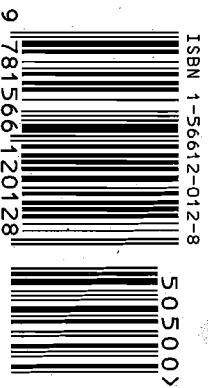
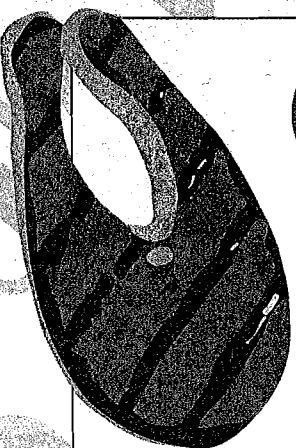


Recoveries Byields

from Pacific
Fish and
Shellfish



University of Alaska Fairbanks
School of Fisheries & Ocean Sciences

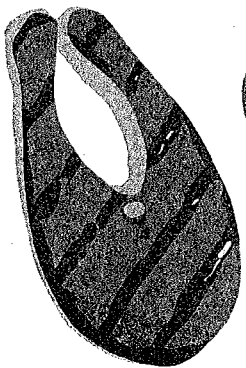
Chuck Crapo • Brian Paust • Jerry Babbitt

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Introduction

Yield and recovery data are important decision-making tools for many people in the seafood industry. The fisherman uses yield data to determine whether roe herring are ready to be fished. The line foreman tracks the efficiency of his filleting operation by documenting daily recovery. And the plant manager uses yield figures to estimate the profitability of a new fishery or processing line. Finding this information can be difficult since much of it is generated in scientific papers or under actual processing conditions, but without it making good decisions becomes more uncertain.

This publication is a compilation of recovery and yield data from scientific sources and industry experience.

Note II

Recoveries are reported as averages and expected ranges. The average yield represents high quality, properly handled fresh fish and shellfish in good physiological condition. If fish condition is abnormal, in a post-spawning or starving state, then the numbers will not be good estimates. The ranges, when available, represent the typical variations found within fish populations during the year.

Many other factors such as handling and processing conditions will also affect yields. Filleting skills, cooking times, and refrigeration systems can all have an effect on recoveries. The data presented here are based on typical processing and handling methods.

Smoked fish yields were calculated using an average 15% weight loss during salting/brining and 10% in the smoking process.

2 Recoveries and Yields from Pacific Fish and Shellfish

From	To	Average (%)	Range (%)
Abalone, Pinto <i>Haliotis kamtschatkana</i>			
Whole	Edible Muscle	42	40-45
	Meat	25	
	Trimming	16	
	Dried Muscle	10	
Blackcod (see Sablefish)			
Capelin <i>Mallotus villosus</i>			
Round	D/H-On	89	84-93
	D/H-Off	78	73-81
Clams			
Softshell <i>Mya</i> sp.			
Whole	Edible Meats	57	-53-62
Macoma <i>Macoma</i> sp.			
Whole	Edible Meats	53	45-59
Cockles <i>Clinocardium</i> sp.			
Whole	Edible Meats	42	38-48
Littlenecks <i>Protothaca</i> sp.			
Whole	Edible Meats	37	31-46
Geoducks <i>Panope</i> sp.			
Whole	Edible Meats	33	32-35
	Steaks	22	20-25
	Necks	12	9-14
Razors <i>Siliqua</i> sp.			
Whole	Edible Meats	44	42-50
Raw Meat	Cooked Meat	60	
Butter <i>Saxidomus</i> sp.			
Whole	Edible Meats	45	38-46

