

4.3 Alaska Region

Alaska is the largest U.S. state and is in itself an entire NMFS region. Its EEZ of over one million square miles contains more than 70% of the total area of U.S. continental shelves (NMFS 2004c). The Alaska Region includes part or all of several LMEs (Aleutian Islands, Eastern Bering Sea, Western Bering Sea, Gulf of Alaska, Chukchi Sea, and the Beaufort Sea).¹ The North Pacific Fishery Management Council (NPFMC), in conjunction with NMFS, is responsible for managing fisheries in the Alaska Region. These cold-water ecosystems provide resources that support abundant fisheries, many populations of marine mammals, and a variety of seabird species.

4.3.1 Fisheries Overview

A total of 77 state and Federal commercial fisheries are included in this report for the Alaska Region (Table 4.3.1). Landings from these fisheries were valued at approximately \$1.367 billion dollars in 2005.² These fisheries are diverse with respect to the species targeted, the gear types employed, and the sizes of both harvesting and processing sectors. They target numerous groundfish species, Pacific halibut, Pacific herring, and several species of Pacific salmon, crab, and other shellfish. With a few exceptions, discard information of fish is available only for Federal groundfish fisheries because FMP regulations (50 CFR part 679) require specified levels of observer coverage in these fisheries to support information requirements for in-season management, scientific research, and compliance monitoring. Information on marine mammal bycatch is also available from the Federal Groundfish Observer Program and for some state fisheries that have been observed through the Alaska Marine Mammal Observer Program. Details about the information collected by observers can be found in Section 4.3.3.

In the Alaska Region, a total of 27 fisheries are managed solely by NMFS, while 48 fisheries (62%) have some form of state management (Figure 4.3.1). Only 3% of the fisheries are managed on an international level.

Federal management of finfish and shellfish species in the EEZ off Alaska is described in five FMPs developed by the NPFMC and approved by the Secretary of Commerce: Groundfish of the Bering Sea and Aleutian Islands (BSAI) Management Area FMP; Groundfish of the Gulf of Alaska (GOA) FMP; the BSAI King and Tanner Crab FMP; the Scallop Fishery off Alaska FMP; and the Salmon FMP in the EEZ off the Coast of Alaska. In general, these FMPs outline processes for setting harvest limits, provide for by-

catch control and monitoring, and regulate certain aspects of limited-access privilege programs or license limitation programs. These plans also maintain Federal oversight where management functions are delegated to the State of Alaska by NMFS and the NPFMC through specific FMP language.

The State of Alaska Department of Fish and Game (ADFG) manages fisheries within Alaska State territorial waters (0–3 nautical miles) and fisheries that have management functions delegated to the state through a Federal FMP. The ADFG is the principal state agency responsible for management of fisheries with delegated authority. The following FMPs defer a portion of management responsibilities to ADFG:

- BSAI King and Tanner Crab FMP, which regulates fisheries for red, blue, and brown king crab; Tanner crab; and snow crab
- The Scallop Fishery off Alaska FMP, which regulates the weathervane scallop fishery in the GOA
- The Alaska Salmon FMP, which largely prohibits directed fishing for salmon in Federal waters except by a limited number of vessels using troll gear

A total of 27 groundfish fisheries are managed by NMFS in consultation with the NPFMC under the Groundfish of the GOA and Groundfish of the BSAI Management Area FMPs. Both FMPs have been amended substantially since they were first implemented, and many of the regulatory changes enabled by these amendments supported the evolution of the Alaska groundfish fisheries from a predominantly foreign operation to the largest exclusively U.S. fishing industry operation by the late 1980s. The Groundfish of the BSAI Management Area FMP, implemented in 1982, outlines management measures for Alaska groundfish stocks in the U.S. EEZ of the Bering Sea, including Bristol Bay and Norton Sound, and the portion of the North Pacific Ocean adjacent to the Aleutian Islands, which is between 170°W longitude and the U.S. Russian Convention line of 1867. The area's northern limit is the Bering Strait.³ The Groundfish of the GOA FMP regulates catch of groundfish within the U.S. EEZ, exclusive of the Bering Sea, between the eastern Aleutian Islands at 170°W longitude and Dixon Entrance at 132°E latitude 40°W longitude.⁴

Most groundfish fisheries in waters off Alaska are managed under the groundfish FMPs for the BSAI and GOA Regions. The major species managed under the Groundfish FMPs are walleye pollock (*Theragra chalcogramma*), Pacific cod (*Gadus macrocephalus*), sablefish (*Anoplopoma fimbria*), rockfish, flatfish, and Atka mackerel (*Pleurogram-*

¹ <http://www.lme.noaa.gov/>.

² Ex-vessel landings value, Fisheries Economics of the U.S., 2006. Available online at http://www.st.nmfs.noaa.gov/st5/publication/fisheries_economics_2006.html.

³ Description of BSAI FMP area is from the Groundfish of the Bering Sea and Aleutian Islands Management Area FMP, available at <http://www.fakr.noaa.gov/npfmc/fmp/bsai/bsai.htm>.

⁴ Description of GOA FMP area is from the GOA Groundfish FMP, available at <http://www.fakr.noaa.gov/npfmc/fmp/goa/GOA.pdf>.

U.S. NATIONAL BYCATCH REPORT

Table 4.3.1

Alaska Region fisheries included in the U.S. National Bycatch Report. Fishery group names appear in bold, followed by the individual fisheries within the group. Grouped fisheries are listed alphabetically, first by fisheries group name, then by management authority, and then by individual fishery name. Non-grouped fisheries are listed alphabetically by management authority and then fishery name. Rows containing fisheries for which bycatch estimates are included in this report are shaded.

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Bering Sea/Aleutian Islands Flatfish Trawl Fisheries					
Bering Sea/Aleutian Islands Flatfish Group (Arrowtooth Flounder, Flathead Sole, other Flatfish) Trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Arrowtooth flounder, flathead sole, other flatfish	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Rock Sole Trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Rock sole	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Yellowfin Sole Trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Yellowfin sole	Landing report, at-sea production report, observer data
Gulf of Alaska Flatfish Trawl Fisheries					
Gulf of Alaska Arrowtooth Flounder Trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Arrowtooth flounder	Landing report, at-sea production report, observer data
Gulf of Alaska Flatfish (Deepwater Flatfish) Trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Dover sole, deepsea sole, Greenland turbot	Landing report, at-sea production report, observer data
Gulf of Alaska Flatfish (Shallow Water Flatfish) Trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Northern rock sole, southern rock sole, yellowfin sole	Landing report, at-sea production report, observer data
Gulf of Alaska Flathead Sole Trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Flathead sole	Landing report, at-sea production report, observer data
Gulf of Alaska Rex Sole Trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Rex sole	Landing report, at-sea production report, observer data
Non-Grouped Fisheries					
Aleutian Islands/ eastern Bering Sea/ Atka mackerel trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Atka mackerel	Landing report, at-sea production report, observer data

ALASKA REGION

Table 4.3.1 (continued)

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Non-Grouped Fisheries (cont.)					
Bering Sea/Aleutian Islands Greenland turbot longline	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Longline	Greenland turbot	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Pacific cod jig	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Hand Lines, Auto Jig	Pacific cod	Landing report, observer data
Bering Sea/Aleutian Islands Pacific cod pot	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Pots and Traps, fish	Pacific cod	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Pacific cod longline	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Longline	Pacific cod	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Pacific cod trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Pacific cod	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands Pacific ocean perch	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Pacific ocean perch	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands pollock trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Pollock	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands sablefish longline	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Longline	Sablefish	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands sablefish pot	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Pots and Traps, Fish	Sablefish	Landing report, at-sea production report, observer data
Bering Sea/Aleutian Islands sablefish trawl	Federal	Groundfish of the Bering Sea and Aleutian Islands Management Area	Trawl	Sablefish	Landing report, at-sea production report, observer data
Gulf of Alaska Pacific cod jig	Federal	Groundfish of the Gulf of Alaska	Hand Lines, Auto Jig	Pacific cod	Landing report, observer data

U.S. NATIONAL BYCATCH REPORT

Table 4.3.1 (continued)

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Non-Grouped Fisheries (cont.)					
Gulf of Alaska Pacific cod longline	Federal	Groundfish of the Gulf of Alaska	Longline	Pacific cod	Landing report, at-sea production report, observer data
Gulf of Alaska Pacific cod pot	Federal	Groundfish of the Gulf of Alaska	Pots and Traps, Fish	Pacific cod	Landing report, at-sea production report, observer data
Gulf of Alaska Pacific cod trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Pacific cod	Landing report, at-sea production report, observer data
Gulf of Alaska pollock trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Pollock	Landing report, at-sea production report, observer data
Gulf of Alaska rockfish (northern rockfish, pelagic shelf rockfish, Pacific ocean perch) trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Northern rockfish, pelagic shelf rockfish, Pacific ocean perch	Landing report, at-sea production report, observer data
Gulf of Alaska sablefish longline	Federal	Groundfish of the Gulf of Alaska	Longline	Sablefish	Landing report, at-sea production report, observer data
Gulf of Alaska sablefish trawl	Federal	Groundfish of the Gulf of Alaska	Trawl	Sablefish	Landing report, at-Sea production report, observer data
Alaska halibut longline	International		Longline	Pacific halibut	
Alaska/North Pacific halibut handline and mechanical jig	International		Hand Lines, Auto Jig	Pacific halibut	
Alaska abalone	State		By Hand, Diving Gear; By Hand, No Diving Gear	Abalone	
Alaska Bristol Bay salmon drift gillnet	State		Gillnet, Floating Drift	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Bristol Bay salmon set gillnet	State		Gillnet	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska clam	State		Shovel, diving gear	Geoducks, hardshell, razor clams	

ALASKA REGION

Table 4.3.1 (continued)

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Non-Grouped Fisheries (cont.)					
Alaska Cook Inlet drift gillnet	State		Gillnet, Floating Drift	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Cook Inlet salmon set gillnet	State		Gillnet	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Dungeness crab	State		By Hand, with and without Diving Gear	Dungeness crab	
Alaska groundfish longline/setline (including sablefish, rockfish, and miscellaneous) finfish)	State		Longline	Sablefish	
Alaska Herring Spawn on Kelp Pound Net	State		Pound net	Pacific herring	
Alaska Kodiak food/bait herring trawl	State		Otter trawl, midwater	Pacific herring	
Alaska Kodiak salmon set gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Kuskokwim, Yukon, Norton Sound, Kotzebue salmon gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Metlakatla/Annette Island salmon drift gillnet	State		Gillnet, Floating Drift	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Metlakatla salmon purse seine	State		Purse seine	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska miscellaneous finfish beach seine	State		Other Seines	Finfish	
Alaska miscellaneous finfish beam trawl	State		Other Trawls	Finfish	
Alaska miscellaneous finfish handline and mechanical jig	State		Hand Lines, Auto Jig	Finfish	
Alaska miscellaneous finfish pair trawl	State		Otter Trawl Midwater, Paired	Finfish	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.1 (continued)

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Non-Grouped Fisheries (cont.)					
Alaska miscellaneous finfish purse seine	State		Purse Seine	Finfish	
Alaska miscellaneous finfish set gillnet	State		Gillnet	Finfish	
Alaska octopus/squid handline	State		Hand Line	Octopus, squid	
Alaska octopus/squid longline	State		Longline	Octopus, squid	
Alaska octopus/squid pot	State		Pots and traps, octopus	Octopus, squid	
Alaska Peninsula/Aleutian Islands salmon drift gillnet	State		Gillnet, Floating Drift	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Peninsula/Aleutians salmon set gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Prince William Sound salmon drift gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Prince William Sound salmon set gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (protected species only)
Alaska Roe Herring and Food/Bait Herring Beach Seine	State		Other seines	Pacific herring	
Alaska Roe Herring and Food/Bait Herring Gillnet	State		Gillnets	Pacific herring	
Alaska Roe Herring and Food/Bait Herring Purse Seine	State		Purse Seine	Pacific herring	
Alaska salmon beach seine	State		Other seines	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Salmon Purse Seine (except Southeast Alaska, which is in Category II)	State		Purse seine	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska salmon troll	State		Troll lines	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska Shrimp Otter Trawl and Beam Trawl (Statewide and Cook Inlet)	State		Other trawls	Pink shrimp, spot shrimp	

ALASKA REGION

Table 4.3.1 (continued)

Fishery ^a	Management Authority	Federal FMP ^b	Gear Type	Target Species (Common Name)	Data Sources ^c
Non-Grouped Fisheries (cont.)					
Alaska snail pot	State		Pots and Traps	Green snails	
Alaska southeast herring roe/food/bait pound net	State		Pound net	Pacific herring	
Alaska southeast salmon drift gillnet	State		Gillnet, Floating Drift	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Stranding and entanglement data
Alaska southeast salmon purse seine	State		Purse seine	Chum salmon, coho salmon, Chinook salmon, pink salmon, sockeye salmon	
Alaska urchin and other fish/shellfish	State		By Hand, Diving Gear; By Hand, No Diving Gear	Green urchin Red urchin	
Alaska Yakutat salmon set gillnet	State		Gillnet	Chum salmon, Coho salmon, Chinook salmon, pink salmon, sockeye salmon	Observer data (program initiated in 2007); strandings and entanglement data
Aleutian Islands state waters Pacific cod	State		Pots and Traps	Pacific cod	
Bering Sea/Aleutian Islands crab pot	State	Federal FMP, but deferred to state mangement	Pots and Traps	Blue king crab, red king crab, Tanner crab, snow crab	
Coastwide scallop dredge	State	Federal FMP, but deferred to state mangement	Dredge	Weathervane scallops	
Gulf of Alaska crab pot	State		Pots and Traps	Blue king crab, Dungeness crab, golden king crab, red king crab, Tanner crab	Strandings and entanglement data
Gulf of Alaska Pacific cod state fishery jig	State		Hand Lines, Auto Jig	Pacific cod	
Gulf of Alaska Pacific cod state fishery pot	State		Pots and Traps, Fish	Pacific cod	
Southeast Alaska crab pot	State		Pots and Traps	Blue king crab, Dungeness crab, golden king crab, red king crab, Tanner crab	
Southeast Alaska shrimp pot	State		Pots and Traps, Shrimp	Pink shrimp, spot shrimp	

^a Aquaculture fisheries are listed for consistency with the MMPA List of Fisheries, but were not analyzed for the U.S. National Bycatch Report. Recreational fisheries are not included in this report.

^b FMP = fisheries management plan. Note that non-federal FMPs were not identified through this process.

^c Data sources were evaluated only for federal fisheries and non-federal fisheries with federal data-collection programs.

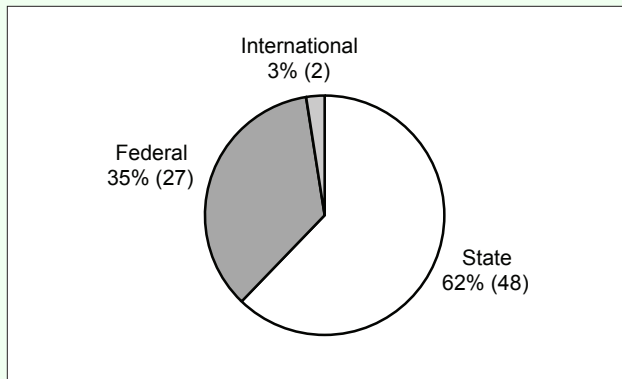


Figure 4.3.1
Management jurisdiction for Alaska Region fisheries (percentages are based on numbers of fisheries, not volume or revenue).

mus monopterygius). The status of groundfish stocks are summarized in annual stock assessment and fishery evaluation reports developed by NMFS and the NPFMC. For several groundfish stocks, fisheries occur in both Federal and state waters. These “parallel” groundfish fisheries are the pollock, Pacific cod, and Atka mackerel fisheries conducted with the same time and area restrictions and under the same total allowable catches as established for Federal fisheries. Several groundfish species are not managed by the Federal government because they are not covered by the groundfish FMPs for the GOA and BSAI. These include lingcod (*Ophiodon elongates*), groundfish caught in recreational fisheries (largely rockfish), black rockfish (*Sebastes melanops*), and blue rockfish (*Sebastes mystinus*).

The single international fishery in the region, the Pacific halibut fishery, is managed under a bilateral treaty between the U.S. and Canada, and with research and quota recommendations from the International Pacific Halibut Commission (IPHC). Under the North Pacific Halibut Act, NMFS is authorized to develop regulations that are in addition to, but not in conflict with, the regulations adopted by the IPHC. The NPFMC develops allocation and limited entry regulations for the commercial Alaska portion of the halibut fishery.

4.3.2. Addressing Regional Bycatch Concerns

Bycatch concerns in Alaska Region fisheries are complex, due to multispecies interactions, the use of quotas to allocate fishing privileges, and the large scale (both in harvesting capacity and geographic extent) of the fisheries. The NMFS staff work closely with the NPFMC to develop and implement fisheries regulations, which has been crucial to addressing regional bycatch issues.

BSAI/GOA Groundfish

Bycatch of fish in the Federal groundfish fisheries may occur when discard is required by regulation (regulatory discard) or when fish are discarded because they have low value or for some other economic reason (economic discard). Species-specific regulatory discards occur when regulations require certain species to be discarded to avoid exceeding allowable catch limits. Catch limits are also set for commercially important species that are caught incidentally in other groundfish fisheries. Regulations also require some species that are processed to achieve or exceed specified product-recovery rates, to discourage waste during processing.

The NPFMC has long recognized the need to reduce bycatch, minimize waste, collect the information necessary to monitor fisheries, and improve utilization of fish resources to the extent practicable. To meet this need, the NPFMC and NMFS have supported numerous actions to establish areas with special bycatch limits, reduce incentives to discard fish, and improve the selectivity of fishing gear. These actions include:

- Limited-access privilege and license limitation programs that reduce the incentives for vessel operators to maximize their harvest in order to obtain a larger share of available quota. There are seven Federal limited-access programs in the Alaska Region: the American Fisheries Act (AFA) Vessels Program, the non-American Fishery Act trawl limited-access program (Amendment 80 to the Groundfish of the BSAI FMP); the Rockfish Pilot Program (Amendment 68 to the Groundfish of the GOA FMP); the Crab Rationalization Program; the Halibut and Sablefish IFQ Program; Scallop License Limitation; and Groundfish License Limitation.
- Annual specifications for harvest and overfishing limits that are scientifically based on the best available data and subject to established protocols. On an annual basis, the Council recommends harvest and overfishing levels to the Secretary of Commerce. The process for establishing these benchmarks is described in the groundfish FMPs for the GOA and BSAI. In brief, the benchmarks are created as a joint effort between stock assessment scientists at the Alaska Fisheries Science Center (AFSC), FMP-specific Plan Teams, the Scientific and Statistical Committee of the NPFMC, and the NPFMC. Harvest levels, including incidental catches, for FMP species are maintained below the overfishing level through in-season actions by NMFS.
- Management programs designed to limit incidental catch and increase the retention and utilization of bycatch species. These programs include regulations that allow bycatch to be donated to food banks, regulations that require vessels to retain a certain amount of species-

specific bycatch, and regulations that require processors to create products that yield a certain amount of product from pollock and Pacific cod.

- Cooperative work between industry, NMFS, the Sea Grant Program, and the state to develop modifications to gear that reduce bycatch of halibut, salmon, and seabirds. In recent years, several exempted fishing permits have been issued to study modifications to trawl gear designed to reduce salmon bycatch in the BSAI pollock fishery, and halibut bycatch in the GOA trawl fisheries. Preliminary results from these studies are encouraging, but further work will be needed before widespread implementation of the technology.
- In addition, several cooperative studies established methods to reduce seabird bycatch using streamer lines (also called bird lines or tory lines) which are now required on longline vessels by Federal regulation. These lines extend from a high point near the stern of the vessel to a weighted buoy. As the vessel moves forward the weight creates tension in the line producing a span from the stern where the streamer line is aloft. When used in pairs, a fence-like effect is created by short, brightly colored lines that hang off the main streamer line.
- Regulations that allow industry to control fleet behavior to avoid areas of high bycatch, including the use of industry-sponsored cooperative agreements under AFA and other limited-access programs. The BSAI polluck cooperatives reach inter-cooperative agreements about bycatch reduction, over-harvest, area closures, data management, voluntary salmon and halibut bycatch reduction measures, and compliance with Steller sea lion conservation measures.
- Establishing area-specific bycatch limits and area closures. These include trawl closures in near-shore areas of Bristol Bay and other important habitat areas. These also include the Red King Crab Savings Area and the Salmon Savings Areas, which are specific hot-spot area closures that allow vessels to keep fishing for targeted species while reducing bycatch for these species.
- Amendments to the observer program to increase coverage in rationalized fisheries (fisheries where fisheries have some type of ownership of the resource, such as the limited-access privilege programs described above) and require all fishing days to be observed. Increased coverage is critical to obtain the data needed track and manage individual catch and bycatch quotas. Sampling protocol has also been made more efficient, and in some situations more accurate, through the use of flow scales (allowing observers to accurately and precisely measure the size of larger samples than was previously possible) and other sampling modifications. One of the most substantive changes is that observers now collect and indi-

vidually record at least three samples for species composition from each sampled haul or fishing event (previously, samples were pooled). This change allows NMFS to better understand the statistical properties of the data and the estimates derived from that data, including the within-haul variance.

State of Alaska Managed Fisheries

The FMPs for crab, scallop, and salmon delegate substantial management authority to the state. The scallop and crab fisheries in the BSAI are jointly managed by the state and Federal governments, while the salmon FMP delegates most management authority to the state. As a result, the state has certain delegated responsibilities that are described in the FMPs. Below is a brief summary of these fisheries.

