	71,7	155	18,9	0	8,2	1,2	—	270
Perchaude, crue	79,2	91	19,5	0	0,9	1,2	—	180

### NOTES:

1. Les éléments nutritifs des poissons varient, particulièrement la teneur en gras, selon la zone de capture et le moment de l'année. Le tableau donne une bonne indication de la valeur nutritive approximative des poissons les plus courants du commerce, au moment de l'impression.
2. La valeur est d'environ 225 mg par 100 g si la morue a été trempée ou rincée dans une saumure.
3. Deux échantillons congelés, trempés dans la saumure, contenaient 360 mg de sodium par 100 g.
4. Valeur applicable seulement si les arêtes sont consommées.
5. Comprend le sel ajouté au saumon en conserve.
6. Valeurs des vitamines basées sur les solides égouttés.



FER	SODIUM	POTASSIUM	VITAMINE A	THIAMINE	RIBOFLAVINE	NIACINE	VITAMINE C	Total de calories	MESURE	Poids en onces
mg	mg	g	UI	mg	mg	mg	mg			
—	48	350	—	0,05	0,10	1,6	—	178	112 g filet (au four avec beurre)	4
1,0	79	269	0	0,10	0,08	1,9	—	288	90 g filet (frit)	3
—	56	358	—	0,11	0,09	—	—	190	100 g	3,5
1,2	116	443	160	0,16	0,06	9,8	—	192	90 g	3
—	—	—	—	—	—	—	—	158	90 g	3
1,2	522 <sup>n</sup>	344	230	0,04	0,16	7,3	—	154	90 g	3
0,9	351 <sup>n</sup>	339	80	0,03	0,18	7,4	—	138	90 g	3
0,8	387 <sup>n</sup>	361	70	0,03	0,18	8,0	—	127	90 g	3
2,7	510	560	220	0,02	0,17	4,8	—	192	90 g (égouttées)	3
—	—	—	—	—	—	—	—	90	112 g filet	4
1,8	150	420	0	0,04	0,10	1,4	—	90	112 g	4
0,5	54	330	—	0,15	0,24	8,4	—	228	112 g (au four avec tranche de bacon)	4
1,6	140	220	—	0,02	0,03	6,3	—	91	100 g (20 petites)	3,5
2,0	186	229	—	0,04	0,08	2,7	—	203	90 g (6 grosses)	3
3,1	140	220	60	0,01	0,03	2,2	—	110	90 g	3
—	—	—	—	0,02	—	—	—	110	112 g (à la vapeur)	4
—	—	—	—	0,04	0,04	—	—	88	90 g (6 éperlans grillés)	3
0,5	—	—	—	0,02	0,12	—	—	94	112 g	4
0,9	—	—	1580	0,05	0,05	8,0	—	237	145 g	5,5
—	—	—	—	0,06	0,06	—	—	194	90 g (1 petite, cuite)	3
0,8	—	—	—	0,09	0,12	2,7	—	—	—	—
12,3	—	—	—	0,12	0,28	1,8	—	198	90 g	3
0,5	47	319	—	0,09	0,10	3,3	—	120	100 g (1 petit, au four ou grillé)	3,5
1,3	—	—	—	—	—	—	—	175	112 g (au four)	4
1,3	800	280	87	0,04	0,10	11,7	—	177	90 g (égoutté)	3
—	—	—	—	0,01	—	—	—	187	90 g filet	3
0,4	52	299	2260	0,14	0,12	3,0	—	174	112 g filet	4
0,6	68	230	—	0,06	0,17	1,7	—	230	250 g (1 poisson)	8

## SOURCES:

U.S.D.A. Handbook No. 8 (1969)

U.S.D.A. Handbook No. 456 (1975)

Nutrient Value of Some Common Foods — Ministry of National Health and Welfare (révisé 1979)  
— D.G. Iredale & R.K. York (1981)



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1. Protein, fat, moisture, ash, carbohydrate, energy and cholesterol.

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## Composition of the Edible Portion of Raw (Fresh or Frozen) Crustaceans, Finfish, and Mollusks. I. Protein, Fat, Moisture, Ash, Carbohydrate, Energy Value, and Cholesterol

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### ABSTRACT

*This report summarizes the data on protein, fat, moisture, ash, carbohydrate, energy (calories) and cholesterol from 155 references on 154 commonly eaten fish flesh.*

### INTRODUCTION

Considerable data have been published on many aspects of the chemical and nutritional values of fish and fishery products, but at no time have appreciable amounts of these data been assembled in a tabular form. If the data were so assembled and characterized, then industry, medical services, and the general public would have a good reliable source of information on the composition of fish. For example, industry will need these data for putting nutritional information on labels of canned fish or fishery products. Today, doctors and dietitians are especially interested in the content of the various lipid materials in foods since these fat-like substances of an individual's diet may be involved in the degeneration of the vascular system. There are indications that certain highly unsaturated fatty components in fish may be beneficial in the treatment of the disorder. In order to recommend the inclusion of fish in the patient's diet, however, the doctor must know not only the fat content but also the fatty acid composition including degree of unsaturation, and the

amount of steroid material, like cholesterol.

The best compilation on the nutritive composition of foods in general is the U.S. Department of Agriculture, Handbook 8, *Composition of Foods* by B. K. Watts and A. L. Merrill. For fish and fishery products, however, the data are limited, particularly for minerals and vitamins.

This paper is an interim report on protein, fat, moisture, ash, carbohydrate, energy value, and cholesterol. Other interim reports will deal with the vitamins, minerals, fatty acids, and amino acids. The need for these data is so urgent that we prefer not to wait until the review of literature is completed.

Our primary objectives are: (1) to develop a comprehensive data bank 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 the chemical composition of fish needing further investigations.

At first we planned to review only the literature reporting the work done in the western hemisphere. Subsequent-

ly, we decided to enlarge our scope into a review of literature published anywhere in the world, because over 60 percent of the fishery products eaten by the Americans are imported from many nations throughout the world.

The title of the article reviewed, name of the author, and publication were obtained from bibliographies or abstracts. Copies of the original article were obtained from the National Agricultural Library, U.S. Department of Agriculture; the National Library of Medicine, U.S. Department of Health, Education and Welfare; the Natural Resources Library, U.S. Department of the Interior; or from universities and other research libraries.

No data are put in the bank unless we have a copy of the original article on file. The data in each article are carefully scrutinized before they are transcribed onto the appropriate sheets. There is a sheet for each of the following: proximates, vitamins, minerals, fatty acids, and amino acids. At this time, if necessary, the values are recalculated into the units set up in the guidelines, i.e. milligrams per 100

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grams, instead of milligrams per kilogram of fish.

After several conferences with the computer system's programmer, we decided on the coding form pictured in Figures 1 and 2, listing all possible information needed for a data bank on the composition of fish.

At the time the program was written, no systematic coding of the fish or shellfish was available, so we decided to list the fish family by common names in alphabetic order and give each family a number ranging from 001 to a possible 999. Under each family we listed the species by common and scientific names again with numbers 001 to a possible 989. The numbers 990 to 999 were saved for any fish classified by the investigator by the common name with no specific scientific name mentioned. This system is expandable. We were not always able to keep the common names in alphabetical order. A number is assigned to each family and species as they appear in our review of the literature. So far we have found a number of other families of fish or shellfish that were not in the first listing. Consequently, we sacrificed the alphabetical order and continued with the numerical system.

The first three cards record the history of the fish or fishery product used in the analyses. Card one and all the cards used to record the data on a particular fish will carry the identification-reference number and suffix. The reference number is assigned to the publication when it is reviewed and recorded for the data bank. To the reference number a suffix number is attached for each species of fish reported in the publication. Therefore, this system will make each record on each fish unique. The data on the magnetic tape will be in chronological order by reference number and suffix number, for example:

Reference No.	Suffix
00012	01 for Atlantic cod 02 for bluefin tuna 03 for anchovy
00013	01 for mackerel 02 for shrimp 03 etc.

The fish family (fish type) number and species number will identify the fish, for example:

Reference No.	Suffix No.	Card No.	Family No.	Species No.
00012	01	01	033	008
00012	02	01	091	023

That series of figures shows that in Reference 12 there is an analysis on Atlantic cod. In that same reference, there is also an analysis on bluefin tuna. Also card number 1 records the date, season, and location of catch, and sex and size of the fish or shellfish.

The second card presents information on the environment, saltwater or freshwater, number of fish involved in the study, age, physiological status, and tissue used in the analyses.

The third card describes the process the fishery product has undergone, for example cooked, canned, extracted for fish meal, fishery product added to another product, as in soups.

Theoretically, if all possible information could be obtained on one batch of fish, it would take 60 cards to record all the data. Chances for this to happen are small, in fact almost nil. The scientist is usually interested in one or several aspects of the composition of fish, so he will make the same determinations on a number of fish. The number of entries depends upon what the investigator studied. For example, if the scientist has done only protein, moisture, fat, and ash analyses, there will be four entries on each fish. Another scientist worked on fatty acid composition of fish, whereby there will be 62 entries for each fish.

After the data have been recorded on the coding sheet (Figures 1 and 2), the procedure is:

1. Cards are punched from coding sheet.
2. Cards are sorted and placed in numerical order by reference number and suffix number.

00012	01 02 03 etc.
00013	01 02 03 etc.

3. The data on the cards are printed, so these data can be easily checked against the coding sheet to catch punching errors.
4. The corrected "deck of cards" is edited for mechanical errors. For example, an asterisk has been left out, or placed in the wrong space, consequently the machine will not take the card.
5. As soon as the cards are acceptable to the machine, the data are put on magnetic tape for storage. At this time there is a printout of the data that were put on the tape.
6. Again the data are checked, this time against the original publication.
7. If, by chance, there is an error, a new card is punched with a special code number 1 in the space between the suffix number and card number. This automatically erases the data on the tape and replaces the new data from the correction card.

As may be noted, there are a number of checkpoints, so the final record will be as correct as is humanly possible. Since so many people are involved in the process of putting the data on the tape, checking the data at various points becomes an important factor.

## DISCUSSION

So far, in our literature search we have located 155 articles containing suitable data for protein, fat, moisture, ash, carbohydrate, energy, and cholesterol values for 154 species of fish commonly eaten throughout the world.

Each investigator reported an average figure obtained either from several determinations on a composite of fish, or from a determination on each of a number of fish. In the latter instance, the scientist reported the average and the range of the results obtained from the analyses. These averages were used to calculate the overall average and the standard error of the mean.

The variability in fat and moisture content is due mainly to the natural season variation, but also age, size, and type of fish play an important role. The



Table 1.—Composition of the edible portion of raw (fresh or frozen) Crustacea, finfish and mollusks. I. Protein, fat, moisture, ash, carbohydrate, energy, and cholesterol.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm				cal/100 gm		mg/100 gm	
Abaione	$14.9 \pm 0.2$	$10.5 \pm 0.1$	$176.9 \pm 2.9$	$11.8 \pm 0.6$				10, 65, 76, 122
<i>Haliotis kamtschaticana</i>	$10.4-18.2$ 34	$10.3-0.7$ 33	$172.6-82.4$ 33	$11.0-3.0$ 33				
Aldacore	$24.2 \pm 0.5$	$5.4 \pm 0.9$	$70.2 \pm 1.0$	$1.3 \pm 0.1$	10.2	$1134 \pm 17$		10, 43, 68, 70, 102, 108, 133, 143
<i>Thunnus alalunga</i>	$19.1-27.6$ 18	$0.7-18.2$ 19	$62.3-78.6$ 17	$1.2-2.4$ 18	31	$1107-185$ 35		
Amberjacks	$21.1 \pm 0.7$	$1.6 \pm 0.4$	$75.2 \pm 1.2$	1.2		96		61, 65, 106, 144
<i>Seriola</i> spp	$20.1-22.5$ 3	$0.8-3.1$ 5	$73.4-77.5$ 3	$1.1-1.3$ 2		1		
Anchovies	$20.2 \pm 0.7$	$2.4 \pm 0.8$	$76.0 \pm 1.1$	$1.8 \pm 0.1$		$93 \pm 5.3$		3, 5, 11, 65, 68, 108, 121, 143
<i>Engraulidae</i> spp	$18.4-21.8$ 4	$0.5-3.8$ 4	$73.4-81.0$ 4	$1.5-2.1$ 4		$73-103$ 3		
Anchovy, striped	$17.4 \pm 0.2$	$2.8 \pm 0.2$	$76.6 \pm 0.3$	$3.3 \pm 0.1$				80, 128, 129, 130, 132
<i>Anchoa hepsetus</i>	$16.2-18.9$ 21	$1.6-4.6$ 21	$74.2-78.1$ 21	$2.6-4.1$ 21				
Barracouta	$22.0 \pm 0.1$	$4.8 \pm 1.2$	$71.0 \pm 0.9$	$1.6 \pm 0.2$	0.7	132		68, 144
<i>Thyrsites atun</i>	$21.9-22.1$ 3	$2.6-6.7$ 3	$69.5-72.6$ 3	$1.3-1.8$ 3	1	1		
Barracudas	$19.8 \pm 0.2$	$3.2 \pm 0.4$	$75.8 \pm 0.4$	$1.7 \pm 0.1$	$1.1 \pm 0.3$	$94 \pm 3.1$		5, 9, 11, 60, 62, 65, 67, 121, 143
<i>Sphyrnidae</i> spp	$18.4-22.1$ 39	$0.2-10.3$ 43	$69.1-79.5$ 40	$1.1-2.5$ 40	$0.1-2.2$ 6	$77-110$ 9		
Basses	$18.1 \pm 0.3$	$3.0 \pm 0.6$	$77.4 \pm 0.7$	$1.4 \pm 0.2$		$113 \pm 11.0$		11, 14, 45, 54, 95, 102, 140, 144
<i>Percichthyidae</i> spp	$16.6-18.9$ 11	$0.1-6.7$ 9	$74.5-81.1$ 11	$1.0-2.9$ 11		$92-129$ 3		
Basses	$18.6 \pm 0.3$	$1.6 \pm 0.4$	$78.6 \pm 0.3$	$1.1 \pm 0.1$				14, 54, 80, 95
<i>Serranidae</i> spp	$17.3-20.1$ 7	$1-3.0$ 7	$77.3-79.6$ 7	$0.9-1.2$ 7				
Bluefishes	$21.0 \pm 0.4$	$3.8 \pm 0.8$	$74.7 \pm 1.7$	$1.3 \pm 0.1$				14, 15, 16, 84, 151
<i>Pomatomidae</i> spp	$20.4-21.6$ 3	$2.1-4.8$ 3	$69.0-81.4$ 6	$1.1-1.5$ 4				
Bonita	$24.7 \pm 1.6$	$4.5 \pm 2.0$	$71.3 \pm 1.9$	$1.5 \pm 0.1$				11, 14, 43, 144
<i>Sarda</i> spp	$22.6-29.3$ 4	$1.5-10.2$ 4	$66.3-74.8$ 4	$1.4-1.7$ 4				
Bream	$17.9 \pm 1.0$	$1.6 \pm 0.4$	$74.8 \pm 3.5$	$1.5 \pm 0.4$		$82.3 \pm 4.6$		102, 144
<i>Pagellus</i> spp	$16.4-20.7$ 4	$0.5-2.3$ 5	$61.3-80.2$ 5	$1.4-1.6$ 5		$70-92$ 4		
Bream, ig-eyed	$18.4 \pm 0.6$	$1.0 \pm 0.4$	$78.2 \pm 0.6$	$1.2 \pm 0.2$	1.6	90.5		65, 121
<i>Monotaxus grandoculis</i>	$17.1-19.0$ 3	$0.6-1.8$ 3	$77.0-79.2$ 3	$0.8-1.4$ 3	1	$89-92$ 2		
Burbot	$18.0 \pm 0.7$	$0.8 \pm 0.2$	$80.3 \pm 0.2$	$1.3 \pm 0.3$				45, 140
<i>Lota lota</i>	$16.8-19.2$ 3	$0.6-1.2$ 3	$80.1-80.6$ 3	$1.0-1.9$ 3				
Butterfishes	$17.7 \pm 0.4$	$7.2 \pm 1.9$	$74.3 \pm 1.7$	$1.4 \pm 0.4$	$1.3 \pm 0.6$	95		1, 5, 6, 10, 14, 16, 65, 95, 108, 118, 121, 143
<i>Stromateidae</i> spp	$15.0-20.7$ 13	$0.9-24.5$ 13	$56.5-80.4$ 13	$0.9-2.5$ 13	$0.3-2.6$ 4	$95-95$ 2		
Carp	20.6	2.7	74.7	1.4				101, 105
<i>Barbus</i> spp	$16.0-25.2$ 2	$2.3-3.1$ 2	$70.3-79.1$ 2	$1.2-1.5$ 2				
Carp	$18.9 \pm 0.2$	$0.9 \pm 0.5$	$78.0 \pm 0.4$	$1.4 \pm 2.1$	$1.4 \pm 0.2$	$86.7 \pm 0.9$		100, 104
<i>Cirrhina mrigala</i>	$18.1-19.6$ 10	$0.2-4.0$ 8	$75.0-79.8$ 10	$1.0-1.6$ 8	$0.6-2.0$ 7	$84.0-90.0$ 7		
Carp	$18.0 \pm 0.2$	$6.2 \pm 1.2$	$75.6 \pm 1.1$	$1.1 \pm 0.03$				10, 22, 27, 45, 73, 115, 140
<i>Cyprinus carpio</i>	$17.4-19.3$ 9	$3.3-14.8$ 9	$66.2-79.8$ 14	$1.0-1.2$ 7				
Carp, Indian	$16.8 \pm 0.4$	$4.6 \pm 2.9$	$79.7 \pm 0.8$	$1.3 \pm 0.1$	$0.4 \pm 0.1$			1, 100, 101, 104, 105
<i>Labeo</i> spp	$14.3-19.1$ 12	$0.5-24.5$ 8	$72.5-82.1$ 12	$0.9-1.4$ 8	$0.3-0.4$ 2			
Catfishes, air-breathing	$17.3 \pm 0.8$	$2.5 \pm 1.0$	$77.6 \pm 0.7$	$1.4 \pm 0.2$	0.2	$103 \pm 12.7$		5, 65, 104, 108, 121
<i>Catridae</i> spp	$15.0-19.7$ 5	$0.4-4.8$ 5	$76.3-79.9$ 5	$1.1-2.1$ 5	$0.1-0.3$ 2	$78-117$ 3		



Table 1, continued.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm					cal/100 gm	mg/100 gm	
Calfishes, freshwater <i>Ictaluridae</i> spp	17.6±0.8 15.4—22.8 10	3.2±1.8 0.3—11.0 10	77.8±1.2 68.0—82.6 14	1.1±0.1 0.9—1.7 10				24, 25, 34, 45, 72, 84, 91, 101, 104, 115, 140
Calfishes, sea <i>Ariidae</i> spp	18.3±0.9 12.7—21.2 9	1.2±0.3 0.2—2.9 8	78.3±0.6 75.1—81.1 9	1.3±0.1 0.9—1.6 9	0.5±0.1 0.4—0.6 3	84.2±3.0 74—90 5		5, 65, 108, 112, 121, 143
Chubs, sea <i>Kyphosidae</i> spp	21.1 1	4.2 2.0—6.3 2	76.0 75.9—76.0 2	1.3 1.1—1.4 2		102 1		16, 62, 121
Chubs, Utah <i>Gila straris</i>	15.5 1	4.8 1	79.3 1	1.0 1				140
Cisco, longjaw, trout <i>Coregonus alpenae</i>	15.5±0.8 13.3—16.9 4	12.5±3.1 7.6—21.5 4	71.2±2.8 63.8—77.2 4	1.5±0.4 1.0—2.7 4				140
Clam Miscellaneous spp	11.7±0.4 7.6—19.0 21	1.4±0.2 0.3—4.8 19	83.0±0.7 73.7—87.9 16	1.8±0.2 0.8—3.9 11				10, 65, 74, 122, 123, 131, 143, 146
Clam, short neck <i>Venerupis semi decusata</i>	12.8±0.2 12.2—13.6 5	0.8±0.04 0.7—0.9 5	84.9 1					4, 123
Clam, soft shell <i>Mya arenaria</i>	11.2±0.06 9.7—15.6 10	2.0 1.4—2.5 2	84.8±1.0 78.5—87.8 8	1.7 1	1.7 1	89 1		7, 10, 63, 96
Cod, Atlantic <i>Gadus morhua</i>	17.9±0.4 16.5—20.7 9	0.3±0.1 0.1—0.8 6	81.1±0.4 78.2—82.6 10	1.1±0.3 1.0—1.2 7				10, 35, 83, 118, 125, 151
Cods <i>Gadus</i> spp	18.8±0.7 17.7—21.4 5	0.5±0.2 0.1—1.0 5	79.2±1.0 75.5—81.4 5	1.5±0.2 1.1—2.1 5		86.0±5.6 79.0—97.0 3		14, 35, 102
Congers, pike <i>Muraenesocidae</i> spp	18.4±0.7 16.9—21.5 6	0.9±0.2 0.2—1.5 5	78.9±0.6 77.3—80.3 6	1.3±0.2 0.6—2.0 6	0.8 1	85±4.0 80—93 3		5, 65, 75, 106, 112, 121
Crab Miscellaneous spp	15.8±1.4 7.2—22.4 10	3.1±1.3 0.1—12.5 9	76.1±1.8 61.0—84.7 12	2.5±0.5 1.4—6.2 9				34, 56, 58, 94, 96, 108, 145
Crab, blue <i>Callinectes sapidus</i>	16.1±0.5 11.9—19.2 18	1.0±0.1 0.4—1.5 18	81.2±0.6 77.4—86.7 17	1.6±0.1 1.3—1.8 15	1.25 0.5—2.0 2	81.5 77—86 2	84 70—96 2	10, 47, 126, 131, 145
Crab, Dungeness <i>Cancer magister</i>	17.2±0.7 14.3—23.4 12	1.4±0.1 0.7—2.2 14	80.5±0.3 78.5—82.3 13	1.4±0.1 1.2—1.9 11		85±4.6 77—97 4	57.5 52—65 2	10, 48, 49
Crab, deep sea <i>Neptunus</i> spp	16.5±0.5 12.8—18.6 12	0.5 1	78.4±0.6 75.9—81.4 12	1.45 0.6—2.3 2	0.3 1			51, 52
Crab, king <i>Paralithodes camtschatica</i>	17.2±0.7 14.6—19.0 7	0.7±0.2 0.2—1.4 6	80.7±0.6 80.1—82.8 6	1.6±0.2 1.3—2.2 5				10, 92, 124
Crab, samson <i>Scylla serrata</i>	14.9±0.4 11.8—20.1 22	2.9±1.1 0.7—4.0 3	80.3±0.5 75.1—83.9 22	1.8±0.1 1.5—1.9 4	0.6 1			51, 52, 65, 112
Crayfish Miscellaneous spp	18.7±0.9 17.0—19.6 3	1.7 1	76.3±0.2 72.4—80.1 3	1.1 1				36, 65, 112
Croakers <i>Sciaenidae</i> spp	19.0±1.4 14.1—29.1 9	1.9±0.4 0.4—4.9 10	78.5±1.1 72.0 9	1.3±0.1 0.9—1.6 9		103 1		5, 14, 62, 65, 67, 95, 105
Flounder <i>Europeflanus squisetis</i>	19.0±0.4 18.5—19.6 3	1.6±0.2 0.7—3.2 3	75.4 2	1.5 2		94.3±6.6 85—107 3		147, 151