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

Recoveries and Yields from Pacific Fish and Shellfish

3

From	To	Average (%)	Range (%)
Cod, Pacific <i>Gadus macrocephalus</i>			
Round	D/H-On	81	72-90
	D/H-Off	63	56-75
	Skin-On Fillets (V-cut)	45	38-48
	Skinless Fillets (V-cut)	39	22-45
	S/B Fillets (V-cut)	33	18-39
	Skin-On Fillets	38	
	Skinless Fillets (J-cut)	32	
	S/B Fillets (J-cut)	26	
	Steaks	62	
	Salted D/H-Off	45	
	Smoked D/H-Off	58	50-65
	Belly Flaps	10	
	Liver	5	3-7
	Roe	4	1-7
D/H-On	D/H-Off	78	
	Skin-On Fillets	55	42-60
	Skinless Fillets	48	34-56
	S/B Fillets	41	20-48
D/H-Off	Skin-On Fillets	71	54-80
	Skinless Fillets	62	31-81
	S/B Fillets	52	25-70
	Skin-On Fillets	87	
	Trim	12	
	S/B Fillets	73	
	Skinless Fillets	84	
	S/B Fillets	13	
	Trim	90	80-95
	Mince		

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

4 Recoveries and Yields from Pacific Fish and Shellfish

From To Average (%) Range (%)

Crab

Dungeness *Cancer magister*

Raw Whole	Raw Sections	60	
	Cooked Whole	90	
	Cooked Sections	52	
	Cooked Meat	24	22-25
		(during molt)	13-14
Raw Sections	Cooked Sections	87	
Cooked Whole	Cooked Meat	27	
Cooked Sections	Cooked Meat	46	

**King (Red, Brown or Golden) *Paralithodes camtschatica*,
*Lithodes aequispina***

Raw Whole	Raw Sections	69	67-74
	Cooked Whole	92	90-95
	Cooked Sections	60	52-67
	Cooked Meat	25	23-28
		(during molt)	16-19
Raw Sections	Cooked Sections	87	
Cooked Whole	Cooked Meat	27	
Cooked Sections	Cooked Meat	42	

King (Blue) *Paralithodes platypus*

Raw Whole	Raw Sections	65	
	Cooked Whole	90	
	Cooked Sections	55	50-61
	Cooked Meat	20	16-23
		(during molt)	13-14
Raw Sections	Cooked Sections	84	
Cooked Whole	Cooked Meat	22	
Cooked Sections	Cooked Meat	37	

Recoveries and Yields from Pacific Fish and Shellfish

From To Average (%) Range (%)

Crab (continued)

Tanner *Chionoecetes bairdi*, *C. opilio*

Raw Whole	Raw Sections	68	65-72
	Cooked Whole	92	90-95
	Cooked Sections	60	58-66
	Cooked Meat	17	15-21
		(during molt)	10-14
Raw Sections	Cooked Sections	88	
Cooked Whole	Cooked Meat	19	
Cooked Sections	Cooked Meat	28	

Dogfish *Squalus acanthias*

Round	D/H-On	75	69-80
	D/H-Off	55	41-68
	Edible Portion	36	32-40
	Backs	30	
	Belly Flaps	5	
	Tails and Fins	4	4-6
	Liver	13	10-21
	Viscera	51	
D/H-On	D/H-Off	69	
	Backs	38	
	Belly Flaps	7	

Eels *Anguilliformes*

Round	D/H-On	90	
	D/H-Off	72	70-75
	Skin-On Flesh	62	56-65
	Smoked D/H-Off	65	

Fish Meal

Lean Fish	Meal	18	16-20
Fatty Fish	Meal	22	20-25

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp=species

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp=species

6 Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Flounders

Arrowtooth *Atheresthes stomias*

Round	D/H-On	90	84-94
	D/H-Off	74	70-80
	Skinless Fillet	34	25-39
	Surimi	11	
	Kurimi	48	
	S/B fillets	25	18-30