The state and the NPFMC jointly manage six crab stocks in the BSAI under the BSAI King and Tanner Crabs FMP, whereas the state manages crab stocks in the GOA. For BSAI crab stocks, the BSAI Crab Plan Team provides recommendations to the NPFMC about annual harvest and overfishing levels. The six BSAI crab stocks are Bristol Bay red king crab (*Paralithodes camtschaticus*), Bering Sea Tanner crab (*Chionoecetes bairdi*), Bering Sea snow crab (*Chionoecetes opilio*), St. Matthew Island blue king crab (*Paralithodes platypus*), and Pribilof Islands red and blue king crabs. The Plan Teams have expertise in regulatory management, natural and social science, and crab stock assessment. All recommendations from a Plan Team must be designed to meet the requirements of the MSA and other applicable laws.

The state controls the opening and closing of all crab fisheries and is the primary entity that monitors harvest. The harvest of crab is monitored by the ADFG using an onboard observer program (different from the Federal observer program) and a shoreside reporting system. Bycatch of crab is controlled through state and Federal regulations for pot gear (e.g., escape openings), limits on the number of pots, and reporting requirements. The incidental mortality of crab species in non-crab fisheries is controlled through the use of prohibited species catch limits, which are set in concert with red king crab abundance and the closure of certain areas to trawl fishing. In addition, all crab fisheries have minimum size limits, restrictions that allow the harvest of male crabs only, and fishing seasons that protect crabs during spawning and molting periods.

The FMP for the scallop fishery off Alaska delegates most management measures to the state, excepting license limitation requirements in Federal waters. The fishery is monitored by State of Alaska observers who collect data on bycatch (notably crab and halibut bycatch), retained and discarded scallop catch, size composition, product recovery, and effort and location information. Bycatch of king,

Tanner, and snow crabs is controlled through the use of bycatch limits and the use of bycatch hotspot analysis by scallop fishermen. In 2000, six of the ten licensed scallop vessel owners formed a cooperative which allocates harvest shares based on past fishing history. The formation of this cooperative resulted in lower harvest rates and allowed vessels to reduce bycatch of crab species.

While most salmon fishery management responsibilities are carried out by the state, NMFS is responsible for monitoring salmon bycatch in the groundfish fisheries and, in some instances, monitoring marine mammal bycatch in directed salmon fisheries (see below for discussion of the Alaska Marine Mammal Observer Program). Management of salmon bycatch taken in the Federal groundfish fisheries must be consistent with requirements established in the MSA and other applicable laws. The NMFS is required under the ESA to consult with other affected regions on any Federal action that may adversely affect ESA-listed salmon caught in the groundfish fisheries. As a result, any take of ESA-listed surrogate stocks is reported and necessary action is taken by NMFS. Currently, NMFS has determined that any adverse effect from the groundfish fishery is limited to two ESA populations: Lower Columbia River (LCR) Chinook and Upper Willamette River (UWR) Chinook. The NMFS Northwest Region completed a supplemental BiOp on the effects of the Alaska groundfish fisheries on ESA-listed salmon. The supplemental BiOp concluded that the BSAI and GOA groundfish fisheries are not likely to jeopardize the continued existence or adversely modify critical habitat for the UWR and LCR ESA-listed Chinook salmon stocks.

The Bering Sea pollock fishery accounted for the majority of salmon bycatch, with Chinook (*Oncorhynchus tshawytscha*) and chum (*Oncorhynchus keta*) being the predominant salmon species caught. Overall bycatch rates in this fishery for all species were generally low compared with other fisheries in the region. During the past several years, the pollock industry has developed industry-based contractual agreements to address salmon bycatch by moving vessels away from areas with high bycatch amounts (“hot spots”). The NPFMC has continued to work towards a reduction in salmon bycatch. In 2008, the NPFMC considered a regulatory amendment (BSAI FMP Amendment 84b) that would limit the amount of salmon caught in the pollock fishery. Given the general concern regarding salmon bycatch in the groundfish (especially pollock) fisheries, Chinook and non-Chinook (generally chum but also some sockeye) salmon were designated as key stocks through the qualitative process described in Section 3.

Currently, four federally managed fisheries and 11 state-managed fisheries are classified as MMPA Category II fisheries in Alaska. Marine mammal interactions in Federal fisheries are reported by observers deployed by NMFS. The NMFS, through the Alaska Marine Mammal Observer Program (AMMOP), contracts observers to fulfill the MMPA obligations of the agency in state fisheries.

4.3.3 Data Sources

Monitoring groundfish harvest by non-recreational fisheries in Alaska is a joint effort of NMFS and the state. NMFS conducts real-time monitoring of total catch (landed catch plus at-sea discards) for in-season management, using a combination of observer information and mandatory industry reports, which are submitted with an electronic reporting system.

Table 4.3.1 lists sources of bycatch data available for federally managed Alaska Region fisheries and those Alaska State fisheries with relevant Federal data-collection programs. Several data sources were used to estimate bycatch, including observer reports, at-sea production reports (which included reports of discards), and landings reports (“fish tickets”).

Data collected by the observer program were used to estimate discards of FMP and prohibited species caught in the groundfish fisheries. Prohibited species included Pacific halibut (*Hippoglossus stenolepis*), salmon, several crab species, herring (*Clupea pallasii*), and groundfish species that were near their annual harvest limits. Regulations require prohibited species to be returned to the sea unless retention is required under other applicable laws.

4.3.3.1 Observer Programs

Alaskan fisheries are covered by two NMFS observer programs (Table 4.3.2). The AMMOP conducts observer coverage of state-managed fisheries classified in Category II under the MMPA annual List of Fisheries, including salmon set and drift gillnet and purse seine fisheries. The North Pacific Groundfish Observer Program (NPGOP) covers Bering Sea/Aleutian Islands and Gulf of Alaska groundfish trawl, longline, and pot fisheries. In 2005, a total of 35,683 sea days were observed by the NPGOP. The AMMOP targeted 663 permitted fishing vessels in 2005 in the Yakutat gillnet fishery. All NPGOP-observed fisheries were considered to have adequate or near-adequate coverage levels for the purposes of overall catch and bycatch estimation (see detailed discussion below), while the AMMOP provided baseline/pilot level coverage for the fisheries it observes.

Alaska Marine Mammal Observer Program

The AMMOP was initiated in 1990 with the objective of observing Alaskan fisheries listed as Category II by the annual MMPA List of Fisheries due to “occasional” incidental serious injuries/mortalities of marine mammals. Most of the fisheries of interest are state-managed, and many have very large numbers of participants (more than 1,000). Because of the large numbers of participants and the modest funding, observer coverage as a percentage of either permits or net days was far lower than observer coverage for the federally regulated fisheries.

ALASKA REGION

Table 4.3.2

Current Alaska Region federal observer programs and fisheries observed (coverage level across all fisheries). Programs and observed fisheries are listed alphabetically. Observer programs that ended over 10 years ago are not listed, except for MMPA Category II salmon gillnet fisheries, which are observed on a rotating basis.

Observer Program	U.S. National Bycatch Report Fisheries	Authority to Place Observers	Program Duration	Coverage Level
Alaska Marine Mammal Observer Program (AMMOP)	Cook Inlet Drift Gillnet	MMPA Cat. II (50 CFR 229)	1999–2000	Number of permits sampled varies by fishery (generally from 2 to 8%).
	Cook Inlet Salmon Set Gillnet		1999–2000	
	Kodiak Salmon Set Gillnet		2002 and 2005	
	Peninsula/Aleutians Salmon Drift Gillnet		1990	
	Prince William Sound Salmon Drift Gillnet		1990–91	
	Prince William Sound Salmon Set Gillnet		1990–91	
	Yakutat Salmon Set Gillnet		2007–08	
Bering Sea, Aleutian Islands, and Gulf of Alaska Groundfish Trawl, Longline, and Pot Fisheries	Aleutian Islands/Eastern Bering Sea Atka Mackerel Trawl	MSFCMA (50 CFR 679.50)	1976–present (The program started in the foreign fishery and the domestic program was initiated in 1990)	2005–2008: 100% vessels > 125 ft and 30% vessels 60–124 ft and 30% or 100% shore plants
	Bering Sea/Aleutian Islands Flatfish Group (Arrowtooth Flounder, Flathead Sole, Other Flatfish) Trawl			
	Bering Sea/Aleutian Islands Greenland Turbot Longline			
	Bering Sea/Aleutian Islands Pacific Cod Jig			
	Bering Sea/Aleutian Islands Pacific Cod Longline			
	Bering Sea/Aleutian Islands Pacific Cod Pot			
	Bering Sea/Aleutian Islands Pacific Cod Trawl			
	Bering Sea/Aleutian Islands Pacific Ocean Perch			
	Bering Sea/Aleutian Islands Pollock Trawl			
	Bering Sea/Aleutian Islands Rock Sole Trawl			
	Bering Sea/Aleutian Islands Sablefish Longline			
	Bering Sea/Aleutian Islands Sablefish Pot			
	Bering Sea/Aleutian Islands Sablefish Trawl			
	Bering Sea/Aleutian Islands Yellowfin Sole Trawl			
	Gulf of Alaska Arrowtooth Flounder Trawl			
	Gulf of Alaska Flatfish (Deepwater Flatfish) Trawl			
	Gulf of Alaska Flatfish (Shallow Water Flatfish) Trawl			
	Gulf of Alaska Flathead Sole Trawl			
	Gulf of Alaska Pacific Cod Jig			
	Gulf of Alaska Pacific Cod Longline			
	Gulf of Alaska Pacific Cod Pot			
	Gulf of Alaska Pacific Cod Trawl			
	Gulf of Alaska Pollock Trawl			
Gulf of Alaska Rex Sole Trawl				
Gulf of Alaska Rockfish (Northern Rockfish, Pelagic Shelf Rockfish, Pacific Ocean Perch) Trawl				
Gulf of Alaska Sablefish Longline				
Gulf of Alaska Sablefish Trawl				

U.S. NATIONAL BYCATCH REPORT

The AMMOP has conducted observer programs for 7 of the 14 Category II fisheries. The Prince William Sound set and drift gillnet fisheries were observed in 1990 and 1991, the Alaska Peninsula/Aleutians salmon drift gillnet fishery was observed in 1990, Cook Inlet salmon set and drift gillnet fisheries were observed in 1999 and 2000 (Manly 2006), the Kodiak Island salmon set gillnet fishery was observed in 2002 and 2005 (Manly 2007), and a pilot project was implemented for the Yakutat salmon set gillnet fishery in 2006, and was followed by a full observer program in 2007 and 2008 (see <http://www.fakr.noaa.gov/protectedresources/observers/mmop.htm>).

North Pacific Groundfish Observer Program

The observer program for federally managed groundfish fisheries was authorized in 1990 and implemented by NMFS, effective 7 February 1990 (55 CFR 4839, 12 February 1990). Under this program, NMFS provides operational oversight, certification training, definition of observer sampling duties and methods, debriefing of observers, and management of the data. Vessel and processing plant owners pay the cost of the observers, while the costs associated with managing the program are paid for by the Federal government. The design and focus of the NPGOP is on estimating fish and prohibited species catch and bycatch; protected species (marine mammal and seabird) bycatch information is also recorded.

Observer coverage is generally determined based on the size of the vessel prosecuting the fishery and, in several fisheries, the fishery in which the vessel is participating. Coverage levels for vessels harvesting groundfish are specified under the FMP, and are divided into three general categories: 1) vessels under 60 feet of length overall (LOA) are not required to carry observers; 2) vessels longer than 60 feet and shorter than 125 feet are required to carry observers on 30% of their fishing days; and 3) vessels 125 feet and longer are required to carry observers on 100% of their fishing days. Shoreside processors that process between 500 and 1000 metric tons of groundfish in a calendar month are required to have observers present 30% of the days that they receive or process groundfish. Shoreside processors that process 1,000 metric tons or more of groundfish in a calendar month are required to have observers present 100% of the days that they receive or process groundfish.

Observer coverage levels have been increased to implement certain limited-access programs with increased monitoring needs, such as the Western Alaska Community Development Quota (CDQ) Program, AFA pollock fishery, and more recently, the Rockfish Pilot Program and Groundfish of the BSAI Management Area FMP Amendment 80.

Detailed information about observer sampling protocols and extrapolations can be found in the North Pacific Groundfish Observer Sampling Manual (available at <http://www.afsc>

noaa.gov/fma/document.htm#Manuals1). In general, observers follow a standard sampling protocol (e.g., simple random sampling or systematic sampling). The observer information is shared with NMFS Alaska Regional office (AKR), which uses the data provided from observed hauls, together with industry-reported data (see details in next section), to calculate discard levels on unobserved hauls and trips using algorithms implemented in an Oracle database.

Bias in NPGOP observer data occurs because vessel operators decide when to take observers. Therefore, random sampling assumptions cannot be supported. For example, operators can choose to take observers knowing they will be fishing in low-bycatch areas or areas that are otherwise non-representative for a variety of reasons. In fisheries with 100% observer coverage, observers are present at all times, so vessel selection bias does not occur.

4.3.3.2 Logbooks

Hard-copy (paper) logbooks are required to be completed and submitted for all BSAI/GOA groundfish vessels (may include the use of catch and/or product logs, product transfer logs, effort logs, or other records, as specified in regulations) greater than 60 feet. The logbook program has been in place since 1991 and has been used largely for enforcement purposes. Estimates of harvest and bycatch are obtained from the electronic reporting systems described in Section 4.3.3.3, and from observer information. The NMFS Alaska Region would like to move toward electronic logbooks; however, full implementation is likely several years away. A small number of vessels are currently participating in an electronic logbook program.

4.3.3.3 Electronic Reports of Catch and Production

The NMFS Alaska Region, the State of Alaska, and the IPHC have implemented a joint electronic reporting system to reduce reporting redundancy and consolidate fishery landing information into one database. Vessels in both Federal and state fisheries report groundfish landing information through an electronic reporting application known as the Interagency Electronic Reporting System (IERS). There are different reporting requirements for vessels that catch and process groundfish (catcher/processors), vessels that do not process fish (catcher vessels), vessels that only receive and process fish (mother ships), and shoreside processing plants.

Production Reports: Production reports are mandatory for catcher/processors, mother ships, and shoreside processors. Collections are daily for shoreside processors and weekly for the at-sea fleet of catcher/processors and mother ships (starting in 2008, production reports will be sent daily from the at-sea fleet). Production reports include gear

type, area fished, and a breakdown of the weight of each species and product. At-sea production reports also include the weight or number of each species that was discarded at sea. All data collected from production reports are stored in a database and undergo internal validation checks.

Landing Reports: Landing reports (ADFG “fish tickets”) are mandatory and originate from catcher vessels making deliveries to a shoreside plant or mother ship. The collection period is trip-based for shoreside processors and weekly for mother ships. Landing reports include gear type, NMFS and/or ADFG area fished, a breakdown of the weight and condition of each species delivered, the fishing start date, and the delivery date. Delivering vessels report at-sea discard to the processing facility, but these data are not verifiable. Therefore, at-sea discard estimates are obtained by creating species-specific bycatch rates based on information collected by the NPGOP and applying these rates to groundfish production or landing information. A detailed description of bycatch estimation in the Federal groundfish fisheries is in Section 4.3.4. All landing report data are stored in a database and undergo internal validation.

4.3.3.4 Other Data Sources

Strandings reports: strandings reports, sometimes called entanglement reports, are an important source of information on serious injury and mortality of marine mammals incidental to commercial fisheries for some geographic areas and for some species. In Alaska, most reports are of humpback whales entangled in various types of pot gear, gillnet gear, and miscellaneous line gear in Southeast Alaska. These reports may be submitted by researchers or the general public. Reports are used to assess relative levels of bycatch under the MMPA only when no better data exist to assess the level of bycatch (i.e., observer data would be used if available); the report is considered reliable; and the report clearly describes a mortality or an injury that is likely to lead to mortality of the entangled animal, as determined by regional NMFS Protected Resources Resources (PR) staff.

4.3.4 Alaska Region Bycatch Estimation Methods

The Alaska Fisheries Science Center (AFSC) and NMFS AKR estimated catch and bycatch for federally managed commercial fisheries and a few state-managed commercial fisheries in Alaska. The AKR and AFSC collaborated on estimates for the federally managed commercial groundfish fisheries in the BSAI and GOA Federal management areas. A small number of state fisheries are observed by the AM-MOP, which is managed by the AKR and focuses on collecting bycatch data on marine mammals in certain state commercial fisheries. Accurate estimates of catch and bycatch

are vital to the management, conservation, and scientific understanding of marine species that are impacted by commercial groundfish fisheries.

The Catch Accounting System (CAS)

The AKR manages groundfish and prohibited fish species catch (PSC), described in Section 4.3.4.1.1, under the groundfish FMPs for the BSAI and GOA. The AKR uses a combination of observer data and industry reports to estimate catch and bycatch to calculate total fishing mortality. In general, bycatch rates for fish are estimated from observer data; the rates consist of the total amount of a specific bycatch species caught, divided by the total amount of groundfish caught (including groundfish discards). Estimates are stratified by species, gear, area, and time. These bycatch rates are then multiplied by unobserved catch to provide a total estimate of fish and prohibited species bycatch. Rates are computed as metric tons of bycatch per metric tons of catch in all cases except for salmon and crab, which are computed in numbers per metric ton of catch.

The procedures used for catch and bycatch estimation for FMPs and prohibited species support in-season management of complex allocation schemes and harvest limits, and ensures that fisheries do not exceed TAC or violate other fishery restrictions, such as time and area closures. Prohibited species are required to be returned to the sea unless retention is required under other applicable laws. The procedures for estimating bycatch accommodate two important management components: first, the estimation procedures are designed to provide a quick turn-around (one or more days, up to a week) of the data so that in-season management has useable rates as quickly as possible after receiving landing reports and observer data. The system makes maximum use of small amounts of observer data quickly (at coarser aggregation levels), which are updated and refined as more data become available. Secondly, although complex, the system was designed so that changes to the management structure could be reflected in the catch accounting structure, to allow in-season management to stay current with fisheries regulations and specifications.

Five types of bycatch are estimated for the federally regulated Alaska commercial fisheries: prohibited species bycatch, non-target species bycatch, groundfish discards, marine mammal serious injury/mortality, and seabird mortality. Note that the CAS does not calculate marine mammal serious injury/mortality and seabird mortality. Methods used to determine these estimates differ markedly from those used for fish bycatch and PSC accounting. Further details of all methods are provided below.

U.S. NATIONAL BYCATCH REPORT

4.3.4.1 Alaska Fish Bycatch Estimation Methods

4.3.4.1.1 Prohibited Species Bycatch Estimates

Bycatch management measures for groundfish fisheries in the BSAI and GOA have specific means to limit or reduce incidental catch species traditionally harvested by other fisheries. These species include salmon, Pacific halibut, Pacific herring, red king crab, Tanner crab, and snow crab. Collectively, these species are referred to as prohibited species. Regulations require that in the groundfish fisheries, PSC are returned to the sea with no additional injury. For Pacific halibut estimates, discard mortality rates (DMRs) are used to determine the fraction of the estimated halibut bycatch that dies. Observer data are used to estimate DMRs in the groundfish fisheries off Alaska, and NMFS manages these fisheries according to a schedule of DMRs that vary by fishery, gear, and area (Williams and Chen 2004).

All available observer data are used to estimate daily PSC bycatch rates at six levels of aggregation (Table 4.3.3). As landings data are received, PSC bycatch estimates are created by finding the best possible matching rate (e.g., the rate with the best resolution) and multiplying the landed catch by the rate. The rates are calculated in numbers of individuals for crab and salmon, and total weight of halibut and herring. All rates are specific to a given calendar year (i.e., 2006 information is not used for 2007).

4.3.4.1.2 Non-Target Species Bycatch Estimates

Non-target species include forage fish and a variety of species that are not specified for harvest, such as grenadiers, as well as species that are harvested within the fishery but are not targets (sharks, skates, sculpins, and octopus). Although they are not managed in-season, estimates of non-target species bycatch are important to stock assessment scientists and ecosystem modeling conducted by the ASFC. The AKR estimates bycatch amounts for approximately 50 non-target species groups and makes the results available to AFSC staff. The estimation methods for non-target bycatch estimation are similar to those for PSC bycatch estimation.

4.3.4.1.3 Groundfish Landings and Bycatch (Discard) Estimates

Different accounting methods are used to estimate groundfish retained catch and discards for vessels that catch and process fish (catcher/processors), vessels that do not process fish (catcher vessels), vessels that only receive and process fish (mother ships), and shoreside processing plants. For large catcher/processors and mother ships, which typically have 100% observer coverage, observer information is used for retained catch and bycatch accounting.

Table 4.3.3

Types of aggregated information used to calculate bycatch rates for PSC and non-target species. Note that there must be at least three observed hauls from which to calculate a rate.

Resolution	Type of Rate	Type of Information Aggregated	Aggregation Level
High ↑ ↓ Low	Catcher vessel-specific ^a	Vessel-specific: date trip started, fishing gear, federal reporting area	Low ↓ High
	Catcher/processor vessel-specific ^b	Vessel-specific: week end date, and whether the trip occurred in the GOA or BSAI	
	Sector-specific 3-week moving average	Processing sector, target species, week end date, fishing gear, federal reporting area	
	3-week moving average	Target species, week end date, fishing gear, federal reporting area	
	3-month moving average	Target species, week end date, fishing gear, and whether fishing occurred in the GOA or BSAI	
	FMP area rate	Target species, gear, FMP area	
	3-month moving average	Target species, week end date, fishing gear, and whether fishing occurred in the GOA or BSAI	
	FMP area rate	Target species, gear, FMP area	

^aA Catcher Vessel is a fishing vessel that delivers its catch to a mother ship, to shore plants or to catcher/processors vessels.

^bA Catcher-Processor is an at-sea fish processing vessel that catches, process, freezes, and stores aboard groundfish (primarily pollock and cod).

For catcher/processors and catcher vessels with 30% coverage, mandatory industry reports are used to estimate retained catch. Any catch that is delivered to a shoreside plant and then discarded is accounted for using bycatch reported by the plant. At-sea groundfish discards are estimated from observer data collected from the same component of the fleet (i.e., catcher vessels using the same gear and fishing in the same area and target fishery). Bycatch rates on observed vessels are then applied to the reported groundfish catch on unobserved vessels.