Table 1, continued

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm				cal/100 gm		mg/100 gm	
Dories	18.4	1.05	78.1±0.7	1.3±0.03		80.0		11, 16, 144
<i>Zelidae</i> spp	18.3—18.4	0.9—1.2	77.0—79.3	1.2—1.3				
	2	2	3	3		1		
Drum	19.2±0.3	1.5±0.2	76.9±1.1	1.6±0.2		91.0		2, 11, 16, 72,
<i>Sciaenidae</i> spp	18.1—20.1	0.9—1.9	69.7—80.2	0.9—2.4				144
	6	4	8	8		1		
Drum, freshwater	17.4±0.2	5.5±0.7	76.7±1.0	1.1±0.02				10, 23, 24, 28,
<i>Aprodotus grunniens</i>	15.9—18.4	1.0—8.4	73.9—82.7	1.0—1.1				29, 45, 144
	11	11	10	10				
Eel, conger	16.4	4.5	77.6±1.0	1.2±0.2		110.5		16, 102
<i>Congridae</i> spp			76.3—79.5	1.0—1.5		99—122		
	2	2	3	3		2		
Eels, freshwater	18.0	17.3±2.6	65.0±1.8	1.3		246		11, 46, 63, 91,
<i>Anguillidae</i> spp		12.7—21.5	62.2—70.1			237—255		
	2	3	4	2		2		
Eels, snake	17.7±0.4	0.9±0.2	78.8±0.5	1.3±0.1	0.6±0.2	81.4±3.3		5, 65, 71, 101,
<i>Ophichthidae</i> spp	15.3—20.2	0.1—3.1	74.0—81.1	0.2—2.6	0.3—2.4	73—104		104, 121, 143
	18	18	17	18	10	11		
Flatheads	19.0±0.5	1.1±0.3	80.2±2.9	1.3±0.2		87±2.9		5, 16, 68, 121,
<i>Percophidae</i> spp	17.6—20.0	0.2—1.8	78.4—83.0	1.0—1.9		82—95		143
	4	4	5	5		4		
Flounder, winter	17.4±2.3	0.8±0.5	79.5±0.9	1.3±0.0				6, 10, 14, 63,
<i>Pseudopleuronectes americanus</i>	16.0—19.9	0.2—3.0	75.4—81.0	1.2—1.3				95, 148
	6	6	6	5				
Flounders	19.0±0.6	0.9±0.2	78.1±0.7	1.7±0.2	0.6	84.3±5.4		5, 62, 65, 108,
<i>Bothidae</i> spp	17.3—20.8	.1—2.5	76.0—80.1	1.3—2.3	0.4—0.8	78—95		115, 121, 148
	7	11	7	4	2	3		
Flounders	17.3±0.3	1.0±0.2	80.8±0.4	1.3±0.1	1.3	87.7±3.4		6, 10, 18, 59,
<i>Pleuronectidae</i> spp	14.0—20.3	0.1—2.9	76.8—84.1	1.1—2.3		81—92		67, 84, 91, 98,
	22	21	20	15	1	3		102, 135, 143,
								151
Flyingfish and halfbeaks	20.1±0.9	1.1±0.2	77.5±0.7	1.2±0.1	0.4	92.3±3.2		5, 11, 16, 65,
<i>Exocoetidae</i> spp	17.1—23.5	0.2—1.4	75.2—80.3	0.6—1.6		83—97		68, 108, 121
	7	7	8	8	1	4		
Goatfish, dwarf	19.8±0.2	4.0±0.5	75.2±0.6	1.8±0.1				60
<i>Upeneus parvus</i>	18.7—21.5	1.6—7.0	71.7—78.4	1.6—2.5				
	14	14	15	15				
Goatfishes	20.1±0.7	2.0±0.5	76.3±0.6	1.7±0.5		106.3±5.0		11, 65, 147, 155
<i>Mullidae</i> spp	16.9—22.9	0.4—4.7	74.5—78.1	0.6—4.0		99—120		
	9	9	6	6		4		
Gobies	17.4±0.6	1.1±0.3	79.3±0.5	1.8±0.2	0.3	75±0.6		5, 11, 65,
<i>Gobiidae</i> spp	15.4—20.5	0.1—2.7	76.5—81.8	1.0—2.9		74—76		104, 108, 121,
	11	11	11	11	1	3		143
Goosefishes	13.2±1.0	1.2±0.5	83.6±0.4	1.6±0.2		62.7±2.3		10, 11, 102
<i>Lophidae</i> spp	10.6—15.2	0.3—2.5	82.9—84.2	1.2—2.0		58—65		
	4	4	3	3		3		
Groupers	19.2±0.3	0.8±0.2	78.6±0.3	1.3±0.1	1.0	87.4±2.3		9, 11, 16, 54,
<i>Serranidae</i> spp	16.4—20.8	0.2—2.3	76.0—79.8	0.9—1.8		83.0—94.0		62, 65, 67, 121,
	12	13	13	13	1	5		143
Grunts	19.2±0.4	0.9±0.3	77.9±0.5	1.8±0.3	2.2	87.3±2.3		54, 67, 108,
<i>Pomadasyidae</i>	17.7—21.1	0.2—2.7	75.6—79.8	1.1—3.5		80—92		121, 155
	9	9	9	9	1	6		
Haddock	18.3±0.3	0.5±0.2	80.3±0.3	1.1±0.1		79	66.3±13.0	8, 10, 14, 35,
<i>Meionogrammus aeglefinus</i>	15.4—19.6	0.1—1.2	79.1—81.7	1.0—1.2			45.0—90.0	59, 118, 125
	13	5	11	3		1	3	
Hakes	16.3±0.3	1.2±0.5	81.1±1.0	1.2±0.1		86		6, 11, 35, 144
<i>Merluccius</i> spp	15.4—16.9	0.6—2.7	78.5—83.1	1.0—1.5				
	4	4	4	4		1		
Halibut, Atlantic	17.7±1.3	2.4±0.9	78.1±0.7	1.1		126	60	13, 63, 88, 119
<i>Hippoglossus hippoglossus</i>	12.6—20.1	0.7—5.2	76.5—82.9					
	5	5	9	1		1	1	



Table 1, continued.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm				cal/100 gm	mg/100 gm		
Halibut, Pacific <i>Hippoglossus stenolepis</i>	21.1±0.1 20.3—22.0 12	1.1±0.2 0.6—3.6 13	77.9±0.1 77.3—78.7 16	1.4±0.0 1.2—1.4 12				10, 119, 141
Herring, Atlantic <i>Clupea harengus</i>	18.2±0.8 15.2—21.9 7	15.7±1.9 2.4—29.1 17	60.1±2.5 52.6—78.0 11	1.7 1 1				14, 87
Herring, fimbriated <i>Sardinella fimbriata</i>	20.0±0.4 18.3—21.8 7	2.0±0.5 0.4—3.6 6	76.1±0.8 71.3—78.1 8	2.0±0.2 1.3—3.4 8	1.7 0.6—2.7 2	102.3±8.9 88—128 4		9, 121
Herring, lake, trout <i>Coregonus artedii</i>	18.8±0.9 15.6—20.8 6	3.3±1.04 1.5—7.2 6	77.6±1.1 62.6—81.3 18	1.4±0.2 1.0—2.8 8				45, 73
Herring, Pacific <i>Clupea harengus pallasii</i>	14.6±1.7 9.4—16.5 4	11.1±1.6 8.0—12.8 3	71.5 69.0—73.9 2	3.8±0.9 2.5—3.3 7				10, 31, 38, 41
Jack mackerel <i>Trachurus trachurus</i>	19.7 1	6.8±4.3 1.5—15.3 3	76.7 1	1.2 1				62, 144
Jacks <i>Caranx spp</i>	19.9±0.4 16.6—22.0 14	1.2±0.5 0.1—6.1 12	76.5±0.5 71.5—79.8 16	1.5±0.1 1.0—2.7 15	0.6±0.4 0.2—1.4 3	96.6±45 84—135 10		9, 16, 26, 65, 73, 112, 121, 155
Kingfishes <i>Menticirrhus spp</i>	17.2±0.3 16.5—17.9 5	3.1±1.1 0.7—6.1 5	78.4±1.2 75.3—81.7 5	1.1±0.1 1.1—1.3 5				14, 95
Leatherjacket <i>Scorpaenoides lysan</i>	19.9±0.3 19.3—20.7 4	1.3±0.4 0.1—1.8 4	77.1±0.4 76.4—77.7 4	1.6±0.1 1.3—1.8 4	0.3 1	109 88—130 2		5, 121, 143
Lingcod <i>Ophiodon elongatus</i>	17.5±0.4 16.7—18.1 3	0.7±0.2 0.5—1.0 3	80.2 79.2—81.1 2	1.2±0.0 1.2—1.2 3		99 81—117 2		10, 133, 137, 153
Lizardfish <i>Saurida tumbil</i>	19.3±0.3 17.4—23.5 17	1.13±0.1 0.1—1.8 18	78.2±0.3 76.3—80.2 17	1.7±0.1 1.4—2.2 17				60, 65, 121
Lizardfish <i>Saurida undosquamis</i>	19.4±0.2 18.4—20.9 13	2.3±0.2 0.5—3.4 13	77.0±0.3 75.6—79.2 13	1.8±0.1 1.5—2.2 12	0.9 1	8E		60, 143
Lobster <i>Panulirus spp</i>	19.6±0.8 16.2—21.6 7	1.3±0.2 0.6—1.9 6	76.0±1.1 71.5—81.2 10	2.4±0.6 1.2—3.4 4	0.8 1	95 92—98 2	260 170—350 2	10, 16, 35, 42, 5E, 59, 63, 84, 9C, 145
Mackerel <i>Scorpaenidae spp</i>	22.0±0.3 13.5—25.3 44	5.3±0.7 0.3—18.1 42	71.7±0.6 61.4—77.7 45	1.5±0.04 1.1—2.4 43	0.3 1	114±3.6 106—124 4		5, 43, 60, 67, 107, 108, 109, 112, 143, 144, 155
Mackerel <i>Scorpaenidae spp</i>	18.9±0.5 15.9—22.4 16	3.7±1.4 0.2—14.4 13	74.9±1.4 63.0—82.1 15	1.3±0.1 0.8—1.6 15	2.8±0.1 2.6—3.0 5	103.4±17.3 80—172 5		2, 10, 14, 54, 6E, 67, 72, 9E, 10E, 112, 121, 133, 15E
Mackerel <i>Auxis spp</i>	24.8 23.7—25.8 2	3.2±1.2 0.7—7.2 5	71.2 70.2—72.2 2	1.4 1.3—1.5 2				62, 65, 121
Mackerel, Atlantic <i>Scorpaenidae spp</i>	19.1±0.6 15.1—23.1 17	16.3±2.1 0.7—24.0 17	64.0±1.9 49.3—78.6 15	1.5±0.1 1.0—3.0 15		169±30.7 84—230 4	80	10, 59, 89, 9C, 102, 11E
Mackerel, Indian <i>Rastrelliger spp</i>	19.1±0.7 16.6—21.4 9	2.0±0.4 0.5—4.1 14	76.4±0.8 73.3—79.3 9	1.5±0.1 1.1—2.2 9	2.1±0.2 1.8—2.5 3	97.7—3.8 92—105 3		12, 65, 70, 107, 145
Mackerel, Pacific <i>Pneumatophorus japonicus</i>	21.2 1	4.6±2.5 1.6—9.5 3	72.3 1	2.4 1				62, 93
Morris <i>Getreide spp</i>	18.6±0.6 17.7—19.6 3	1.3 1.2—1.3 2	78.5±0.2 3	1.6±0.3 3		84 1		65, 67, 121



Table 1. continued.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm					cal/100 gm	mg/100 gm	
Mullet <i>Mugil spp</i>	19.2±0.7 12.3—22.6 14	3.3±0.5 0.4—5.9 11	75.3±1.1 69.3—86.0 15	1.4±0.1 0.9—2.1 13	2.2 1.9—2.4 2	128.4±13.4 103—124 5		34, 65, 72, 90, 101, 104, 105, 112, 121, 143, 144
Mullet striped <i>Mugil cephalus</i>	19.4±0.4 17.9—21.8 11	5.5±1.3 0.2—14.8 12	73.7±1.4 64.5—80.2 11	1.3±0.1 1.0—1.8 10		143±13.7 102—219 8		5, 11, 54, 68, 95, 102, 108, 147
Mullet, red <i>Mullus barbatus</i>	19.0±0.4 16.8—23.0 19	5.0±0.7 0.8—10.8 19	75.3±0.8 68.4—79.9 19	1.7±0.1 1.3—2.1 18				11, 111
Needlefishes <i>Belontiidae spp</i>	23.2±1.8 20.6—26.6 3	1.1±0.5 0.3—2.1 3	74.9±2.3 70.4—78.0 3	1.6±0.1 1.4—1.8 3		84.5 78—91 2		11, 65, 143
Ocean perch, Pacific <i>Sebastes alutus</i>	18.1±0.6 17.2—19.2 3	1.4±0.1 1.2—1.5 3	79.1±0.4 78.4—79.8 3	1.2±0.03 1.1—1.2 3				66, 137
Oysters <i>Ostreidae spp</i>	7.8±0.5 5.0—14.3 22	1.5±0.1 0.7—2.6 21	84.8±0.9 76.0—93.0 26	1.8±0.1 1.1—2.7 19	4.2±0.3 2.3—6.5 20	78.5±5.7 54—92 6	262±52.9 112—470 6	10, 16, 33, 42, 57, 59, 65, 81, 94, 98, 103, 123, 125, 143
Oyster, blue point <i>Crassostrea virginica</i>	6.9±0.3 5.6—10.0 24	1.5±0.1 0.7—2.4 24	85.7±0.5 77.4—90.2 40	1.5±0.1 0.7—2.9 23	3.3±0.2 1.9—4.7 18		47.5 37—58 2	10, 53, 82, 126, 131, 146, 154
Parrotfishes <i>Scaridae spp</i>	19.7±0.7 18.9—21.0 3	0.9±0.5 0.4—2.0 3	78.7±1.4 75.8—80.2 3	1.3±0.1 1.1—1.5 3		105		65, 67, 143
Perch, yellow <i>Perca flavescens</i>	19.0±0.3 17.3—19.9 9	0.9±0.1 0.5—1.2 8	79.1±0.3 78.3—80.2 6	1.4±0.3 0.6—3.3 8				10, 19, 20, 45, 140
Perches <i>Serranidae spp</i>	18.0 1	1.0±0.4 0.3—1.5 3	81.1±0.5 80.4—82.0 3	1.2 1.1—1.2 2		83		11, 16, 62, 67, 115
Pikes <i>Esocidae spp</i>	19.0 18.2—19.7 2	1.2 1.2—1.2 2	77.9±1.8 72.5—80.2 4	1.2 1.1—1.3 2				31, 84, 140
Pilchards <i>Sardinops spp</i>	16.7±0.6 14.7—19.4 7	2.0±0.7 0.3—5.2 7	76.7±0.6 74.5—78.9 7	3.7±0.6 1.1—4.9 7		87.3±10.3 70—117 4		11, 68
Pilchard <i>Sardina caerulea</i>	19.2±0.2 16.9—21.4 30	8.0±1.1 0.3—21.4 32	71.4±1.1 59.7—79.7 30	1.8±0.3 1.3—2.7 4				44, 93, 152
Pollack, coalfish <i>Pollachius virens</i>	18.6±0.3 17.4—19.3 7	0.5±0.1 0.2—1.0 7	79.2±0.7 77.4—81.6 6	1.6±0.1 1.3—2.0 6				6, 10, 18, 102
Pollack, walleye <i>Theragra chalcogramma</i>	17.4 16.8—18.0 2	0.9 0.7—1.0 2	82.5 1	1.1 1				6, 35
Pomfrets <i>Bramidae spp</i>	18.9±0.6 16.2—21.6 10	1.1±0.3 0.6—1.4 3	76.5±1.1 70.6—80.3 10	1.3±0.2 0.4—2.2 7	2.8 1.3—2.3 2	93.3±4.1 84—101 4		72, 90, 102, 109, 112, 121, 155
Pompano <i>Trachinotus spp</i>	19.3±0.4 17.6—21.0 8	1.4±0.4 0.2—4.0 8	77.3±0.6 75.3—80.4 8	1.2±0.1 0.4—1.5 8	2.8 1	86.2±3.4 83—99 5		54, 65, 121, 155
Porgies <i>Dentex spp</i>	19.9±0.5 18.7—21.4 5	1.8±0.5 1.0—3.5 5	77.4±0.7 76.4—80.0 5	1.6±0.2 1.3—2.1 5		94.7±5.2 86—104 3		9, 11, 144
Porgies <i>Sparus spp</i>	20.8±0.4 19.0—22.8 8	1.8±0.5 0.2—4.9 10	75.3±0.5 73.6—77.4 8	1.5±0.2 1.3—2.5 8	1.1 0.7—1.5 2	100.7±3.5 90—115 6		5, 86, 108, 121, 143, 144, 155
Porgies <i>Pagrus spp</i>	20.3±0.2 19.9—20.5 3	1.2±0.5 0.6—2.2 3	77.1±0.2 76.9—77.5 3	1.5±0.2 3		102		9, 144