Starry *Platichthys stellatus*

Round	D/H-On	84	79-86
	D/H-Off	67	63-69
	Skinless Fillet	33	25-40

Hake, Pacific *Merluccius productus*

Round	D/H-On	80	70-85
	D/H-Off	60	56-71
	Skin-On Fillets	43	
	Skinless Fillets	32	
	S/B Fillets	27	
	Surimi (Decanter Process)	27	26-30
	Roe		2-8
D/H-On	D/H-Off	71	
	Skin-On Fillets	51	
	Skinless Fillets	38	
	S/B Fillets	32	
Skin-On Fillets	Skinless Fillets	75	
	Trim	12	
	S/B Fillets	63	
Trim	Mince	90	

Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Halibut, Pacific *Hippoglossus stenolepis*

Round	D/H-On	88	85-92
	D/H-Off	72	68-80
	Steaks	62	60-75
	Skin-On Fillet	49	45-56
	Skinless Fillet (Fleisch)	41	34-44
D/H-On	D/H-Off	83	73-94
	Steaks	76	71-88
	Skin-On Fillet	56	47-64
	Skinless Fillet (Fleisch)	46	38-50
D/H-Off	Skin-On Fillet	68	64-73
	Skinless Fillet (Fleisch)	56	45-60
	Steaks	79	70-94
	Roasts	84	

Herring, Pacific *Clupea harengus pallasii*

Round	D/H-On	82	78-87
	D/H-Off	70	60-76
	Skin-On Fillets	53	45-60
	Skinless Fillets	49	41-58
	Salted Round	82	79-88
	Salted Gibbed	65	
	Salted Fillets	42	35-47
	Smoked D/H-Off	60	
	Roe	10	3-18
	Pickled D/H-On	74	
Skin-On Fillets	Salted Fillets	85	
	Pickled	90	

Lamprey, Pacific *Lampetra tridentata*

Round	D/H-Off	77	74-85
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D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

8 Recoveries and Yields from Pacific Fish and Shellfish

From To Average (%) Range (%)

Lingcod *Ophiodon elongatus*

Round	D/H-On	90	83-93
	D/H-Off	70	62-74
	Skinless Fillet	35	29-38
	Steaks	62	
D/H-On	D/H-Off	80	67-89
	Skinless Fillet	39	31-45
	Steaks	69	
D/H-Off	Skinless Filets	49	
	Steaks	86	

Mackerel, Atka *Pleurogrammus monopterygius*

Round	D/H-On	87	83-93
	D/H-Off	68	62-74
	Skinless Fillet	31	29-33
	Steaks	57	
	Salted D/H-Off	41	

Mussels *Mytilus* sp.

Whole	Edible Meat (Wild)	26	19-32
	Edible Meat (cultured)	20	11-27
	Steamed	14	10-18

Octopus *Octopus dofleini*

Whole	Gutted/Skin-On	80	80-85
	Gutted/Skinned	65	
	Viscera	20	

Oysters *Crassostrea* sp.

Raw Whole	Raw Meats		5-14
Raw Meats	Cooked Meats	61	

Recoveries and Yields from Pacific Fish and Shellfish

From To Average (%) Range (%)

Pacific Ocean Perch *Sebastes alutus*

Round	D/H-On	88	82-94
	D/H-Off	62	46-72
	Skinless Fillet	30	27-32
D/H-On	D/H-Off	71	
	Skinless Fillet	35	

Plaice, Alaska *Pleuronectes quadrituberculatus*

Round	D/H-On	84	79-86
	D/H-Off	68	60-72
	Skinless Fillet	35	30-40

Pollock, Walleye *Theragra chalcogramma*

Round	D/H-On	79	72-86
	D/H-Off	62	52-72
	Skin-On Filets	40	35-55
	Skinless Filets	34	29-43
	S/B Filets	28	24-36
	Mince	50	30-60
	Surimi (Traditional Process)	20	15-22
	Surimi (Decanter Process)	27	26-32
	Roe	6.5	3-20
Skin-On Filets	Skinless Filets	85	
	Trim	15	
	S/B Filets	70	
Trim	Mince	90	

Rat-Tails *Coryphaenoides* sp.