Similar to the procedure described for prohibited species, estimates of at-sea groundfish discards are based on deterministic criteria that match observer data with unobserved vessels. Two approaches are used to determine a level of aggregation, depending on availability of data; both are based on 14-day centered moving averages:

- aggregated based on target species, gear type used, and Federal reporting area
- aggregation similar to that described above; however, instead of aggregation at the higher-resolution Federal reporting area level, aggregation occurs at the broader FMP-area level

4.3.4.2 Species Bycatch Estimates for Protected Species

4.3.4.2.1 Marine Mammal Serious Injury/Mortality Estimates—Groundfish Fisheries

Observer-recorded marine mammal injuries/mortalities in a particular haul are assigned to one of 21 separate federally regulated fisheries based on information from the AKR CAS (see Section 4.3.4), which provides information on haul location, gear type, and fish target species. Detailed descriptions of injured marine mammals provided by observers are assessed by AFSC staff to determine whether the injury was serious and thus likely to lead to mortality of the marine mammal. Observed serious injury/mortality rates per observed metric ton of groundfish catch for each separate fishery are stratified by four-week period, statistical area, vessel class, and processing sector. The rate for each stratum is extrapolated to the total serious injury/mortality estimate for the stratum by multiplying the rate by the total catch for that stratum. The sum of the stratum totals provides an estimate of the annual incidental serious injury/mortality levels for a variety of species of marine mammals in Alaska. Bycatch rates and confidence intervals are calculated using data and extrapolated estimates based only on observed bycatch of marine mammals in randomly sampled, monitored fishing sets. Confidence intervals are based on a lognormal approximation. The natural log-transformation approximation is used to derive 95% confidence limits through calculations using the extrapolated bycatch values and their corresponding coefficients of variation.

This is done to avoid reporting negative lower confidence limits using the normal approximation. However, the standard errors and coefficients of variation are still calculated using the normal approximation because the bycatch data values cannot be transformed directly due to the preponderance of zero values. Considerable additional information on the method is provided in Perez (2006).

4.3.4.2.2 Seabird Mortality Estimates

Seabird mortality occurs in groundfish fisheries when birds are hooked on longline gear during the set, captured in pots, caught in trawl nets, or entangled in trawl gear (trawl door cables, third wire cable, or parts of the netting on a trawl). Mortalities may also occur due to birds flying into a vessel's rigging or superstructure. Standard observer sampling accounts for birds hooked on longline gear, caught in pots, or included with fish catch in a trawl cod end. Seabird mortalities from other sources are not directly monitored but are noted in logbooks in an ad hoc manner when observed. For longline or pot gear, reports by observers of additional mortality not directly associated with the fishing gear occur infrequently. In some sectors of the trawl fleet, however, ad hoc reports indicate that seabird mortalities from interactions not accounted for by standard sampling may be substantial.

Current sampling and analytical methods only provide estimates of seabird mortalities from standard observer sampling techniques. Rate-based estimates of bycatch of seabirds in the trawl fisheries are based on the total weight of groundfish caught per haul or set, as is the case for estimates of mammal mortality. Bycatch rates for seabirds in the logline and pot fisheries are based on estimates of the amount of gear deployed, and total bycatch estimates are obtained by expanding to the total amount of gear in a given stratum. This approach was adopted for consistency with analyses of seabird bycatch in commercial longline fisheries in other parts of the world. Catch rates and estimates of bycatch are calculated for each four-week period (minimum stratum level) by year; statistical area; gear type; vessel class and/or processing sector (catcher/processor, mother ship/processor, or catcher-only vessel delivering to shoreside plants); and targeted groundfish catch species (fishery designation). Four-week periods were used to approximate monthly periods because the CAS provides only data summarized by weeks. No seabird bycatch estimates were made for strata that consist only of data from unobserved vessels. The extrapolated takes of all strata are summed to obtain the total extrapolated bycatch by year and area. Rates and variance of incidental take for each stratum are calculated from the sum of observed seabird bycatches in species-composition monitoring of fishing operations, divided by the sum of the effort (in tons for trawl sets, hooks for longline sets, and pots for pot sets) of groundfish catch (retained and discarded, including prohibited fish species)

U.S. NATIONAL BYCATCH REPORT

in the sampled catch of monitored hauls. Total extrapolated bycatch is estimated by the stratified random sampling ratio-estimation method (Cochran 1977; Levy and Lemeshow 1999). The fraction of hauls observed in the total fishery is unknown; therefore, the percentage of total effort sampled is used as a basis for determining the fraction of total effort observed. A report is currently in preparation that describes these methods in greater detail (S. Fitzgerald, personal communication⁵).

4.3.4.3 Marine Mammal Serious Injury/Mortality Estimates—AMMOP

Estimates of total incidental serious injury and mortality of each marine mammal stock in observed fisheries are calculated using the ratio estimation approach; estimates and associated CVs are provided in reports on the studies (Manly 2006, 2007). Estimates and associated CVs are not available for approximately 12 MMPA Category II fisheries in Alaska which have not yet been observed.

4.3.4.4 Marine Mammal Serious Injury/Mortality Estimates—Entanglement/Stranding Data

Ideally, NMFS obtains estimates of marine mammal serious injury and mortality (bycatch) using independent observer programs. When data are collected using observer programs, observed bycatch can be extrapolated to provide an estimate of total bycatch, and an estimate of uncertainty

⁵ S. Fitzgerald. Alaska Fisheries Science Center, 7600 Sand Point Way NE, Seattle, WA 98115.

can be calculated. Observations of dead stranded animals or entangled living animals can provide a minimum estimate of bycatch for some fisheries. When these data are used, great care is taken to ensure that the fishery is correctly identified and to ensure that the fishery was responsible for the injury or mortality. Although records of some stranded and entangled animals are excellent, many opportunistic records are not used for management purposes because of lack of information on either the severity of an injury or the responsible fishery. Because these observations are opportunistic, stranding and entanglement data provide only a minimum count of the level of bycatch in a particular fishery; because these are count data, there is no associated measurement of uncertainty.

4.3.5 Tier Classification of Alaska Region Fisheries

The quality of bycatch data and estimation methods were analyzed for 33 Alaska Region fisheries with Federal management authority or relevant Federal data-collection programs. Only Federal data sources were evaluated for this report. Other data may be available for state, international, and tribal fisheries; however, these programs were beyond the scope of this initial report. The remaining fisheries are not federally managed and have no Federal data-collection programs, and were therefore excluded from the analysis.

Tiers were assigned to each fishery using the tier classification procedures outlined in Section 3 for fish, marine mammals, and other protected species (Table 4.3.4). Twenty-seven fisheries were classified based on the quality of fish bycatch data and estimation methods.

Table 4.3.4

Tier classifications for Alaska Region fisheries (2005 data). Fisheries in shaded rows were evaluated for this report. Grouped fisheries are listed first, alphabetically by fishery group name, then by management authority, then by individual fishery name. Non-grouped fisheries are then listed alphabetically by management authority and then by fishery name. Only relevant federal data sources were evaluated for this report.

Fishery	Management Authority	Fish Tier	Marine Mammals Tier ^a	Other Protected Species Tier ^a
Bering Sea/Aleutian Islands Flatfish Trawl Fisheries				
Bering Sea Aleutian Islands Flatfish Group (Arrowtooth Flounder, Flathead Sole, Other Flatfish) Trawl	Federal	3	3*	3*
Bering Sea Aleutian Islands Rock Sole Trawl	Federal	3	3*	3*
Bering Sea Aleutian Islands Yellowfin Sole Trawl	Federal	3	3*	3*

ALASKA REGION

Table 4.3.4 (continued)

Fishery	Management Authority	Fish Tier	Marine Mammals Tier ^a	Other Protected Species Tier ^a
Gulf of Alaska Flatfish Trawl Fisheries				
Gulf of Alaska Arrowtooth Flounder Trawl	Federal	3	3*	3*
Gulf of Alaska Flatfish (Deepwater Flatfish) Trawl	Federal	3	3*	3*
Gulf of Alaska Flatfish (Shallow Water Flatfish) Trawl	Federal	2	3*	3*
Gulf of Alaska Flathead Sole Trawl	Federal	3	3*	3*
Gulf of Alaska Rex Sole Trawl	Federal	3	3*	3*
Non-Grouped Fisheries				
Aleutian Islands, Eastern Bering Sea Atka Mackerel Trawl	Federal	3	4	3
Bering Sea/Aleutian Islands Greenland Turbot Longline	Federal	3	3	3
Bering Sea/Aleutian Islands Pacific Cod Jig	Federal	1	1	1
Bering Sea/Aleutian Islands Pacific Cod Longline	Federal	3	3	3
Bering Sea/Aleutian Islands Pacific Cod Pot	Federal	3	3	3
Bering Sea/Aleutian Islands Pacific Cod Trawl	Federal	3	3	3
Bering Sea/Aleutian Islands Pacific Ocean Perch	Federal	3	3	3
Bering Sea/Aleutian Islands Pollock Trawl	Federal	4	4	3
Bering Sea/Aleutian Islands Sablefish Longline	Federal	3	3	3
Bering Sea/Aleutian Islands Sablefish Pot	Federal	3	3	3
Bering Sea/Aleutian Islands Sablefish Trawl	Federal	3	3	3
Gulf of Alaska Pacific Cod Jig	Federal	1	1	1
Gulf of Alaska Pacific Cod Longline	Federal	3	3	3
Gulf of Alaska Pacific Cod Pot	Federal	2	3	3
Gulf of Alaska Pacific Cod Trawl	Federal	3	3	3
Gulf of Alaska Pollock Trawl	Federal	3	3	3
Gulf of Alaska Rockfish (Northern Rockfish, Pelagic Shelf Rockfish, Pacific Ocean Perch) Trawl	Federal	3	3	3
Gulf of Alaska Sablefish Longline	Federal	3	3	3
Gulf of Alaska Sablefish Trawl	Federal	3	3	3
AK Halibut Longline	International			
AK Abalone	State			
AK Bristol Bay Salmon Drift Gillnet	State			
AK Bristol Bay Salmon Set Gillnet	State			
AK Clam	State			

U.S. NATIONAL BYCATCH REPORT

Table 4.3.4 (continued)

Fishery	Management Authority	Fish Tier	Marine Mammals Tier ^a	Other Protected Species Tier ^a
Non-Grouped Fisheries (cont.)				
AK Cook Inlet Drift Gillnet	State		3	3
AK Cook Inlet Salmon Set Gillnet	State		3	3
AK Dungeness Crab	State			
AK Food/Bait Herring Trawl	State			
AK Groundfish Longline/Setline (Including Sablefish, Rockfish, and Miscellaneous Finfish)	State			
AK Herring Spawn on Kelp Pound Net	State			
AK Kodiak Salmon Set Gillnet	State		3	3
AK Kuskokwim, Yukon, Norton Sound, Kotzebue Salmon Gillnet	State			
AK Metlakatla Salmon Purse Seine	State			
AK Metlakatla/Annette Island Salmon Drift Gillnet	State			
AK Miscellaneous Finfish Beach Seine	State			
AK Miscellaneous Finfish Handline and Mechanical Jig	State			
AK Miscellaneous Finfish Otter or Beam Trawl	State			
AK Miscellaneous Finfish Pair Trawl	State			
AK Miscellaneous Finfish Purse Seine	State			
AK Miscellaneous Finfish Set Gillnet	State			
AK North Pacific Halibut Handline and Mechanical Jig	State			
AK Octopus/Squid Handline	State			
AK Octopus/Squid Longline	State			
AK Octopus/Squid Pot	State			
AK Peninsula/ Aleutians Salmon Drift Gillnet	State		1	1
AK Peninsula/ Aleutians Salmon Set Gillnet	State			
AK Prince William Sound Salmon Drift Gillnet	State		1	1
AK Prince William Sound Salmon Set Gillnet	State		1	1
AK Roe Herring and Food/Bait Herring Beach Seine	State			
AK Roe Herring and Food/Bait Herring Gillnet	State			
AK Roe Herring and Food/Bait Herring Purse Seine	State			
AK Salmon Beach Seine	State			
AK Salmon Purse Seine (except Southeast Alaska, which is in Category II)	State			
AK Salmon Troll	State			
AK Shrimp Otter Trawl and Beam Trawl (Statewide and Cook Inlet)	State			

ALASKA REGION

Table 4.3.4 (continued)

Fishery	Management Authority	Fish Tier	Marine Mammals Tier ^a	Other Protected Species Tier ^a
Non-Grouped Fisheries (cont.)				
AK Snail Pot	State			
AK Southeast Herring Roe/Food/Bait Pound Net	State			
AK Southeast Salmon Drift Gillnet	State		1	1
AK Southeast Salmon Purse Seine	State			
AK Urchin and Other Fish/Shellfish	State			
AK Yakutat Salmon Set Gillnet ^b	State			
Aleutian Islands State Waters Pacific Cod	State			
Bering Sea/Aleutian Islands Crab Pot	State			
Coastwide Scallop Dredge	State			
Gulf of Alaska Crab Pot	State		1	1
Gulf of Alaska Pacific Cod State Fishery Jig	State			
Gulf of Alaska Pacific Cod State Fishery Pot	State			
Southeast Alaska Crab Pot	State			
Southeast Alaska Shrimp Pot	State			

^a Tier scores marked * were “cascaded” down from the fishery group that the individual fishery is part of; the individual fishery was not evaluated.

^bThe Yakutat salmon set gillnet fishery was not being observed at the time of compilation of this report, and therefore was not evaluated. Estimates for the fishery based on self-reported data were included. The fishery will be evaluated for the next edition of this report.

Grouped fisheries were classified in a single tier for marine mammals and other protected species, based on current bycatch data-collection and estimation methods. Note that in Figure 4.3.2, the total number of fisheries for marine mammals and other protected species was based on the number of grouped fisheries evaluated (two) plus the number of individual fisheries evaluated (27). The total number of fisheries classified for fish was 27 (the number of individual fisheries evaluated). In Table 4.3.4, the tier category for each group was assigned to (“cascaded” down to) the individual fisheries in that group (see Section 3.2 for details).

Six fisheries evaluated for marine mammals and other protected species (all MMPA Category II State salmon fisheries) were not evaluated for fish, as fish bycatch data are not collected.

Of the Alaska Region fisheries evaluated, the majority of fisheries were classified as Tier 3 for fish (82%), marine mammals (69%), and other protected species (76%; Figure 4.3.2). For fish, one Tier 4 fishery (Bering Sea/Aleutian Islands pollock trawl), two Tier 1, and two Tier 2 fisheries were identified. Tier 1 made up the second largest component of marine mammal and other protected species classifications, with 24% of fisheries (7) in both categories. Additionally, two fisheries were assigned to Tier 4 for marine mammal bycatch data and estimation methods: Aleutian Islands, Eastern Bering Sea Atka mackerel trawl and Bering Sea/Aleutian Islands pollock trawl. No fisheries were classified as Tier 4 in the other protected species category.

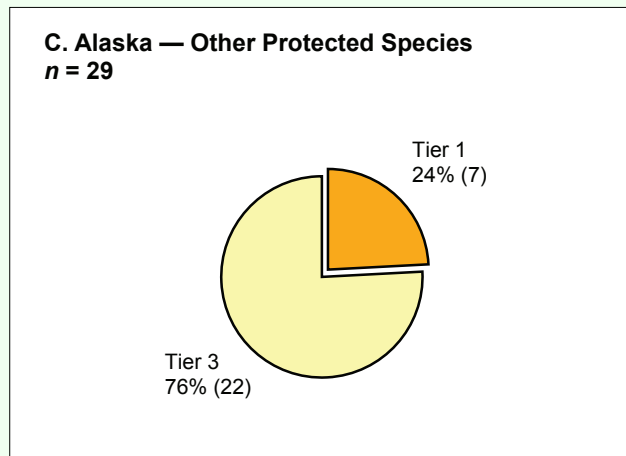
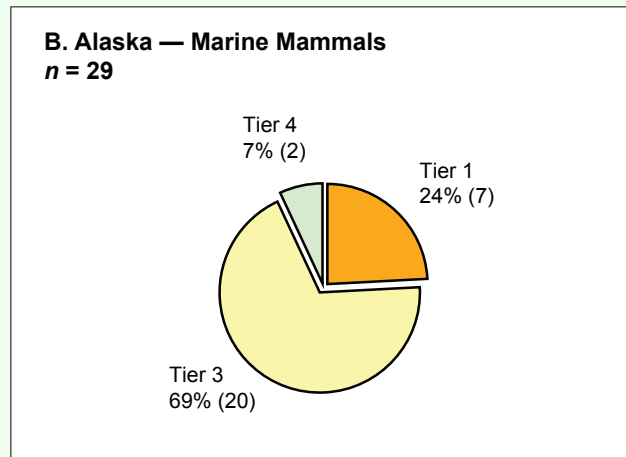
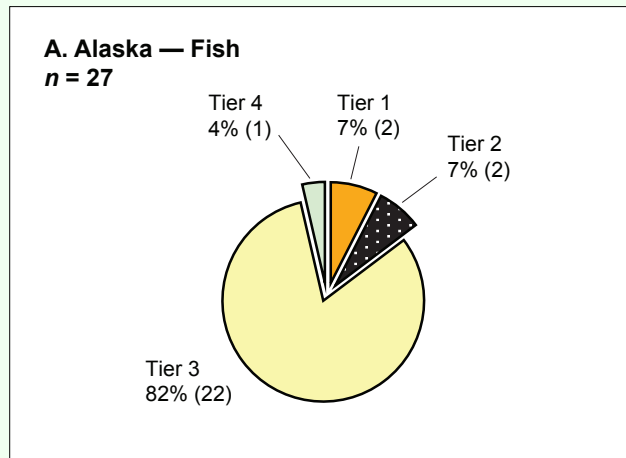


Figure 4.3.2

Alaska Region tier classifications by number and percentage, for fisheries with federal management or relevant Federal data-collection programs, for A) fish, B) marine mammals, and C) other protected species.

4.3.6 Alaska Region Key Stocks

Thirty-six key stocks were identified in the Alaska Region (Table 4.3.5). As in other regions, bycatch estimates were not available for all species listed as key stocks. All ESA-listed species (10) found in the Alaska Region were prioritized for inclusion in the list of key species, regardless of whether bycatch occurs.

Forty-two percent (15) of all Alaska Region key stocks identified are fish stocks, including the 6 individual stocks in the demersal shelf rockfish complex (Figure 4.3.3). This FSSI complex was identified as a key stock through the quantitative evaluation process outlined in Section 3. Within this complex, the status of yelloweye rockfish serves as an indicator for the entire group. Three species of king crab (blue, golden, and red) and two salmon groups (Chinook, which is ESA-listed, and non-Chinook) were identified as key stocks through the qualitative process; all are prohibited bycatch in groundfish fisheries due to their value as target catch in other fisheries. Two stocks, the BSAI stock of rougheye rockfish (*Sebastes aleutianus*) and the GOA stock of shortspine thornyhead (*Sebastolobus alascanus*) were removed from the initial list of Alaska Region key stocks identified through the quantitative process. These stocks are not overfished, have an undefined overfishing level, and have low levels of observed bycatch with no directed (targeted) catch. The species with the largest amount of discards in the Alaska trawl fisheries is arrowtooth flounder, however, this stock was not considered for key stock status because stock biomass is estimated at three times the B_{msy} level and stocks continue to increase in abundance. In 2005 the species was not considered marketable for human consumption; industry continues to work to develop markets for arrowtooth flounder in order to reduce the amount of discard.

Note that regional bycatch data are reported by species or species group rather than stocks (see tables in Appendix 4.3). Since bycatch accounting cannot occur at a finer level of granularity than this, the key stocks/species described above were aggregated into six key species/species groups corresponding to species and species groups for which catch data were available. These species/species groups are: red king crab (comprising 4 stocks, as defined in Table 4.3.5), blue king crab (2 stocks), golden king crab (1 stock), demersal shelf rockfish (7 species), Chinook salmon, and non-Chinook salmon.

Protected species make up the remaining 58% of Alaskan key stocks. More than half (18) of the key stocks identified in Alaska are marine mammals (Figure 4.3.3), 8 of which are currently listed as endangered or threatened under the ESA. Of the remaining 10 marine mammal populations identified as key stocks, two were added through the qualitative process due to concerns over population levels: the Cook Inlet stock of beluga whales and the Northern fur seal. The Cook Inlet beluga whale stock is at a critically low level,

ALASKA REGION

Table 4.3.5
Key fish and marine mammal stocks and sea turtle and seabird populations for the Alaska Region. Overfishing/overfished status based on 2008 Quarter 1 FSSI report.