Table 1. continued

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm					cal/100 gm	mg/100 gm	
Porgy	19.0±0.8	6.3±1.3	73.5±1.5	1.9±0.2		128.8±13.8		11, 102
Box boops	17.3—20.9 4	4.5—10.1 4	69.3—76.5 4	1.4—2.4 4		113—170 4		
Prawns	16.8±1.1	1.2±0.2	75.3±1.0	2.7±0.3				2, 16, 35, 77, 90
Miscellaneous spp	8.9—23.2 19	0.3—3.1 17	67.5—80.6 20	1.6—5.2 14				112, 113, 114
Puffer	23.2	0.7	74.2	1.1				39, 65
Sphaeroides spp	1	1	1	1.0—1.2 2				
Redfish	18.0±0.1	1.3±0.2	79.4±0.2	1.1±0.0				10, 32, 118, 133
Sebastes marinus	17.9—18.1 7	0.6—2.2 7	78.8—79.6 6	1.1—1.1 6				
Rockfishes	18.6±0.3	1.2±0.2	78.3±0.5	1.2±0.02				10, 106, 107, 117, 133, 136
Sebastes spp	17.2—20.8 13	0.2—2.4 14	75.1—80.0 12	1.1—1.3 11				
Sablefish	13.3	14.0	71.5	1.0				10, 137
Anoplopoma fimbria	12.9—13.6 2	12.8—15.2 2	1	1				
Salmon, chinook	16.2±0.4	11.5±2.4	67.6±2.2	0.9±0.02				10, 55
Oncorhynchus tshawytscha	13.4—17.6 10	2.2—19.0 8	61.3—79.9 10	0.9—1.0 10				
Salmon, chum	20.7±0.7	4.3±0.6	73.8±1.4	1.5±0.1				10, 61, 64
Oncorhynchus keta	18.4—24.5 9	1.3—4.8 11	68.9—78.3 8	1.2—1.7 8				
Salmon, coho	21.5±0.1	5.7±0.5	72.7±0.5	1.2±0.01				10, 69, 116
Oncorhynchus kisutch	20.5—22.0 14	3.1—9.0 14	70.3—75.3 13	1.1—1.3 13				
Salmon, pink	19.4±0.2	5.3±0.4	74.0±0.5	1.2±0.02			65	10, 40, 61, 120, 134, 139
Oncorhynchus gorbuscha	17.2—20.6 22	2.0—9.4 36	69.0—78.3 33	1.1—1.4 21			1	
Salmon, sockeye	20.9±0.5	7.5±1.2	72.8±1.4	1.2±0.02				10, 61, 84, 115, 142
Oncorhynchus nerka	17.9—22.7 13	1.6—19.2 16	65.6—80.3 14	1.1—1.3 12				
Sandwiches	17.9	1.5	78.0	2.6		87.0		102
Ammodytes lanceolatus	1	1	1	1		1		
Sardine	19.0	3.7	77.1	2.6				9
Sardinella eba	1	1	1	1				
Sardine, gill	20.5±0.2	3.8±0.3	74.8±0.3	2.1±0.1				9, 60
Sardinella aurita	17.3—22.3 49	0.4—20.0 125	65.9—79.9 50	1.4—2.6 49				
Sardine, Indian	19.3±0.7	2.9±0.6	75.7±0.1	1.5±0.1	0.7	103±6.0		5, 65, 106, 127
Sardinella longiceps	17.7—21.0 4	1.9—4.6 4	75.3—76.0 4	1.3—1.6 4	0.1—1.3 2	91—110 3		
Scad	21.8±1.5	2.4±0.7	75.4	1.5	1.2	109		65, 121, 147
Decapterus spp	19.2—24.4 3	1.0—4.9 5	74.2—76.6 2	1.1—1.8 2	1	101—117 2		
Scallop	17.2±0.7	0.7±0.2	79.2±0.8	1.7±0.1				10, 16, 62, 84, 97, 125, 131, 150
Pectinidae spp	15.2—20.1 7	0.3—1.6 7	74.6—85.6 11	1.3—1.8 6				
Scallop, Atlantic Bay	15.4±0.2	0.5±0.03	80.7±0.4	1.4±0.04	1.7±0.2	105.7±35.2	150	
Pecten irradians	13.4—17.0 24	0.3—0.9 24	74.6—83.7 24	1.1—1.7 24	1.4—1.9 3	60—175 3		
Scallop, calico	15.9±0.2	0.6±0.06	79.8±0.4	1.5±0.03				150
Aequipecten gibbus	15.6—16.4 4	0.5—0.7 4	78.8—80.4 4	1.4—1.5 4				
Scup	18.8±0.1	3.7±0.8	75.5±0.6	1.2±0.1				14, 95, 145
Sienotomus chrysops	18.4—19.1 5	1.2—5.9 5	73.6—77.0 5	1.1—1.4 5				



Table 1, continued.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm				cal/100 gm	mg/100 gm		
Shad <i>Alosa sapidissima</i>	18.5±0.5 15.7—20.0 9	8.3±1.7 1.7—15.2 9	71.4±1.4 64.8—77.0 9	1.5±0.1 1.2—1.9 9				5, 14, 95, 108, 143
Shad <i>Ciuperdae</i> spp	17.4±0.7 15.1—21.5 8	12.0±3.6 1.2—23.1 8	70.2±2.6 58.0—78.3 8	2.1±0.4 1.2—4.2 8		87 1		45, 65, 112, 121, 140
Sharks Mixed spp	22.7±0.8 14.9—27.1 18	0.5±0.2 0.1—2.9 14	76.3±0.5 72.0—76.9 17	1.3±0.1 1.0—2.0 17		101±4.3 4		54, 65, 67, 68, 72, 90, 102, 112
Shrimp Miscellaneous spp	20.5±0.71 16.2—22.7 16	1.1±0.2 0.1—3.2 19	76.2±0.7 69.6—84.8 26	2.6±0.5 1.3—6.8 14	2.2 2	88.3±9.7 69—99 3	159.5±13.8 138—200 4	10, 16, 35, 37, 42, 56, 59, 94, 96, 108, 125, 127, 131, 143
Skates <i>Rajidae</i> spp	20.3 19.0—21.5 2	0.2 1 3	78.0±0.9 76.4—79.6 3	1.3 1.1—1.4 2		80 1		16, 90, 102
Skipjack <i>Euthynnus pelamis</i>	25.5±0.4 23.8—26.6 8	3.4±0.6 0.3—7.4 14	70.0±0.4 68.6—71.1 6	1.5±0.1 1.3—1.7 7				43, 50, 61, 62, 70, 147
Smelts <i>Osmeridae</i> spp	16.6±0.6 14.3—18.8 9	3.9±0.7 2.3—6.7 9	79.0±0.4 76.8—80.2 8	1.5±0.2 1.1—2.3 6				10, 21, 45, 91, 125, 140
Snappers <i>Lutjanidae</i> spp	19.2±0.4 16.7—21.9 16	2.0±0.5 0.4—7.4 16	77.9±0.5 72.7—81.9 19	1.3±0.1 1.0—1.7 15	0.7±0.2 2—1.3 4	99.5±5.2 82—146 12		5, 9, 16, 34, 54, 65, 67, 68, 84, 96, 121, 143, 147, 155
Snooks <i>Centropomidae</i> spp	18.5±1.1 13.7—20.6 6	0.9±0.2 0.3—1.9 6	78.3±0.7 77.0—82.0 8	1.2±0.1 1.0—1.5 8	0.6 0.2—0.6 2	82.5 79—86 2		16, 54, 65, 104, 121
Soles <i>Limanda</i> spp	18.0±0.4 17.0—19.2 6	1.0±0.2 0.1—1.3 6	81.1±0.3 80.0—82.7 8	1.3±0.1 1.1—1.5 4				6, 10, 18, 135
Sole <i>Soleidae</i>	18.7±1.3 16.6—21.2 3	1.07±0.5 0.2—1.7 3	78.4±1.2 75.0—80.1 4	1.7±0.2 1.3—2.1 4		82.5 80—85 2		11, 16, 102, 144
Sole, Dover <i>Microstomus pacificus</i>	15.0±0.3 13.9—16.6 7	0.8±0.1 0.6—1.2 6	83.7±0.3 82.6—84.4 6	1.1±0.0 1.1—1.1 4				10, 117, 120, 135
Sole, English <i>Parophrys ventulus</i>	17.1±0.4 16.4—18.5 5	1.4±0.1 1.2—1.8 5	81.2±0.2 80.7—81.8 4	1.2±0.0 1.2—1.3 5				10, 18, 133, 135
Sole, Petrole <i>Eopsetta jordani</i>	17.4±0.8 14.8—19.4 6	2.4±0.9 0.9—6.7 6	78.5±1.0 74.8—81.0 5	1.8±0.5 1.2—3.8 5		85.0 1		10, 11, 135
Spot <i>Leiostomus xanthurus</i>	17.9 1 1	3.1 1 1	77.5 1 1	1.1 1 1				95
Sprat <i>Clupea sprattus</i>	16.9 16.7—17.1 2	6.7 1.8—11.6 2	69.2±1.2 66.8—71.0 3	1.9±0.1 1.8—2.0 3		176 1		16, 35, 102
Squawfish, northern <i>Ptychocheilus oregonensis</i>	17.0±0.4 15.6—18.0 7	2.5±0.2 1.8—3.1 7	79.3±0.2 78.8—80.1 7	1.1±0.02 1.0—1.1 7				28, 140
Squid <i>Loliginidae</i> spp	15.3±1.1 11.9—18.4 6	1.0±0.2 0.5—1.4 6	79.3±1.6 74.2—84.0 6	1.8±0.3 1.0—3.1 7	3.0 1	89 80—98 2		38, 65, 67, 80, 108, 143
Surgeonfish <i>Acipenseridae</i> spp	18.7±0.5 17.4—20.9 6	1.3±0.5 0.4—3.8 6	80.3±1.9 74.4—89.0 6	1.0±0.2 0.3—1.4 5	1.3 1.3—1.3 2	92.2±6.9 81—119 5		65, 121, 143, 147
Swordfish <i>Xiphias gladius</i>	19.5±0.4 18.6—20.8 6	4.1±0.7 2.0—6.4 6	76.2±0.4 74.7—77.5 6	1.3±0.1 1.0—1.9 6	0.7 1	100 87—113 2		11, 85, 89, 143



Table 1, continued.

	Protein	Fat	Moisture	Ash	Carbohydrate	Energy	Cholesterol	References
	gm per 100 gm					cal/100 gm	mg/100 gm	
Trouts	16.1±1.1	11.0±1.1	71.3±1.8	1.3±0.2				35, 91
<i>Salmonidae</i> spp	12.4—19.0	8.7—14.0	64.0—76.3	1.0—2.0				
	5	5	6	5				
Trout, brook	17.5	4.5	74.5±1.2	2.7				63, 97
<i>Salvelinus fontinalis</i>	13.7—21.2	3.4—5.5	71.5—77.2	2.0—3.3				
	2	2	4	2				
Trout, Dolly Varden	19.9	6.5	73.1	1.2				31
<i>Salvelinus malma</i>	1	1	1	1				
Trout, lake	16.4±0.9	14.9±2.7	69.3±2.1	1.2±0.3				26, 45, 83, 84,
<i>Salvelinus namaycush</i>	11.3—20.0	9.1—36.0	52.5—79.0	0.5—3.3				138, 140
	9	10	11	8				
Trout, rainbow	22.0	11.7	72.0	1.3				31, 91
<i>Saimo gairdneri</i>	1	1	66.3—77.7	1				
	1	1	2	1				
Tuna, big eye	22.5	1.3±0.3	73.1	1.3		98		61, 155
<i>Thunnus obesus</i>	1	0.6—2.0	1	1		1		
Tuna, bluefin	24.7±0.3	3.9±0.6	70.4±0.4	1.3±0.02		122±3.2		11, 43, 68, 70, 89,
<i>Thunnus thynnus</i>	23.3—27.5	1.2—8.0	67.7—72.6	1.2—1.4		114—129		147, 155
	13	13	13	12		5		
Tuna, yellowfin	24.3±0.2	2.2±0.5	73.2±0.5	1.5±0.03				10, 16, 43, 65, 70,
<i>Thunnus albacares</i>	22.9—25.8	0.1—9.5	67.3—77.1	1.3—1.9				78, 93, 107, 147
	26	25	27	25				
Tunny, little	22.8±0.1	5.7±0.8	69.8±0.7	1.6±0.02				9, 60, 96
<i>Euthynnus alletteratus</i>	22.0—25.4	0.7—20.2	59.0—74.4	1.2—2.1				
	48	48	47	48				
Turbot	16.4	2.9	78.3	1.0		94		102
<i>Rhombus maximus</i>	2	2	2	2		74—114		
	2	2	2	2		2		
Walleye	19.3±0.2	1.5±0.3	79.3±0.6	1.2±0.03				133, 140
<i>Stizostedion vitreum</i>	18.8—19.8	0.8—1.9	78.2—80.0	1.1—1.2				
	4	4	3	3				
Weakfish	18.7±0.6	3.2±0.4	76.6±0.7	1.19±0.03				14, 15, 96
<i>Cynoscion regalis</i>	15.7—20.0	1.4—4.3	74.6—79.6	1.1—1.3				
	7	7	7	7				
Whitefish, lake, trout	18.0±0.3	7.6±1.2	73.4±1.3	1.3±0.1				10, 110, 132
<i>Coregonus clupeaformis</i>	15.1—19.8	1.7—18.5	62.6—79.0	1.0—3.1				
	16	17	14	15				
Whiting	16.1±0.3	1.2±0.3	80.7±0.5	1.2±0.02		87.7±11.8	75	6, 10, 14, 17
<i>Merluccius bilinearis</i>	15.2—16.7	0.2—2.0	79.3—82.4	1.1—1.2		73—111		
	6	6	5	5		3	1	

<sup>1</sup> Standard error of the mean.

<sup>2</sup> Range.

<sup>3</sup> This number of averages used to compute the overall average.

factors that influence the fat and moisture content do not cause much variation in the protein and ash content of the edible portion of the fish.

The variability of the fat content of fish flesh is reflected in the energy values. The energy values listed in Table 1 were, in all cases, calculated values, that is:

$$\text{Estimated energy value} = (\text{protein} \times 4) + (\text{fat} \times 9) + (\text{carbohydrate} \times 4)$$

Values for the cholesterol content of raw edible fish are very limited. More work needs to be done in this area because the medical services can use this data in the dietary treatment of certain vascular diseases. Indications are that fish can play a significant role in the dietary regime for certain diseases.

Table 1 does not represent all of the available data on the proximate and energy values of raw edible por-

tions of crustaceans, finfish, and mollusks. This interim report, however, will give a useful résumé until more data becomes available.

## SUMMARY

Table 1 lists the values for the overall average for protein, fat, moisture, ash, carbohydrate, energy, and cholesterol; the range of the averages used to compute the mean and standard



error of the mean; and also the number of averages used in the computation for 154 different fish. This review contains data from 155 references.

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TITRE DE LA TABLE: Seafood Nutrition Chart

LIEU DE PRODUCTION: Apparaît dans le guide:  
Seafood Foodservice Training manual

Produit par: National Fisheries Institute (NFI),  
Chicago

ANNÉE: 1985

DESCRIPTION:

- Trois pages
- Teneur en
  - Calories                      Lipides                      Fer
  - Protéines                      Sodium                      Cholestérol
- Deux pages sur l'aspect nutritionnel des produits de la mer sont ici annexées.

OÙ SE LE PROCURER:

- Gouvernement du Québec, M.A.P.A.  
Sous-ministériat des pêches maritimes  
Centre de documentation

- Suggestions:
  - . Contacter les bibliothèques scientifiques
  - . Contacter le NFI.



# Seafood Nutrition

High in top-quality protein and low in calories, seafood has suddenly emerged as a preferred dish among health-conscious Americans.

An explosion of medical research in the last few years has created a greater awareness of how certain foods affect health for better or worse. People not only want to know which foods will maintain, fortify, and improve health, but are quite willing to alter their diets so as to ensure greater vitality and a longer life. This overnight change in eating habits has pushed fish to the forefront as the food of the future.

Seafood best meets the public's craving for food that is both delicious and nutritious. These combined qualities are at the core of research conducted by the Benjamin Co., Inc., which predicts an increase in the consumption of fish and seafood in nearly half of all American households in the 1980's. Restaurateurs, as well, have perceived a switch in dining desires and have planned menus accordingly, often making fish a centerpiece of lunch, dinner and even breakfast. A 1983 Gallup survey also notes that four in ten (40%) restaurant operators reported customers were ordering more salads, seafoods, and vegetables to satisfy nutritional needs.

Customers are demanding specifics, and a vague knowledge that fish is good for you, is no longer sufficient. Familiarize yourself with the amounts of protein, vitamins, minerals, cholesterol and fat found in seafood. Learn how these dietary essentials fight disease. Your customers want to know!

## PROTEIN

An average portion of fish generally provides  $\frac{1}{2}$  the recommended daily allowance of protein for adults. You should point out that most tuna, salmon, rainbow trout, and shrimp, for example, all contain in excess of 20.0% protein. This compares favorably with such meats as hamburger (17.9%); sirloin steak (17.8%); and pork loin (17.1%). The protein found in seafood contains generous amounts of compounds called amino acids, the building blocks needed to construct body protein. Although total protein content varies between lean and fatty fish, the amino acid composition and quality of the protein is high regardless of whether it comes from lean or fatty fish.

## VITAMINS

The idea of eating seafood to obtain essential vitamins should be emphasized in a society that buys its vitamins by the truck-load. Some fish are an excellent source of vitamin A and D, while significant amounts of thiamine (B1), riboflavin (B2), and niacin are abundant in fish and shellfish, especially oysters and clams. The vitamin content in seafood varies with each species.

## MINERALS

An equally high content of micro-minerals, or trace minerals, such as iodine and fluoride, along with essential minerals such as phosphorus, potassium, iron, magnesium, selenium, cobalt, zinc, and copper can also be found in fishery products. A majority of the elements present in sea water are also contained in fish and shellfish.

## CHOLESTEROL

Not only is fish low in harmful cholesterol, it is high in polyunsaturated fat and a fatty acid that can help prevent formation of blood clots leading to arteriosclerosis and strokes. Dr. William P. Castelli's Framingham Heart Study states that eating more seafood is one of the best ways to reduce heart disease in Americans. Castelli has found five kinds of cholesterol, and the kind found in seafood actually works to lower the blood serum levels of the four other types which are bad for the heart.

## CALORIES/FAT

The percentage of fat and calories found in most fish is remarkably low when compared to other meats. For example,  $3\frac{1}{2}$  ounces of hamburger contains 21.2% fat and 268 calories, whereas, the same portion of halibut contains a mere 4.3% fat and 119 calories.

Other low cal/low fat seafoods you might recommend to customers watching their weight include cod which has .6% fat and 73 calories per  $3\frac{1}{2}$  ounces; lobster (whole) which has 1.8% fat and 96 calories; or ocean perch which has 1.4% fat and 91 calories.

Fish are divided into two classes, lean and fat. It's important to note that even fish classified as fat—salmon, mackerel, whitefish, etc.—contain 15% less fat than most red meat.

The impressive nutritional facts about fish have been around for some time, but only recently have medical studies come to light which relate nutrition and diet to prevention of various diseases.



## **A FISH A DAY**

It's true. A fish a day can help keep the doctor away! And with more than 100 varieties of fish to choose from, your customers can eat their way to good health!

## **Heart Disease**

Most noteworthy are the amazing studies showing a correlation between the increase of seafood consumption and the decrease of heart disease in individuals. In January, 1984 the National Heart, Lung, and Blood Institute released the findings of a ten-year, \$150 million study of the incidence of heart disease among 3,806 middle-aged American men. For the first time, there was direct, overwhelming evidence that reducing cholesterol levels prevents heart attacks.

Lowering cholesterol with a combination of diet and drugs can cut the risk of heart disease by as much as 50% in people with high cholesterol levels. A recently released government study relating cholesterol to heart disease, recommends that lean fish, with a cholesterol level of 43 (milligrams) be incorporated into the daily diet.

Scientists have long known that a typical American diet raises cholesterol levels. They know, too, that societies with low-fat, low-cholesterol diets, and a high per capita consumption of seafood, such as the Japanese, have fewer deaths from coronary artery disease. In comparison to other protein sources, fish contains small amounts of cholesterol and the saturated fats that have been linked with heart disease.

## **Hypertension**

The Marine Advisory Service at Texas A&M University suggests fresh seafood in the treatment of hypertension. The many minerals, including potassium, low sodium and fat levels of most fresh fish and shellfish are a natural way to help achieve appropriate weight and potassium levels recommended to help lower high blood pressure.

## **Cancer**

Strong epidemiological evidence indicates that the high fat diet of most Americans contributes to the incidence of breast, prostate, and colon cancer, warns Dr. Cory SerVaas, medical advisor for the *Saturday Evening Post*. He notes that a diet rich in fish and shellfish can help lower fat intake. Scallops, shrimp, crabs, flounder, perch, cod, pollock, snapper, sole, and rockfish, for example, contain low amounts of fat and high amounts of protein.

## **Other Diseases**

Not only does seafood play a role in battling some of the major diseases listed above, it also contributes to the resistance and prevention of many others.

Arthritis sufferers can find relief from eating such fish as cod, mackerel and haddock which contain eicosapentaenoic acid. This acid not only reduces the formation of prostaglandin, a hormone contributing to body joint inflammation and arthritis, but also prevents blood clots associated with strokes.

Oysters are the richest food source of zinc, a mineral cited by the National Academy of Sciences as essential to human health. Deficiencies of zinc can lead to impaired growth, skin changes, impaired wound healing, loss of taste acuity, and loss of appetite.

Though no known cure exists for herpes, which afflicts an estimated 20 million Americans, the *Saturday Evening Post* does recommend eating more fish (high in lysine and low in arginine) to combat the pain and reduce the rate of occurrence of attacks.

## **LONG LIFE**

Consumption of fish contributes to the overall health, disease-resistance and long life of men and women the world over. The U.S. Senate Select Committee on Nutrition and Human Needs urges Americans to change their eating habits. Second on their list of priorities to help maximize health is the recommendation: "Decrease consumption of meat and increase consumption of poultry and fish."

A study of Eskimos in Greenland won the 1982 Nobel Prize in Medicine for new evidence that a diet rich in fish can prolong life.

Offer your customers this food for thought. Offer them the food for the future—fish! The charts that follow contain authoritative nutritional data on most common species and several other protein sources as well.