Round	Edible Meat	53	
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Red Snappers (see Rockfish)

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Rockfish

Black *Sebastes melanops*
Greenstriped *Sebastes elongatus*
Thornyhead *Sebastes altivelis*

Round	D/H-On	88	85-91
	D/H-Off	57	48-62
	D/H-Off (Eastern)	50	
	Skin-On Fillet	32	30-36
	Skinless Fillet	27	25-33
Skin-On Fillet	Skinless Fillet	85	
D/H-On	D/H-Off	65	
	Skin-On Fillet	56	
	Skinless Fillet	48	

Canary *Sebastes pinniger*
China *Sebastes nebulosus*
Dusky *Sebastes ciliatus*
Quillback *Sebastes maliger*
Redbanded *Sebastes babcocki*
Redstriped *Sebastes proriger*
Rosethorn *Sebastes helvaciatus*
Yelloweye *Sebastes ruberimus*
Yellowtail *Sebastes flavidus*

Round	D/H-On	88	85-91
	D/H-Off	57	48-62
	D/H-Off (Eastern)	50	
	Skin-On Fillet	28	25-35
	Skinless Fillet	23	21-30
Skin-On Fillet	Skinless Fillet	82	
D/H-On	D/H-Off	65	
	Skin-On Fillet	49	
	Skinless Fillet	40	

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Sablefish *Anoplopoma fimbria*

Round	D/H-On	89	86-94
	D/H-Off	68	67-71
	D/H-Off (Eastern)	62	60-67
	Skin-On Fillet	40	38-46
	Skinless Fillet	35	
	Steaks	62	60-65
	Salted D/H-Off	45	
	Smoked Sides	31	27-35
D/H-Off	Skin-On Fillet	59	
	Skinless Fillet	28	
	Smoked Sides	45	40-49
D/H-Off (Eastern)	Skin-On Fillets	64	
	Skinless Fillet	56	
	Smoked Sides	50	45-52
	Smoked Fillets	80	

Salmon

Pink *Oncorhynchus gorbuscha*

Round	D/H-On	91	84-94
	D/H-Off	73	68-80
	Canned	65	58-67
	Skin-On Fillet (Hand)	52	47-58
	Skin-On Fillet (Machine)	50	45-55
	Skinless Fillet	42	41-46
	S/B Fillet (Hand-V-Cut)	33	30-36
	S/B Fillet (Pinboning)	41	40-44
	S/B Trim	14	12-16
	Steaks	58	53-65
	Dry-Salt Sides	36	
	Mild Cure Sides	30	
	Smoked Sides	30	
	Roe	6	3-10
D/H-On	D/H-Off	81	72-90
	Skin-On Fillet (Hand)	57	50-64
	Skin-On Fillet (Machine)	55	48-61

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Salmon (continued)

Pink *Oncorhynchus gorbuscha* (continued)

D/H-On	Skinless Fillet	46	43-55
	S/B Fillet (Hand-V-Cut)	36	32-43
	S/B Fillet (Pinboning)	44	41-53
	S/B Trim	16	13-19
	Steaks	63	56-77
	Dry-Salt Sides	40	
	Mild Cure Sides	33	
	Smoked Sides	33	
D/H-Off	Skin-On Fillet (Hand)	74	
	Skin-On Fillet (Machine)	71	
	Skinless Fillet	58	
	S/B Fillet (Hand-V-Cut)	45	
	S/B Fillet (Pinboning)	55	
	S/B Trim	19	
	Steaks	80	
	Dry-Salt Sides	49	
	Mild Cure Sides	41	
	Smoked Sides	41	35-50