Key Fish Stocks Listed by FSSI			
Species/stock name		Overfishing	Overfished
Common name	Scientific name		
Blue king crab, Pribilof Islands	<i>Paralithodes platypus</i>	No	Yes
Blue king crab, Saint Matthews Island	<i>Paralithodes platypus</i>	No	No—rebuilding
Demersal shelf rockfish: ^a		No	Undefined
Canary rockfish	<i>Sebastes pinniger</i>		
China rockfish	<i>Sebastes nebulosus</i>		
Copper rockfish	<i>Sebastes caurinus</i>		
Quillback rockfish	<i>Sebastes maliger</i>		
Tiger rockfish	<i>Sebastes nigrocinctus</i>		
Yelloweye rockfish	<i>Sebastes ruberrimus</i>		
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	Unknown	Undefined
Red king crab, Aleutian Islands	<i>Paralithodes camtschaticus</i>	Unknown	Undefined
Red king crab, Bristol Bay	<i>Paralithodes camtschaticus</i>	No	No
Red king crab, Norton Sound	<i>Paralithodes camtschaticus</i>	Unknown	Undefined
Red king crab, Pribilof Islands	<i>Paralithodes camtschaticus</i>	No	No
Key Fish Stocks Listed by ESA			
Species/stock name		Stock status	
Common name	Scientific name		
Chinook salmon ^b	<i>Oncorhynchus tshawytscha</i>	Unknown	
Key Fish Stocks Not Listed by FSSI or ESA			
Species/stock name		Stock status	
Common name	Scientific name		
Non-Chinook salmon ^b	Salmonidae	Not applicable	
Key Marine Mammal Stocks Listed by ESA			
Species/stock name		Stock status	
Common name	Scientific name		
Bowhead whale	<i>Balaena mysticetus</i>	Endangered	
Fin whale	<i>Balaenoptera physalus</i>	Endangered	
Humpback whale	<i>Megaptera novaeangliae</i>	Endangered	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.5 (continued)

Key Marine Mammal Stocks Listed by ESA (cont.)			
Species/stock name			
Common name	Scientific name	Stock status	
Right whale, North Pacific	<i>Eubalaena japonica</i>	Endangered	
Sei whale	<i>Balaenoptera borealis</i>	Endangered	
Sperm whale	<i>Physeter macrocephalus</i>	Endangered	
Steller sea lion, Eastern	<i>Eumetopias jubatus</i>	Threatened	
Steller sea lion, Western	<i>Eumetopias jubatus</i>	Endangered	
Key Marine Mammal Stocks Not Listed by ESA			
Species/stock name			
Common name	Scientific name	ZMRG	Stock Status ^c
Bearded seal	<i>Erignathus barbatus</i>	Unknown	Unknown
Beluga whale, Cook Inlet	<i>Delphinapterus leucas</i>	Undermined	Declining
Harbor porpoise, Gulf of Alaska	<i>Phocoena phocoena</i>	34.7	Unknown
Killer whale, Eastern North Pacific Alaska Resident	<i>Orcinus orca</i>	1.12	Unknown
Killer whale, Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	<i>Orcinus orca</i>	0.31	Unknown
Northern fur seal, Eastern Pacific	<i>Callorhinus ursinus</i>	1526.2	Declining
Pacific walrus	<i>Odobenus rosmarus divergens</i>	Unknown	Unknown
Ribbon seal	<i>Phoca fasciata</i>	Unknown	Unknown
Ringed seal	<i>Phoca hispida</i>	Unknown	Unknown
Spotted seal	<i>Phoca largha</i>	Unknown	Unknown
Key Seabird Populations Listed by ESA			
Species/stock name			
Common name	Scientific name	Population status	
Short-tailed albatross	<i>Phoebastria albatrus</i>	Endangered	

ALASKA REGION

Table 4.3.5 (continued)

Key Seabird Populations Not Listed by ESA			
Species/stock name		Bycatch concern	Population status
Common name	Scientific name		
Black-footed albatross	<i>Phoebastria nigripes</i>	Yes	Stable/Increasing/ Decreasing ^d
Red-legged kittiwake	<i>Rissa brevirostris</i>	No	Stable

^a The overfishing determination for the Demersal Shelf Rockfish group is based on the Optimal Fishing Level (OFL), which is computed by using estimates of yelloweye rockfish and then increased by 10% to account for the remaining members of the complex.

^b Because the exact makeup of Chinook and non-Chinook salmon bycatch is not estimated, key stocks were not identified at the population level for Alaska, and these broad groups are counted as two key stocks despite being comprised of many sub-populations.

^c Stock status based on 2007 NMFS Marine Mammal Stock Assessments: <http://www.nmfs.noaa.gov/pr/pdfs/sars/ak2007.pdf>

^d USFWS is in the process of finalizing its black-footed albatross status assessment. The trend varies according to island colony surveyed (see Naughton et al. 2008a)

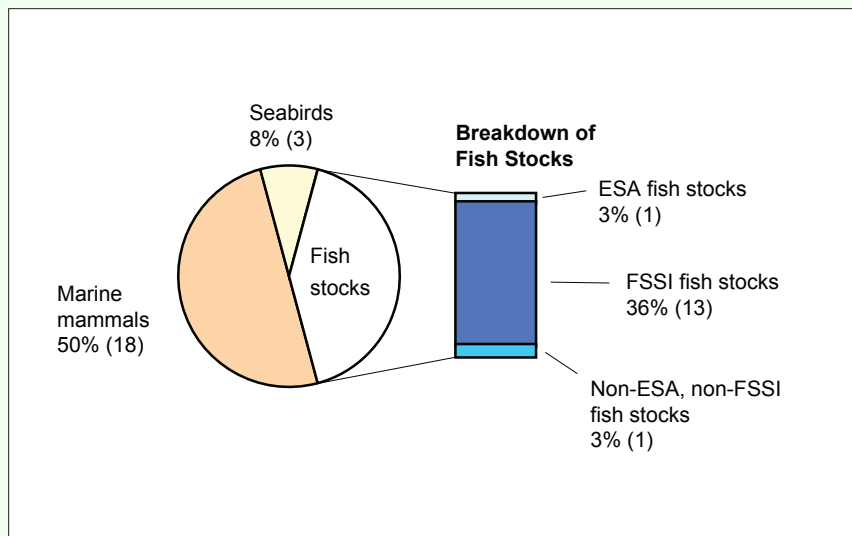


Figure 4.3.3

Numbers and percentages of key stocks for the Alaska Region by resource type.

is listed as depleted under the MMPA, and has been listed as Endangered under the ESA. While direct bycatch is very low and has not been observed in recent years, public concern about this stock is very high. The Northern fur seal is declining rapidly and is listed as depleted under the MMPA. One marine mammal, Dall's porpoise (Alaskan stock), was identified as a key stock through the quantitative process but removed from the final list of key stocks. Although po-

tential biological removal (PBR) and therefore the ZMRG are technically undetermined for Dall's porpoise, this is because the last abundance survey is more than eight years old. The last survey indicated a minimum abundance of more than 70,000. Given the estimated annual fishery take of less than 30 animals, the stock is not a conservation concern at this time.

Lastly, three seabird populations were included in the Alaska Region's list of key stocks. The short-tailed albatross is ESA-listed, although it was also identified through the quantitative process as a species of concern. Additional key seabird stocks for the region include the black-footed albatross, identified as a key stock through the quantitative process, and the red-legged kittiwake, identified as a key stock through the qualitative process due to observed bycatch. Both of these species also occur on the 2002 US-FWS list of Birds of Conservation Concern.

4.3.7 Alaska Region Bycatch Estimates

Bycatch estimates by fishery are provided in Appendix 4.3, Tables 4.3.A–D. Data are from the year 2005. For marine mammals and other rare-event stocks/populations, multiple years of data were used to calculate bycatch estimates; the years are noted in the tables.

Estimates of fish discards were provided for 27 groundfish fisheries (Table 4.3.A), for a total of 91 stocks or stock groups (Table 4.3.B). For some bycatch estimates, data were available only at broad taxonomic levels (e.g., bycatch estimates were provided for benthic Urochordata, but not for individual tunicate species), or for a generalized group (e.g., miscellaneous deep fish) where individual species could not be identified due to sampling procedures. Major members of each species group are listed in Appendix I.

Marine mammal bycatch estimates were provided for 13 fisheries (Table 4.3.C), for a total of 17 stocks. Seabird bycatch estimates were provided for 19 Federal fisheries (Table 4.3.D) for 12 different population groups. In some cases, estimates were provided only for a generalized group (e.g., gull or Alcid) or were for an unidentified bird (e.g., "unidentified seabird").

4.3.8 Alaska Region Fishery Bycatch Estimate Improvement Plans

Two "umbrella" bycatch data-collection and estimation improvement plans were developed for Alaska Regional fisheries, one for Federal groundfish fisheries and one for state-managed Alaskan salmon fisheries. Fisheries included in both plans were identified through the quantitative process as having high levels of overall bycatch and/or bycatch of key stocks. Nineteen fisheries were included under the improvement plan for Alaskan groundfish fisheries, and 14 fisheries under the generic improvement plan for Alaskan State salmon fisheries (all Category II salmon fisheries listed under the 2008 MMPA list of fisheries).

A total of four fisheries were removed from the list of fisheries needing improvement plans: Gulf of Alaska crab pot; Southeast Alaska crab pot; Alaska salmon purse seine

(except for the Southeast portion of the fishery, which is a Category II fishery under the MMPA and was therefore included under the salmon fishery improvement plan); and the BSAI pollock trawl. The Gulf of Alaska crab pot, Southeast Alaska crab pot, and Alaska salmon purse seine fisheries were taken off the list because they are state fisheries without Federal data-collection programs. The BSAI pollock trawl was removed because the observer program currently in place provides high levels of coverage and an accurate accounting of catch and discards; the fishery was classified in the highest tier (4) of bycatch data quality and estimation methods for both fish and marine mammals.

4.3.8.1 Improvement Plan for Alaskan Groundfish Fisheries

A generic bycatch data improvement plan was developed for the Federal groundfish fisheries of the BSAI and GOA. The approach was selected because these fisheries are managed under two FMPs and are subject to general (not fishery-specific) observer requirements and catch/bycatch accounting methods. Observer coverage is defined by vessel size rather than gear type or target fishery, and many individual target fisheries have 100% observer coverage for some participants, 30% coverage for others, and, in some cases, zero coverage. In addition to the recommendations outlined in the generic improvement plan, the NPGOP recommends maintaining current coverage levels for those components of Alaska groundfish fisheries with adequate coverage levels. The generic improvement plan applies to the following fisheries (although several fisheries have had changes to observer coverage requirements since 2005, which is the base year for this report):

- Bering Sea Aleutian Islands Rock Sole Trawl
- Bering Sea Aleutian Islands Flatfish Group (Arrowtooth Flounder, Flathead Sole, Other Flatfish) Trawl
- Gulf of Alaska Flatfish (Shallow Water Flatfish) Trawl
- Bering Sea/Aleutian Islands Pacific Cod Longline
- Bering Sea/Aleutian Islands Pacific Cod Jig
- Bering Sea/Aleutian Islands Pacific Cod Pot
- Bering Sea/Aleutian Islands Sablefish Longline
- Bering Sea/Aleutian Islands Sablefish Pot
- Aleutian Islands, Eastern Bering Sea Atka Mackerel Trawl
- Bering Sea Aleutian Islands Pacific Cod Trawl
- Bering Sea Aleutian Islands Yellowfin Sole Trawl
- Bering Sea Aleutian Islands Sablefish Trawl
- Gulf of Alaska Arrowtooth Flounder Trawl
- Gulf of Alaska Flatfish (Deepwater Flatfish) Trawl
- Gulf of Alaska Flathead Sole Trawl
- Gulf of Alaska Rex Sole Trawl
- Gulf of Alaska Sablefish Trawl
- Bering Sea/Aleutian Islands Flatfish Trawl Fisheries.

Tier Classes: vary; see Table 4.3.4.

Bycatch and data-collection concerns:

- The overall design of the observer program is deficient in a number of ways. Coverage levels are determined by vessel size class. Larger vessels may have one (or sometimes two) observers onboard during all fishing operations, allowing most or all fishing operations to be observed. Intermediate-size vessels are required to carry observers during 30% of their fishing days per calendar quarter, and smaller vessels are not required to carry observers. Under the current observer program design, the agency does not have the authority to determine when and where observers are deployed in the less-than-100% observed sectors. Thus, random or systematic (or even directed) sampling assumptions cannot be substantiated. In some fisheries, most (or all) observer monitoring is at the 100% level, so these limitations are not of concern, but the overall problem can be solved only by a comprehensive redesign of the observer program. However, changes in the program design would require FMP and regulatory amendments, and program needs could increase substantially (see recommendations).
- The CAS has been developed by the AKR to provide fishery-specific catch and bycatch estimates on a nearly real-time basis. This system integrates data provided by observers and the fishing industry to provide managers with current information on the status of each fishery and supports fishery-closure decision-making. Fishing mortality estimates derived from this system are also used during the stock assessment process. As currently designed, this system uses an approach that does not provide measures of uncertainty for catch estimates.
- Analytical methods for estimating marine mammal and seabird bycatch have been developed and are employed for this purpose. These methods use generally accepted techniques. However, ratio estimators are used in some instances, and these may employ CAS-derived estimates of overall observed and unobserved fish catch. For the reasons outlined above, measures of uncertainty for these quantities are not currently calculated. Seabird monitoring on trawl fisheries is also deficient. Seabird mortalities occur due to gear interactions that are not currently monitored and are therefore not accounted for in current estimates.

Recommendations:

- Fundamental redesign of the data-collection system (observer program) is recommended to address the problems described above. Coverage increases would be required in the <60-foot vessel sector (currently unobserved) and, potentially, in the sector that is currently observed at 30%, to address temporal and spatial coverage

deficiencies. Furthermore, the directed Pacific halibut fishery is currently unobserved. Under a new service delivery model incorporating industry cost recovery, some of these coverage cost increases would be borne by the industry, but it is recommended that appropriated funds would be required to meet coverage needs in some sectors. Overall annual coverage costs could increase by \$5 million or more over current costs. At present, the overall annual cost for the NPGOP groundfish observer program exceeds \$20 million; the agency share of this cost is 25%, and the remainder of the cost is borne by industry.

- Improvements to the CAS system are recommended; these would implement enhanced, statistically based estimation algorithms and the ability to provide uncertainty estimates. Some of these can be developed and implemented without change in the observer program, but some limitations (e.g., random sampling assumptions in the <100% observed sectors) must await changes in the observer program service delivery model. Improvements to the CAS will likely require additional resources and take two to three years to develop and implement.
- In addition, new resources are required to improve estimates of seabird bycatch resulting from interactions with fishing vessels other than being caught in the gear.
- Agency staffing resources and funding for observer DAS are also required for administering the observer program to accommodate proposed design changes and increased coverage

4.3.8.2 Improvement Plan for Category II State of Alaska Salmon Fisheries

Data collection for bycatch of marine mammals in State-managed Alaskan fisheries is implemented through the AMMOP. A general bycatch data-collection improvement plan was developed for monitoring these state fisheries. Management of these fisheries is the responsibility of the State of Alaska, and any marine mammal bycatch reduction requirements would be developed through a Take Reduction Plan as outlined by the MMPA Section 118. The following fisheries are included under the State of Alaska Salmon Fisheries generic improvement plan:

- AK Bristol Bay salmon drift gillnet
- AK Bristol Bay salmon set gillnet
- AK Cook Inlet salmon set gillnet
- AK Cook Inlet salmon drift gillnet
- AK Kodiak salmon set gillnet
- AK Peninsula/Aleutian Islands salmon drift gillnet
- AK Peninsula/Aleutian Islands salmon set gillnet
- AK Prince William Sound salmon drift gillnet
- AK Yakutat salmon set gillnet
- AK Southeast salmon purse seine

- AK Cook Inlet salmon purse seine
- AK Kodiak salmon purse seine

Tier Classes: Vary: see Table 4.3.4.

Bycatch and data-collection concerns:

The AMMOP data collection for bycatch of marine mammals in Alaska State-managed salmon fisheries is deficient in its ability to collect data in a timely and comprehensive manner due to the cost of the program and current resources allocated to the program.

- The number of state fisheries that require monitoring for marine mammal bycatch varies from year to year, since the list is made up of Category I and II fisheries as classified by the annual MMPA-mandated List of Fisheries. Since 1994, the number of state fisheries in Alaska that are Category I or II has varied between 11 and 14, with the majority of those fisheries remaining on the list year after year. Since 1990, seven of these fisheries have been monitored with one- or two-year observer programs resulting in bycatch estimates (including only serious injury and mortalities) that provide a snapshot for the time period in which the study was conducted. None of those fisheries monitored have been monitored more than once. Consequently, data for some fisheries is now 17 years old with no realistic anticipation of being updated, while approximately seven fisheries are still in need of observer coverage for even baseline bycatch estimation.

Recommendations:

- Approximately 9,000 DAS per year and three to five additional full-time equivalent (FTE) staff members are needed to improve coverage and update estimates for fisheries that have been observed, and to develop baseline estimates for fisheries that have not yet been observed. At present, the overall annual cost for the observer program is approximately \$1.6 million to \$2.7 million per year to monitor one fishery, depending on the fishery being ob-

served. The agency provides 100% of this cost through several funding sources, and funding available to the program has varied from zero to approximately \$800,000 per year. Because there is never a guarantee that enough funds will be available to complete an individual fishery monitoring study, it is extremely difficult to plan and commit to observe any given fishery.

- Further, monitoring one or two fisheries at a time, each for a 2-year study, results in a rotational cycle in which each fishery will only be observed once every 14 years. With the past and current uncertainty in funding, this rotation has actually been much longer, and a single rotation through all the fisheries that require monitoring has not yet been completed. A more acceptable timeframe for monitoring would be to monitor each fishery for two years with a maximum of five-year intervals between monitoring periods for each fishery. To meet this timetable, it is recommended that 3 to 5 fisheries are monitored each year, assuming the number of fisheries that require monitoring remains at 14.

4.3.8.3 Summary of Alaska Region Recommendations

Table 4.3.6 outlines bycatch data-collection/estimation improvements recommended by the Alaska Region. These improvements will result in better bycatch estimates for all Alaska fisheries. The feasibility of recommendations was evaluated by the Alaska Regional team based on overall cost, available resources, and external factors. A total of 7 recommendations are made, requiring 13 full-time staff and over 29,160 observer DAS split between the NPGOP and AMMOP program. Observer program costs for the Alaska Region were \$18.589M for NPGOP (with \$13M provided by the industry) and \$0.183M for AMMOP in FY 2007. Resources for enhancing existing programs and implementing new observer programs are recommended in addition to current program operating costs.

ALASKA REGION

Table 4.3.6

Summary of Alaska Region recommendations and estimated requirements for implementation in terms of full-time staff and observer DAS. All requirements are annual unless otherwise indicated; ** denotes no additional resource requirements. For further discussion of recommendations, see Section 5.8.

Recommendation ^a	Additional DAS ^b	Feasibility
Maintain observer coverage levels on all currently observed fisheries. ^c	**	High
Catch Accounting System (CAS) improvements and maintenance.	NA	High
Improve seabird monitoring and bycatch estimation.	NA	High
Observer program operations and administration adjustment.	NA	High
Increase coverage for sector observed at 30% and implement coverage for unobserved sectors (<60-foot vessels in Pacific halibut fishery).	20,000	High
Improve length of AMMOP observation cycle from 14 years to 5 years.	9,160	High
Hire staff to support AMMOP.	NA	High
Number of new full-time staff needed to implement all data quality and estimation method improvements recommended by the Alaska Region:	13	
Total DAS requirement for all recommendations:*	29,160	

* This amount is in addition to the annual requirements of Alaska Regional observer programs.

^a Some recommendations may require additional resource expenditures, such as equipment, which are not itemized.

^b One observer DAS includes the cost for the observer deployment as well as costs for associated equipment and program administrative functions (staffing).

^c Cost shared between NMFS and industry.

U.S. NATIONAL BYCATCH REPORT

Appendix 4.3 Alaska Regional Bycatch Estimates

Table 4.3.A

Subtables showing annual fish bycatch estimates for Alaska Region fisheries. Bycatch estimates are in live pounds or number of individuals, except where indicated. Estimates reflect the average from the years identified. Key stocks are shaded; * following the names of stock groups indicates fisheries for which bycatch estimates were available only for the generalized stock group Salmon and king crab estimates were converted from number of individuals to total weight, by multiplying the average weight of crab or salmon collected by observers by total estimated numbers.