**SEAFOOD NUTRITION CHART**

<b>Species</b>	<b>Calories</b> per 100 grams	<b>Protein</b> %	<b>Fat</b> %	<b>Sodium</b> mg per 100 grams	<b>Iron</b> mg per 100 grams
<b>Saltwater Fish</b>					
Anchovy	106	19.6	3.1	148	15.20
Barracuda	96	19.6	2.0	132	8.33
Bluefish	107	19.2	3.3	68	6.53
Blue Runner (Crevalle)	98	20.7	1.7	83	14.00
Butterfish	126	18.7	5.7	81	9.00
Bonito	111	20.5	2.5	n/a	12.15
Cod					
Atlantic Cod	73	16.9	0.6	67	17.50
Pacific Cod	70	16.7	0.7	73	n/a
Cobia	124	18.9	5.4	n/a	n/a
Croaker	92	18.6	2.0	80	16.63
Crevalle Jack	94	18.8	1.9	n/a	8.00
Cusk	79	18.5	0.6	n/a	3.50
Dogfish	131	19.6	5.2	100	12.50
Dolphin	106	18.6	3.2	n/a	n/a
Drum	98	18.5	2.5	72	10.50
Eel	121	18.0	5.4	62	n/a
Flounder (General)	88	18.1	1.4	121	8.56
Blackback or Winter Flounder	77	18.0	0.6	n/a	n/a
Fluke or Summer Flounder	84	20.0	0.4	n/a	n/a
Starry Flounder	89	19.4	1.3	92	n/a
Yellowtail Flounder	87	19.9	0.3	53	n/a
Greenland Turbot	99	16.9	3.5	n/a	n/a
Grouper	89	20.1	1.0	n/a	15.60
Haddock	77	18.2	0.5	98	6.79
Halibut	119	18.7	4.3	156	10.04
Herring	122	17.7	2.8	105	10.86
Ling	81	18.9	0.4	83	5.06
Lingcod	82	18.0	0.9	59	4.90
Mackerel					
Atlantic Mackerel	198	19.6	9.6	48	10.12
King Mackerel	133	23.0	4.6	59	14.97
Pacific Jack Mackerel	94	19.1	1.8	90	4.20
Spanish Mackerel	132	19.8	5.9	44	9.90
Monkfish	88	20.3	2.8	180	10.00
Mullet	122	20.1	4.6	70	17.00
Ocean Cattfish	103	17.6	3.6	100	n/a
Ocean Perch					
Atlantic Ocean Perch	n/a	n/a	n/a	n/a	n/a
Pacific Ocean Perch	91	18.5	1.4	70	n/a
Pollock	91	19.7	1.3	n/a	6.15
Pompano	115	19.5	4.1	n/a	5.60
Porgy	92	18.3	3.2	n/a	9.33
Redfish	117	18.5	4.8	81	n/a
Rockfish	76	16.2	1.0	n/a	n/a
Sablefish	188	12.9	15.2	n/a	12.00
Salmon					
Chinook Salmon	182	17.9	11.6	42	9.00
Coho Salmon	136	21.1	5.7	38	13.45
Pink Salmon	124	20.1	4.8	78	9.30
Sockeye Salmon	143	20.3	6.9	48	11.80
Sardine	139	18.9	6.8	100	23.13



**SEAFOOD NUTRITION CHART**

<b>Species</b>	<b>Calories</b> per 100 grams	<b>Protein</b> %	<b>Fat</b> %	<b>Sodium</b> mg per 100 grams	<b>Iron</b> mg per 100 grams
Sea Bass					
Black Sea Bass	89	18.4	1.7	68	n/a
White Sea Bass	92	18.2	3.1	n/a	n/a
Sea Trout					
Gray	94	18.8	3.1	59	n/a
Spotted	88	17.3	2.1	n/a	n/a
Shad	152	19.4	8.3	53	5.70
Shark	87	19.1	1.2	n/a	14.00
Skate (ray)	89	19.6	0.7	90	7.50
Snapper	88	19.4	1.1	90	42.95
Sole					
Lemon Sole	78	16.7	1.2	n/a	n/a
Petrale Sole	92	18.2	2.0	81	n/a
English Sole (Pacific)	82	16.8	1.7	85	n/a
Dover Sole (Atlantic)	78	15.1	0.9	95	10.00
Spot	100	18.5	2.9	n/a	n/a
Striped Bass	92	18.2	3.1	n/a	n/a
Swordfish	118	19.4	4.4	102	n/a
Tilefish	95	19.1	2.1	n/a	12.00
Tuna					
Albacore	102	18.8	3.0	51	n/a
Bluefin	171	23.5	8.5	76	15.00
Skipjack	132	23.7	4.1	37	40.00
Yellowfin	131	23.4	4.1	261	27.04
Weakfish	83	19.5	0.6	n/a	7.00
Whitefish	121	18.6	5.2	53	7.60
Whiting (General)	90	18.9	1.3	50	n/a
Pacific Hake	82	16.6	1.7	n/a	n/a
Silver Hake	107	16.6	1.3	83	n/a
<b>Freshwater Fish</b>					
Buffalofish	113	17.5	4.2	52	n/a
Burbot	78	17.6	0.8	n/a	n/a
Carp	102	17.8	2.5	44	12.46
Catfish	157	18.2	8.2	60	15.80
Chub	105	15.5	4.8	n/a	n/a
Eel	237	16.4	19.0	31	27.30
Lake Trout	169	17.2	11.1	24	4.78
Lake Whitefish	140	18.5	7.2	52	n/a
Pike	83	18.3	0.7	40	5.90
Rainbow Trout	154	20.7	6.8	52	23.74
Shad	152	19.4	8.3	53	5.70
Smelt	86	17.0	1.4	n/a	34.10
Tilapia	98	18.5	2.4	52	4.00
<b>Shellfish</b>					
Abalone	97	17.9	0.6	n/a	20.60
Clams					
Razor Clam	72	11.2	1.5	n/a	1.1
Soft Clam	85	15.5	2.0	36	3.6
Surf Clam	102	17.8	1.2	n/a	n/a
Ocean Quahog	54	10.6	0.3	n/a	n/a



**SEAFOOD NUTRITION CHART**

<b>Species</b>	<b>Calories</b> per 100 grams	<b>Protein</b> %	<b>Fat</b> %	<b>Sodium</b> mg per 100 grams	<b>Iron</b> mg per 100 grams
<b>Crab</b>					
Blue Crab	78	15.9	1.3	337	2.3
Dungeness Crab	81	17.3	1.3	266	0.35
King Crab	70	15.2	0.8	70	2.0
Snow Crab	85	18.4	1.3	420	n/a
<b>Crayfish</b>	76	16.3	0.7	182	131.41
<b>Lobster</b>					
Northern Lobster	96	17.2	1.8	210	1.6
Spiny Lobster	151	19.2	7.5	n/a	n/a
<b>Mussels</b>					
Blue Mussels	84	11.6	1.6	289	3.7
<b>Oysters</b>					
Eastern & Gulf Oysters	72	7.9	1.7	386	6.57
Pacific Oyster	82	9.6	2.5	143	5.45
Olympia Oyster	91	10.6	2.2	n/a	n/a
<b>Scallops</b>					
Bay Scallop	76	14.8	0.6	255	1.8
Calico Scallop	79	16.1	0.6	n/a	n/a
Sea Scallop	85	17.4	0.6	n/a	n/a
<b>Shrimp</b>					
Gulf Shrimp	94	21.8	0.8	208	1.8
Northern Shrimp	85	19.4	0.6	537	0.32
Snails, unspecified whole, raw	75	14.4	1.9	n/a	25.00
Squid	87	16.8	1.3	317	19.75
<b>Other Entrees</b>					
Chicken	127	23.0	7.0	—	1.5
Hamburger	268	17.9	21.2	—	2.7
Sirloin Steak	281	17.8	22.7	—	2.7
Pork Loin	298	17.1	24.9	—	2.6

Sources: NOAA TECHNICAL MEMORANDUM F/SEC-11. Chemical and Nutritional Composition of Finfishes, Crustaceans, Mollusks, and their products. January 1981 by Virginia Sidwell. NMFS and The Nutritive Value of American Foods. USDA Handbook 456. U.S. Government Printing Office. Washington, D.C.

**CHOLESTEROL CONTENTS OF COMMON SEAFOODS AND OTHER FOODS**

	<b>Cholesterol</b> mg per 100 grams		<b>Cholesterol</b> mg per 100 grams
<b>Finfish</b>		<b>Shellfish</b>	
Bass, Black Sea	55	Clam, Chernystone	50
Catfish, Freshwater	45	Clam, Softshell	40
Cod, Atlantic	21	Crab, Blue	120
Croaker, Atlantic	54	Crab, King	50
Flounder, Southern	48	Lobster	60
Haddock	58	Oyster, Eastern	50
Halibut	47	Scallop	40
Mullet	21	Shrimp, Saltwater	90
Pollock	58	Snail, Escargot	86
Rainbow Trout	48	<b>Other Foods</b>	
Red Snapper	40	Beef, Liver	301
Salmon	60	Beef, Steak	68
Sole, Dover	43	Cheese, Cheddar	87.5
Swordfish	60	Chicken	81
Tuna, Yellowfin	46	Egg, 1	250
Whiting, Northern	19	Lamb	80
		Pork	65



TITRE DES TABLES:

- Analyses of Nutritive Composition Tests on Raw Fish
  
- Samband of Iceland:
  - TM Fresh-Form'd Fillets:
    - . Unbreaded cod
    - . Unbreaded haddock
    - . Unbreaded perch
  
  - TM Icelandic Form'd Fillets:
    - . Unbreaded cod
  
  - Unbreaded portions:
    - . Cod
    - . Haddock

LIEU DE PRODUCTION:

Apparaît dans le guide:

Iceland Seafood Nutrition

Produit par: Iceland Seafood Corporation, PA,  
U.S.A.

ANNÉE:

Non disponible

DESCRIPTION:

- Sept tableaux
- Teneur en: protéines      glucides  
                  Lipides            Calories  
                  Humidité        sodium  
                  Cendres            cholestérol (1 tableau)

OÙ SE LE PROCURER:

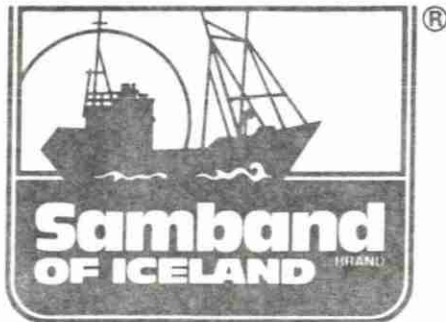
Contactez le Iceland Seafood Corporation

COMMENTAIRES:

Ce sont des marques de commerce étrangères, cependant les données peuvent suggérer un certain ordre de grandeur pour divers éléments nutritifs. Fait intéressant: en plus du poids, les dimensions de la portion sont précisées.



# ICELAND SEAFOOD NUTRITION



SETTING THE STANDARD FOR QUALITY



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# Analyses of Nutritive Composition Tests on Raw Fish

## SAMBAND LABEL



Product	Protein %	Fat %	Moisture %	Ash %	Carbohydrate %	Calories 100 GM	Cholesterol MG 100 GM	Sodium MG 100 GM
COD	18.2	.3	80.3	1.2	0	76	45.8	88.9
HADDOCK	18.8	.2	79.8	1.2	0	77	59.8	62.5
POLLOCK	19.7	.7	78.4	1.2	0	85	46.9	67.0
OCEAN PERCH	18.0	1.7	79.3	1.0	0	88		73.4
WHITING	16.2	3.8	79.1	.9	0	99	48.0	71.5
GREAT WHITE WHITING	16.9	1.0	81.1	1.0	0	77	43.0	72.2
MINCED COD	17.9	.6	80.5	1.0	0	77	53.0	99.1

## DOLPHIN LABEL



## NORSEA LABEL



Reference: ICELANDIC FISHERIES Laboratory, Reykjavik, Iceland  
Lancaster Laboratories, Inc., Lancaster, Pennsylvania



# Samband of Iceland

## ™ Fresh-Form'd Fillets Unbreaded Cod

Product Code	Portion Size Ozs.	Shape	Portions Per Box	Pack Lbs.	Net Wt. Per Case Lbs.	Gross Wt. Per Case Lbs.	Pallet Tie	Portion Dimensions Inches	Case Cube Cubic Feet	Fish Flesh Percent	Fish Content Ozs.	Fish Cooked Weight Ozs.	CN Bread Servings	USDC Shield	CN Label	Protein Grams	Fat Grams	Moisture Grams	Ash Grams	Carbo-hydrate Grams	Food Energy Calories	Sodium Milli-grams
4512	1.2	Natural	54	6/4	24	26.3	54	4½ × 2½ × ¾	1.05	100	1.2	—	—	PUFI	—	6.2	.1	27.3	.4	0	26	31
4513	2.1	Natural	30	6/4	24	26.3	54	5½ × 2¾ × ¾	1.06	100	2.1	—	—	PUFI	—	10.8	.2	47.8	.7	0	46	53
4514	2.45	Natural	42	6/6½	39	41 5 oz.	36	4½ × 3½ × ¾	1.45	100	2.45	—	—	PUFI	—	12.6	.2	55.8	.8	0	53	62
4515	2.8	Natural	23	6/4	24	26.3	54	6 × 3¼ × ¾	1.05	100	2.8	—	—	PUFI	—	14.4	.2	63.8	.9	0	61	71
4486	3.5	Natural	18	6/4	24	26.3	54	7 × 3¼ × ¾	1.05	100	3.5	—	—	PUFI	—	18.1	.3	79.7	1.2	0	76	88

## Unbreaded Haddock

3495	1.2	Natural	54	6/4	24	26.3	54	4½ × 2½ × ¾	1.05	100	1.2	—	—	PUFI	—	6.4	.1	27.1	.4	0	27	22
3496	2.1	Natural	30	6/4	24	26.3	54	5½ × 2¾ × ¾	1.06	100	2.1	—	—	PUFI	—	11.2	.1	47.5	.7	0	46	38
3497	2.45	Natural	42	6/6½	39	41 5 oz.	36	4½ × 3½ × ¾	1.45	100	2.45	—	—	PUFI	—	13.1	.1	55.5	.8	0	54	44
3498	2.8	Natural	23	6/4	24	26.3	54	6 × 3¼ × ¾	1.05	100	2.8	—	—	PUFI	—	14.9	.2	63.4	.9	0	62	50
3499	3.5	Natural	18	6/4	24	26.3	54	7 × 3¼ × ¾	1.05	100	3.5	—	—	PUFI	—	18.6	.2	79.2	1.2	0	77	62



# Samband of Iceland

## ™ Fresh-Form'd Fillets Unbreaded Perch

Product Code	Portion Size Ozs.	Shape	Portions Per Box	Pack Lbs.	Net Wt. Per Case Lbs.	Gross Wt. Per Case Lbs.	Pallet Tie	Portion Dimensions Inches	Case Cube Cubic Feet	Fish Flesh Percent	Fish Content Ozs.	Fish Cooked Weight Ozs.	CN Bread Servings	USDC Shield	CN Label	Protein Grams	Fat Grams	Moisture Grams	Ash Grams	Carbo-hydrate Grams	Food Energy Calories	Sodium Milli-grams
4520	1.2	Natural	54	6/4	24	26.3	54	4½ × 2½ × ¾	1.05	100	1.2	—	—	PUFI	—	6.1	.6	27.0	.3	0	30	25
4521	2.1	Natural	30	6/4	24	26.3	54	5½ × 2½ × ¾	1.06	100	2.1	—	—	PUFI	—	10.7	1.0	47.2	.6	0	52	44
4522	2.45	Natural	42	6/6½	39	41 5 oz.	36	4½ × 3½ × ¾	1.45	100	2.45	—	—	PUFI	—	12.5	1.2	55.1	.7	0	61	51
4523	2.8	Natural	23	6/4	24	26.3	54	6 × 3¼ × ¾	1.05	100	2.8	—	—	PUFI	—	14.3	1.3	63.0	.8	0	70	59



# Samband of Iceland

## ™Icelander Form'd Fillets Gourmet Breaded Cod

Product Code	Portion Size	Shape	Portions Per Box	Pack Lbs.	Net Wt. Per Case Lbs.	Gross Wt. Per Case Lbs.	Pallet Tie	Portion Dimensions Inches	Case Cube Cubic Feet	Fish Flesh Percent	Fish Content Ozs.	Fish Cooked Weight Ozs.	CN Bread Servings	USDC Shield	CN Label	Protein Grams	Fat Grams	Moisture Grams	Ash Grams	Carbo-hydrate Grams	Food Energy Calories	Sodium Milli-grams
3494	5.0	Fillet	15	6¼	28½	30 13 oz.	50	7¼ × 3½ × 1¾ × ½	1.06	70	3.5	—	—	PUFI	—	21.8	.7	84.8	2.1	32.4	225	5

## Unbreaded Cod

3493	3.5	Fillet	18	6¼	24	26.3	54	7 × 3½ × 1½ × ¾	0.96	100	3.5	—	—	PUFI	—	18.1	.3	79.7	1.2	0	76	88.2
4427	4.2	Fillet	15	6¼	24	26.3	54	7 × 3¾ × 1¾ × ¾	0.96	100	4.2	—	—	PUFI	—	21.7	.4	95.6	1.4	0	91	106
4553	4.2	Tail	15	6¼	24	26.3	30	4¾ × 3¾ × 2¾ × ¾	0.96	100	4.2	—	—	PUFI	—	21.7	.4	95.6	1.4	0	91	106

## Bake 'N Broil in Lemon Butter Sauce - Cod

3490	5.0	Fillet	12	10¾	37½	40 11 oz.	54	7¼ × 3¾ × 1¾ × ¾	1.75	70	3.5	—	—	PUFI	—	20.0	21.1	89.3	1.3	10.1	310	17
4180	6.0	Fillet	12	6¼½	27	29 5 oz.	54	7¼ × 4 × 2 × ¾	1.05	70	4.2	—	—	PUFI	—	24.0	25.3	107.2	1.5	12.1	372	141
4552	5.0	Tail	12	10¾	37½	40 11 oz.	36	4½ × 4 × 2½ × 1	1.45	84	4.2	—	—	PUFI	—	19.6	13.8	97.0	1.4	10.1	243	141



# Samband of Iceland

## Unbreaded Portions — Cod

Product Code	Portion Size Ozs.	Shape	Portions Per Box	Pack Lbs.	Net Wt. Per Case Lbs.	Gross Wt. Per Case Lbs.	Pallet Tie	Portion Dimensions Inches	Case Cube Cubic Feet	Fish Flesh Percent	Fish Content Ozs.	Fish Cooked Weight Ozs.	CN Bread Servings	USDC Shield	CN Label	Protein Grams	Fat Grams	Moisture Grams	Ash Grams	Carbo- hydrate Grams	Food Energy Calories	Sodium Milli-grams
3705	1¾	Wedge	230	1/25	25	26	60	4¾ × (2 × ½) × ½	0.96	100	1.75	—	—	A	—	9.0	.15	39.8	6	0	39	44
3724	2	Wedge	200	1/25	25	26	60	4¾ × (2 × ½) × 9/16	0.96	100	2.00	—	—	A	—	10.3	.17	45.5	7	0	43	51
3760	4	Square	24	10/6	60	63 3 oz.	33	3¾ × 3¾ × ¾	1.52	100	4.00	—	—	A	—	20.6	.34	91.1	1.4	0	86	101
3752	4	English Cut	24	6/6	36	38 5 oz.	48	5 × 3¾ × 1¾ × ¾	1.06	100	4.00	—	—	A	—	20.6	.34	91.1	1.4	0	86	101

## Haddock

3764	4	Square	24	10/6	60	63 3 oz.	33	3¾ × 3¾ × ¾	1.52	100	4.00	—	—	A	—	21.3	.23	90.5	1.4	0	88	71
3756	4	English Cut	24	6/6	36	38 5 oz.	48	5 × 3¾ × 1¾ × ¾	1.06	100	4.00	—	—	A	—	21.3	.23	90.5	1.4	0	88	71





SETTING THE STANDARD FOR QUALITY



TITRE DE LA TABLE: Provisional Table on the Content of Omega - 3 Fatty Acids and Other Fat Components in Selected Foods.

(For research use only).

LIEU DE PRODUCTION: United States Department of Agriculture (USDA), Human Nutrition Information Service (HNIS/PT-103).

Table préparée par: Jacob Exler et John L. Welhrauch

ANNÉE: Février 1986 (révision sommaire)

DESCRIPTION: - Aliments analysés (portion comestible crue de 100 g):

Boeuf	Oeufs
Porc	Produits laitiers
Volaille	Légumineuses
Agneau	Noix et graines
Veau	<u>Poissons</u>
Légumes	<u>Crustacés</u>
Fruits	<u>Mollusques</u>
Céréales	<u>Huiles de poisson</u>
Graisses et huiles	

- Teneur en:

. Lipides

. Acides gras: . saturés

. monoinsaturés

. polyinsaturés

. acides eicosapentaénoïque et docosahexaénoïque (pour poissons, fruits de mer et huiles de poisson).

. Cholestérol

OÙ SE LE PROCURER: Suggestion: Pour savoir si cette table est encore disponible, contacter:

U.S.D.A., Food and Nutrition Service  
Washington, D.C.,  
20250, U.S.A.



# Provisional Table on the Content of Omega-3 Fatty Acids and Other Fat Components in Selected Foods

For research use only

Provisional Table on the Content of Omega-3 Fatty Acids and Other Fat Components of Selected Foods (100 g edible portion, raw)

Diashes (--) denote lack of reliable data for nutrient known to be present.  
Tr: trace (less than 0.05 g/100 g of food.)