Chum *Oncorhynchus keta*

Round	D/H-On	89	79-91
	D/H-Off	74	71-77
	Canned	67	60-70
	Skin-On Fillet (Hand)	60	55-63
	Skin-On Fillet (Machine)	57	52-59
	Skinless Fillet	50	45-53
	S/B Fillet (Hand-V-Cut)	36	30-36
	S/B Fillet (Pinboning)	48	43-51
	S/B Trim	15	12-16
	Steaks	58	55-65
	Dry-Salt Sides	43	
	Mild Cure Sides	35	
	Smoked Sides	35	
	Roe	8	4-10

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Salmon (continued)

Salmon, Chum *Oncorhynchus keta* (continued)

D/H-On	D/H-Off	83	79-91
	Skin-On Fillet (Hand)	67	61-74
	Skin-On Fillet (Machine)	64	58-66
	Skinless Fillet	56	49-62
	S/B Fillet (Hand-V-Cut)	43	38-47
	S/B Fillet (Pinboning)	53	47-59
	S/B Trim	17	13-19
	Steaks	65	61-75
	Dry-Salt Sides	48	
	Mild Cure Sides	39	
	Smoked Sides	39	
D/H-Off	Skin-On Fillet (Hand)	81	
	Skin-On Fillet (Machine)	77	
	Skinless Fillet	67	
	S/B Fillet (Hand-V-Cut)	51	
	S/B Fillet (Pinboning)	64	
	S/B Trim	20	
	Steaks	78	
	Dry-Salt Sides	58	
	Salted D/H-Off	47	
	Smoked Sides	55	45-60

Sockeye *Oncorhynchus nerka*

Round	D/H-On	92	85-94
	D/H-Off	74	66-82
	Canned	67	60-70
	Skin-On Fillet (Hand)	53	50-59
	Skin-On Fillet (Machine)	51	48-56
	Skinless Fillet	46	41-49
	S/B Fillet (Hand-V-Cut)	35	30-38
	S/B Fillet (Pinboning)	45	40-48
	S/B Trim	15	12-16
	Steaks	57	55-65
	Dry-Salt Sides	40	

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Salmon (continued)

Salmon, Sockeye *Oncorhynchus nerka* (continued)

Round	Mild Cure Sides	33	
	Smoked Sides	33	
	Roe	4	3-6
D/H-On	D/H-Off	80	70-94
	Skin-On Fillet (Hand)	57	53-68
	Skin-On Fillet (Machine)	54	49-62
	Skinless Fillet	50	43-56
	S/B Fillet (Hand-V-Cut)	38	32-41
	S/B Fillet (Pinboning)	48	42-54
	S/B Trim	16	13-28
	Steaks	62	59-75
	Dry-Salt Sides	44	
	Mild Cure Sides	36	
	Smoked Sides	36	
D/H-Off	Skin-On Fillet (Hand)	72	
	Skin-On Fillet (Machine)	69	
	Skinless Fillet	62	
	S/B Fillet (Hand-V-Cut)	47	
	S/B Fillet (Pinboning)	59	
	S/B Trim	20	
	Steaks	77	
	Dry-Salt Sides	54	
	Mild Cure Sides	45	
	Smoked Sides	45	35-60

Coho *Oncorhynchus kisutch*

Round	D/H-On	92	87-94
	D/H-Off	75	70-83
	Canned	67	60-70
	Skin-On Fillet (Hand)	57	52-60
	Skin-On Fillet (Machine)	55	50-57
	Skinless Fillet	51	46-56
	S/B Fillet (Hand-V-Cut)	38	30-40
	S/B Fillet (Pinboning)	49	44-54
	S/B Trim	14	12-17

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From To Average (%) Range (%)

Salmon (continued)

Salmon, Coho *Oncorhynchus kisutch* (continued)