Subtable 4.3.A.1		ALEUTIAN ISLANDS/EASTERN BERING SEA ATKA MACKEREL TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	17,881.67	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	441,713.25	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	5,770,348.14	Pounds	
Benthic Urochordata*	<i>Urochordata</i>	2003–05	683.62	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	131.33	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	44.88	Pounds	
Bryozoans/hydroids*	Bryozoa	2003–05	26,920.08	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	1,393.66	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	497.83	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	17,731.76	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	35,895.62	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	375.50	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	80,651.61	Pounds	
Greenlings*	Hexagrammidae	2003–05	3,395.06	Pounds	
Grenadier*	Macrouridae	2005	398.86	Pounds	
Gunnels*	Pholidae	2003–05	2.65	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	14.40	Pounds	
Herring	<i>Clupea pallasii</i>	2005	24.03	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	5,602.58	Pounds	
Lanternfishes*	Myctophidae	2003–05	5.39	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of subtable 4.3.A.1)		ALEUTIAN ISLANDS/EASTERN BERING SEA ATKA MACKEREL TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Large sculpins*	Cottidae	2003–05	670,164.77	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	268.76	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	70.77	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	235,297.59	Pounds	
Non-Chinook salmon*	Salmonidae	2005	16,187.76	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	6,038,370.40	Pounds	
Octopus*	Octopoda	2003–05	3,978.60	Pounds	
Other osmerids*	Osmeridae	2003–05	6.84	Pounds	
Other sculpins*	Cottidae	2003–05	222,730.72	Pounds	
Other species*		2005	1,168,578.67	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	302,974.31	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	188,208.51	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	2,501,681.52	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	837.37	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	2.61	Pounds	
Pricklebacks*	Stichaeidae	2003–05	21.64	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	332.5	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	160,864.51	Pounds	
Rockfish, unspecified*	Sebastidae	2005	120,239.97	Pounds	
Rougeye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	4,129.25	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	3,022.53	Pounds	
Scypho jellies*	Scyphozoa	2003–05	752.3	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	286.84	Pounds	
Sea pens and whips*	Octocorallia	2003–05	45.00	Pounds	
Sea star*	Asteroidea	2003–05	7,853.58	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	13,881.02	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of subtable 4.3.A.1)		ALEUTIAN ISLANDS/EASTERN BERING SEA ATKA MACKEREL TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	752.98	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	8.17	Pounds	
Sponge, unidentified*	Porifera	2003–05	112,339.23	Pounds	
Squid*	Decapoda	2005	18,196.93	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, Eastern Bering Sea	<i>Chionoecetes bairdi</i>	2005	1,158.19	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	3,092.49	Pounds	
Walleye pollock, Eastern Bering Sea	<i>Theragra chalcogramma</i>	2005	384,309.36	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	9,429.16	Pounds	
TOTAL FISHERY BYCATCH			18,593,786.77	Pounds	
TOTAL FISHERY LANDINGS			117,110,010.38	Pounds	
TOTAL CATCH (Bycatch + Landings)			135,703,797.15	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.14		

Subtable 4.3.A.2		BERING SEA/ALEUTIAN ISLANDS FLATFISH* GROUP (ARROWTOOTH FLOUNDER, FLATHEAD SOLE, OTHER FLATFISH) TRAWL*			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	1,426,885.18	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	4,355,114.37	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	563,033.49	Pounds	
Benthic Urochordata*	Urochordata	2003–05	65,233.26	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	1,537.96	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	70.78	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	15,510.85	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	773.61	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	60.92	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	12,635.84	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	146,369.01	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of **Subtable 4.3.A.2**)

		BERING SEA/ALEUTIAN ISLANDS FLATFISH* GROUP (ARROWTOOTH FLOUNDER, FLATHEAD SOLE, OTHER FLATFISH) TRAWL*			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	504.45	Pounds	
Flatfish*	Pleuronectiformes	2005	67,437.12	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	2,277,584.10	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	11,373.36	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	704.04	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	58,153.47	Pounds	
Greenlings*	Hexagrammidae	2003–05	502.9	Pounds	
Grenadier*	Macrouridae	2005	11,231.99	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	16,013.26	Pounds	
Herring	<i>Clupea pallasii</i>	2005	2,485.11	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	44,654.71	Pounds	
Lanternfishes*	Myctophidae	2003–05	0.67	Pounds	
Large sculpins*	Cottidae	2003–05	913,238.89	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	10,847.47	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	406.7	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	83,865.51	Pounds	
Non-Chinook salmon*	Salmonidae	2005	2,922.44	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	8,811.87	Pounds	
Octopus*	Octopoda	2003–05	23,299.16	Pounds	
Other osmerids*	Osmeridae	2003–05	682.13	Pounds	
Other sculpins*	Cottidae	2003–05	446,162.66	Pounds	
Other species*		2005	2,959,984.54	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	157,191.61	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,115,761.02	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	77,241.07	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	4.44	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	880.48	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	42.83	Pounds	
Pricklebacks*	Stichaeidae	2003–05	24.18	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.2)		BERING SEA/ALEUTIAN ISLANDS FLATFISH* GROUP (ARROWTOOTH FLOUNDER, FLATHEAD SOLE, OTHER FLATFISH) TRAWL*			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Red king crab	<i>Paralithodes camtschaticus</i>	2005	3,146.93	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	1,418,844.93	Pounds	
Rockfish, unspecified*	Sebastidae	2005	9,021.31	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	6,657.95	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	49,778.11	Pounds	
Scypho jellies*	Scyphozoa	2003–05	39,614.05	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	55,930.30	Pounds	
Sea pens and whips*	Octocorallia	2003–05	639.56	Pounds	
Sea star*	Astroidea	2003–05	467,854.14	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	72,972.92	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	12,001.95	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	66,391.20	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	90,865.93	Pounds	
Sponge, unidentified*	Porifera	2003–05	3,223.19	Pounds	
Squid*	Decapoda	2005	34,766.86	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	249,807.13	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	3,346.57	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	6,716,390.26	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	1,071,385.80	Pounds	
TOTAL FISHERY BYCATCH			25,251,876.54	Pounds	
TOTAL FISHERY LANDINGS			44,069,597.62	Pounds	
TOTAL CATCH (Bycatch + Landings)			693,21,474.16	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.36		

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.3		BERING SEA/ALEUTIAN ISLANDS GREENLAND TURBOT LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	6,713.07	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	24.07	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	1.29	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	14.84	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	9.97	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	81.93	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	44.19	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	6,963.94	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	<i>Pleuronectiformes</i>	2005	1,591.74	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	10,117.00	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	949,470.86	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	54.14	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	45,743.66	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	872,555.95	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0.35	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	566.76	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	13.43	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	4,077.31	Pounds	
Non-Chinook salmon*	Salmonidae	2005	180.45	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.3)		BERING SEA/ALEUTIAN ISLANDS GREENLAND TURBOT LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	433.58	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	1,427.71	Pounds	
Other species*		2005	325,053.58	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	498.24	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	26,575.04	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	33.58	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	5,502.73	Pounds	
Rougeye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	3,899.97	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	23,534.32	Pounds	
Scypho jellies*	Scyphozoa	2003–05	21.80	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	267.11	Pounds	
Sea pens and whips*	Octocorallia	2003–05	2.96	Pounds	
Sea star*	Asteroidea	2003–05	1,090.65	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	11,382.45	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	2,028.25	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	135.60	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	2.87	Pounds	
Sponge, unidentified*	Porifera	2003–05	79.04	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.3)		BERING SEA/ALEUTIAN ISLANDS GREENLAND TURBOT LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Urchins/dollars/cucumbers*	Echinodermata	2003–05	804.14	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	758.39	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			2,301,756.96	Pounds	
TOTAL FISHERY LANDINGS			3,755,257.11	Pounds	
TOTAL CATCH (Bycatch + Landings)			6,057,014.07	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Landings)			0.38		

Subtable 4.3.A.4		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	0	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	0	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	0	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.4)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003-05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003-05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003-05	0	Pounds	
Lanternfishes*	Myctophidae	2003-05	0	Pounds	
Large sculpins*	Cottidae	2003-05	0	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003-05	0	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003-05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003-05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003-05	0	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003-05	409.32	Pounds	
Other osmerids*	Osmeridae	2003-05	0	Pounds	
Other sculpins*	Cottidae	2003-05	0	Pounds	
Other species*		2005	182.98	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	1,199.31	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	0	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003-05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003-05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003-05	0	Pounds	
Pricklebacks*	Stichaeidae	2003-05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003-05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003-05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.4)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Sea pens and whips*	<i>Octocorallia</i>	2003–05	0	Pounds	
Sea star*	<i>Asteroidea</i>	2003–05	0	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	<i>Elasmobranchii</i>	2003–05	0	Pounds	
Shorthead rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	<i>Rajidae</i>	2005	0	Pounds	
Snails*	<i>Gastropoda</i>	2003–05	0	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	<i>Porifera</i>	2003–05	0	Pounds	
Squid*	<i>Decapoda</i>	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	<i>Echinodermata</i>	2003–05	0	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	0	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			1,791.61	Pounds	
TOTAL FISHERY LANDINGS			375,091.84	Pounds	
TOTAL CATCH (Bycatch + Landings)			376,883.45	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			>0.0		

Subtable 4.3.A.5		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	868.62	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	2,177,699.39	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	51,713.77	Pounds	
Benthic Urochordata*	<i>Urochordata</i>	2003–05	655.24	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	<i>Bivalvia</i>	2003–05	11,090.09	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	3,233.10	Pounds	
Brittle star, unidentified*	<i>Ophiuroidea</i>	2003–05	419.66	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.5)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Byozoans/hydroids*	Bryozoa	2003–05	3,870.23	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	325.38	Pounds	
Deep-sea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	20,663.72	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	542,334.32	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	1,209,068.72	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	312,155.03	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	1,195.10	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	134,545.75	Pounds	
Greenlings*	Hexagrammidae	2003–05	3,355.09	Pounds	
Grenadier*	Macrouridae	2005	478,908.32	Pounds	
Gunnels*	Pholidae	2003–05	139.82	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	869.81	Pounds	
Herring	<i>Clupea pallasii</i>	2005	8.18	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	14,844.26	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	1,769,278.52	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	7,254.14	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	300.65	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	148,246.24	Pounds	
Non-Chinook salmon*	Salmonidae	2005	257.00	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	53,091.66	Pounds	
Octopus*	Octopoda	2003–05	87,490.34	Pounds	
Other osmerids*	Osmeridae	2003–05	1.16	Pounds	
Other sculpins*	Cottidae	2003–05	1,095,304.53	Pounds	
Other species*		2005	31,254,809.56	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	6,210,072.82	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,206,379.38	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.5)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	4,779.62	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	89.23	Pounds	
Pricklebacks*	Stichaeidae	2003–05	9.33	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	75,224.136	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	115,502.25	Pounds	
Rockfish, unspecified*	Sebastidae	2005	61,771.25	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	14,034.61	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	29,259.72	Pounds	
Scypho jellies*	Scyphozoa	2003–05	15,158.78	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	178,326.63	Pounds	
Sea pens and whips*	Octocorallia	2003–05	25,232.04	Pounds	
Sea star*	Asteroidea	2003–05	581,255.29	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	307,870.77	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	35,714.84	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	12,836.39	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	34,833.84	Pounds	
Sponge, unidentified*	Porifera	2003–05	11,369.86	Pounds	
Squid*	Decapoda	2005	22.05	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	11,332.00	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	467.14	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	1,270,551.17	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	1,320,036.07	Pounds	
TOTAL FISHERY BYCATCH			50,906,126.61	Pounds	
TOTAL FISHERY LANDINGS			269,207,774.47	Pounds	
TOTAL CATCH (Bycatch + Landings)			320,113,901.08	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.16		

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

Subtable 4.3.A.6		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	105.82	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	10,394.78	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	535,208.98	Pounds	
Benthic Urochordata*	Urochordata	2003–05	41.48	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	392.37	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	1,906.50	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	8.11	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	54.41	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deep-sea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	109.90	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	1,446.23	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	1,516.78	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	22.05	Pounds	
Greenlings*	Hexagrammidae	2003–05	909.49	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	424.61	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	31.56	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	310,676.07	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	1,857.05	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	4.24	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	42,148.39	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.6)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	2,563.97	Pounds	
Octopus*	Octopoda	2003–05	363,910.01	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	109,144.01	Pounds	
Other species*		2005	362,122.06	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	139,539.22	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	6,409.98	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	449.74	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	16,717.99	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	3,042.38	Pounds	
Rockfish, unspecified*	Sebastidae	2005	7,325.95	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	101.41	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	275.58	Pounds	
Scypho jellies	Scyphozoa	2003–05	4,458.94	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	71.64	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0.71	Pounds	
Sea star*	Asteroidea	2003–05	71,974.88	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	0	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	7,281.32	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	50,111.31	Pounds	
Sponge, unidentified*	Porifera	2003–05	1,354.93	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.6)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	96,525.35	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	2195.15	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	4,530.49	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	165,699.24	Pounds	
TOTAL FISHERY BYCATCH			2,323,065.08	Pounds	
TOTAL FISHERY LANDINGS			41,563,290.80	Pounds	
TOTAL CATCH (Bycatch + Landings)			43,886,355.88	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.05		

Subtable 4.3.A.7		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	853,227.62	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	6,181,622.20	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	1,500,625.31	Pounds	
Benthic Urochordata*	Urochordata	2003–05	20,230.17	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	19,576.12	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	1,350.34	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	36,118.44	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	80.98	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	26,833.64	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	67,022.48	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	89.41	Pounds	
Flatfish*	Pleuronectiformes	2005	2,121,860.77	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	1,992,912.55	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	98.32	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.7)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	26,164.43	Pounds	
Greenlings*	Hexagrammidae	2003–05	5,407.91	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	6,706.95	Pounds	
Herring	<i>Clupea pallasii</i>	2005	31,283.25	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	6,954.98	Pounds	
Lanternfishes*	Myctophidae	2003–05	3.55	Pounds	
Large sculpins*	Cottidae	2003–05	2,345,250.47	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	10,574.31	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	642.07	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	394,439.33	Pounds	
Non-Chinook salmon*	Salmonidae	2005	3,440.93	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	426,741.68	Pounds	
Octopus*	Octopoda	2003–05	61,336.94	Pounds	
Other osmerids*	Osmeridae	2003–05	447.27	Pounds	
Other sculpins*	Cottidae	2003–05	833,488.29	Pounds	
Other species*		2005	3,583,682.56	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	411,199.11	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	2,997,566.15	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	347,313.63	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	213.66	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	322.29	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	11.66	Pounds	
Pricklebacks*	Stichaeidae	2003–05	34.40	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	23,282.29	Pounds	
Rex sole – non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	10,977,404.84	Pounds	
Rockfish, unspecified*	Sebastidae	2005	40,487.85	Pounds	
Rougeye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	2,301.62	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	11,184.04	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.7)		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Scypho jellies*	Scyphozoa	2003–05	1,336,611.13	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	31,115.78	Pounds	
Sea pens and whips*	Octocorallia	2003–05	703.88	Pounds	
Sea star*	Asteroidea	2003–05	220,890.48	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	39,287.80	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	22,747.57	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	32,797.10	Pounds	
Sponge, unidentified*	Porifera	2003–05	55,866.08	Pounds	
Squid*	Decapoda	2005	4,316.65	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	127,240.61	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	25,880.36	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	14,537,833.07	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	2,230,601.45	Pounds	
TOTAL FISHERY BYCATCH			54,035,426.77	Pounds	
TOTAL FISHERY LANDINGS			149,085,225.08	Pounds	
TOTAL CATCH (Bycatch + Landings)			203,120,651.85	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.27		

Subtable 4.3.A.8		BERING SEA/ALEUTIAN ISLANDS PACIFIC OCEAN PERCH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	308,064.78	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	118,831.22	Pounds	
Benthic Urochordata*	Urochordata	2003–05	108.43	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	28.4	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	156.26	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.8)		BERING SEA/ALEUTIAN ISLANDS PACIFIC OCEAN PERCH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Byozoans/hydroids*	Bryozoa	2003–05	41,388.77	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	4,743.63	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	1,902.59	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	5,773.90	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	6,766.51	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	10,480.27	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	10,740.91	Pounds	
Greenlings*	Hexagrammidae	2003–05	10.51	Pounds	
Grenadier*	Macrouridae	2005	5,228.98	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	38.17	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	4,303.65	Pounds	
Lanternfishes*	Myctophidae	2003–05	1.4	Pounds	
Large sculpins*	Cottidae	2003–05	9,155.67	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	248.42	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	59.55	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	38,896.73	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	67,571.60	Pounds	
Octopus*	Octopoda	2003–05	1,177.27	Pounds	
Other osmerids*	Osmeridae	2003–05	0.43	Pounds	
Other sculpins*	Cottidae	2003–05	86,324.48	Pounds	
Other species*		2005	132,453.57	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	0	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	38,043.67	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	273,394.93	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.8)		BERING SEA/ALEUTIAN ISLANDS PACIFIC OCEAN PERCH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	46.55	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	6.96	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	2,804.19	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	4,612.07	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>				
Rockfish, unspecified*	Sebastidae	2005	28,139.77	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	126.6	Pounds	
Sea pens amd whips*	Octocorallia	2003–05	0.72	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	149.27	Pounds	
Sea star*	Asteroidea	2003–05	3,423.68	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	1,017.80	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	22,438.62	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	322.98	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	47,684.37	Pounds	
Squid*	Decapoda	2005	15,716.74	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	74.51	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	13,267.40	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			1,305,726.93	Pounds	
TOTAL FISHERY LANDINGS			21,808,952.76	Pounds	
TOTAL CATCH (Bycatch + Landings)			23,114,679.69	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.06		

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.9		BERING SEA/ALEUTIAN ISLANDS POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	93,248.81	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	481,356.73	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	265,213.58	Pounds	
Benthic Urochordata*	Urochordata	2003–05	369.73	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	23.97	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	218.51	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	296.30	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	498.21	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	463,579.01	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0.30	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	6,590.87	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	22,264.33	Pounds	
Flatfish*	Pleuronectiformes	2005	180,185.80	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	1,997,793.57	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	6,484.76	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	2.15	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	26,907.39	Pounds	
Greenlings*	Hexagrammidae	2003–05	20.39	Pounds	
Grenadier*	Macrouridae	2005	5,526.37	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	27.03	Pounds	
Herring	<i>Clupea pallasii</i>	2005	1,358,963.62	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	180.15	Pounds	
Lanternfishes*	Myctophidae	2003–05	727.14	Pounds	
Large sculpins*	Cottidae	2003–05	217,592.96	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	759.73	Pounds	
Miscellaneous crustaceans*	Crustaceamorphia	2003–05	64.72	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	55.86	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	244,348.40	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.9)		BERING SEA/ALEUTIAN ISLANDS POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Non-Chinook salmon	Salmonidae	2005	3,293,666.98	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	23,183.78	Pounds	
Octopus*	Octopoda	2003–05	3,551.64	Pounds	
Other osmerids*	Osmeridae	2003–05	9,445.30	Pounds	
Other sculpins*	Cottidae	2003–05	62,836.76	Pounds	
Other species*		2005	1,323,223.95	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	67,024.86	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	46.50	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	224,214.43	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	539,263.28	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0.79	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	334.60	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	6.77	Pounds	
Pricklebacks	Stichaeidae	2003–05	143.85	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	1,221,258.07	Pounds	
Rockfish, unspecified*	Sebastidae	2005	8,578.18	Pounds	
Roughey rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	72.75	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	5,628.39	Pounds	
Scypho jellies*	Scyphozoa	2003–05	12,396,189.14	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	804.44	Pounds	
Sea pens and whips*	Octocorallia	2003–05	2,338.75	Pounds	
Sea star*	Asteroidea	2003–05	77,428.96	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	200,275.76	Pounds	
Shorthead rockfish	<i>Sebastes borealis</i>	2005	7,228.95	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	6,688.52	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	1,573.43	Pounds	
Sponge, unidentified*	Porifera	2003–05	128.13	Pounds	
Squid*	Decapoda	2005	680,877.05	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.9)		BERING SEA/ALEUTIAN ISLANDS POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	575.15	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	47.38	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	1,385,438.32	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	116,642.03	Pounds	
TOTAL FISHERY BYCATCH			27,032,017.28	Pounds	
TOTAL FISHERY LANDINGS			3,211,477,747.33	Pounds	
TOTAL CATCH (Bycatch + Landings)			3,238,509,764.61	Pounds	
FISHERY BYCATCH RATIO			0.01		

Subtable 4.3.A.10		BERING SEA/ALEUTIAN ISLANDS ROCK SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	2,974,074.27	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	690,207.00	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	15,701.30	Pounds	
Benthic Urochordata*	Urochordata	2003–05	479,267.13	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	3,831.60	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	1,956.20	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	998.4	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	304.41	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	2,214.29	Pounds	
Deepsea smelts	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	5,481.08	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	10.48	Pounds	
Flatfish*	Pleuronectiformes	2005	1,894,635.00	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	401,924.27	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.10)		BERING SEA/ALEUTIAN ISLANDS ROCK SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	2,680.82	Pounds	
Greenlings*	Hexagrammidae	2003–05	1,380.73	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	24,751.09	Pounds	
Herring	<i>Clupea pallasii</i>	2005	34,453.47	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	142,375.88	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	648,019.48	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	25,323.08	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	421.83	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	38,255.24	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	736.34	Pounds	
Octopus*	Octopoda	2003–05	39,887.45	Pounds	
Other osmerids*	Osmeridae	2003–05	3,263.14	Pounds	
Other sculpins*	Cottidae	2003–05	225,165.06	Pounds	
Other species*		2005	1,742,134.82	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	214,540.39	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,687,083.75	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	886.26	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	46.51	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	231.49	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	4.69	Pounds	
Pricklebacks*	Stichaeidae	2003–05	32.83	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	224,745.99	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	5,928,655.29	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	791.46	Pounds	

ALASKA REGION

Table 4.3.A (continued)

continuation of Subtable 4.3.A.10)		BERING SEA/ALEUTIAN ISLANDS ROCK SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Scypho jellies*	Scyphozoa	2003–05	725,589.44	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	27,997.45	Pounds	
Sea pens and whips*	Octocorallia	2003–05	40.80	Pounds	
Sea star*	Asteroidea	2003–05	1,509,412.06	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	1,498.41	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	44,502.34	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	405,378.77	Pounds	
Sponge, unidentified*	Porifera	2003–05	259,371.07	Pounds	
Squid*	Decapoda	2005	70.55	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	346,076.62	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	23,201.27	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	7,567,827.73	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	2,866,394.01	Pounds	
TOTAL FISHERY BYCATCH			31,233,833.04	Pounds	
TOTAL FISHERY LANDINGS			61,301,368.30	Pounds	
TOTAL CATCH (Bycatch + Landings)			9,253,521.34	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Landings)			0.34		

Subtable 4.3.A.11		BERING SEA/ALEUTIAN ISLANDS SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	36,640.78	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	51.25	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.11)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Brittle star, unidentified*	Ophiuroidea	2003–05	1.68	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	567.30	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	1,517.10	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	749.57	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	72.75	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	518,891.38	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	341.46	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	22,670.11	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	608,455.41	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	4.28	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	50.12	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	56.17	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	1,673.23	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	41.15	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	46.79	Pounds	
Other species*		2005	72,373.27	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	2,420.67	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.11)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	20,223.28	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	68.34	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	151.07	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	4.41	Pounds	
Rockfish, unspecified*	Sebastidae	2005	11,450.80	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	1,073.65	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	8,829.50	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	12.21	Pounds	
Sea pens and whips*	Octocorallia	2003–05	3.00	Pounds	
Sea star*	Asteroidea	2003–05	108.41	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	15,890.17	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	6,274.35	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	12.68	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	133.11	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	134.11	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	105.82	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			1,331,099.38	Pounds	
TOTAL FISHERY LANDINGS			1,851,866.84	Pounds	
TOTAL CATCH (Bycatch + Landings)			3,182,966.22	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Landings)			0.42		