Food Item	Total fat	Fatty acids Total			Choles- terol
		satur- ated	monoun- saturated	polyun- saturated	
	g	g	g	g	mg
<b>BEEF</b>					
Chuck, blade roast, all grades, separable lean & fat, raw	23.6	10.0	10.8	0.9	0.3
Ground, regular, raw	27.0	10.8	11.6	1.0	.2
Round, full cut, choice grade, separable lean & fat, raw	17.5	7.4	7.8	.7	.2
Separable fat from retail cuts	70.9	31.0	32.4	2.6	1.0
T-Bone steak, choice grade, lean only, raw	8.0	3.2	3.4	.3	Tr
T-Bone steak, choice grade, separable lean & fat, raw	26.1	11.2	11.7	1.0	.3
<b>GRAINS</b>					
Barley, bran	5.3	1.0	.6	2.7	.3
Corn, germ	30.8	3.9	7.6	18.0	.3
Oats, germ	30.7	5.6	11.1	12.4	1.4
Rice, bran	19.2	3.6	7.3	6.6	.2
Wheat, bran	4.6	.7	.7	2.4	.2
Wheat, germ	10.9	1.9	1.6	6.6	.7
Wheat, hard red winter	2.5	.4	.3	1.2	.1
<b>DAIRY AND EGG PRODUCTS</b>					
Cheese, Cheddar	33.1	21.1	9.0	.9	.4
Cheese, Roquefort	30.6	19.3	8.5	1.3	.7
Cream, heavy whipping	37.0	23.0	10.7	1.4	.5
Milk, whole	3.3	2.1	1.0	.1	.1
Egg yolk, chicken, raw	32.9	9.9	13.2	4.3	.1
<b>FATS AND OILS</b>					
Butter	81.1	50.5	23.4	3.0	1.2
Butter oil	99.5	61.9	28.7	3.7	1.5
Chicken fat	99.8	29.8	44.7	20.9	1.0
Duck fat	99.8	33.2	49.3	12.9	1.0
Lard	100	39.2	45.1	11.2	1.0
Linseed oil	100	9.4	20.2	66.0	53.3
Margarine, hard, soybean	80.5	16.7	39.3	20.9	1.5
Margarine, hard, soybean and soybean (hydrog.)	80.5	13.1	37.6	26.2	1.9
Margarine, hard, soybean (hydrog.) & palm	80.5	17.5	31.2	28.2	2.3
Margarine, hard, soybean (hydrog.) & cottonseed	80.5	15.6	36.1	25.3	2.8
Margarine, hard, soybean (hydrog.) & palm (hydrog.)	80.5	15.1	32.0	29.8	3.0
Margarine, liquid, soybean (hydrog.), soybean, & cottonseed	80.6	13.2	28.1	35.8	2.4
Margarine, soft, soybean (hydrog.) & cottonseed	80.4	16.5	31.3	29.1	1.6
Margarine, soft, soybean (hydrog.) & palm	80.4	17.1	25.2	34.6	1.9
Margarine, soft, soybean (hydrog.) & cottonseed (hydrog.)	80.4	16.1	30.7	30.1	2.8
<b>FATS AND OILS - Con.</b>					
Mutton tallow	100	47.3	49.6	7.8	2.3
Rapeseed oil (Canola)	100	6.8	55.5	33.3	11.1
Rice bran oil	100	19.7	39.3	35.0	1.6
Salad dressing, comm., blue cheese, reg.	52.3	9.9	12.3	27.8	3.7
Salad dressing, comm., Italian, reg.	48.3	7.0	11.2	26.0	3.3
Salad dressing, comm., mayonnaise, imitation, soybean, w/o cholesterol	47.7	7.5	10.5	27.6	4.6
Salad dressing, comm., mayonnaise, safflower & soybean	79.4	8.6	13.0	55.0	3.0
Salad dressing, comm., mayonnaise, soybean	79.4	11.8	22.7	41.3	4.2
Salad dressing, comm., mayonnaise-type	33.4	4.7	9.0	16.0	2.0
Salad dressing, comm., thousand island, reg.	35.7	6.0	8.3	19.8	2.5
Salad dressing, home recipe, french	70.2	12.6	20.7	33.7	1.9
Salad dressing, home recipe, vinegar & soybean oil	50.1	9.1	14.8	24.1	1.4
Shortening, household, lard & veg. oil	100	40.3	44.4	10.9	1.1
Shortening, household, soybean (hydrog.) cottonseed (hydrog.)	100	25.0	44.5	26.1	1.6
Shortening, special purpose, for bread, soy (hydrog.) & cottonseed	100	22.0	33.0	40.6	4.0
Shortening, special purpose, for cake mixes, soybean (hydrog.) & cottonseed (hydrog.)	100	27.2	54.2	14.1	1.1
Shortening, special purpose, heavy-duty, frying, soybean (hydrog.)	100	18.4	43.7	33.5	2.4
Soybean lecithin	100	15.3	30.9	45.1	5.1
Soybean oil	100	14.4	23.3	57.9	6.8
Soybean oil (hydrog.) & cottonseed oil	100	14.9	43.0	37.6	2.8
Soybean oil (part.-hydrog.)	100	14.9	43.0	37.6	2.6
Spread, margarine-like, about 60% fat, soybean (hydrog.) & palm (hydrog.)	60.8	14.1	26.0	18.1	1.6
Spread, margarine-like, about 60% fat, soybean (hydrog.), palm (hydrog.), & palm	60.8	13.5	24.1	20.4	1.6
Tomatoseed oil	100	19.7	22.8	53.1	2.3
Walnut oil	100	9.1	22.8	63.3	10.4
Wheat germ oil	100	18.8	15.1	61.7	6.9
<b>FRUITS</b>					
Avocados, raw, Calif.	17.3	2.6	11.2	2.0	.1
Raspberries, raw	.6	Tr	Tr	.3	.1
Strawberries, raw	.4	Tr	Tr	.2	.1
<b>LAMB AND VEAL</b>					
Lamb, leg, raw (81% lean, 17% fat)	17.6	8.1	7.1	1.6	.3
Lamb, loin, raw (72% lean, 28% fat)	27.4	12.8	11.2	1.6	.5
Veal, leg round with rump, raw (87% lean, 13% fat)	9.0	3.6	3.7	.6	.1
<b>LEGUMES</b>					
Beans, common, dry	1.5	0.2	0.1	0.9	0.6
Chickpeas, dry	5.0	.5	1.1	2.3	.1
Cowpeas, dry	1.9	.6	.1	.8	.3
Lentils, dry	1.2	.2	.2	.5	.1
Lima beans, dry	1.4	.3	.1	.7	.2
Peas, garden, dry	2.4	.4	.1	.4	.2
Soybeans, dry	21.3	3.1	4.4	12.3	1.6
<b>NUTS AND SEEDS</b>					
Beechnuts, dried	50.0	5.7	21.9	20.1	1.7
Butternuts, dried	57.0	1.3	10.4	42.7	8.7
Chia seeds, dried	26.3	10.5	7.3	7.3	3.9
Hickory nuts, dried	64.4	7.0	32.6	21.9	1.0
Soybean kernels, roasted & toasted	24.0	3.2	5.6	12.7	1.5
Walnuts, black	56.6	3.6	12.7	37.5	3.3
Walnuts, English/Persian	61.9	5.6	14.2	39.1	6.8
<b>PORK PRODUCTS</b>					
Pork, cured, bacon, raw	57.5	21.3	26.3	6.8	.8
Pork, cured, breakfast strips, raw	37.1	12.9	16.9	5.6	.9
Pork, cured salt pork	80.5	29.4	38.0	9.4	.7
Pork, fresh, ham, raw	20.8	7.5	9.7	2.2	.2
Pork, fresh, jawl, raw	9.6	25.3	32.9	8.1	.6
Pork, fresh, leaf fat	94.2	45.2	37.2	7.3	.9
Pork, fresh, separable fat	76.7	27.9	35.7	8.2	.7
<b>POULTRY PRODUCTS</b>					
Chicken, broiler fryers, flesh* & skin, giblets, neck, raw	14.8	4.2	6.1	3.2	.1
Chicken, dark meat, w/o skin, raw	4.3	1.1	1.3	1.0	Tr
Chicken, light meat, w/o skin, raw	1.7	.4	.4	.4	Tr
Chicken, skin only, raw*	32.4	9.1	13.5	6.8	.3
Turkey, flesh, with skin*, roasted	9.7	2.8	3.2	2.5	.1
<b>VEGETABLES</b>					
Beans, navy, sprouted, cooked	.8	Tr	Tr	.5	.3
Beans, pinto, sprouted, cooked	.9	.1	Tr	.5	.3
Broccoli, raw	.4	Tr	Tr	.7	.1
Cauliflower, raw	.2	Tr	Tr	Tr	.3
Kale, raw	.7	Tr	Tr	Tr	.2
Leeks, freeze dried	2.1	.3	Tr	1.2	.7
Lettuce, butterhead	.2	Tr	Tr	.1	.1
Radish seeds, sprouted, raw	2.5	.7	.4	1.1	.7
Seaweed, Spirulina, dried	7.7	2.6	.7	2.0	.8
Soybeans, green, raw	6.8	.7	.8	3.8	3.2
Soybeans, mature seeds, sprouted, cooked	4.5	.5	.5	2.5	2.1
Spinach, raw	.4	Tr	Tr	.1	.1

\* Contains trace amounts of 20:5, 22:5, and 22:6.



Prepared by Jacob Eiler  
and John L. Weinrauch

Data for the following omega-3  
fatty acids are included in  
this table:  
18:3 linolenic acid  
20:5 eicosapentaenoic acid (EPA)  
22:6 docosahexaenoic acid (DHA)

Mention of commercial products in  
this publication is solely for  
identification purposes and does  
not constitute endorsement by the  
U.S. Department of Agriculture  
over other products not mentioned.

Nutrient Data Research Branch  
Nutrition Monitoring Division  
Slightly revised February 1986

### Provisional Table on the Content of Omega-3 Fatty Acids and Other Fat Components of Selected Foods (100 g edible portion, raw)

Blank cells (-) denote lack of reliable data for nutrient known to be present.  
Tr = trace (less than 0.05 g/100 g of food)

Food Item	Total fat	Fatty Acids						Cholesterol
		Total saturated	Total monounsaturated	Total polyunsaturated	18:3	20:5	22:6	
<b>FISH</b>								
Anchovy, European	4.8	1.3	1.2	1.5	0.5	0.9	---	59
Bass, freshwater	2.0	.4	.7	.7	Tr	.2	---	80
Bass, striped	2.3	.8	.7	.8	Tr	.2	---	80
Bluefish	6.5	1.4	2.9	1.6	---	.4	---	59
Burbot	.8	.2	.1	.3	.1	.1	---	60
Carp	8.2	1.5	3.0	1.5	.1	.6	---	67
Catfish, brown bullhead	2.7	.6	1.0	.8	.1	.2	---	75
Catfish, channel	4.3	1.0	1.6	1.0	Tr	.1	---	58
Cod	1.9	.4	.8	.6	.1	.3	---	---
Cod, Atlantic	.7	.1	.1	.3	Tr	.1	---	43
Cod, Pacific	.6	.1	.1	.2	Tr	.1	---	37
Croaker, Atlantic	3.2	1.1	1.2	.7	.1	.1	---	61
Dogfish, spiny	10.2	2.2	4.2	2.7	.7	1.2	---	52
Pollock	2.5	.7	.8	.5	Tr	.1	---	---
Drum, black	4.9	1.1	2.2	1.2	.1	.2	---	64
Drum, freshwater	10.8	3.5	10.9	1.4	.7	.1	---	108
Flounder, unspecified	1.0	.2	.3	.3	Tr	.1	---	46
Flounder, yellowtail	1.2	.3	.2	.3	Tr	.1	---	---
Grouper, jewfish	1.3	.3	.3	.4	Tr	.3	---	49
Grouper, red	.8	.1	.1	.2	Tr	.1	---	63
Haddock	.7	.1	.1	.2	Tr	.1	---	---
Hake, Atlantic	.6	.2	.2	.1	Tr	Tr	---	---
Hake, Pacific	1.6	.3	.3	.6	Tr	.2	---	---
Hake, red	.9	.2	.3	.3	---	.1	---	---
Hake, silver	2.6	.5	.7	.9	---	.2	---	---
Hake, unspecified	1.9	.5	.6	.8	---	.1	---	---
Halibut, Greenland	13.8	2.4	8.4	1.4	Tr	.4	---	46
Halibut, Pacific	2.3	.3	.8	.7	.1	.1	---	32
Herring, Atlantic	9.0	2.0	3.7	2.1	.1	.7	---	60
Herring, Pacific	13.9	3.3	6.9	2.4	.1	1.0	---	77
Herring, round	4.4	1.3	.8	1.5	.1	.4	---	28
Rockfish, Atlantic	13.9	3.8	8.4	3.7	.9	1.6	---	80
Rockfish, chub	11.5	3.0	4.7	3.0	.3	.9	---	52
Rockfish, horse	4.1	1.2	1.4	1.9	.3	.4	---	41
Rockfish, Japanese horse	7.0	2.5	2.4	2.3	.1	.5	---	48
Rockfish, striped	13.0	2.5	5.9	3.2	---	1.0	---	53
Mullet, unspecified	3.7	1.2	1.1	1.1	.1	.3	---	49
Ocean perch	4.4	.3	1.3	1.5	Tr	.5	---	34
Perch, white	1.6	.3	.6	.7	Tr	.1	---	42
Perch, yellow	2.5	.6	.9	.7	.1	.2	---	80
Pike, northern	.7	.1	.2	.4	Tr	.1	---	30
Pike, walleye	1.2	.2	.3	.4	Tr	.1	---	86
Plaice, European	1.5	.3	.9	.4	Tr	.1	---	70
Pollock	1.0	.1	.1	.5	---	.1	---	71
Pompano, Florida	9.5	3.5	2.6	1.1	---	.2	---	44

Food Item	Total fat	Fatty Acids						Cholesterol
		Total saturated	Total monounsaturated	Total polyunsaturated	18:3	20:5	22:6	
<b>FISH - Con.</b>								
Rockfish, brown	1.2	0.3	0.4	0.1	Tr	Tr	---	0.1
Rockfish, canary	3.3	.8	.8	1.0	Tr	.3	---	.4
Rockfish, unspecified	1.8	.4	.5	.6	Tr	.2	---	.3
Sablefish	1.4	.2	.3	.6	Tr	.2	---	.3
Salmon, Atlantic	15.3	1.2	8.1	2.0	.1	.7	---	.7
Salmon, chinook	5.4	.8	1.8	2.1	.2	.3	---	.9
Salmon, chum	10.4	2.5	4.5	2.1	.1	.8	---	.6
Salmon, coho	6.6	1.5	2.9	1.5	.1	.4	---	.6
Salmon, pink	6.0	1.1	2.1	1.7	.2	.3	---	.5
Salmon, sockeye	3.4	.6	.9	1.4	Tr	.4	---	.6
Saury	8.6	1.5	4.1	1.9	.1	.5	---	.7
Scad, Muraoli	9.2	1.6	4.8	1.8	.1	.5	---	.8
Scad, other	8.7	2.8	2.2	2.6	.1	1.5	---	1.5
Sea bass, Japanese	.5	.1	.1	.1	---	.1	---	.1
Sea trout, sea	1.5	.4	.3	.5	Tr	.1	---	.3
Sea trout, spotted	2.3	.7	.8	.4	Tr	.1	---	.2
Shark, other	1.7	.5	.4	.3	Tr	.1	---	.1
Sheepshead	1.9	.3	.4	.8	---	Tr	---	.5
Smelt, pond	2.4	.6	.7	.5	Tr	.1	---	.1
Smelt, rainbow	.7	.2	.1	.3	---	.1	---	.2
Smelt, sweet	2.8	.5	.7	.9	---	.1	---	.2
Snapper, red	4.6	1.6	1.2	1.0	.3	.3	---	.4
Sole, European	1.2	.2	.2	.4	Tr	Tr	---	.2
Sprat	1.2	.3	.4	.2	Tr	.1	---	.5
Sturgeon, Atlantic	5.8	1.4	2.0	1.5	---	.5	---	.8
Sturgeon, common	6.0	1.2	1.7	2.1	Tr	1.0	---	.5
Sunfish, pumpkinseed	3.3	.8	1.5	.5	Tr	.1	---	.1
Swordfish	.7	.1	.1	.2	---	Tr	---	.1
Trout, arctic char	2.1	.6	.6	.6	---	.1	---	.3
Trout, brook	7.7	.7	.8	.9	.2	.2	---	.2
Trout, lake	2.7	1.7	3.6	3.4	.4	.5	---	1.1
Trout, rainbow	3.4	.6	1.0	1.2	.1	.1	---	.6
Tuna, albacore	4.9	1.2	1.2	1.8	.2	.3	---	1.0
Tuna, bluefin	6.6	.7	2.2	2.0	---	.4	---	1.2
Tuna, skipjack	1.9	.7	.4	.6	---	.1	---	.3
Tuna, unspecified	2.5	.9	.6	.5	---	.1	---	.4
Whitefish, lake	6.0	.9	2.0	2.2	.2	.3	---	1.0
Whiting, European	.5	.1	.1	.1	Tr	Tr	---	.1
Wolfish, Atlantic	2.4	.4	.8	.8	Tr	.3	---	.3
<b>CRUSTACEANS</b>								
Crab, Alaska king	.8	.1	.1	.3	Tr	.2	---	.1
Crab, blue	1.3	.2	.2	.5	Tr	.2	---	.2
Crab, Dungeness	1.0	.1	.2	.3	---	.2	---	.1
Crab, queen	1.1	.1	.2	.4	Tr	.2	---	.1

Food Item	Total fat	Fatty Acids						Cholesterol
		Total saturated	Total monounsaturated	Total polyunsaturated	18:3	20:5	22:6	
<b>CRUSTACEANS - Con.</b>								
Crayfish, unspecified	1.4	0.3	0.4	0.3	Tr	0.1	---	158
Lobster, European	.8	.1	.2	.2	---	.1	---	129
Lobster, northern	.9	.2	.2	.2	---	.1	---	95
Shrimp, Atlantic brown	1.5	.3	.3	.5	Tr	.2	---	182
Shrimp, Atlantic white	1.5	.2	.2	.6	Tr	.2	---	182
Shrimp, Japanese	2.5	.5	.5	1.0	Tr	.3	---	56
Shrimp, prawn	1.5	.2	.3	.5	Tr	.3	---	125
Shrimp, northern	1.3	.4	.3	.3	Tr	.2	---	117
Shrimp, other	1.1	.2	.1	.4	Tr	.2	---	117
Shrimp, unspecified	1.4	.2	.2	.6	Tr	.2	---	110
Spiny lobster, Caribbean	1.0	.1	.2	.3	Tr	.2	---	110
Spiny lobster, southern rock	1.0	.1	.2	.3	Tr	.2	---	110
<b>MOLLUSKS</b>								
Abalone, New Zealand	1.0	.2	.2	.2	Tr	Tr	---	---
Abalone, South African	1.1	.3	.3	.2	Tr	Tr	---	---
Clam, hardshell	.6	.1	.1	.1	Tr	Tr	---	---
Clam, hen	.7	.2	.1	.1	Tr	Tr	---	---
Clam, littleneck	.8	.1	.1	.1	---	.1	---	---
Clam, Japanese hardshell	.8	.1	.1	.2	---	.1	---	---
Clam, softshell	2.0	.3	.2	.6	---	.1	---	---
Clam, surf	.8	.1	.1	.2	Tr	.1	---	---
Conch, other	2.7	.6	.5	1.1	Tr	.6	---	181
Cuttlefish, unspecified	.6	.1	.1	.1	Tr	Tr	---	---
Mussel, blue	2.2	.4	.5	.6	Tr	.2	---	38
Mussel, Mediterranean	1.5	.4	.4	.3	---	.1	---	---
Octopus, common	1.0	.3	.1	.3	---	.2	---	47
Oyster, eastern	2.5	.6	.2	.7	---	.3	---	20
Oyster, European	2.0	.4	.2	.7	---	.1	---	---
Oyster, Pacific	2.3	.5	.4	.9	Tr	.4	---	2
Periwinkle, common	3.3	.6	.6	1.1	.7	.5	---	101
Scallop, Atlantic deepsea	.8	.1	.1	.3	Tr	.1	---	37
Scallop, calico	.7	.1	.1	.2	Tr	.1	---	---
Scallop, unspecified	.8	.1	.1	.3	Tr	.1	---	49
Squid, Atlantic	1.2	.2	.1	.5	---	.1	---	---
Squid, short-finned	2.0	.4	.4	.7	---	.2	---	---
Squid, unspecified	1.1	.3	.1	.4	---	.1	---	---
<b>FISH OILS</b>								
Cod liver oil	100.0	17.6	51.2	25.8	0.7	9.0	9.5	570
Herring oil	100.0	19.2	60.3	16.1	0.5	7.1	4.3	755
Menhaden oil	100.0	33.6	32.5	29.5	1.1	12.7	7.9	471
MaxEPA® Concentrated fish body oils	100.0	25.4	28.3	41.1	0	17.8	11.6	600
Salmon oil	100.0	23.8	39.7	29.9	1.0	8.8	11.1	485



# Provisional Table on the Content of Omega-3 Fatty Acids and Other Fat Components in Selected Foods

## ERRATA

Food item	Total fat	Fatty Acids						Cholesterol
		Total saturated	Total monoun-saturated	Total polyun-saturated	18:3	20:5	22:6	
	g	g	g	g	g	g	g	mg
<b>FINFISH</b>								
Anchovy, European	4.8	1.3	1.2	1.6	--	0.5	0.9	--
Burbot	.8	.2	.1	.3	--	.1	.1	60
Grouper, red	.8	.2	.1	.2	--	Tr	.2	--
Scad, Muroaji	8.7	2.8	2.2	2.6	.1	.5	1.5	47
<b>MOLLUSKS</b>								
Abalone, New Zealand	1.0	.2	.2	.2	Tr	Tr	--	--
Clam, hardshell	.6	Tr	Tr	.1	Tr	Tr	Tr	31
Clam, hen	.7	.2	.1	.1	--	Tr	Tr	--
Clam, littleneck	.8	.1	.1	.1	Tr	Tr	Tr	--
<b>PORK PRODUCTS</b>								
Pork, fresh, jowl, raw	69.6	25.3	32.9	8.1	.6			90



**TITRE DES TABLES:** Table 9.1 Nutrient Composition of Finfish.  
Table 9.2 Nutrient Composition of Shellfish.  
Table 9.3 Proximate Composition and Sodium Content of Canned Fish.