Round	Steaks	62	58-65
	Dry-Salt Sides	43	
	Mild Cure Sides	36	
	Smoked Sides	36	
	Roe	7	5-10
D/H-On	D/H-Off	82	76-92
	Skin-On Fillet (Hand)	62	58-67
	Skin-On Fillet (Machine)	59	56-63
	Skinless Fillet	55	49-63
	S/B Fillet (Hand-V-Cut)	41	32-45
	S/B Fillet (Pinboning)	52	46-60
	S/B Trim	15	13-18
	Steaks	66	63-73
	Dry-Salt Sides	47	
	Mild Cure Sides	39	
	Smoked Sides	39	
D/H-Off	Skin-On Fillet (Hand)	76	
	Skin-On Fillet (Machine)	73	
	Skinless Fillet	68	
	S/B Fillet (Hand-V-Cut)	51	
	S/B Fillet (Pinboning)	64	
	S/B Trim	19	
	Steaks	81	
	Dry-Salt Sides	57	
	Mild Cure Sides	48	
	Smoked Sides	48	40-60

Other Salmon, including Chinook and Cherry

Round	D/H-On	88	82-94
	D/H-Off	72	68-74
	Skin-On Fillet (Hand)	55	52-60
	Skinless Fillet	46	41-49
	S/B Fillet (Hand-V-Cut)	36	30-40
	S/B Fillet (Pinboning)	45	40-48
	S/B Trim	14	12-16

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From	To	Average (%)	Range (%)
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Salmon (continued)

Other Salmon, including Chinook and Cherry (continued)

Round	Steaks	58	54-65
	Dry-Salt Sides	40	
	Mild Cure Sides	34	
	Smoked Sides	34	
	Roe	6	3-10
D/H-On	D/H-Off	82	73-90
	Skin-On Fillet (Hand)	63	55-73
	Skinless Fillet	52	44-59
	S/B Fillet (Hand-V-Cut)	41	32-49
	S/B Fillet (Pinboning)	50	42-57
	S/B Trim	16	13-20
	Steaks	66	57-79
	Dry-Salt Sides	46	
	Mild Cure Sides	39	
	Smoked Sides	39	
D/H-Off	Skin-On Fillet (Hand)	76	
	Skinless Fillet	64	
	S/B Fillet (Hand-V-Cut)	50	
	S/B Fillet (Pinboning)	61	
	S/B Trim	19	
	Steaks	81	
	Dry-Salt Sides	56	
	Mild Cure Sides	47	
	Smoked Sides	47	35-60
Raw Steak	Baked Steak	89	
	Broiled Steak	83	

All Wild Salmon

Salmon, Trim

D/H-Off	Trim A	76	75-80
	Trim B	74	73-75
	Trim C	74	73-75
	Trim D	67	64-70
	Trim E	61	58-64

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From	To	Average (%)	Range (%)
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Salmon, Farmed

Norwegian

D/H-On	D/H-Off	88	
	Skin-On fillet	76	
	Skinless Fillet	68	
	Roasts	85	

Chilean

D/H-On	D/H-Off	86	
	Skin-On Fillet	72	
	Skinless Fillet	66	
	Roasts	83	

Salmon, Frozen and Thawed

Note: Freezing conditions and length of storage will affect recoveries. Poor conditions and storage more than six months will reduce yields significantly.

Chum (Thawed)

D/H-On	Skin-On Fillet	62	
	Skinless Fillet	52	
D/H Off	Skin-On Fillet	75	
	Skinless Fillet	63	

Pink (Thawed)

D/H-On	Skin-On Fillet	54	
	Skinless Fillet	45	
D/H-Off	Skin-On Fillet	67	
	Skinless Fillet	56	

Sockeye (Thawed)

D/H-On	Skin-On Fillet	52	
	Skinless Fillet	47	
D/H-Off	Skin-On Fillet	65	
	Skinless Fillet	59	

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B = Skinless/Boneless sp.=species

18 Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Salmon, Frozen and Thawed (continued)

Silver (Thawed)

D/H-On	Skin-On Fillet	58	
	Skinless Fillet	49	
D/H-Off	Skin-On Fillet	71	
	Skinless Fillet	60	

Saury, Pacific *Cololabis saira*

Round	D/H-On	88	83-92
	D/H-Off	76	71-86
	Skinless Fillet	57	54-61

Scallops *Chlamys* sp., *Hinnites* sp., *Pecten* sp.