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

Subtable 4.3.A.12		BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	71,087.97	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	46.30	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0.38	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0.47	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	206.51	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	101.21	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	985.40	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	654.77	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	1,446.23	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	9,768.50	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	3,360.18	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	20,827.05	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	6,377.24	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	38.76	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0.41	Pounds	
Lanternfishes*	Myctophidae	2003–05	0.65	Pounds	
Large sculpins*	Cottidae	2003–05	46.39	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	1,498.99	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	0.18	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0.27	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	627.41	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.12)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	11.02	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	724.29	Pounds	
Other species*		2005	4,404.83	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	3,357.64	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,466.22	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	13.23	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0.13	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	771.62	Pounds	
Rockfish, unspecified*	Sebastidae	2005	1,827.63	Pounds	
Roughey rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	374.79	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	60,058.26	Pounds	
Scypho jellies*	Scyphozoa	2003–05	70.72	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	8.10	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0	Pounds	
Sea star*	Asteroidea	2003–05	413.53	Pounds	
Shallowwater flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	10.29	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	1,047.19	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	6,393.35	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	54.62	Pounds	
Sponge, unidentified*	Porifera	2003–05	987.98	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	218.79	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of **Subtable 4.3.A.12**)

		BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Urchins/dollars/cucumbers*	Echinodermata	2003–05	246.09	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	32,445.39	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	771.62	Pounds	
TOTAL FISHERY BYCATCH			232,752.60	Pounds	
TOTAL FISHERY LANDINGS			2,082,134.25	Pounds	
TOTAL CATCH (Bycatch + Landings)			2,314,886.85	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.1		

Subtable 4.3.A.13

		BERING SEA/ALEUTIAN ISLANDS SABLEFISH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	0	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	280.77	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	240.30	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	0	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	75.85	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.13)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	1.93	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	517.03	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	0	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	3.67	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	0	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	28.40	Pounds	
Other species*		2005	74.96	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	136.69	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	231.72	Pounds	
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	20.41	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.13)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Sea pens and whips*	Octocorallia	2003–05	0	Pounds	
Sea star*	Asteroidea	2003–05	28.88	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	0	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	6.20	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>				
Sponge, unidentified*	Porifera	2003–05	0	Pounds	
Squid*	Decapoda	2005	152.12	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	393.50	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	10,191.96	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			12,384.39	Pounds	
TOTAL FISHERY LANDINGS			73,624.75	Pounds	
TOTAL CATCH (Bycatch + Landings)			86,009.14	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.14		

Subtable 4.3.A.14		BERING SEA/ALEUTIAN ISLANDS YELLOWFIN SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, Bering Sea/Aleutian Islands	<i>Pleuronectes quadrituberculatus</i>	2005	17,561,672.23	Pounds	
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	2005	538,687.87	Pounds	
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	2005	53,867.69	Pounds	
Benthic Urochordata*	Urochordata	2003–05	2,891,413.15	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	2,626.02	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	90.39	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	62,343.49	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.14)		BERING SEA/ALEUTIAN ISLANDS YELLOWFIN SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Byzoans/hydroids*	Bryozoa	2003–05	1,109.00	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	3,348.16	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	2,611.93	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	25,027.62	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	237.17	Pounds	
Flatfish*	Pleuronectiformes	2005	1,240,186.93	Pounds	
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>	2005	632,730.35	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>	2005	240.01	Pounds	
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	2005	13,953.04	Pounds	
Greenlings*	Hexagrammidae	2003–05	991.30	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	161,133.40	Pounds	
Herring	<i>Clupea pallasii</i>	2005	106,070.07	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	1,170,870.08	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	1,516,859.55	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	34,059.45	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	306.18	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	181,951.11	Pounds	
Non-Chinook salmon*	Salmonidae	2005	2,287.97	Pounds	
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>	2005	6,825.50	Pounds	
Octopus*	Octopoda	2003–05	4,980.24	Pounds	
Other osmerids*	Osmeridae	2003–05	5,294.87	Pounds	
Other sculpins*	Cottidae	2003–05	1,021,749.49	Pounds	
Other species*		2005	3,984,220.13	Pounds	
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	2005	371,123.53	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,261,355.94	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.14)		BERING SEA/ALEUTIAN ISLANDS YELLOWFIN SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	2005	2,244.30	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	165.46	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	901.95	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	84.32	Pounds	
Pricklebacks*	Stichaeidae	2003–05	69.39	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	283,005.32	Pounds	
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	2005	8,844,900.17	Pounds	
Rockfish, unspecified*	Sebastidae	2005	132.28	Pounds	
Rougheye rockfish, Bering Sea/Aleutian Islands	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	360,442.38	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	10,592.04	Pounds	
Sea pens and whips*	Octocorallia	2003–05	143.29	Pounds	
Sea star*	Asteroidea	2003–05	3,862,318.25	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	2,582.34	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, non-FSSI stock	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	265,484.57	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>	2005	1,713,577.19	Pounds	
Sponge, unidentified*	Porifera	2003–05	22,278.82	Pounds	
Squid*	Decapoda	2005	15.43	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	657,969.24	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	3,718.58	Pounds	
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	2005	7,191,563.03	Pounds	
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	2005	12,220,841.39	Pounds	
TOTAL FISHERY BYCATCH			68,303,253.60	Pounds	
TOTAL FISHERY LANDINGS			184,682,304.16	Pounds	
TOTAL CATCH (Bycatch + Landings)			252,985,557.76	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.27		

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.15		GULF OF ALASKA ARROWTOOTH FLOUNDER TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	4,546,790.65	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	2,193.60	Pounds	
Benthic Urochordata*	Urochordata	2003–05	132.63	Pounds	
Big skate	<i>Raja binoculata</i>	2005	26,673.70	Pounds	
Bivalves*	Bivalvia	2003–05	696.70	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	72.36	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	53.53	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	65.58	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	12,489.68	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	195,847.42	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	1,207.35	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	3,721.47	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	337,040.10	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	62,518.17	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	195.07	Pounds	
Grenadier*	Macrouridae	2005	87,035.84	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	395.83	Pounds	
Herring	<i>Clupea pallasii</i>	2005	83.64	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	1,829.90	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	17,105.07	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	125,586.18	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	266.70	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	91.88	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	30,964.30	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.15)		GULF OF ALASKA ARROWTOOTH FLOUNDER TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Non-Chinook salmon*	Salmonidae	2005	1,951.06	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	56,292.77	Pounds	
Octopus*	Octopoda	2003–05	448.27	Pounds	
Other osmerids*	Osmeridae	2003–05	6,820.52	Pounds	
Other sculpins*	Cottidae	2003–05	14,319.99	Pounds	
Other species*		2005	266,534.15	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	358,305.87	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,110,440.85	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	149,960.46	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	2,343.50	Pounds	
Pelagic shelf rockfish*		2005	22,438.62	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	1.71	Pounds	
Pricklebacks*	Stichaeidae	2003–05	410.00	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	161,589.83	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	13,562.82	Pounds	
Rougeye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	579.82	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	81,308.59	Pounds	
Scypho jellies*	Scyphozoa	2003–05	6,882.69	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	1,451.32	Pounds	
Sea pens and whips*	Octocorallia	2003–05	14.87	Pounds	
Sea star*	Asteroidea	2003–05	20,923.03	Pounds	
Shallow water flatfish*		2005	23,113.24	Pounds	
Shark*	Elasmobranchii	2003–05	82,423.39	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	2,447.13	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	5,829.02	Pounds	
Skate, unidentified*	Rajidae	2005	287,621.34	Pounds	
Snails*	Gastropoda	2003–05	1,505.13	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	941.51	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.15)		GULF OF ALASKA ARROWTOOTH FLOUNDER TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	61,315.80	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	1,873.05	Pounds	
Walleye pollock, western /central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	33,386.77	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			8,230,094.47	Pounds	
TOTAL FISHERY LANDINGS			23,919,130.51	Pounds	
TOTAL CATCH (Bycatch + Landings)			32,149,224.98	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.26		

Subtable 4.3.A.16		GULF OF ALASKA FLATFISH (DEEPWATER FLATFISH) TRAWL ^a			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	3,536.21	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	<i>Urochordata</i>	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byrozoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	617.29	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	0	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	0	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	

^a The bycatch ratio for this fishery is reflective of low fishing effort, rather than an inherent low bycatch character of the fishery.

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.16)		GULF OF ALASKA FLATFISH (DEEPWATER FLATFISH) TRAWL ^a			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	2,957.35	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	0	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	0.61	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, western /central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	6.61	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	0	Pounds	
Other species*		2005	0	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	0	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	0	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.16)		GULF OF ALASKA FLATFISH (DEEPWATER FLATFISH) TRAWL ^a			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Sea anemone, unidentified*	Actinaria	2003–05	2.75	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0	Pounds	
Sea star*	Asteroidea	2003–05	365.09	Pounds	
Shallow water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	2.94	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	0	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	0	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0	Pounds	
Walleye pollock, western /central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	0	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			7,488.85	Pounds	
TOTAL FISHERY LANDINGS			1,051,683.84	Pounds	
TOTAL CATCH (Bycatch + Landings)			1,059,172.69	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.01		

Subtable 4.3.A.17		GULF OF ALASKA FLATFISH (SHALLOW WATER FLATFISH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	1,954,314.06	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	54,921.49	Pounds	
Benthic Urochordata*	Urochordata	2003–05	1,216.75	Pounds	
Big skate	<i>Raja binoculata</i>	2005	7,656.65	Pounds	
Bivalves*	Bivalvia	2003–05	2,392.27	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	6.55	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.17)		GULF OF ALASKA FLATFISH (SHALLOW WATER FLATFISH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Byozoans/hydroids*	Bryozoa	2003-05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003-05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	414.31	Pounds	
Deepsea smelts*	Bathylagidae	2003-05	0	Pounds	
Deepwater flatfish*		2005	37,868.76	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003-05	117.89	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003-05	20.36	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	52,130.44	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003-05	0	Pounds	
Golden king Crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003-05	1,001.15	Pounds	
Grenadier*	Macrouridae	2005	929.73	Pounds	
Gunnels*	Pholidae	2003-05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003-05	558.17	Pounds	
Herring	<i>Clupea pallasii</i>	2005	143.45	Pounds	
Invertebrate, unidentified*	Invertebrata	2003-05	10,009.09	Pounds	
Lanternfishes*	Myctophidae	2003-05	0	Pounds	
Large sculpins*	Cottidae	2003-05	233,559.71	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	2,528.70	Pounds	
Miscellaneous crabs*	Decapoda	2003-05	407.19	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003-05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003-05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003-05	34,723.87	Pounds	
Non-Chinook salmon*	Salmonidae	2005	8,512.66	Pounds	
Northern rockfish, western /central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	11,750.62	Pounds	
Octopus*	Octopoda	2003-05	395.36	Pounds	
Other osmerids*	Osmeridae	2003-05	35.06	Pounds	
Other sculpins*	Cottidae	2003-05	86,021.62	Pounds	
Other species*		2005	361,308.56	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	1,005,022.32	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,225,707.12	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.17)		GULF OF ALASKA FLATFISH (SHALLOW WATER FLATFISH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	25,507.45	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	2.13	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	59.72	Pounds	
Pelagic shelf rockfish*		2005	160.94	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0.26	Pounds	
Pricklebacks	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	409.56	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	8,789.82	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	2,769.00	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	17,065.96	Pounds	
Scypho jellies*	Scyphozoa	2003–05	4,947.54	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	21,152.31	Pounds	
Sea pens and whips*	Octocorallia	2003–05	12.79	Pounds	
Sea star*	Asteroidea	2003–05	77,604.22	Pounds	
Shallow-water flatfish*		2005	498,226.48	Pounds	
Shark*	Elasmobranchii	2003–05	7,690.45	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	2,107.62	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	3,306.93	Pounds	
Skate, unidentified*	Rajidae	2005	63,995.71	Pounds	
Snails*	Gastropoda	2003–05	648.24	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	13.65	Pounds	
Sponge, unidentified*	Porifera	2003–05	1,820.90	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	5,355.43	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	1,470.83	Pounds	
Walleye pollock, western /central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	27,346.11	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			5,864,137.96	Pounds	
TOTAL FISHERY LANDINGS			10,563,660.87	Pounds	
TOTAL CATCH (Bycatch + Landings)			16,427,798.83	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Landings)			0.36		

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

Subtable 4.3.A.18		GULF OF ALASKA FLATHEAD SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	3,504,840.94	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	440.92	Pounds	
Benthic Urochordata*	Urochordata	2003–05	10.17	Pounds	
Big skate	<i>Raja binoculata</i>	2005	1,426.39	Pounds	
Bivalves*	Bivalvia	2003–05	1,087.22	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0.78	Pounds	
Byrozoans/hydroids*	Bryozoa	2003–05	45.14	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	110.51	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	4,409.24	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	1,425.43	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	16,017.47	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	241,434.55	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	61.60	Pounds	
Grenadier*	Macrouridae	2005	339.78	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	20.66	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	872.89	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	9,330.03	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	237.55	Pounds	
Miscellaneous crustaceans*	Crustaceamorph	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	9,180.69	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	25,086.37	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.18)		GULF OF ALASKA FLATHEAD SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Octopus*	Octopoda	2003–05	49.24	Pounds	
Other osmerids*	Osmeridae	2003–05	1,319.44	Pounds	
Other sculpins*	Cottidae	2003–05	3,325.74	Pounds	
Other species*		2005	162,923.62	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	41,433.63	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	72,167.53	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	18,677.54	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	1,576.51	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified	Polychaeta	2003–05	0.84	Pounds	
Pricklebacks*	Stichaeidae	2003–05	1,398.21	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	101,602.12	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	1,543.23	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	218.26	Pounds	
Scypho jellies*	Scyphozoa	2003–05	111.77	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	472.49	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0.66	Pounds	
Sea star*	Asteroidea	2003–05	33,945.50	Pounds	
Shallow-water flatfish*		2005	313.06	Pounds	
Shark*	Elasmobranchii	2003–05	70,761.69	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	321.87	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	64,758.51	Pounds	
Snails*	Gastropoda	2003–05	1,401.91	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>				
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	1,604.38	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	28,576.70	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	343.35	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.18)		GULF OF ALASKA FLATHEAD SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	176.37	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			4,425,402.50	Pounds	
TOTAL FISHERY LANDINGS			2,891,707.46	Pounds	
TOTAL CATCH (Bycatch + Landings)			7,317,109.96	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.6		

Subtable 4.3.A.19		GULF OF ALASKA PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	0	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	0	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	0	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.19		GULF OF ALASKA PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	0	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	0	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	0	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	293.95	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	0	Pounds	
Other species*		2005	4.41	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	668.00	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	0	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	0	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0	Pounds	
Sea star*	Asteroidea	2003–05	0	Pounds	
Shallow water flatfish*		2005	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

Subtable 4.3.A.19		GULF OF ALASKA PACIFIC COD JIG			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Shark*	Elasmobranchii	2003–05	0	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	0	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	0	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	0	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			966.36	Pounds	
TOTAL FISHERY LANDINGS			7,209,809.20	Pounds	
TOTAL CATCH (Bycatch + Landings)			7,210,775.56	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0		

Subtable 4.3.A.20		GULF OF ALASKA PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	208,281.47	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	3,035.76	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	356,189.43	Pounds	
Bivalves*	Bivalvia	2003–05	245.46	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	58.36	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	39.01	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	1,227.97	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.20)		GULF OF ALASKA PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Demersal shelf rockfish*		2005	2.20	Pounds	
Eelpouts*	Zoarcidae	2003–05	151.02	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	9,733.40	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	120,826.34	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	27.12	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	1,897.22	Pounds	
Grenadier*	Macrouridae	2005	292,119.60	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	1,570.59	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	225,473.39	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	282,039.24	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	41.90	Pounds	
Miscellaneous crustaceans*	Crustaceamorphia	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	45,237.04	Pounds	
Non-Chinook salmon*	Salmonidae	2005	135.79	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	4,470.97	Pounds	
Octopus*	Octopoda	2003–05	3,455.37	Pounds	
Other species		2005	491,445.07	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	98,589.95	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	240,316.81	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,221,207.09	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	8.82	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	16,214.98	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.20)		GULF OF ALASKA PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pricklebacks	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	97.00	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	27,451.93	Pounds	
Rougeye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	21,415.68	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	85,955.93	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	1,562.94	Pounds	
Sea pen and whips	Octocorallia	2003–05	190.46	Pounds	
Sea star*	Asteroidea	2003–05	400,596.58	Pounds	
Shallow water flatfish*		2005	3,425.98	Pounds	
Shark*	Elasmobranchii	2003–05	118,890.01	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	2,740.34	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	3,822.81	Pounds	
Skate, unidentified*	Rajidae	2005	428,939.69	Pounds	
Snails*	Gastropoda	2003–05	28.40	Pounds	
Snow crab, Bering Sea	<i>Chionoecetes opilio</i>				
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	950.52	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	1,212.96	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0.90	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	1,871.72	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			4,723,195.22	Pounds	
TOTAL FISHERY LANDINGS			22,205,996.74	Pounds	
TOTAL CATCH (Bycatch + Landings)			2,692,919.196	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.18		

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.21		GULF OF ALASKA PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	5,974.52	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monoptyerygius</i>	2005	38,684.47	Pounds	
Benthic Urochordata*	Urochordata	2003–05	4.59	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	258.15	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	168.21	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	3.28	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	5,401.88	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	277.78	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	1,428.09	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	425.76	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	248.32	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	318,262.58	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	2,098.57	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	104,987.41	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.21)		GULF OF ALASKA PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	2,632.32	Pounds	
Octopus*	Octopoda	2003-05	207,470.17	Pounds	
Other osmerids*	Osmeridae	2003-05	0	Pounds	
Other sculpins*	Cottidae	2003-05	155,224.65	Pounds	
Other species*		2005	371,897.35	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	257,876.61	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	100,601.60	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	59.52	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003-05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003-05	0	Pounds	
Pelagic shelf rockfish*		2005	17,467.20	Pounds	
Polychaete, unidentified*	Polychaeta	2003-05	0	Pounds	
Pricklebacks*	Stichaeidae	2003-05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	33.07	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	7,597.12	Pounds	
Roughey rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	4.41	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003-05	459.05	Pounds	
Sea anemone, unidentified*	Actinaria	2003-05	178.27	Pounds	
Sea pens and whips*	Octocorallia	2003-05	3.67	Pounds	
Sea star*	Asteroidea	2003-05	1,355,474.03	Pounds	
Shallow-water flatfish*		2005	5,134.56	Pounds	
Shark*	Elasmobranchii	2003-05	0	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	44.09	Pounds	
Snails*	Gastropoda	2003-05	7,556.05	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003-05	5.2	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003-05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	102,171.66	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.21)		GULF OF ALASKA PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Urchins/dollars/cucumbers*	Echinodermata	2003–05	492.68	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	3,425.98	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			3,074,032.87	Pounds	
TOTAL FISHERY LANDINGS			51,964,701.92	Pounds	
TOTAL CATCH (Bycatch + Landings)			55,038,734.79	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.06		

Subtable 4.3.A.22		GULF OF ALASKA PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	1,076,000.06	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	5,857.68	Pounds	
Benthic Urochordata*	Urochordata	2003–05	6.00	Pounds	
Big skate	<i>Raja binoculata</i>	2005	46,138.29	Pounds	
Bivalves*	Bivalvia	2003–05	1,615.54	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	1.46	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	62.01	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	249.70	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	43,433.22	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	206.66	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	487.21	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	23,172.76	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	620.92	Pounds	
Golden king crab, Aleutian Islands	<i>Lithodes aequispina</i>				
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	4,720.63	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.22)		GULF OF ALASKA PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Grenadier*	Macrouridae	2005	1,911.82	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	727.83	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	1,278.90	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	88,353.06	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	12,500.20	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	30.48	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	1.24	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	130,395.31	Pounds	
Non-Chinook salmon*	Salmonidae	2005	666.84	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	6,671.18	Pounds	
Octopus*	Octopoda	2003–05	2,979.18	Pounds	
Other osmerids*	Osmeridae	2003–05	43.95	Pounds	
Other sculpins*	Cottidae	2003–05	31,405.14	Pounds	
Other species*		2005	156,100.32	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	62,542.86	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	1,437,414.15	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	10,408.01	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	6.29	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	55.70	Pounds	
Pelagic shelf rockfish*		2005	8,992.64	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	81.92	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	8,280.55	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	2,306.03	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	553.36	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	637.14	Pounds	
Scypho jellies*	Scyphozoa	2003–05	7,747.55	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	844.62	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.22)

		GULF OF ALASKA PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Sea pens and whips*	Octocorallia	2003–05	5.64	Pounds	
Sea star*	Asteroidea	2003–05	37,082.05	Pounds	
Shallow-water flatfish*		2005	135,667.91	Pounds	
Shark*	Elasmobranchii	2003–05	19,693.14	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	1,858.49	Pounds	
Skate, unidentified*	Rajidae	2005	40,679.65	Pounds	
Snails*	Gastropoda	2003–05	286.71	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	299.39	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	330.49	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	1,270.86	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	1,305.55	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	34,389.87	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			3,448,378.16	Pounds	
TOTAL FISHERY LANDINGS			31,255,118.20	Pounds	
TOTAL CATCH (Bycatch + Landings)			34,703,496.36	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.1		

Subtable 4.3.A.23

		GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	510,645.11	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	26.46	Pounds	
Bivalves*	Bivalvia	2003–05	0.00	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	56,552.62	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.23)		GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	191,339.58	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	923.02	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	781,206.28	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	20,522.81	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	33,375.18	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	213.96	Pounds	
Grenadier*	Macrouridae	2005	40,211.34	Pounds	
Gunnels*	Pholidae	2003–05	8.22	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0.05	Pounds	
Herring	<i>Clupea pallasii</i>	2005	27,179.64	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0	Pounds	
Lanternfishes*	Myctophidae	2003–05	112.77	Pounds	
Large sculpins*	Cottidae	2003–05	63.64	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	2,762.39	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	54.40	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	53,757.04	Pounds	
Non-Chinook salmon*	Salmonidae	2005	3,790.58	Pounds	
Northern rockfish, Western/Central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	43.36	Pounds	
Other osmerids*	Osmeridae	2003–05	404,707.89	Pounds	
Other sculpins*	Cottidae	2003–05	649.83	Pounds	
Other species*		2005	625,135.43	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	11,311.91	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	5,288.59	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	55,311.71	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	2.20	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.23)		GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	6,969.55	Pounds	
Pelagic shelf rockfish*		2005	171.96	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	79.18	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	2,429.49	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	548.95	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	31,371.74	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	753.98	Pounds	
Scypho jellies*	Scyphozoa	2003–05	158,956.91	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	81.18	Pounds	
Sea pens and whips*	Octocorallia	2003–05	187.77	Pounds	
Sea star*	Asteroidea	2003–05	1,071.03	Pounds	
Shallow water flatfish*		2005	3,309.13	Pounds	
Shark*	Elasmobranchii	2003–05	47,439.75	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	6,801.25	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	1,201.52	Pounds	
Snails*	Gastropoda	2003–05	0	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	0	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	324.76	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	4.92	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	2,382,901.01	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			5,469,800.09	Pounds	
TOTAL FISHERY LANDINGS			143,715,905.41	Pounds	
TOTAL CATCH (Bycatch + Landings)			149,185,705.50	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.04		