**LIEU DE PRODUCTION:** Apparaît dans le livre:

Seafood Nutrition  
Facts, Issues and Marketing of Nutrition in Fish  
and Shellfish.

Auteur: Joyce A. Nettleton, D. Sc., R.D.

Éditeur: Osprey Books  
Huntington, New York

**ANNÉE:** 1985

**DESCRIPTION:** Dépendamment de la table, on retrouve des données sur les (le):

Calories	Cholestérol
Glucides	Sodium
Protéines	Diverses vitamines
Lipides	Divers minéraux
Acides gras:	Liste des références
. saturés	utilisées
. monoinsaturés	
. polyinsaturés	
. oméga-3	

**N.B.:** Ce livre contient plusieurs autres tableaux concernant certains éléments nutritifs, les pertes dues aux modes de cuisson, la composition de produits étrangers, etc.

A titre d'exemple, voici le titre de quelques uns de ces tableaux:

Table 9.4 Proximate Composition of Selected Hawaiian Finfish.

Table 9.5 Proximate Composition of New Zealand Finfish.

Table 2.2 Finfish species with more than 2% Carbohydrate.

Table 2.3 Fat Content of Selected Finfish (figures are percentages).

Table 2.10 Vitamin D Content in Several Fish Liver Oils.

Table 5.1 Approximate Nutrient Content of Different Samples of Suri-mi.

Table 5.8 Percent true retention of Selected Nutrients in Different Seafood Prepared in Various Ways.

Table 5.10 Yield of Finfish after Various Methods of Preparation.

Etc.



C'est un livre de deux cent quatre-vingts (280) pages, basé sur trois cent cinquante-huit (358) références.

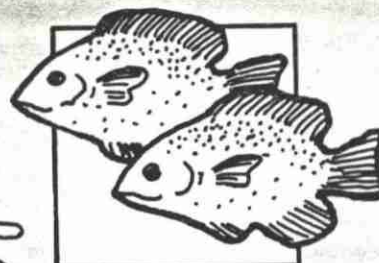
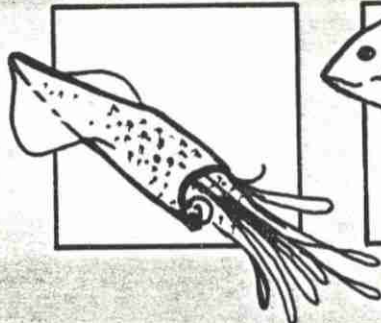
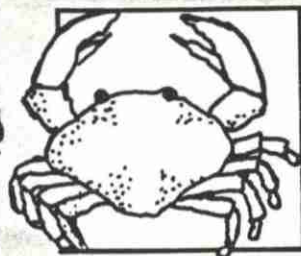
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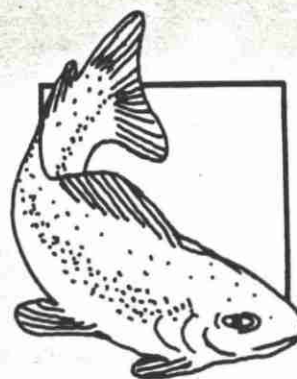


Joyce A. Nettleton, D.Sc., R.D.



# Seafood Nutrition

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an average value and these tables present the best estimate of average nutrient content currently available.

The standard deviation of the measures is not included for two reasons. First, for most practical purposes, the standard deviation is not used. Second, many papers publish average data without a range or standard deviation and without the original observations. Calculation of a meaningful standard deviation (or standard error for data on means) is impossible without the original data.

Another issue in compiling data tables is the number of significant figures to include. By and large, nutrient composition data are not accurate beyond two decimal places, and seldom past one. Many analytical methods are simply not accurate any further. For example, total lipid is often determined by extracting the tissue with solvents and drying the vessel with the extract to constant weight. With errors due to weighing, handling the tissue and glassware, and obtaining one hundred percent recovery of the sample, the final weights are no more accurate than two decimal places. In these tables one decimal figure is given.

When quantities of nutrients are small it may be necessary to carry an additional decimal as has been done with a few of the vitamins. Even so, the figures given should be treated as approximate.

**Kilocalories** were individually calculated for each item in the following way: for finfish, the calorie equivalent factors for protein of 4.27 calories/gm and for fat of 9.02 calories/gm were used to determine the calories per 100 grams of raw muscle or edible portion. These calorie equivalents are the same as those used by USDA for determining calorie content in its Handbooks of Food Composition (84).

For shellfish (Table 9.2) the same calorie conversion factors were used, plus the carbohydrate equivalent of 4.0 calories per gram.

A final word about the calorie content of seafood concerns the level of accuracy of the final estimate. The numbers shown in the tables in this chapter are those from the direct determination of calorie content as explained. They have not been rounded. When using calorie content data for consumer education purposes, preparing charts about the calorie content of different species and for comparisons with other foods, the numbers should be rounded at least to the nearest five calories. Rounding to the nearest 10 calories for consumer publications is entirely appropriate and avoids giving the impression that small differences in calories are meaningful. The variability in the original data upon which the calculations are based is sometimes substantial. Rounding avoids the appearance of spurious accuracy.

**Carbohydrate** In Table 9.1 no data are presented for carbohydrate content because most finfish have negligible amounts of carbohydrate, usually less than 2 percent. It makes no meaningful difference in calculations of caloric value to include trace amounts of carbohydrate. A few species have more than two percent carbohydrate according to a 1981 review of the nutrient data on seafood (Table 2.2). There is no consistent agreement about the carbohydrate content of finfish and so its possible presence in relatively small amounts in a few species was ignored.

Shellfish, on the other hand, sometimes have considerable amounts of carbohydrate. In Table 9.2, carbohydrate content is listed separately and is also



included in the calculation of total calorie content. The conversion factor of 4 calories/gm was used in the calculation of total calories.

**Total Fat, Fatty Acids and Cholesterol** Data for the amount of fat in seafood was obtained by averaging the most recent and reliable figures in the literature. Not all studies of proximate and fatty acid composition are based on samples giving an adequate reflection of the differences in composition due to season, life cycle, geographical location, sex etc. so that the original data nearly always leave something to be desired. The limitations in sampling are partially overcome by the large number of observations available, the different time and sources of the studies and the range of values reported. Nevertheless, it is well to be aware that any single sample of fish is apt to be quite different in composition from the values reported here.

The average total fat content in Tables 9.1 and 9.2 was the basis for deriving the quantity of saturated, monounsaturated, polyunsaturated and omega-3 fatty acid content reported. The percentage distribution of fatty acids from the literature was applied to the average values for total lipid to obtain figures different from those appearing in the original literature. The total fatty acids obtained were also corrected for non-fatty acid content according to the method of Weihrauch et al. (356). Correcting for the non-fatty acid portion of the lipid results in slightly lower figures. Because the total fat content is an average of literature values, the fatty acid content values are also different from those published in the literature.

Omega-3 fatty acid content data were derived in the same way as those for the different types of fatty acids. They are based on the sum of eicosapentaenoic acid and docosahexaenoic acid *only*. The reason for this choice is that not all fatty acid distribution data give values for the small amounts of other omega-3 fatty acids that may be present. EPA and DHA account for almost all the omega-3 fatty acids present in fish. To handle all the data consistently, it was decided to omit trace amounts of other omega-3 fatty acids when they were reported. Omega-3 fatty acid data were also corrected for the non-fatty acid part of the lipid fraction.

Cholesterol data are those obtained from the recent literature and represent only analyses performed by gas liquid chromatography. While this method of analysis does not ensure a true value, when other parts of the determination have been carefully conducted it is the most accurate way of measuring cholesterol content. Cholesterol measurements are notoriously variable and have usually been overestimated in nutrient analyses. On the other hand, if the initial extraction of the sample is incomplete, the resulting cholesterol determination will be low. All values should be viewed as approximate.

**Vitamins and minerals** Vitamin A content in most seafood is very low. Most of the vitamin A in fish is found in the liver with very little in the flesh. The content is somewhat higher in fattier species. In some instances there are widely disparate values in the literature with little reason for selecting or rejecting any of them. Sablefish, swordfish and bluefin tuna are examples where the reported values are highly variable.

The literature values for many of the B vitamins are fairly consistent,



although those for vitamin B<sub>12</sub> showed considerable variation. There are few data on pantothenic acid and pyridoxine content but those available were included.

Seafood is also low in calcium except where the small bones have been included, as in some canned fish (Table 9.3). Most fish are low in sodium and moderate in potassium. Although the content of iron and zinc varies appreciably among species, several varieties are good sources of these minerals.

Many trace minerals were not included in these tables. Two reviews provide comprehensive findings of trace minerals in seafood for those seeking this information (3, 358).

### Canned Fish

The data in Table 9.3 were presented separately from the data on raw seafood for convenience. Sodium content of canned seafood is usually very high, but actual levels differ among brands. Only diet pack fish is low in sodium. Fish packed in sauce also has considerable carbohydrate owing to the presence of vegetables and sometimes sugar. Data on the nutrient content of different brands is usually available directly from the manufacturer and has not been included here.

### Hawaiian and New Zealand Species

Fish consumed in the Hawaiian Islands is sometimes, but not always the same species as those available in the continental United States. The local names, however, are entirely different so that Table 9.4 includes Hawaiian, common and Latin names (357). Only proximate composition and sodium has been included as information about vitamin and mineral content is sparse.

New Zealand species are becoming increasingly available in the U.S. market and much data are available on the nutrient composition of the major New Zealand species. Cholesterol and fatty acid composition data are available for only a few species at the present time. The omega-3 fatty acid content for several species has been calculated as in Table 9.1 but other fatty acids were omitted because of scarcity of data. Total calories were calculated using the same calorie equivalents as in Table 9.1.

The fat content of New Zealand skipjack tuna differs from its tropical relatives. New Zealand skipjack is oily and tropical is not. Moreover, the red muscle is lower in oil than the white muscle, while in tropical skipjack tuna and many other red-fleshed fish, the red muscle is nearly always richer in oil than the white (23).

The available data on vitamin and mineral content of New Zealand species is presented in Table 9.6.



**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences
				Sat <sup>d</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm		
Amberjack <i>Seriola dumerili</i>	159	18.9	8.7 (.8-21.2) <sup>e</sup>	— <sup>d</sup>	—	—	—	3
Anchovy <i>Engraulis mordax</i>	127	19.6	4.8 (.4-6.4)	1.3	1.2	1.7	1.4	108 3, 316
Arctic char <i>Salvelinus alpinus</i>	163	21.4	7.9 (7.7-8.1)	1.7	5.0	.9	—	27 3, 317, 318
Barracuda, Pacific <i>Sphyrnaea argentea</i>	118	21.2	3.1 (1.5-4.6)	.7	.8	1.2	—	— 3, 44
Bass, black sea <i>Centropristis striata</i>	96	18.4	1.9 (.8-3.0)	—	—	—	—	— 3, 251
Bass, striped <i>Morone saxatilis</i>	94	17.3	2.2 (1.5-2.9)	.5	.7	.7	.7	80 316, 317
Bluefish <i>Pomatomus saltatrix</i>	112	20.1	2.9 (1.5-7.4)	—	—	—	—	— 3, 251
Bonito <i>Sarda sarda</i> (Atlantic)	149	23.2	5.5 (1.5-11.5)	—	—	—	—	— 3
<i>Sarda chiliensis</i> (Pacific)	159	22.9	6.8 (2.6-10.2)	—	—	—	—	55 44
Buffalo or sucker <i>Ictiobus cyprinellus</i> (big mouth)	215	15.3	16.6	—	—	—	—	— 3
Butterfish <i>Peprilus triacanthus</i>	175	17.3	11.2 (5.1-17.3)	—	—	—	—	65 3, 317



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Amberjack <i>Seriola dumerili</i>	—	.18	.08	10.0	—	14.3	—	—	253	—	.7	52	—
Anchovy <i>Engraulis mordax</i>	490	.07	.20	3.1	.14	6.3	—	150	242	1.5	.9	148	413
Arctic char <i>Salvelinus alpinus</i>	—	.31	.30	9.6	.33	7.8	1.9	20	270	1.0	.8	65	468
Barracuda, Pacific <i>Sphyraena argentea</i>	—	.1	.07	4.0	—	.9	—	70	258	.8	.5	46	—
Bass, black sea <i>Centropristis striata</i>	—	—	—	—	—	—	—	10	193	.1	.4	62	306
Bass, striped <i>Morone saxatilis</i>	—	—	—	—	—	3.8	—	15	198	.8	.3	—	—
Bluefish <i>Pomatomus saltatrix</i>	—	.14	.12	1.6	—	—	—	33	340	2.8	.8	32	327
Bonito <i>Sarda sarda</i> (Atlantic)	—	—	—	—	—	—	—	—	—	5.9	—	—	—
<i>Sarda chiliensis</i> (Pacific)	—	.01	.05	12.8	—	—	—	28	246	6.0	.6	—	—
Buffalo or sucker <i>Ictiobus cyprinellus</i> (big mouth)	—	—	—	—	—	—	—	—	—	—	—	—	—
Butterfish <i>Peprilus triacanthus</i>	—	—	—	—	—	—	—	—	—	—	.8	81	338



Table 9.1 Nutrient Composition of Finfish<sup>a</sup>

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences	
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm			Omega-3 <sup>c</sup> gm
Carp <i>Cyprinus carpio</i>	147	16.4	8.5 (1.3-15.4)	1.5	4.2	1.7	.5	64	3, 316-9
Catfish: Freshwater catfish <i>Ictalurus punctatus</i>	115	17.6	4.4 (.7-11.0)	1.1	1.8	1.1	.6	52	3, 316, 317, 319
Ocean catfish, wolffish <i>Anarhichus lupus</i>	101	17.6	2.9 (2.1-3.0)	.4	1.0	1.0	.7	—	3, 316, 317, 319
Sea catfish <i>Ariidae</i>	108	17.6	3.6 (.2-16.8)	—	—	—	—	—	3, 320
Cisco <i>Coregonus artedii</i>	108	18.2	3.3 (1.5-6.8)	—	—	—	—	18	3, 317, 318
Cod, Atlantic <i>Gadus morhua</i>	75	16.4	0.6 (.1-1.2)	0.1	.1	.2	.2	42	3, 80, 317, 321
Pacific <i>Gadus macrocephalus</i>	80	17.3	0.7 (.1-2.0)	.1	.1	.4	.1	37	3, 316, 322
Crevalle jack <i>Caranx crysos</i> (blue runner)	112	21.5	2.2 (1.2-3.1)	—	—	—	—	—	3
Croaker, Atlantic <i>Micropogon undulatus</i>	91	17.8	1.7 (.4-5.8)	.6	.6	.3	—	61	3, 317
Cusk <i>Brosme brosme</i>	84	18.5	0.6 (.2-1.8)	—	—	—	—	—	3, 109, 317
Drum, black drum, black croaker <i>Pogonias cromis</i>	87	17.3	1.5 (.5-2.9)	.5	.6	.4	—	—	3, 317
Drum, red drum <i>Sciaenops ocellata</i>	90	19.0	1.0	—	—	—	—	—	3

Table 9.1 Nutrient Composition of Finfish







**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm	Omega-3 <sup>c</sup> gm		
Eel, American eel <i>Anguilla rostrata</i>	223	18.8	15.8 (11.6-18.3)	3.4	7.7	2.3	1.2	10 <sup>g</sup>	3, 316, 319
Flounder, flatfish or sole: <i>Bothidae</i> / <i>Pleuronectidae</i>	82	16.8	1.2 (.1-4.8)	.4	.5	.4	—	48	3, 81, 317, 319, 321
Blackback, winter flounder, lemon sole <i>Pseudopleuronectes americanus</i>	92	19.6	0.9 (.2-1.4)	—	—	—	—	—	3, 251, 319
Yellowtail <i>Limanda ferruginea</i>	94	20.4	0.8	.3	.2	.4	.2	—	316
Summer, fluke <i>Paralichthys dentatus</i>	89	20.0	0.4 (.1-1.0)	—	—	—	—	—	3
Starry, rough jacket <i>Platichthys stellatus</i>	86	17.1	1.5 (.8-3.5)	—	—	—	—	—	3, 322
Grouper:									
Black grouper <i>Mycteroperca bonaci</i>	93	20.4	0.7	—	—	—	—	—	3
Jewfish, giant sea bass <i>Epinephelus itajara</i>	96	19.8	1.3	.4	.4	.5	—	49	317
Red grouper <i>Epinephelus morio</i>	91	19.2	1.0 (.2-4.0)	.3	.2	.4	—	—	3, 317
Hake: see whiting also									
Red hake <i>Urophycis chuss</i>	70	15.2	0.6	.1	.2	.2	—	35	80
Silver hake, Atlantic whiting <i>Merluccius bilinearis</i>	87	15.8	2.2 (.2-3.8)	.4	.6	.7	.4	—	3, 80, 316, 317



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Eel, or American eel <i>Anguilla rostrata</i>	2700 <sup>g</sup>	.15 <sup>g</sup>	.46	2.6 <sup>g</sup>	.23	1.0	.15	56	247	2.7 <sup>g</sup>	1.0	—	—
Flounder, flatfish or sole: <i>Bothidae/Pleuronectidae</i>	110	.11	.08	3.4	.17	2.6	.85	32	184	.6	.5	121	332
Blackback, winter flounder, lemon sole <i>Pseudopleuronectes americanus</i>	40	—	.14	3.4	—	.8	.30	13	220	.1	.4	33	595
Yellowtail <i>Limanda ferruginea</i>	—	—	—	—	—	—	—	27	203	—	.5	64	314
Summer, fluke <i>Paralichthys dentatus</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Starry, rough jacket <i>Platichthys stellatus</i>	—	.14	.11	3.5	.13	1.0	—	4	384	.5	.5	64	424
Grouper:													
Black grouper <i>Mycteroperca bonaci</i>	—	—	—	—	—	—	—	11	214	—	—	—	—
Jewfish, giant sea bass <i>Epinephelus itajara</i>	—	—	—	—	—	—	—	—	—	—	.6	—	—
Red grouper <i>Epinephelus morio</i>	—	.11	.37	1.4	—	—	—	40	184	0.2	.4	80	358
Hake: see whiting also													
Red hake <i>Urophycis chuss</i>	—	—	—	—	—	—	—	20	—	—	—	—	—
Silver hake, Atlantic whiting <i>Merluccius bilinearis</i>	—	—	—	—	—	—	—	45	201	—	.4	83	308



Table 9.1 Nutrient Composition of Finfish<sup>a</sup>

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Omega-3 <sup>c</sup> gm	Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm			
Haddock <i>Melanogrammus aeglefinus</i>	83	18.2	0.6 (.1-1.0)	.1	.1	.2	.2	58	3, 316, 317, 319
Halibut: Atlantic <i>Hippoglossus hippoglossus</i>	115	19.3	3.6 (1.1-8.5)	.6	.6	1.4	1.3	47	316, 317
Pacific <i>Hippoglossus stenolepsis</i>	105	20.0	2.2 (.9-3.8)	.4	.9	.8	.5	32	3, 80, 316, 317, 319, 322
Herring: <i>Chupeidae</i>	101	17.7	2.8 (1.3-19.2)	—	—	—	—	53	3, 265
Atlantic <i>Chupea harengus harengus</i>	149	18.0	8.0 (2.4-20.2)	2.0	3.6	2.1	1.2	53	3, 109, 317
Pacific <i>Chupea harengus pallasii</i>	162	17.3	9.8 (2.6-19.0)	2.3	5.0	1.5	1.2	77	3, 316, 317
Thread herring <i>Opistonema oglinum</i>	112	20.7	2.6 (2.6-19.0)	1.0	.5	.9	.6	—	3, 317, 331
Inconnu <i>Stenodus leucichthys</i>	184	18.2	11.8 (4.1-18.8)	—	—	—	—	43	317, 318
Lingcod <i>Ophiodon elongatus</i>	86	18.2	0.9 (.5-1.3)	—	—	—	—	—	3, 322



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Haddock <i>Melanogrammus aeglefinus</i>	46	.04	.09	3.4	.2	1.2	.13	27	203	.8	.6	98	357
Halibut:													
Atlantic <i>Hippoglossus hippoglossus</i>	155	.07	.08	5.0	.3	1.0	.31	16	364	—	.3	71	412
Pacific <i>Hippoglossus stenolepsis</i>	—	.12	.06	9.2	.34	1.0	.28	34	222	.1	.3	59	434
Herring:													
<i>Clupeidae</i>	—	—	—	—	—	—	—	58	262	—	—	105	322
Atlantic <i>Clupea harengus harengus</i>	128	.10	.25	3.8	.81	11.8	.97	38	280	1.0	.8	89	240
Pacific <i>Clupea harengus pallasii</i>	100	.06	.20	2.2	—	1.7	—	83	228	1.4	.5	96	420
Thread Herring <i>Opisthonema oglinum</i>	—	—	—	—	—	—	—	166	324	—	.9	—	—
Inconnu <i>Stenodus leucichthys</i>	—	.06	.30	4.4	—	—	—	16	166	.2	—	36	329
Lingcod <i>Ophiodon elongatus</i>	25	.03	.11	1.9	—	10.8	—	25	206	.4	.4	50	424