Raw Whole	Adductor Muscle	10	8-12
	Viscera	22	20-26
Raw Meats	Cooked Meats	50	

Sculpin *Enophrys* sp., *Hemilepidotus* sp.,

***Myoxocephalus* sp.**

Round	D/H-On	80	75-87
	D/H-Off	39	25-51
	Skinless Fillet	24	20-41

Sea Cucumber *Cucumaria* sp.

Whole	Eviscerated Meat	36	
	Edible Meat	25	
	Cooked Meat	13	
	Dried Meat	5	

Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Sea Urchin *Strongylocentrotus* sp.

Green

Round	Roe		5-30
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Red

Round	Roe		8-30
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Shad, American *Alosa sapidissima*

Round	D/H-On	88	85-92
	D/H-Off	74	69-77
	Skin-On Fillet	65	62-67
	Skinless Fillet	54	
	Roe		3-17

Shark

Sharks, General

Round	D/H-On	80	62-90
	D/H-Off	58	22-75
	Trunk	51	33-67
	Skin-On Fillet	42	21-60
	Skinless Fillet	32	17-56
	Fins	5	1-12
D/H-On	D/H-Off	73	
	Trunk	64	
	Skin-On Fillet	53	
	Skinless Fillet	40	
	Fins	6	
D/H-Off	Trunk	88	
	Skin-On Fillet	73	
	Skinless Fillet	55	
	Fins	9	

From To Average (%) Range (%)

Shark (continued)

Salmon *Lamna ditropis*

Round	D/H-On	80	
	D/H-Off	63	50-66
	Trunk	58	44-59
	Skin-On Fillet	53	39-57
	Skinless Fillet	44	32-48
	Fins	5	

Sevengill (Cow Shark) *Notorynchus maculata*

Round	D/H-On	86	
	D/H-Off	55	
	Trunk	52	
	Skin-On Fillet	45	
	Skinless Fillet	35	
	Fins	5	

Souptin *Galeorhinus zyopterus*

Round	D/H-On	65	
	D/H-Off	51	
	Trunk	45	
	Fins	4	

Blue *Prionace glauca*

Round	D/H-On	88	
	D/H-Off	67	
	Trunk	54	
	Skin-On Fillet	51	
	Skinless Fillet	40	
	Fins	6	

From To Average (%) Range (%)

Shark (continued)

Thresher *Alopias vulpinus*

Round	D/H-On	85	
	D/H-Off	71	
	Trunk	57	
	Skin-On Fillet	49	
	Skinless Fillet	44	
	Fins	14	

Blacktip *Carcharhinus limbatus*

Round	D/H-On	82	
	D/H-Off	62	
	Trunk	52	
	Skin-On Fillet	46	
	Skinless Fillet	36	
	Fins	10	

Shrimp *Pandalus* sp.

Pink			
Raw Whole	Raw Headless	53	
	Cooked Whole	90	
	Raw Peeled	36	
	Cooked Peeled	25	
Raw Headless	Cooked Peeled	69	
Cooked Whole	Cooked Peeled	28	

Spot

Raw Whole	Raw Headless	47	45-49
	Cooked Whole	90	
	Raw Peeled	34	30-38
	Cooked Peeled	26	
Raw Headless	Raw Peeled	72	
Cooked Whole	Cooked Peeled	29	

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B = Skinless/Boneless sp.=species

From	To	Average (%)	Range (%)
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Skates *Raja* sp.

Round	D/H-On	90	75-95
	D/H-Off	39	
	Wings	23	20-23

Smelt *Hypomesus* sp., *Spirinchus* sp.