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

Subtable 4.3.A.24		GULF OF ALASKA REX SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	3,443,074.10	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	13,227.72	Pounds	
Benthic Urochordata*	Urochordata	2003–05	126.54	Pounds	
Big skate	<i>Raja binoculata</i>	2005	4,605.45	Pounds	
Bivalves*	Bivalvia	2003–05	457.33	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	7.72	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	140.24	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	3.64	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	3,581.86	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deep water flatfish*		2005	105,819.56	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	76.21	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	55.93	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	40,829.56	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	2,754.17	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	34.43	Pounds	
Grenadier*	Macrouridae	2005	2,432.95	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	149.84	Pounds	
Herring	<i>Clupea pallasii</i>	2005	21.69	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	59.22	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	23,228.31	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	709.84	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	65.04	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	30,795.44	Pounds	
Non-Chinook salmon*	Salmonidae	2005	462.09	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.24)		GULF OF ALASKA REX SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	61,949.82	Pounds	
Octopus*	Octopoda	2003–05	151.38	Pounds	
Other osmerids*	Osmeridae	2003–05	26.07	Pounds	
Other sculpins*	Cottidae	2003–05	19,209.63	Pounds	
Other species*		2005	63,764.22	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	30,688.31	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	117,850.37	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	254,402.12	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	403.12	Pounds	
Pelagic shelf rockfish*		2005	350.53	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	22.22	Pounds	
Pricklebacks*	Stichaeidae	2003–05	81.36	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	66,813.21	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Roughey rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	9,380.66	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	2,392.01	Pounds	
Scypho jellies*	Scyphozoa	2003–05	204.67	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	384.64	Pounds	
Sea pens whips	Octocorallia	2003–05	14.84	Pounds	
Sea star*	Asteroidea	2003–05	15,479.26	Pounds	
Shallow water flatfish*		2005	249.12	Pounds	
Shark*	Elasmobranchii	2003–05	145,154.39	Pounds	
Shorthead rockfish	<i>Sebastes borealis</i>	2005	1,102.31	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	220.46	Pounds	
Skate, unidentified*	Rajidae	2005	32,348.39	Pounds	
Snails*	Gastropoda	2003–05	608.99	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	284.84	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	6,964.14	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.24)		GULF OF ALASKA REX SOLE TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Urchins/dollars/cucumbers*	Echinodermata	2003–05	1,879.39	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	482.81	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			4,505,582.16	Pounds	
TOTAL FISHERY LANDINGS			4,568,268.79	Pounds	
TOTAL CATCH (Bycatch + Landings)			9,073,850.95	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.5		

Subtable 4.3.A.25		GULF OF ALASKA ROCKFISH (NORTHERN ROCKFISH, PELAGIC SHELF ROCKFISH*, PACIFIC OCEAN PERCH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0.00	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	1,518,368.09	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	223,735.86	Pounds	
Benthic Urochordata*	Urochordata	2003–05	97.02	Pounds	
Big skate	<i>Raja binoculata</i>	2005	32,377.05	Pounds	
Bivalves*	Bivalvia	2003–05	3.78	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	145.96	Pounds	
Byzoans/hydroids*	Bryozoa	2003–05	5,947.84	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	3,243.64	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	123,626.27	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	8,644.81	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	217.00	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	19,636.55	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	201,176.72	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	13,842.56	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.25)		GULF OF ALASKA ROCKFISH (NORTHERN ROCKFISH, PELAGIC SHELF ROCKFISH*, PACIFIC OCEAN PERCH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Grenadier*	Macrouridae	2005	177,279.20	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	46.16	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	1,085.55	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	43,798.33	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	20,161.25	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	787.28	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	17.82	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish	Teleostomi	2003–05	278,478.13	Pounds	
Non-Chinook salmon*	Salmonidae	2005	16,298.40	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	247,547.96	Pounds	
Octopus*	Octopoda	2003–05	806.16	Pounds	
Other osmerids*	Osmeridae	2003–05	520.80	Pounds	
Other sculpins*	Cottidae	2003–05	39,390.36	Pounds	
Other species*		2005	81,198.36	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	82,986.31	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	577,588.27	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	942,481.66	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	1,080.39	Pounds	
Pelagic shelf rockfish*		2005	127,330.03	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	3.20	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	63,473.21	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	516,540.26	Pounds	
Rougeye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	14,989.21	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	295,502.86	Pounds	
Scypho jellies*	Scyphozoa	2003–05	2,740.79	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.25)		GULF OF ALASKA ROCKFISH (NORTHERN ROCKFISH, PELAGIC SHELF ROCKFISH*, PACIFIC OCEAN PERCH) TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Sea anemone, unidentified*	Actinaria	2003–05	4,806.91	Pounds	
Sea pens and whips*	Octocorallia	2003–05	33.18	Pounds	
Sea star*	Asteroidea	2003–05	5,052.29	Pounds	
Shallow-water flatfish*		2005	50,631.30	Pounds	
Shark*	Elasmobranchii	2003–05	3,540.62	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	21,697.87	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	49,004.29	Pounds	
Skate, unidentified*	Rajidae	2005	122,437.98	Pounds	
Snails*	Gastropoda	2003–05	648.14	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	4,472.48	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	1,412.96	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	822.82	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	38,957.84	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			5,986,713.78	Pounds	
TOTAL FISHERY LANDINGS			47,750,722.91	Pounds	
TOTAL CATCH (Bycatch + Landings)			53,737,436.69	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.11		

Subtable 4.3.A.26		GULF OF ALASKA SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	356,581.85	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	2005	13.23	Pounds	
Benthic Urochordata*	Urochordata	2003–05	12.96	Pounds	
Big skate	<i>Raja binoculata</i>	2005	42,474.21	Pounds	
Bivalves*	Bivalvia	2003–05	8.59	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	65.60	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	196.64	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.26)		GULF OF ALASKA SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Byrzoans/hydroids*	Bryozoa	2003–05	688.22	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	24,570.49	Pounds	
Demersal shelf rockfish*		2005	158.73	Pounds	
Eelpouts*	Zoarcidae	2003–05	147.03	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	264.55	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	2,229,538.74	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	127.20	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	8.91	Pounds	
Grenadier*	Macrouridae	2005	4,418,987.04	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	65.66	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	13,342.01	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	206,967.52	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	29.95	Pounds	
Miscellaneous crustaceans*	Crustaceomorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	35,226.31	Pounds	
Non-Chinook salmon*	Salmonidae	2005	845.78	Pounds	
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	308.65	Pounds	
Octopus*	Octopoda	2003–05	208.70	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	770.97	Pounds	
Other species*		2005	770,172.97	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	111,059.94	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	655,301.66	Pounds	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.26)		GULF OF ALASKA SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	1,285.29	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	482.83	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	73,832.72	Pounds	
Rougheye rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	63,206.46	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	429,680.44	Pounds	
Scypho jellies*	Scyphozoa	2003–05	99.60	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	465.08	Pounds	
Sea pens and whips	Octocorallia	2003–05	162.36	Pounds	
Sea star*	Asteroidea	2003–05	2,546.31	Pounds	
Shallow-water flatfish*		2005	16,380.33	Pounds	
Shark*	Elasmobranchii	2003–05	26,052.73	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	142,092.17	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	86,458.58	Pounds	
Skate, unidentified*	Rajidae	2005	260,663.25	Pounds	
Snails*	Gastropoda	2003–05	20.99	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	307.30	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	334.46	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	1.47	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	238.10	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			9,972,454.58	Pounds	
TOTAL FISHERY LANDINGS			31,517,893.47	Pounds	
TOTAL CATCH (Bycatch + Landings)			41,490,348.05	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.24		

ALASKA REGION

Table 4.3.A (continued)

Subtable 4.3.A.27		GULF OF ALASKA SABLEFISH TRAWL ^b			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alaska plaice, non-FSSI stock	<i>Pleuronectes quadrituberculatus</i>	2005	0	Pounds	
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	2005	0	Pounds	
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monoptyerygius</i>	2005	0	Pounds	
Benthic Urochordata*	Urochordata	2003–05	0	Pounds	
Big skate	<i>Raja binoculata</i>	2005	0	Pounds	
Bivalves*	Bivalvia	2003–05	0	Pounds	
Blue king crab	<i>Paralithodes platypus</i>	2005	0	Pounds	
Brittle star, unidentified*	Ophiuroidea	2003–05	0	Pounds	
Byozoans/hydroids*	Bryozoa	2003–05	0	Pounds	
Capelin	<i>Mallotus villosus</i>	2003–05	0	Pounds	
Chinook salmon	<i>Oncorhynchus tshawytscha</i>	2005	0	Pounds	
Deepsea smelts*	Bathylagidae	2003–05	0	Pounds	
Deepwater flatfish*		2005	0	Pounds	
Demersal shelf rockfish*		2005	0	Pounds	
Eelpouts*	Zoarcidae	2003–05	0	Pounds	
Eulachon (smelt)	<i>Thaleichthys pacificus</i>	2003–05	0	Pounds	
Flatfish*	Pleuronectiformes	2005	0	Pounds	
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	2005	0	Pounds	
Giant grenadier*	<i>Albatrossia pectoralis</i>	2003–05	0	Pounds	
Golden king crab, non-FSSI stock	<i>Lithodes aequispina</i>	2005	0	Pounds	
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	2005	0	Pounds	
Greenlings*	Hexagrammidae	2003–05	0	Pounds	
Grenadier*	Macrouridae	2005	0	Pounds	
Gunnels*	Pholidae	2003–05	0	Pounds	
Hermit crab, unidentified*	Paguroidea	2003–05	0	Pounds	
Herring	<i>Clupea pallasii</i>	2005	0	Pounds	
Invertebrate, unidentified*	Invertebrata	2003–05	0	Pounds	
Lanternfishes*	Myctophidae	2003–05	0	Pounds	
Large sculpins*	Cottidae	2003–05	0	Pounds	
Longnose skate	<i>Raja rhina</i>	2005	0	Pounds	
Miscellaneous crabs*	Decapoda	2003–05	0	Pounds	
Miscellaneous crustaceans*	Crustaceamorpha	2003–05	0	Pounds	
Miscellaneous deep fish*	Teleostomi	2003–05	0	Pounds	
Miscellaneous fish*	Teleostomi	2003–05	147.25	Pounds	
Non-Chinook salmon*	Salmonidae	2005	0	Pounds	

^b In 2005, vessels in the "Gulf of Alaska sablefish trawl fishery" caught sablefish as part of the Gulf of Alaska rockfish trawl fishery

U.S. NATIONAL BYCATCH REPORT

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.27)		GULF OF ALASKA SABLEFISH TRAWL ^b			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>	2005	0	Pounds	
Octopus*	Octopoda	2003–05	0	Pounds	
Other osmerids*	Osmeridae	2003–05	0	Pounds	
Other sculpins*	Cottidae	2003–05	26.71	Pounds	
Other species*		2005	0	Pounds	
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2005	0	Pounds	
Pacific hake	<i>Merluccius productus</i>	2005	0	Pounds	
Pacific halibut	<i>Hippoglossus stenolepis</i>	2005	0	Pounds	
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	2005	0	Pounds	
Pacific sand lance	<i>Ammodytes hexapterus</i>	2003–05	0	Pounds	
Pandalid shrimp*	<i>Pandalus</i> spp.	2003–05	0	Pounds	
Pelagic shelf rockfish*		2005	0	Pounds	
Polychaete, unidentified*	Polychaeta	2003–05	0	Pounds	
Pricklebacks*	Stichaeidae	2003–05	0	Pounds	
Red king crab	<i>Paralithodes camtschaticus</i>	2005	0	Pounds	
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	2005	0	Pounds	
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	2005	0	Pounds	
Rockfish, unspecified*	Sebastidae	2005	0	Pounds	
Roughey rockfish, Gulf of Alaska	<i>Sebastes aleutianus</i>	2005	0	Pounds	
Sablefish	<i>Anoplopoma fimbria</i>	2005	0	Pounds	
Scypho jellies*	Scyphozoa	2003–05	0	Pounds	
Sea anemone, unidentified*	Actinaria	2003–05	0	Pounds	
Sea pens and whips*	Octocorallia	2003–05	0	Pounds	
Sea star*	Asteroidea	2003–05	0	Pounds	
Shallow-water flatfish*		2005	0	Pounds	
Shark*	Elasmobranchii	2003–05	0	Pounds	
Shortraker rockfish	<i>Sebastes borealis</i>	2005	0	Pounds	
Shortspine thornyhead, Gulf of Alaska	<i>Sebastolobus alascanus</i>	2005	0	Pounds	
Skate, unidentified*	Rajidae	2005	0	Pounds	
Snails*	Gastropoda	2003–05	0	Pounds	
Snow crab, non-FSSI stock	<i>Chionoecetes opilio</i>	2005	0	Pounds	
Sponge, unidentified*	Porifera	2003–05	0	Pounds	
Squid*	Decapoda	2005	0	Pounds	
Surf smelt	<i>Hypomesus pretiosus</i>	2003–05	0	Pounds	

ALASKA REGION

Table 4.3.A (continued)

(continuation of Subtable 4.3.A.27)		GULF OF ALASKA SABLEFISH TRAWL ^b			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	2005	0	Pounds	
Urchins/dollars/cucumbers*	Echinodermata	2003–05	0	Pounds	
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2005	0	Pounds	
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	2005	0	Pounds	
TOTAL FISHERY BYCATCH			173.96	Pounds	
TOTAL FISHERY LANDINGS			108,353.4	Pounds	
TOTAL CATCH (Bycatch +Landings)			108,527.36	Pounds	
FISHERY BYCATCH RATIO (Bycatch/Total Catch)			0.0		

U.S. NATIONAL BYCATCH REPORT

Table 4.3.B

Summary of Alaska region bycatch by stocks and species. All estimates are live weights. The species bycatch ratio is the total regional bycatch of a species / (total regional landings of the species + total regional bycatch the species); see Chapter 3 for details on ratio calculation. * following the names of species groups indicates landings were not available by species, as it was not possible to determine the exact composition of the bycatch and the proportion of bycatch and landings to allocate to each species. ** indicates that a bycatch ratio could not be developed because bycatch estimates were provided in both numbers of individuals and in pounds, or because landings were not available. Confidential landings are not presented. Key species have been shaded.

COMMON NAME	SCIENTIFIC NAME	TOTAL STOCK BYCATCH ^a		TOTAL SPECIES BYCATCH		SPECIES LANDINGS ^b		SPECIES BYCATCH RATIO
		AMOUNT	UNIT	AMOUNT	UNIT	2005 LANDINGS	UNIT	RATIO
Alaska plaice, Bering Sea/Aleutian Islands ^c	<i>Pleuronectes quadrituberculatus</i>	22,927,964.22	Pounds	22,927,964.22	Pounds	See footnote	-	**
Alaska plaice, non-FSSI stock ^c	<i>Pleuronectes quadrituberculatus</i>	0	Pounds					
Arrowtooth flounder, Bering Sea/Aleutian Islands	<i>Atheresthes stomias</i>	15,299,302.19	Pounds	32,427,709.25	Pounds	42,157,859.00	Pounds	0.44
Arrowtooth flounder, Gulf of Alaska	<i>Atheresthes stomias</i>	17,128,407.06	Pounds					
Atka mackerel, Bering Sea/Aleutian Islands	<i>Pleurogrammus monopterygius</i>	8,874,589.78	Pounds	9,216,700.51	Pounds	129,482,451.00	Pounds	0.07
Atka mackerel, non-FSSI stock	<i>Pleurogrammus monopterygius</i>	342,110.73	Pounds					
Benthic Urochordata*	Urochordata	See species column		3,459,633.32	Pounds	-	-	**
Big skate ^d	<i>Raja binoculata</i>			517,567.63	Pounds	See footnote	-	**
Bivalves*	Bivalvia			46,004.66	Pounds	-	-	**
Blue king crab ^e	<i>Paralithodes platypus</i>			5,432.46	Pounds	See footnote	-	**
Brittle star, unidentified*	Ophiuroidea			82,884.50	Pounds	-	-	**
Byozoans/hydroids*	Bryozoa			119,258.95	Pounds	-	-	**
Capelin ^f	<i>Mallotus villosus</i>			60,914.52	Pounds	See footnote	-	**
Chinook salmon ^e	<i>Oncorhynchus tshawytscha</i>			721,067.22	Pounds	See footnote	-	**
Deepsea smelts	Bathylagidae			0.30	Pounds	-	-	**
Deepwater flatfish*				537,420.22	Pounds	-	-	**
Demersal shelf rockfish*				160.93	Pounds	-	-	**
Eelpouts*	Zoarcidae			304,554.65	Pounds	-	-	**
Eulachon (smelt)	<i>Thaleichthys pacificus</i>			824,831.56	Pounds	^	-	**
Flatfish*	Pleuronectiformes			6,070,956.90	Pounds	-	-	**
Flathead sole, Bering Sea/Aleutian Islands	<i>Hippoglossoides elassodon</i>			8,566,835.84	Pounds	9,311,878.34	Pounds	31,867,547.00

ALASKA REGION

Table 4.3.B (continued)

COMMON NAME	SCIENTIFIC NAME	TOTAL STOCK BYCATCH ^a		TOTAL SPECIES BYCATCH		SPECIES LANDINGS ^b		SPECIES BYCATCH RATIO		
		AMOUNT	UNIT	AMOUNT	UNIT	2005 LANDINGS	UNIT	RATIO		
Flathead sole, Gulf of Alaska	<i>Hippoglossoides elassodon</i>	745,042.50	Pounds							
Giant grenadier*	<i>Albatrossia pectoralis</i>	See species column		4,465,720.64	Pounds	–	–	**		
Golden king crab, Aleutian Islands ^e	<i>Lithodes aequispina</i>	16,927.02	Pounds	17,081.34	Pounds	See footnote	–	**		
Golden king crab, non-FSSI stock ^e	<i>Lithodes aequispina</i>	154.32	Pounds							
Greenland turbot, Bering Sea/Aleutian Islands	<i>Reinhardtius hippoglossoides</i>	443,060.29	Pounds	443,060.29	Pounds	5,219,457.00	Pounds	0.08		
Greenland turbot, non-FSSI stock	<i>Reinhardtius hippoglossoides</i>	0	Pounds							
Greenlings*	Hexagrammidae	See species column		39,377.00	Pounds	–	–	**		
Grenadier*	Macrouridae			7,009,930.42	Pounds	–	–	**		
Gunnels*	Pholidae			150.69	Pounds	–	–	**		
Hermit crab, unidentified*	Paguroidea			212,343.71	Pounds	–	–	**		
Herring ^e	<i>Clupea pallasii</i>			1,560,716.15	Pounds	See footnote	–	**		
Invertebrate, unidentified*	Invertebrata			1,406,843.01	Pounds	–	–	**		
Lanternfishes*	Myctophidae			851.57	Pounds	–	–	**		
Large sculpins*	Cottidae			9,376,890.16	Pounds	–	–	**		
Longnose skate ^d	<i>Raja rhina</i>			652,545.48	Pounds	See footnote	–	**		
Miscellaneous crabs*	Decapoda			97,424.86	Pounds	–	–	**		
Miscellaneous crustaceans*	Crustaceomorpha			2,452.87	Pounds	–	–	**		
Miscellaneous deep fish*	Teleostomi			56.13	Pounds	–	–	**		
Miscellaneous fish*	Teleostomi			2,167,723.56	Pounds	–	–	**		
Non-Chinook salmon* ^e	Salmonidae			3,351,606.73	Pounds	See footnote	–	**		
Northern rockfish, Bering Sea/Aleutian Islands	<i>Sebastes polyspinis</i>					7,044,607.46	Pounds	–	–	**
Northern rockfish, western/central Gulf of Alaska	<i>Sebastes polyspinis</i>									
Octopus*	Octopoda					806,814.47	Pounds	–	–	**
Other osmerids*	Osmeridae			432,614.87	Pounds	–	–	**		
Other sculpins*	Cottidae			4,554,067.80	Pounds	–	–	**		
Other species*				50,263,783.94	Pounds	–	–	**		
Pacific cod, Bering Sea/Aleutian Islands	<i>Gadus macrocephalus</i>	7,881,278.40	Pounds	10,083,490.97 Pounds		546,748,030.00 Pounds		0.02		
Pacific cod, Gulf of Alaska	<i>Gadus macrocephalus</i>	2,202,212.57	Pounds							

U.S. NATIONAL BYCATCH REPORT

Table 4.3.B (continued)