Table 9.1 Nutrient Composition of Finfish<sup>a</sup>

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm	Omega-3 <sup>c</sup> gm		
Mackerel: <i>Scombridae</i>	173	19.5	9.9 (.1-17.7)	—	—	—	—	34	3
Atlantic mackerel <i>Scomber scombrus</i>	176	18.5	10.7 (.7-24.0)	2.6	4.0	2.6	1.9	80	3, 316, 319, 323
Pacific mackerel (chub) <i>Scomber japonicus</i>	129	20.8	4.8 (.3-15.9)	1.5	1.0	1.8	1.1	52	3, 264, 317, 319
King mackerel <i>Scomberomorus cavalla</i>	140	23.0	4.6	—	—	—	—	—	3
Spanish mackerel <i>Scomberomorus maculatus</i>	138	19.8	5.9 (.6-14.4)	—	—	—	—	—	3
Jack mackerel <i>Trachurus japonicus</i>	98	19.1	1.8 (.9-3.2)	—	—	—	—	32	3
Mahimahi, dolphin fish <i>Coryphaena hippurus</i>	89	18.9	0.9 (.2-3.2)	.3	.2	.3	—	86 <sup>h</sup>	3, 317
Monkfish, goosefish, anglerfish <i>Lophius americanus</i> and <i>L. piscatorius</i>	80	15.5	1.5 (.7-7.5)	—	—	—	—	35	3, 317
Mullet, striped <i>Mugil cephalus</i>	115	19.2	3.7 (.7-20.2)	1.1	1.1	.7	.4	35	3, 316, 317, 319
Orange roughy <i>Hoplostethus atlanticus</i>	76	14.7	0.3 <sup>i</sup>	0	—	0	0	—	324

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**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm	Omega-3 <sup>c</sup> gm		
Perch:									
Lake perch, yellow perch <i>Perca flavescens</i>	86	18.1	1.0 (.5-4.0)	.2	.2	.5	.2	90	3, 318, 325, 326
Ocean perch, redfish <i>Sebastes marinus</i>	105	18.7	2.8 (.6-8.4)	.4	1.0	.8	.4	—	3, 80, 319, 321
Pike, northern									
<i>Esox lucius</i>	87	18.5	0.9 (.5-1.2)	.2	.2	.3	.1	49	3, 316, 318, 319
Walleye pike <i>Stizostedion vitreum</i>		19.2	1.4 (.5-2.0)	.2	.2	.3	.2	34	317, 318, 326
Sauger, sand pike, yellow walleye <i>Stizostedion canadense</i>	83	17.1	1.1	—	—	—	—	58	318
Pilchard, California									
pilchard <i>Sardinops ocellata</i>	167	19.2	9.4 (3.1-15.6)	2.4	2.3	3.4	2.9	—	3, 316
Pollock:									
Atlantic pollock <i>Pollachius virens</i>	90	19.2	0.9 (.2-2.0)	.1	.1	.4	.4	—	3, 316
Pacific pollock <i>Theragra chalcogramma</i>	78	16.7	0.8	—	—	—	—	—	3, 319, 322, 327



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Perch:													
Lake perch, yellow perch <i>Perca flavescens</i>	40	.35	.34	1.8	—	—	—	95	192	.6	1.2	61	301
Ocean perch, redfish <i>Sebastes marinus</i>	125	—	—	—	.23	1.0	.36	141	223	.8	.7	81	307
Pike, northern <i>Esox lucius</i>													
Walleye pike <i>Stizostedion vitreum</i>	70	.14	.08	1.6	.12	—	—	143	183	.4	.9	48	351
Sauger, sand pike, yellow walleye <i>Stizostedion canadense</i>	—	.03	.39	—	—	—	—	8	186	.4	—	79	318
Pilchard, California pilchard <i>Sardinops ocellata</i>													
—	—	—	—	—	—	—	—	—	—	2.5	—	—	—
Pollock:													
Atlantic pollock <i>Pollachius virens</i>	—	—	—	—	.12	—	.30	—	—	—	—	—	—
Pacific pollock <i>Theragra chalcogramma</i>	66	.17	.17	—	.06	.30	.33	9	376	—	.4	—	428



**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm		
Pompano, Atlantic <i>Trachinotus carolinus</i>	165	18.5	9.5 (3.8-15.6)	3.8	2.8	1.2	—	50 317
<i>Trachinotus palometus</i>	95	20.5	0.8	—	—	—	—	3
Pacific <i>Neptomenus crassus</i>	100	19.1	2.0 (.7-3.3)	—	—	—	—	3
Porgy, scup, sea broom <i>Stenotomus chrysops</i>	109	18.8	3.2 (1.2-5.9)	—	—	—	—	3
Rockfish <i>Scorpaenidae</i>	78	16.2	1.0 (.5-1.4)	.2	.2	.4	.3	— 3, 319
Black <i>Sebastes</i> <i>melanops</i>	88	17.9	1.3 (1.0-1.8)	—	—	—	—	3
Canary, Orange <i>Sebastes pinniger</i>	96	18.8	1.8 (.4-6.0)	.4	.5	.7	—	35 317, 322
Yellow <i>Sebastes</i> <i>flavidus</i>	95	18.9	1.6	—	—	—	—	3
Sablefish, black cod <i>Anopoploma fimbria</i>	184	13.2	14.2 (6.4-23.6)	3.2	8.1	2.0	1.3	49 3, 316, 322
Salmon, Atlantic <i>Salmo salar</i>	129	18.4	5.6 (.2-14.5)	.9	2.0	2.4	1.4	— 3, 317
Salmon: Pacific Chinook, king <i>Oncorhynchus</i> <i>tshawytscha</i>	184	19.0	11.4 (2.2-19.0)	3.0	5.4	2.4	1.9	— 3, 316, 317, 322
Chum, keta <i>Oncorhynchus keta</i>	125	20.4	4.2 (1.3-7.9)	1.1	2.0	1.0	0.6	74 3, 316, 317



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Pompano, Atlantic <i>Trachinotus carolinus</i>	—	.56	.12	3.0	—	—	—	22	195	.6	.7	65	380
<i>Trachinotus palometus</i>	—	—	—	—	—	—	—	18	143	—	—	—	—
Pacific <i>Neptomenus crassus</i>	.5	.09	.06	8.1	—	—	—	—	—	2.7	—	—	—
Porgy, scup, sea bream <i>Stenotomus chrysops</i>	—	—	—	—	—	—	—	—	—	—	.5	63	287
Rockfish <i>Scorpaenidae</i>	—	.06	.12	—	.06	3.2	.08	—	—	—	.1	—	—
Black <i>Sebastes melanops</i>	—	.05	.08	2.8	—	—	—	5	204	.3	.2	49	408
Canary, Orange, <i>Sebastes pinniger</i>	23	.04	.06	2.7	—	—	—	9	200	.4	.4	48	359
Yellowtail <i>Sebastes flavidus</i>	16	.04	.08	3.4	—	—	—	—	—	—	.4	54	382
Sablefish, black cod, <i>Anopoploma fimbria</i>	1029	.10	.08	—	—	—	—	35	168	1.2	.3	56	469
Salmon, Atlantic <i>Salmo salar</i>	40	.16	.28	8.0	.82	8.2	1.9	15	210	1.0	.5	44	410
Salmon: pacific Chinook, king <i>Oncorhynchus tshawytscha</i>	274	.07	.16	7.8	—	—	—	14	404	1.1	.6	56	321
Chum, keta <i>Oncorhynchus keta</i>	73	.09	.13	—	—	.14	—	12	283	.5	1.0	50	396



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Coho, silver <i>Oncorhynchus kisutch</i>	—	.17	.16	7.0	—	—	—	36	231	1.3	.4	38	445
Pink, humpback <i>Oncorhynchus gorbuscha</i>	108	.17	.06	7.0	—	—	—	13	230	.9	.5	78	330
Sockeye <i>Oncorhynchus merka</i>	137	.14	.13	—	.19	.23	.61	6	230	.9	.4	46	338
Sardine: <i>Clupeidae</i>	229	.08	.23	8.2	—	11.0	1.1	73	240	2.3	1.0	100	55
Sardine, Spanish <i>Sardinella aurita</i>	—	—	—	—	—	—	—	—	331	—	—	—	—
Sauger <i>Stizostedion canadense</i>	—	.03	.39	—	—	—	—	8	186	.4	—	79	318
Sea trout:													
Gray weakfish <i>Cynoscion regalis</i>	—	—	—	—	—	—	—	14	217	.2	.5	50	436
Spotted, speckled <i>Cynoscion nebulosus</i>	—	—	—	—	—	—	—	17	250	.3	.4	55	435
Shad, American <i>Alosa sapidissima</i>	—	.15	.24	8.4	—	—	—	47	237	.8	.3	52	384
Shark:													
Spiny dogfish <i>Squalus acanthias</i>	233	.06	.15	5.0	—	1.4	.69	11	266	—	.5	100	174
Blue Shark <i>Carcharhinus bracyurus</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Carcharhinus glaucus</i>	—	—	—	—	—	—	—	5	150	.4	—	—	—



Table 9.1 Nutrient Composition of Finfish<sup>a</sup>

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences	
				Sat <sup>d</sup> b gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm			Omega-3 <sup>c</sup> gm
Coho, silver <i>Oncorhynchus kisutch</i>	150	21.1	6.6 (1.3-9.9)	1.1	2.4	2.0	1.5	—	3, 316, 317
Pink, humpback <i>Oncorhynchus gorbuscha</i>	131	20.1	5.0 (1.8-12.5)	.8	1.4	2.0	1.5	—	3, 316
Sockeye <i>Oncorhynchus nerka</i>	158	20.3	7.9 (1.6-13.2)	1.6	1.3	4.2	2.7	35	3, 82, 316, 317, 322
Sardine: <i>Clupeidae</i>	142	18.9	6.8 (2.3-15.2)	—	—	—	—	52	3, 319
Sardine, Spanish <i>Sardinella aurita</i>	133	21.5	4.6 (2.3-9.9)	1.5	.8	1.8	1.2	—	3, 331
Sauger <i>Stizostedion canadense</i>	83	17.1	1.1	—	—	—	—	58	318
Sea trout: Gray, weakfish <i>Cynoscion regalis</i>	106	17.5	3.5 (0.8-6.0)	1.1	1.0	.70	.50	—	3, 225, 251, 317
Spotted, speckled <i>Cynoscion nebulosus</i>	97	18.8	1.9 (1.4-3.2)	.5	.4	.4	—	—	3, 317
Shad, American <i>Alosa sapidissima</i>	187	17.4	12.5 (3.0-17.2)	—	—	—	—	—	3, 317, 322
Shark: Spiny dogfish <i>Squalus acanthias</i>	167	15.1	11.4 (3.6-17.9)	3.8	4.3	2.4	1.9	46	316, 317, 319, 328
Blue shark <i>Carcharhinus bracyurus</i>	82	18.9	0.1	—	—	—	—	—	3
<i>Carcharhinus glaucus</i>	64	12.5	1.2 (.5-2.0)	—	—	—	—	—	3



**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm	Omega-3 <sup>c</sup> gm		
Smelt <i>Osmerus mordax</i>	98	18.6	2.1	.3	.4	.8	.6	70	3, 316, 325/ 6
Snapper: <i>Lutjanidae</i>	90	18.8	1.1 (.3-2.1)	—	—	—	—	—	3, 317
Red <i>Lutjanus campechanus</i> <i>Lutjanus blackfordii</i>	110	20.2	2.6 (.4-7.4)	.5	.5	.9	.6	40	316, 317
Yellowtail <i>Ocyurus chrysurus</i>	98	19.9	1.4 (.7-2.5)	—	—	—	—	—	3, 317
Sole: <i>Soleidae/Pleuronectidae</i>	88	17.9	1.3 (.3-2.0)	.4	.3	.1	.1	43	3, 317
Dover sole (Pacific) <i>Microstomus pacificus</i>	73	15.1	0.9 (.6-1.2)	—	—	—	—	48	3, 322
English sole (Pacific) <i>Parophrys vetulus</i>	87	16.8	1.7 (1.2-18)	—	—	—	—	—	3, 322
Petrals sole <i>Eopsetta jordani</i>	92	18.2	1.6 (.9-3.4)	—	—	—	—	—	3, 317, 322
Rex sole <i>Glyptocephalus zachirus</i>	76	16.4	0.7 (.4-3.2)	—	—	—	—	39	3, 317, 322
Rock sole <i>Lepidopsetta bilineata</i>	88	18.6	1.0 (.7-1.6)	—	—	—	—	—	3, 317
Sand sole <i>Psettichthys melanostictus</i>	74	16.4	0.5	—	—	—	—	—	3, 317
Yellowfin sole <i>Limanda aspera</i>	84	17.4	1.1 (.8-1.3)	—	—	—	—	—	3







**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences	
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm			Omega-3 <sup>c</sup> gm
Spot <i>Leiostomus xanthurus</i>	135	18.8	6.1 (2.7-10.2)	1.8	1.7	1.4	.8	—	3, 40, 251, 317
Sturgeon, Atlantic <i>Acipenser sturio</i>	98	16.3	3.2 (.6-6.2)	.8	1.7	0.3	.2	—	3, 316
Sturgeon, lake <i>Acipenser fulvescens</i>	169	16.8	10.8 (9.1-12.5)	—	—	—	—	18	3, 318
Sucker, white <i>Catostomus commersoni</i>	95	17.1	2.4 (1.1-3.2)	—	—	—	—	33	3, 318
Swordfish <i>Xiphias gladius</i>	122	19.4	4.4 (2.0-6.7)	1.3	1.9	1.1	.9	48	3, 329
Tilefish <i>Lopholatilus chamaelonticeps</i>	90	18.6	1.2	—	—	—	—	—	3
Trout: Rainbow <i>Salmo gairdneri</i>	131	18.4	5.8 (2.1-13.6)	.9	1.0	2.2	1.1	56	3, 316-318, 325, 326
Brook <i>Salvelinus fontinalis</i>	108	20.0	2.5 (.7-4.6)	.5	.6	.7	.3	68	3, 319, 325, 326
Lake trout <i>Salvelinus namaycush</i>	162	18.1	9.4 (4.6-21.8)	1.2	3.0	2.6	1.4	36	3, 318, 325, 326
Tuna: <sup>k</sup> Albacore or longfin <i>Thunnus alalunga</i> or <i>T. germa</i>	172	25.2	7.2 (.7-13.2)	1.9	1.9	2.7	2.1	38	3, 316, 317, 319, 322



**Table 9.1 Nutrient Composition of Finfish**

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Spot <i>Leiostomus xanthurus</i>	—	—	—	—	—	—	—	52	203	.3	.5	29	496
Sturgeon, Atlantic <i>Acipenser sturio</i>	700	—	—	—	—	—	—	—	466	—	—	—	284
Sturgeon, lake <i>Acipenser fulvescens</i>	—	.06	.31	2.3	—	—	—	14	147	1.5	—	50	270
Sucker, white <i>Catostomus commersoni</i>	—	0	.27	1.7	—	—	—	42	164	.4	—	52	678
Swordfish <i>Xiphias gladius</i>	1585 <sup>j</sup>	.05	.08	7.6	—	1.4	.19	10	316	.8	1.1	102	342
Tilefish <i>Lopholatilus chamaelonticeps</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Trout:													
Rainbow <i>Salmo gairdneri</i>	65	.07	.26	3.9	.69	3.0	1.95	51	223	1.5	1.1	39	453
Brook <i>Salvelinus fontinalis</i>	—	—	.09	—	—	3.0	—	80	258	1.4	1.2	60	430
Lake trout <i>Salvelinus namaycush</i>	—	.01	.36	3.9	—	—	—	44	202	.7	.7	40	286
Tuna: <sup>k</sup>													
Albacore or longfin <i>Thunnus alalunga</i> or <i>T. germo</i>	20	.04	.04	15.8	.44	.17	.42	8	422	1.3	.4	51	308



**Table 9.1 Nutrient Composition of Finfish<sup>a</sup>**

Species:	Calories <sup>f</sup> kcal	Protein gm	Total Fat gm	Fatty Acids			Chole- sterol mg	Refer- ences
				Sat'd <sup>b</sup> gm	Mono <sup>b</sup> gm	Poly <sup>b</sup> gm		
Bigeye <i>Thunnus obesus</i>	112	22.8	1.6 (.9-3.5)	—	—	—	66	3, 317, 319
Bluefin <i>Thunnus thynnus</i>	158	24.0	6.1 (.2-25.0)	1.6	2.2	1.8	38	3, 316, 317, 319
Skipjack <i>Euthynnus pelamis</i>	130	24.9	2.7 (.2-11.0)	.9	.5	.6	.32	3, 316, 317
Yellowfin <i>Thunnus albacares</i>	124	23.8	2.5 (.1-11.9)	.6	.5	.8	45	3, 316, 317
Turbot, greenland: <i>Reinhardtius hippoglossoides</i>	147	13.2	10.0 <sup>g</sup> (8.4-12.4)	1.9	6.3	1.0	—	3, 316, 319, 330
Whitefish <i>Coregonus chupeaformis</i>	162	18.8	9.0 (1.7-16.3)	1.5	3.4	3.6	48	3, 318
Whiting, Pacific <i>Merluccius productus</i>	85	16.6	1.6	.3	.3	.6	—	264, 316, 322

<sup>a</sup> Data per 100 gm raw fillet

<sup>b</sup> Corrected for non-fatty acid portion of the lipid according to Ref 356; sum of saturated, monounsaturated & polyunsaturated is less than total lipid

<sup>c</sup> Sum of eicosapentaenoic acid (20:5) and docosahexaenoic acid (22:6)

<sup>d</sup> Dashes denote lack of data, not zero values

<sup>e</sup> Minimum range of values where data were provided

<sup>f</sup> Calculated using the calorie equivalent factors for protein: 4.27 and fat: 9.02. Carbohydrate is not included (see text)

<sup>g</sup> Value from closely related species

<sup>h</sup> Estimated from data on cooked portion (107 mg/100 gm) assuming 80% yield and 100% retention (Chapter Five)

<sup>i</sup> Total lipid is 8.5% of which 3.1% is triglyceride (256)

<sup>j</sup> Vitamin A value unusually high & may be questioned

<sup>k</sup> Average of light and dark meat

<sup>l</sup> Range 1.9-250 mcg

<sup>m</sup> Range 7.8-38.0 mcg

<sup>n</sup> Fat content unusually high and may be questioned.