Round	D/H-On	85	82-90
	D/H-Off	71	67-78
	Skinless Fillet	38	
	Salted D/H-Off	45	
	Smoked D/H-Off	57	
	Cooked Fillet	35	

Snails *Neptunea* sp.

Whole	Edible Meats	28	27-31
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Soles**Dabs *Limanda proboscidea***

Round	D/H-On	85	75-90
	D/H-Off	64	55-75
	Skinless Fillet	23	17-26

Dover *Microstomus pacificus*

Round	D/H-On	86	75-90
	D/H-Off	65	55-65
	Skinless Fillet	29	26-32

English *Parophrys vetulus*

Round	D/H-On	85	79-94
	D/H-Off	65	55-75
	Skinless Fillet	27	25-28

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

From	To	Average (%)	Range (%)
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Soles**Flathead *Hippoglossoides elassodon***

Round	D/H-On	86	80-94
	D/H-Off	67	60-79
	Skinless Fillet	27	25-32

Petrale *Eopsetta jordani*

Round	D/H-On	86	75-90
	D/H-Off	66	55-75
	Skinless Fillet	29	28-32

Rex *Glyptocephalus zachirus*

Round	D/H-On	85	75-90
	D/H-Off	65	55-75
	Skinless Fillet	33	27-37

Rock *Lepidopsetta bilineata*

Round	D/H-On	87	82-92
	D/H-Off	67	62-78
	Skinless Fillet	28	22-30

Yellowfin *Limanda aspera*

Round	D/H-On	86	76-94
	D/H-Off	69	60-83
	Skinless Fillet	25	16-30
	Surrini	11	
	Kurimi	48	

Squid *Loligo* sp.

Whole	Edible Meats	71	64-73
	Mantle w/Fins	52	45-55
	Mantle w/o Fins	39	36-42
	Tentacles	17	13-20
	Fins	12	10-13

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

24 Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Sturgeon *Acipenser* sp.

Round	D/H-On	85	82-87
	D/H-Off	75	72-78
	Skin-On Fillet	56	50-59
	Skinless Fillet	45	
	Steaks	62	
	Salted D/H-Off	46	
	Smoked D/H-Off	56	
	Roe		8-12
D/H-On	D/H-Off	88	
	Skin-On Fillet	66	
	Skinless Fillet	53	
	Steaks	73	

Trout *Salmo* sp., *Salvelinus* sp.

Round	D/H-On	88	
	D/H-Off	69	
	Skin-On Fillet	61	60-65
	Skinless Fillet	55	
	Steaks	60	
	Smoked D/H-Off	54	
D/H-On	D/H-Off	78	
	Skin-On Fillet	69	
	Skinless Fillet	63	
	Steaks	68	
D/H-Off	Skin-On Fillet	88	
	Skinless Fillet	79	
	Steaks	86	

Trout, Farmed

Norwegian

D/H-On	D/H-Off	78	
	Skin-On Fillet	69	
	Skinless Fillet	63	

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

Recoveries and Yields from Pacific Fish and Shellfish

From **To** **Average (%)** **Range (%)**

Tuna, Albacore *Thunnus alalunga*

Round	D/H-On	90	
	D/H-Off	75	
	Skinless Fillet	35	
	Steaks	65	
D/H-On	D/H-Off	83	
	Skinless Fillet	39	
	Steaks	72	

Turbot, Greenland *Reinhardtius hippoglossoides*

Round	D/H-On	90	
	D/H-Off	74	70-80
	Skinless Fillet	30	25-35

D/H-On=Dressed/Head-On D/H-Off=Dressed/Head-Off S/B=Skinless/Boneless sp.=species

A Final Note

Every effort has been made to assure that the data presented in this publication are as accurate as possible. Since recovery information is highly dependent on processing techniques and handling systems, frequently conflicting data are generated. If you have contradictory information on any species, please let us know. Send additions and corrections to:

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