Table 9.1 Nutrient Composition of Finfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Bigeye <i>Thunnus obesus</i>	—	.16	.12	10.8	.9	3.35	.50	7	290	1.5	.4	31	—
Bluefin <i>Thunnus thynnus</i>	963	.24	.26	8.6	.46	16.3 <sup>m</sup>	1.1	8	254	1.2	.6	58	252
Skipjack <i>Euthynnus pelamis</i>	52	.06	.08	22.0	.9	66.5 <sup>l</sup>	.5	24	272	1.9	.8	37	392
Yellowfin <i>Thunnus albacares</i>	59	.32	.06	11.0	—	.52	—	20	232	1.7	.5	37	444
Turbot, greenland <i>Reinhardtius hippoglossoides</i>	39	.07	.06	1.0	—	1.25	.25	12	—	1.0	—	—	500
Whitefish <i>Coregonus clupeaformis</i>	—	.08	.12	3.0	—	—	—	5	230	.3	1.3	57	312
Whiting, Pacific <i>Merluccius productus</i>	—	.05	.06	2.2	—	—	—	18	175	.4	.3	66	328



**Table 9.2 Nutrient Composition of Shellfish**

Species:	Cal- ories kcal	Carbo- hydrates gm	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
					Sat'd gm	Mono gm	Poly gm	Omega-3 gm		
Molluscs										
Abalone <i>Haliotidae</i> <sup>a</sup>	5.1	98	17.0	.5 (.1-1.1)	.10	.09	.12	.04	111	3, 83, 332
Clams: Whole										
Soft shell:										
Ipswich, belly, steamer whole: <i>Mya arenaria</i>	2.1	65	10.7	1.2 (1.3-1.4)	.18	.12	.44	.24	25 <sup>b</sup>	3, 83, 319, 332
Hard shell:										
Quahog, cherrystone whole: <i>Mercenaria mercenaria</i>	2.8	60	9.2	1.0 (.2-2.0)	.16	.16	.33	.24	40 <sup>b</sup>	3, 83, 251
Razor <i>Solenidae</i>	3.4	75	11.2	1.5 (1.0-2.4)	.27	.21	.54	.26	107	3, 332
Surf or sea clams <i>Spisula solidissima</i> raw	2.1	70	13.5	0.5 (.3-.8)	.04	.04	.16	.07	36 <sup>b</sup>	3, 38, 83, 332
Mussels, Atlantic <i>Mytilus edulis</i>	89	4.5	12.0	2.20 (1.2-2.1)	.41	.50	.75	.43	63	3, 83, 332- 335
Octopus <i>Octopus vulgaris</i>	77	1.7	14.8	.80 (.4-1.1)	.22	.08	.26	.21	122 <sup>d</sup>	3, 333
Oysters:										
Pacific or Japanese <i>Crassostrea gigas</i>	90	5.8	11.1	2.2 (.8-2.6)	.49	.36	.90	.71	47	3, 86, 322, 333
Eastern or American <i>Crassostrea virginica</i>	74	4.8	8.2	2.2 (1.0-2.7)	.42	.24	.86	.51	56	3, 251, 319, 333, 336, 337







Table 9.2 Nutrient Composition of Shellfish

Species:	Cal- ories kcal	Carbo- hydrates gm	Protein gm	Total Fat gm	Fatty Acids				Chole- sterol mg	Refer- ences
					Sat'd gm	Mono gm	Poly gm	Omega-3 gm		
Western or Olympia <i>Crassostrea lurida</i>	85	5.4	9.6	2.5 (1.9-3.6)	—	—	—	—	—	3
European or French <i>Ostrea edulis</i>	79	4.9	10.3	1.7 (1.3-1.8)	.52	.21	.42	.24	—	3, 333, 336
Periwinkles <i>Littorina littorea</i>	114	2.3	18.2	3.0 (1.2-4.5)	.45	.83	.90	.44	—	3, 333
Scallops:										
Sea scallops										
<i>Placopecten magellanicus</i>	87	2.6	16.2	.81 (.2-1.0)	.10	.06	.24	.18	36	83, 251, 332, 333
Bay, Cape or Long Island <i>Argopecten irradians</i>	80	2.9	14.8	0.6 (.3-1.5)	.09	.07	.22	.13	—	3, 332
Calico scallops <i>Aequipecten gibbus</i>	84	2.4	16.1	0.6 (.2-1.0)	.09	.05	.21	.13	—	3, 332
Squid:										
Short finned squid <i>Illex illecebrosus</i>	99	2.3	17.3	1.8 (1.4-2.0)	.52	.16	.83	.80	260 <sup>i</sup>	3, 332, 333
Long finned squid <i>Loligo pealei</i>	87	6.0	13.2	0.7 (.5-9)	.16 <sup>i</sup>	.04 <sup>i</sup>	.25 <sup>i</sup>	.24 <sup>i</sup>	—	3, 332
California squid <i>Loligo opalescans</i>	90	1.6	16.6	1.4 (.5-2.2)	—	—	—	—	—	3, 332
Flying squid <i>Loligo omnastrephes</i>	—	0.7	15.3	0.8	—	—	—	—	—	3



Table 9.2 Nutrient Composition of Shellfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Western or Olympia <i>Crassostrea lurida</i>	—	—	—	—	—	—	—	68	178	—	—	—	—
European or French <i>Ostrea edulis</i>	—	—	—	—	—	4.8	—	11	21	3.5	38.3 <sup>g</sup>	650	258
Periwinkles <i>Littorina littorea</i>	—	—	—	—	—	—	—	165 <sup>h</sup>	277 <sup>h</sup>	1.5	—	266 <sup>h</sup>	211 <sup>h</sup>
Scallops:													
Sea scallops													
<i>Placopecten magellanicus</i>	—	—	—	—	—	—	—	16	218	.6 <sup>i</sup>	1.2	87	412
Bay, Cape or Long Island <i>Argopecten irradians</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Calico scallops <i>Aequipecten gibbus</i>	—	—	—	—	—	—	—	22	210	—	—	—	—
Squid:													
Short finned squid <i>Illex illecebrosus</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Long finned squid <i>Loligo pealei</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
California squid <i>Loligo opalescens</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Flying squid <i>Loligo omnastrephes</i>	—	.03	.08	3.2	—	1.3	—	15	194	20	—	176	266



Table 9.2 Nutrient Composition of Shellfish

Species:	Cal- ories	Carbo- hydrates	Protein	Total Fat	Fatty Acids				Chole- sterol	Refer- ences
					Sat'd	Mono	Poly	Omega-3		
	kcal	gm	gm	gm	gm	gm	gm	gm	mg	
Crabs:										
Deep sea red crab <i>Geryon quinquedens</i>	79	1.6	15.0	1.0	—	—	—	—	78 <sup>h</sup>	3, 85
Blue or soft shelled <i>Callinectes sapidus</i>	81	0.6	16.2	1.0 (.4-2.2)	—	—	—	—	76	3, 251, 321, 337
Dungeness crab <i>Cancer magister</i>	87	0	17.3	1.2 (.8-3.0)	.17	.22	.40	.38	—	3, 322, 333
Jonah crab <i>Cancer borealis</i>	95	2.2	16.2	1.9 —	—	—	—	—	78 <sup>h</sup>	3, 85
King crab <i>Paralithodes camchaticus</i>	74	.06	15.2	0.8 (.3-2.5)	—	—	—	—	60	3, 83
Snow crab <i>Chionoecetes bairdi</i>	90	0	18.4	1.3 (1.0-1.5)	.16	.22	.52	.44	—	3, 338
Langostinos <i>Pleuroncodes planipes</i>	74	6.2	8.2	1.6	.32	.28	.62	.58	—	3, 338
Crayfish <i>Astacus spp.</i>	76	1.0	16.0	.05	—	—	—	—	—	3
Lobster <i>Homarus americanus/ vulgaris</i>	113	5.4	18.2	1.5 (1.4-2.0)	—	—	—	—	70	3, 85, 319
Lobster, boiled	93	—	20.5	0.6	.08	.13	.07	.06	72	317



Table 9.2 Nutrient Composition of Shellfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Crabs:													
Deep sea red crab <i>Geryon quinquedens</i>	—	—	—	—	—	—	—	46	46	—	—	406	284
Blue or soft shelled <i>Callinectes sapidus</i>	5	.08	.04	2.7	—	—	—	74	226	.6	4.0	200	452
Dungeness crab <i>Cancer magister</i>	—	.12	.10	3.1	—	—	—	52	180	.4	3.8	266	330
Jonah crab <i>Cancer borealis</i>	—	—	—	—	—	—	—	96	120	—	—	276	279
King crab <i>Paralithodes camchaticus</i>	10	.09	.06	3.3	—	—	—	49	186	2.0	—	70	—
Snow crab <i>Chionoecetes bairdi</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Langostinos <i>Pleuroncodes planipes</i>	—	—	—	—	—	—	—	—	—	—	—	—	—
Crayfish <i>Astacus spp.</i>	—	—	—	—	—	—	—	97	226	1.8	1.8	—	260
Lobster <i>Homarus americanus/ vulgaris</i>	—	.16	.10	—	—	.05	1.5	—	240	—	3.4	—	—
Lobster, boiled	87	.01	.07	1.1	.08	3.11	.28	61	185	.4	2.9	380	352



Table 9.2 Nutrient Composition of Shellfish

Species:	Cal-ories kcal	Carbo-hydrates gm	Protein gm	Total Fat gm	Fatty Acids				Chole-sterol mg	Refer-ences
					Sat'd gm	Mono gm	Poly gm	Omega-3 gm		
Lobster, spiny or rock lobster or crawfish <i>Panulirus argus</i>	100	1.7	19.2	1.2	.14	.14	.59	.27	106 <sup>h</sup>	333
Shrimp:										
Tropical:										
White shrimp <i>Penaeus setiferus</i>	90	0	19.4	0.8 (.2-1.2)	.20	.14	.49	.34	96	3, 83, 337, 339, 9
Brown shrimp <i>Penaeus aztecus</i>	100	0	21.8	0.8 (.6-1.1)	.11	.15	.23	.18	—	3, 338-340
Pink shrimp <i>Penaeus duorarum</i>	92	0	20.2	0.7	—	—	—	—	—	3
Indian White <i>Penaeus indicus</i>	87	2.7	17.0	0.4	.11	.05	.09	.07	—	3, 338
Northern:										
Northern pink <i>Pandalus borealis</i>	92	0	19.4	.98 (.4-1.5)	.14	.29	.20	.16	—	3, 332, 338, 341
Tiger prawn or shrimp <i>Penaeus monodon</i>	95	1.8	19.2	0.6 (.4-.7)	—	—	—	—	—	3
Shrimp mixed species	91	—	18.7	1.2 (.3-3.2)	.28	.27	.39	.20	66 <sup>k</sup>	3, 38, 321, 362

<sup>a</sup> Includes data for *Haliotidae* and *H. japonica*

<sup>b</sup> Estimated from data on cooked seafood assuming 95% retention

<sup>c</sup> Range 7.1-190.0

<sup>d</sup> Data from *O. ocellatus*

<sup>e</sup> Data from *O. bimaculatus*

<sup>f</sup> Range 17.0-217.9

<sup>g</sup> Range 1.7-74.9

<sup>h</sup> Cooked

<sup>i</sup> Data from related species

<sup>j</sup> Range 100-400

<sup>k</sup> Estimated from data on cooked white shrimp assuming 100% retention



Table 9.2 Nutrient Composition of Shellfish

Species	Vit A I.U.	Thia- min mg	Ribo- flavin mg	Niacin mg	Vit B <sub>6</sub> mg	Vit B <sub>12</sub> mcg	Panto- thenic Acid mg	Cal- cium mg	Phos- phorus mg	Iron mg	Zinc mg	Sodium mg	Potas- sium mg
Lobster, spiny or rock lobster or crawfish <i>Panulirus argus</i>	—	—	—	—	—	—	—	50	214	0.4 <sup>i</sup>	—	—	—
Shrimp:													
Tropical:													
White shrimp <i>Penaeus setiferus</i>	—	.05	.07	1.6	—	—	—	77	206	—	—	—	—
Brown shrimp <i>Penaeus aztecus</i>	—	—	—	—	—	—	—	89	258	1.8	1.6	208	288
Pink shrimp <i>Penaeus duorarum</i>	—	—	—	—	—	—	—	110	215	0.2	—	—	—
Indian White <i>Penaeus indicus</i>	—	—	—	—	—	—	—	160	295	2.5	—	—	—
Northern:													
Northern pink <i>Pandalus borealis</i>	—	.08	.19	—	—	—	—	54	177	.4	1.4	—	—
Tiger prawn or shrimp <i>Penaeus monodon</i>	—	.02	.05	4.0	—	3.0	—	180	325	—	—	185	370
Shrimp mixed species	189	.04	.06	2.5	—	3.72	—	—	—	1.8	—	—	—

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Table 9.3 Proximate Composition and Sodium Content of Canned Fish and Shellfish<sup>a</sup>

Species	Canning Medium	Calories kcal	Carbo- hydrate gm	Protein gm	Total Fat gm	Sodium mg
Finfish:						
Amberjack, Yellowtail <i>Seriola quinqueradiata</i>	smoked, oil	318	0	27.2	22.4	—
Anchovy, European <i>Engraulis encrasicolus</i>	olive oil	321	0	19.9	26.2	—
Herring, Atlantic <i>Clupea harengus harengus</i>	oil	233	2.6	17.4	16.4	—
	tomato sauce	184	0	16.8	12.4	—
Herring, Pacific <i>Clupea harengus pallasii</i>	not specified	154	1.1	19.2	7.5	—
<i>Clupeidae</i>	not specified	249	0	27.9	14.4	—
<i>Clupeidae</i>	tomato sauce	192	1.2	16.7	12.8	—
Mackerel, jack <i>Trachurus trachurus</i>	not specified	143	2.5	23.2	3.8	—
Horse mackerel <i>Carangidae</i>	not specified	147	0	21.4	6.2	—
Pacific chub <i>Scomber japonicus/colias</i>	oil	232	0	24.8	14.0	800
	not specified	150	0	21.3	6.5	—
<i>Scombridae</i>	oil	297	2.2	20.1	22.4	—
	tomato sauce	200	1.1	16.9	13.7	—
	not specified	179	1.3	19.4	10.0	385
Pilchard, European <i>Clupea pilchardus</i>	oil	300	0.9	21.7	22.6	—
Pilchard, Pacific <i>Sardinops caerulea</i>	tomato sauce	193	0.7	18.5	12.3	—
	not specified	240	1.7	16.8	17.9	—
<i>Clupeidae</i>	not specified	208	1.9	17.6	13.9	585
Salmon Atlantic <i>Salmo salar</i>	not specified	198	0.9	21.1	11.6	—
Chinook/King <i>O. tshawytscha</i>	not specified	222	1.6	19.3	14.8	—
Chum <i>O. keta</i>	not specified	154	1.3	20.8	6.6	48
Coho <i>O. kisutch</i>	not specified	163	1.5	20.7	7.6	184
Pink <i>O. gorbuscha</i>	not specified	141	0.2	19.3	6.4	—
Sockeye <i>O. nerka</i>	not specified	163	1.0	20.4	8.0	417



Table 9.3 Proximate Composition and Sodium Content of Canned Fish and Shellfish<sup>a</sup>

Species	Canning Medium	Calories kcal	Carbo- hydrate gm	Protein gm	Total Fat gm	Sodium mg
Sardine	oil	252	0.3	22.3	17.3	558
<i>Clupeidae</i>	tomato sauce	184	2.3	17.3	11.2	321
	not specified	198	0	23.9	10.6	—
Smelt, lake	not specified	233	5.3	21.1	13.5	—
<i>Osmerus mordax</i>						
Sprat	oil	344	0	19.6	29.3	—
<i>Sprattus sprattus</i>	tomato sauce	206	1.4	16.8	14.3	—
Tuna:	oil	198	7.3	26.1	6.4	460 <sup>c</sup>
Albacore						
<i>Thunnus alalonga</i>						
Bluefin	oil	348	0	22.1	28.1	—
<i>Thunnus thynnus</i>						
Skipjack	oil	175	0	29.0	5.7	—
<i>Euthynnus pelamis</i>	brine	153	6.0	25.9	2.0	—
Yellowfin	oil	177	0	27.0	6.8	—
<i>Thunnus albacares</i>	water	118	0.9	22.9	1.8	1000 <sup>b</sup>
Tunny	oil	284	0.6	23.8	20.0	—
<i>Thunnus vulgaris</i>						
Chunk light						
Shellfish:						
Crab:						
Blue	not specified	91	0.9	18.4	1.0	—
<i>Callinectes sapidus</i>						
Dungeness	brine	88	0	18.5	1.0	844
<i>Cancer magister</i>	water	93	0	18.8	1.4	169 <sup>c</sup>
King	not specified	96	0.6	18.5	1.6	—
<i>Paralithodes camtchaticus</i>						
Queen	not specified	82	3.0	14.2	1.1	704
<i>Chionoecetes opilio</i>						
Snow	not specified	92	0	19.5	1.0	—
<i>Chionoecetes bairdi</i>						
Unspecified	not specified	93	0.6	17.8	1.6	750
Lobster, unspecified	not specified	98	1.9	18.4	1.3	—
Shrimp						
White						
<i>Penaeus setiferus</i>	brine	70	0	15.0	0.7	—
Tropical (Gulf)	cooked	100	0.6	21.5	0.7	—
<i>Penaeidae</i>						
Unspecified	not specified	99	0	20.8	1.1	—



**Table 9.3 Proximate Composition and Sodium Content of Canned Fish and Shellfish<sup>a</sup>**

Species	Canning Medium	Calories kcal	Carbo-hydrates gm	Protein gm	Total Fat gm	Sodium mg
Abalone <i>Haliotidae</i>	not specified	111	9.7	16.5	0.2	990
Clams	not specified	60	2.4	9.0	1.3	—
Razor, <i>Solenidae</i>						
Softshell <i>Mya arenaria</i>	not specified	96	1.7	15.6	2.5	—
Venus, butter <i>Saxidomus giganteus</i>	not specified	129	1.4	18.7	4.8	—
Venus, little neck, Japanese <i>Tapes (Venerupis) decussatus</i>	not specified	103	5.5	15.6	1.6	400
Quahog, cherrystone <i>Mercenaria mercenaria</i>	not specified	71	2.0	9.7	2.4	—
Unspecified	not specified	80	5.1	11.1	1.3	2100 <sup>b</sup>
Mussels <sup>d</sup> <i>Mytilus edulis</i>	brine	90	0.9	13.3	3.3	340
Oysters	not specified	75	5.0	8.6	2.0	—
Eastern <i>Ostrea virginica</i>						
<i>Ostreidae</i>	boiled	99	2.8	12.4	3.9	—
	smoked/oil	226	10.7	15.1	13.2	—
	not specified	65	0	9.3	2.8	—

<sup>a</sup>Data from References 3, 81, 265, 318, 322, 333, 334, 343

<sup>b</sup>Seasoned

<sup>c</sup>Canned without salt

<sup>d</sup>Steamed



SECTION II

Liste de documents:

- 1) dont les titres permettent de supposer que leur contenu traite des produits de la pêche ou;
- 2) qui ont servi de références pour la constitution d'autres tables connues portant sur les poissons et fruits de mer.

TITRE: Cholestérol content of foods.

LIEU DE PRODUCTION: Auteurs: Feeley, R.M.  
Criner, P.F., and  
Watt, B.K.

Publié dans: J. Amer. Diet. Assoc.,  
(J.A.D.A.)  
pp 134-149

ANNÉE: Vol. 61  
Août 1972

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TITRE: Composition of foods, raw, processed, prepared.  
Agriculture HandBook no. 8.

LIEU DE PRODUCTION: Auteurs: Watt, Bernice K. and Merrill, Annabel L.  
Produit par: Consumer and Food Economics Institute,  
Agricultural Research Service, United  
States Department of Agriculture (USDA)  
Washington, D.C.

ANNÉE: Révisé, décembre 1963

COÛT: Environ \$11.00 (\$ canadien; prix de 1982).

OU SE LE PROCURER: Superintendent of Documents, U.S. Government Printing  
Office, Washington, D.C.  
20402  
U.S.A.

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TITRE: Nutritive Value of American Foods in Common Units.  
Agriculture Handbook No. 456.

LIEU DE PRODUCTION: Auteur: Adams, Catherine F.  
Produit par: Agricultural Research Service, United  
States Department of Agriculture (USDA)  
Washington, D.C.

ANNÉE: 1975

OO SE LE PROCURER: Superintendent of Documents, U.S. Government Printing  
Office, Washington, D.C.  
20402  
U.S.A.

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TITRE: Nutrient levels of some foods of Eskimos from Artic  
Bay, N.W.T., Canada.

LIEU DE PRODUCTION: Auteurs: Hoppner, K. et al.  
Publié dans: J.A.D.A.  
pp. 257-261

ANNÉE: Vol. 73  
1978

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TITRE: Retail Frozen Fishery Products - Proximate and Mineral  
Composition of the Edible portion.

LIEU DE PRODUCTION: Auteurs: Dyer, W.J. et al.  
Publié dans: Can. Inst. Food Sci. Technol. J.  
pp. 185-190

ANNÉE: Vol. 10  
1977

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TITRE: Comprehensive evaluation of fatty acids in foods.  
VIII. Finfish.

LIEU DE PRODUCTION: Auteurs: Exler, J. et al.

Produit par: Agricultural Research Service,  
United States Department of Agriculture (USDA).

Publié dans: J.A.D.A.  
pp. 243-247

ANNÉE: Vol. 69  
1976

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TITRE: Comprehensive evaluation of fatty acids in foods.  
XII. Shellfish.

LIEU DE PRODUCTION: Auteurs: Exler, J. et al.

Produit par: Agricultural Research Service, United  
States, Department of Agriculture  
(USDA)

Publié dans: J.A.D.A.  
pp. 518-521.

ANNÉE: Vol. 71  
1977

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TITRE: Composition of the edible portion of raw (fresh or  
frozen) crustaceans, finfish, and mollusks. II.  
Macroelements: sodium, potassium, chlorine, calcium,  
phosphorus and magnesium.

LIEU DE PRODUCTION: Auteurs: Sidwell, V.D.  
Buzzell, D.H. et al.

Parution dans: Marine Fisheries  
Review

ANNÉE: Vol. 39  
1977

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Faint, illegible text, possibly bleed-through from the reverse side of the page. The text is too light to transcribe accurately.



TITRE: Composition of the edible portion of raw (fresh or frozen) crustaceans, finfish and mollusks. IV. Vitamins.

LIEU DE PRODUCTION: Auteurs: Sidwell, V.D.  
Loomis, a.l.  
Foncannon, P.R. et al.

Parution dans: Marine Fisheries Review

ANNÉE: Vol. 40  
1978

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TITRE: Chemical and nutritive values of several fresh and canned finfish, crustaceans and mollusks. Part II. Fatty acid composition.

LIEU DE PRODUCTION: Auteurs: Bonnet, J.C.  
Sidwell, V.D., and  
Zook, E.G.

Parution dans: Marine Fisheries Review

ANNÉE: Vol. 36  
1974

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TITRE: Non connu

LIEU DE PRODUCTION: La Direction des politiques alimentaires du ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (M.A.P.A.) travaille présentement à la réalisation d'une table présentant la valeur nutritive de certains produits québécois.

ANNÉE: Publication à venir sous peu.

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TITRE: Chemical and Nutritional Composition of Fin fishes, Whales, Crustaceans, Mollusks and their products.

LIEU DE PRODUCTION: Auteur: Sidwell (Virginia D.)

Parution dans: TECHNICAL MEMORANDUM F/SEC-11

Produit par: Le National Marine Fisheries Service (N.M.F.S.), National Oceanic and Atmospheric Administration (N.O.A.A.), Dept. of Commerce, U.S.A.

ANNÉE: Janvier 1981

DESCRIPTION: -

OÙ SE LE PROCURER: - Institut canadien de l'information scientifique et technique, Conseil national de recherches.

- Suggestion: contacter les bibliothèques scientifiques.



Pour connaître les diverses tables de composition (non exclusives aux poissons et fruits de mer) pour usage international et les tables spécifiques se rapportant à divers pays, consulter le répertoire de la F.A.O. intitulé:

Food and Agriculture Organization of the United Nations: Food composition tables - updated annotated bibliography, Rome, 1975.

N.B.: Ce répertoire ainsi que quelques tables étrangères se trouvent en référence à la bibliothèque de diététique de l'Université de Montréal.



Bibliothèque Cécile-Rouleau



QMC A 567 440