COMMON NAME	SCIENTIFIC NAME	TOTAL STOCK BYCATCH ^a		TOTAL SPECIES BYCATCH		SPECIES LANDINGS ^b		SPECIES BYCATCH RATIO
		AMOUNT	UNIT	AMOUNT	UNIT	2005 LANDINGS	UNIT	RATIO
Pacific hake ^f	<i>Merluccius productus</i>	See species column		46.5	Pounds	See footnote	–	0.11
Pacific halibut ^e	<i>Hippoglossus stenolepis</i>			15,297,086.32	Pounds	See footnote	–	**
Pacific ocean perch, Bering Sea/Aleutian Islands	<i>Sebastes alutus</i>	3,747,335.92	Pounds	5,204,153.21	Pounds	42,818,965.00	Pounds	0.11
Pacific ocean perch, Gulf of Alaska	<i>Sebastes alutus</i>	1,456,817.29	Pounds					
Pacific sand lance ^f	<i>Ammodytes hexapterus</i>	441.48	Pounds	441.48	Pounds	See footnote	–	**
Pandalid shrimp*	<i>Pandalus</i> spp.	See species column		16,043.35	Pounds	–	–	**
Pelagic shelf rockfish*				194,412.19	Pounds	–	–	**
Polychaete, unidentified*	Polychaeta			270.34	Pounds	–	–	**
Pricklebacks* ^f	Stichaeidae			2,393.25	Pounds	See footnote	–	**
Red king crab ^e	<i>Paralithodes camtschaticus</i>			630,336.38	Pounds	See footnote	–	**
Rex sole, Gulf of Alaska	<i>Glyptocephalus zachirus</i>	413,108.30	Pounds	413,108.30	Pounds	8,005,331.00	Pounds	0.05
Rex sole, non-FSSI stock	<i>Glyptocephalus zachirus</i>	0	Pounds					
Rock sole, Bering Sea/Aleutian Islands	<i>Paraplagusia bilineata</i>	28,675,860.54	Pounds	28,675,860.54	Pounds	62,235,112.00	Pounds	0.32
Rock sole, non-FSSI stock	<i>Paraplagusia bilineata</i>	0	Pounds					
Rockfish, unspecified*	Sebastidae	Bycatch not available at stock level; See species column		936,317.55	Pounds	–	–	**
Rougheye rockfish, Bering Sea/Aleutian Islands ^g	<i>Sebastes aleutianus</i>	32,646.00	Pounds	178,459.57	Pounds	See footnote	–	**
Rougheye rockfish, Gulf of Alaska ^g	<i>Sebastes aleutianus</i>	145,813.57	Pounds					
Sablefish	<i>Anoplopoma fimbria</i>	See species column		1,105,877.08	Pounds	37,351,512.00	Pounds	0.03
Scypho jellies*	Scyphozoa			15,061,185.85	Pounds	–	–	**
Sea anemone, unidentified*	Actinaria			336,984.73	Pounds	–	–	**
Sea pens and whips*	Octocorallia			29,776.95	Pounds	–	–	**
Sea star*	Asteroidea			8,754,192.18	Pounds	–	–	**
Shallow-water flatfish*				736,451.11	Pounds	–	–	**
Shark*	Elasmobranchii			1,188,318.84	Pounds	–	–	**
Shortraker rockfish ^g	<i>Sebastes borealis</i>			266,044.71	Pounds	See footnote	–	**

ALASKA REGION

Table 4.3.B (continued)

COMMON NAME	SCIENTIFIC NAME	TOTAL STOCK BYCATCH ^a		TOTAL SPECIES BYCATCH		SPECIES LANDINGS ^b		SPECIES BYCATCH RATIO
		AMOUNT	UNIT	AMOUNT	UNIT	2005 LANDINGS	UNIT	
Shortspine thornyhead, Gulf of Alaska ^c	<i>Sebastolobus alascanus</i>	150,500.58	Pounds	150,500.58	Pounds	See footnote	-	**
Shortspine thornyhead, non-FSSI stock ^c	<i>Sebastolobus alascanus</i>	0	Pounds					
Skate, unidentified*	Rajidae	See species column		1,302,690.13	Pounds	-	-	**
Snails*	Gastropoda			446,260.26	Pounds	-	-	**
Snow crab, Bering Sea ^e	<i>Chionoecetes opilio</i>	2,329,203.23	Pounds	2,329,216.88	Pounds	See footnote	-	**
Snow crab, non-FSSI stock ^e	<i>Chionoecetes opilio</i>	13.65	Pounds					
Sponge, unidentified*	Porifera	See species column		525,502.33	Pounds	-	-	**
Squid*	Decapoda			97,424.86	Pounds	-	-	**
Surf smelt ^f	<i>Hypomesus pretiosus</i>			655.25	Pounds	See footnote	-	**
Tanner crab, Eastern Bering Sea ^e	<i>Chionoecetes bairdi</i>	1,158.19	Pounds	1,699,916.47	Pounds	See footnote	-	**
Tanner crab, non-FSSI stock	<i>Chionoecetes bairdi</i>	1,698,758.28	Pounds					
Urchins/dollars/cucumbers*	Echinodermata	71,397.83	Pounds	71,397.83	Pounds	-	-	**
Walleye pollock, Aleutian Islands	<i>Theragra chalcogramma</i>	38,730,903.03	Pounds	41,638,388.97	Pounds	3,410,064,761.00	Pounds	0.01
Walleye pollock, eastern Bering Sea	<i>Theragra chalcogramma</i>	384,309.36	Pounds					
Walleye pollock, western/central Gulf of Alaska	<i>Theragra chalcogramma</i>	2,523,176.58	Pounds					
Yellowfin sole, Bering Sea/Aleutian Islands	<i>Limanda aspera</i>	20,001,800.77	Pounds	20,001,800.77	Pounds	188,105,064.00	Pounds	0.1
Yellowfin sole, non-FSSI stock	<i>Limanda aspera</i>	0	Pounds					

^a Bycatch at the stock level is listed only for species with bycatch of more than one substock. If one or no substocks occur, total bycatch is listed in the species column.

^b Landed weights are for catch sold only.

^c Landings were not available from the NMFS commercial landings database for these species. Alaskan plaice may be included under Other Pacific flatfish, while the landings for shortspine thornyhead may be included under Pacific rockfishes. Both categories are too general to compare landings to bycatch. These landings may be available at the regional level; however, for national consistency NMFS has elected to use the national landings database in this report. Landings from both species are being identified and will be included in future editions of this report.

^d Landings were not available from the national database for big or longnose skates. It is possible that landings for these species are included in landings of "skates," along with other skate species. Within the national database, Alaska Region landings for skates were listed as 20,726,120 pounds in 2005, but this value cannot be used to develop a bycatch ratio for skate species, as the exact composition of the landings is unknown.

^e Landing this species is prohibited in Federal groundfish fisheries.

^f Species is not landed (forage/non-target species).

^g Landings were not available for several landed rockfish species. It is possible that landings for these species are included in the landings for "rockfish," along with other rockfish species. Alaska Region landings for rockfish were 166,705 pounds in 2005, but this value cannot be used to develop a bycatch ratio for rockfish species, as the exact composition of the landings is unknown.

U.S. NATIONAL BYCATCH REPORT

Table 4.3.C

Subtables showing average annual marine mammal bycatch estimates in Alaska Region fisheries. Estimates are of incidental mortality and serious injury, in number of individuals, and reflect the annual averages for the years listed. Key stocks/populations are shaded.

Subtable 4.3.C.1		AK COOK INLET SALMON SET GILLNET^a			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Humpback whale, Central North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.20	Individuals	NA
TOTAL FISHERY BYCATCH			0.20	Individuals	

^a Minimum documented entanglements, derived from the NMFS stranding database.

Subtable 4.3.C.2		AK KODIAK SALMON SET GILLNET			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Harbor porpoise, Gulf of Alaska	<i>Phocoena phocoena</i>	2002, 2005	35.80	Individuals	0.68
TOTAL FISHERY BYCATCH			35.80	Individuals	

Subtable 4.3.C.3		AK SOUTHEAST SALMON DRIFT GILLNET^b			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Humpback whale, Central North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.20	Individuals	NA
TOTAL FISHERY BYCATCH			0.20	Individuals	

^b Minimum documented entanglements, derived from the NMFS stranding database.

Subtable 4.3.C.4		AK YAKUTAT SALMON SET GILLNET^c			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Humpback whale, Central North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.20	Individuals	NA
TOTAL FISHERY BYCATCH			0.20	Individuals	

^c Minimum documented entanglements, derived from self-reported data. This fishery is currently observed, and updated estimates will be included in future editions of this report.

Subtable 4.3.C.5		ALEUTIAN ISLANDS, EASTERN BERING SEA ATKA MACKEREL TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001–05	0.49	Individuals	0.31
TOTAL FISHERY BYCATCH			0.49	Individuals	

ALASKA REGION

Table 4.3.C (continued)

Subtable 4.3.C.6		BERING SEA/ALEUTIAN ISLANDS FLATFISH TRAWL FISHERIES			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Bearded seal	<i>Erignathus barbatus</i>	2001-05	0.36	Individuals	0.67
Harbor porpoise, Bering Sea	<i>Phocoena phocoena</i>	2001-05	0.35	Individuals	0.65
Harbor seal, Bering Sea	<i>Phoca vitulina richardsi</i>	2001-05	0.79	Individuals	0.41
Killer whale, Eastern North Pacific Alaska resident	<i>Orcinus orca</i>	2001-05	0.84	Individuals	0.44
Northern fur seal	<i>Callorhinus ursinus</i>	2001-05	0.57	Individuals	0.39
Pacific walrus	<i>Odobenus rosmarus divergens</i>	2001-05	2.10 ^d	Individuals	0.22
Ribbon seal	<i>Phoca fasciata</i>	2001-05	0.27	Individuals	0.50
Ringed seal	<i>Phoca hispida</i>	2001-05	0.49	Individuals	0.56
Spotted seal	<i>Phoca largha</i>	2001-05	1.17	Individuals	0.28
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001-05	2.78	Individuals	0.31
TOTAL FISHERY BYCATCH			9.72	Individuals	

^d Source for this estimate is M. Perez (AKFSC-retired), unpublished data.

Subtable 4.3.C.7		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Killer whale, Eastern North Pacific Alaska resident	<i>Orcinus orca</i>	2001-05	0.84	Individuals	0.87
Ribbon seal	<i>Phoca fasciata</i>	2001-05	0.60	Individuals	0.82
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001-05	0.74	Individuals	0.86
TOTAL FISHERY BYCATCH			2.18	Individuals	

Subtable 4.3.C.8		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001-05	0.85	Individuals	0.73
Harbor seal, Bering Sea	<i>Phoca vitulina richardsi</i>	2001-05	0.79	Individuals	0.50
TOTAL FISHERY BYCATCH			1.64	Individuals	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.C (continued)

Subtable 4.3.C.9		BERING SEA/ALEUTIAN ISLANDS POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Dall's porpoise, Alaska	<i>Phocoenoides dalli</i>	2001–05	1.35	Individuals	0.24
Harbor seal, Bering Sea	<i>Phoca vitulina richardsi</i>	2001–05	0.29	Individuals	0.56
Killer whale, Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	<i>Orcinus orca</i>	2001–05	0.41	Individuals	0.22
Northern fur seal	<i>Callorhinus ursinus</i>	2001–05	0.21	Individuals	0.21
Ribbon seal	<i>Phoca fasciata</i>	2001–05	0.20	Individuals	– ^e
Ringed seal	<i>Phoca hispida</i>	2001–05	0.42	Individuals	0.16
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001–05	2.58	Individuals	0.14
TOTAL FISHERY BYCATCH			5.46	Individuals	

^e No CV was calculated; bycatch seen by observers occurred only in the unmonitored hauls/sets of observed cruises in some strata. Source: M. Perez, AKFSC (retired), unpublished data.

Subtable 4.3.C.10		BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Humpback whale, central North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.20	Individuals	– ^f
Humpback whale, western North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.20	Individuals	– ^f
TOTAL FISHERY BYCATCH			0.20 ^g	Individuals	

^f No CV was calculated; bycatch seen by observers occurred only in the unmonitored hauls/sets of observed cruises in some strata. Source: M. Perez, AKFSC (retired), unpublished data.

^g A single whale was seriously injured/killed in this fishery during this five-year period. Because this is an area of stock overlap, it is not known which stock incurred the serious injury/mortality. Thus, the total fishery bycatch is 0.20 humpback whales over the five-year period, and this could have come from either the central North Pacific or the western North Pacific stock.

Subtable 4.3.C.11		GULF OF ALASKA CRAB POT^h			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Humpback whale, central North Pacific	<i>Megaptera novaeangliae</i>	2001–05	0.60	Individuals	NA
TOTAL FISHERY BYCATCH			0.60	Individuals	

^h Minimum documented entanglements, derived from the NMFS strandings database.

Subtable 4.3.C.12		GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Dall's porpoise, Alaska	<i>Phocoenoides dalli</i>	2001–05	0.48	Individuals	0.70
Northern elephant seal	<i>Mirounga angustirostris</i>	2001–05	0.71	Individuals	0.86
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001–05	1.33	Individuals	0.66
TOTAL FISHERY BYCATCH			2.52	Individuals	

ALASKA REGION

Table 4.3.C (continued)

Subtable 4.3.C.13		GULF OF ALASKA PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	2001–05	0.94	Individuals	0.83
TOTAL FISHERY BYCATCH			0.94	Individuals	

Subtable 4.3.C.14 (SUMMARY)		Total Species Bycatch	
COMMON NAME	SCIENTIFIC NAME	AVERAGE AMOUNT	UNIT
Bearded seal	<i>Erignathus barbatus</i>	0.36	Individuals
Dall's porpoise, Alaska	<i>Phocoenoides dalli</i>	1.83	Individuals
Gray whale	<i>Eschrichtius robustus</i>	0.50	Individuals
Harbor porpoise, Bering Sea	<i>Phocoena phocoena</i>	0.35	Individuals
Harbor porpoise, Gulf of Alaska	<i>Phocoena phocoena</i>	35.80	Individuals
Harbor seal, Bering Sea	<i>Phoca vitulina richardsi</i>	1.87	Individuals
Humpback whale, central North Pacific	<i>Megaptera novaeangliae</i>	2.40	Individuals
Humpback whale, Western North Pacific	<i>Megaptera novaeangliae</i>	0.20	Individuals
Killer whale, eastern North Pacific Alaska resident	<i>Orcinus orca</i>	2.09	Individuals
Killer whale, Gulf of Alaska, Aleutian Islands, and Bering Sea transient	<i>Orcinus orca</i>	0.41	Individuals
Northern elephant seal	<i>Mirounga angustirostris</i>	0.71	Individuals
Northern fur seal	<i>Callorhinus ursinus</i>	0.78	Individuals
Pacific walrus	<i>Odobenus rosmarus divergens</i>	2.10	Individuals
Ribbon seal	<i>Phoca fasciata</i>	1.07	Individuals
Ringed seal	<i>Phoca hispida</i>	0.91	Individuals
Spotted seal	<i>Phoca largha</i>	1.17	Individuals
Steller sea lion, Western U.S.	<i>Eumetopias jubatus</i>	9.71	Individuals
TOTAL BYCATCH		62.26	Individuals

U.S. NATIONAL BYCATCH REPORT

Table 4.3.D

Subtables showing seabird bycatch estimates for Alaska Region fisheries. Bycatch estimates are in numbers of individuals, and reflect averages for the years listed. Key stocks/populations are shaded.

Subtable 4.3.D.1		ALEUTIAN ISLANDS, EASTERN BERING SEA ATKA MACKEREL TRAWL				BERING SEA/ALEUTIAN ISLANDS GREENLAND TURBOT LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	0	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	27	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	35	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	76	Individuals		2001-05	108	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	3	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	1	Individuals	
Shearwater	Procellariidae	2001-05	93	Individuals		2001-05	19	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedeidae	2001-05	0	Individuals		2001-05	1	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	2	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	17	Individuals	
TOTAL BYCATCH			169	Individuals			213	Individuals	

Subtable 4.3.D.2		BERING SEA/ALEUTIAN ISLANDS FLATFISH TRAWL FISHERIES				BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	75	Individuals		2001-05	15	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	6	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	1970	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	73	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	0	Individuals		2001-05	2617	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	26	Individuals	

ALASKA REGION

Table 4.3.D (continued)

(continuation of Subtable 4.3.D.2)		BERING SEA/ALEUTIAN ISLANDS FLATFISH TRAWL FISHERIES				BERING SEA/ALEUTIAN ISLANDS PACIFIC COD LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	2	Individuals	
Shearwater	Procellariidae	2001-05	14	Individuals		2001-05	413	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedeidae	2001-05	0	Individuals		2001-05	2	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	42	Individuals	
Unidentified seabirds		2001-05	22	Individuals		2001-05	495	Individuals	
TOTAL BYCATCH			111	Individuals			5661	Individuals	

Subtable 4.3.D.3		BERING SEA/ALEUTIAN ISLANDS PACIFIC COD POT				BERING SEA/ALEUTIAN ISLANDS PACIFIC COD TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	17	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	1	Individuals		2001-05	17	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	47	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	31	Individuals		2001-05	82	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	2	Individuals		2001-05	15	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedeidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	1	Individuals		2001-05	0	Individuals	
TOTAL BYCATCH			35	Individuals			178	Individuals	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.D (continued)

Subtable 4.3.D.4		BERING SEA/ALEUTIAN ISLANDS PACIFIC OCEAN PERCH TRAWL				BERING SEA/ALEUTIAN ISLANDS POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	63	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	5	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	1	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	87	Individuals		2001-05	179	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	2	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	1	Individuals	
Shearwater	Procellariidae	2001-05	0	Individuals		2001-05	27	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedeidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	5	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	39	Individuals	
TOTAL BYCATCH			87	Individuals			322	Individuals	

Subtable 4.3.D.5		BERING SEA/ALEUTIAN ISLANDS SABLEFISH LONGLINE				BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	0	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	4	Individuals		2001-05	0	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	39	Individuals		2001-05	0	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	16	Individuals		2001-05	1	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	

ALASKA REGION

Table 4.3.D (continued)

(continuation of Subtable 4.3.D.5)		BERING SEA/ALEUTIAN ISLANDS SABLEFISH LONGLINE				BERING SEA/ALEUTIAN ISLANDS SABLEFISH POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Shearwater	<i>Procellariidae</i>	2001-05	0	Individuals		2001-05	1	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	0	Individuals	
TOTAL BYCATCH			59	Individuals			2	Individuals	

Subtable 4.3.D.6		BERING SEA/ALEUTIAN ISLANDS SABLEFISH TRAWL				GULF OF ALASKA FLATFISH TRAWL FISHERIES			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	0	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	0	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	0	Individuals		2001-05	24	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	0	Individuals	
TOTAL BYCATCH			0	Individuals			24	Individuals	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.D (continued)

Subtable 4.3.D.7		GULF OF ALASKA PACIFIC COD LONGLINE				GULF OF ALASKA PACIFIC COD POT			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	1	Individuals		2001-05	12	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	10	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	28	Individuals		2001-05	0	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	8	Individuals		2001-05	0	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	23	Individuals		2001-05	25	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	4	Individuals		2001-05	0	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	6	Individuals		2001-05	0	Individuals	
TOTAL BYCATCH			80	Individuals			37	Individuals	

Subtable 4.3.D.8		GULF OF ALASKA PACIFIC COD TRAWL				GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	2	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	0	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	

ALASKA REGION

Table 4.3.D (continued)

(continuation of Subtable 4.3.D.8)		GULF OF ALASKA PACIFIC COD TRAWL				GULF OF ALASKA POLLOCK TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Unidentified albatross	Diomedidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	0	Individuals	
TOTAL BYCATCH			0	Individuals			2	Individuals	

Subtable 4.3.D.9		GULF OF ALASKA ROCKFISH (NORTHERN ROCKFISH, PELAGIC SHELF ROCKFISH, PACIFIC OCEAN PERCH) TRAWL				GULF OF ALASKA SABLEFISH LONGLINE			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals		2001-05	9	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals		2001-05	51	Individuals	
Gull	Laridae	2001-05	0	Individuals		2001-05	49	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals		2001-05	13	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	71	Individuals		2001-05	87	Individuals	
Other seabird		2001-05	0	Individuals		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	0	Individuals		2001-05	7	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified albatross	Diomedidae	2001-05	0	Individuals		2001-05	4	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals		2001-05	0	Individuals	
Unidentified seabirds		2001-05	0	Individuals		2001-05	9	Individuals	
TOTAL BYCATCH			71	Individuals			229	Individuals	

U.S. NATIONAL BYCATCH REPORT

Table 4.3.D (continued)

Subtable 4.3.D.10		GULF OF ALASKA SABLEFISH TRAWL			
COMMON NAME	SCIENTIFIC NAME	DATA SOURCE	BYCATCH	UNIT	CV
Alcid	Alciidae	2001-05	0	Individuals	
Black-footed albatross	<i>Phoebastria nigripes</i>	2001-05	0	Individuals	
Gull	Laridae	2001-05	0	Individuals	
Laysan albatross	<i>Phoebastria immutabilis</i>	2001-05	0	Individuals	
Northern fulmar	<i>Fulmarus glacialis</i>	2001-05	0	Individuals	
Other seabird		2001-05	0	Individuals	
Red-legged kittiwake	<i>Rissa brevirostris</i>	2001-05	0	Individuals	
Shearwater	Procellariidae	2001-05	0	Individuals	
Short-tailed albatross	<i>Phoebastria albatrus</i>	2001-05	0	Individuals	
Unidentified albatross	Diomedeidae	2001-05	0	Individuals	
Unidentified shearwaters and petrels	Procellariidae	2001-05	0	Individuals	
Unidentified seabirds		2001-05	0	Individuals	
TOTAL BYCATCH			0	Individuals	

Subtable 4.3.D.11 (SUMMARY)		TOTAL SEABIRD BYCATCH IN ALL FISHERIES	
COMMON NAME	SCIENTIFIC NAME	BYCATCH	UNIT
Alcid	Alciidae	194	Individuals
Black-footed albatross	<i>Phoebastria nigripes</i>	67	Individuals
Gull	Laridae	2,101	Individuals
Laysan albatross	<i>Phoebastria immutabilis</i>	216	Individuals
Northern fulmar	<i>Fulmarus glacialis</i>	3,427	Individuals
Other seabird		31	Individuals
Red-legged kittiwake	<i>Rissa brevirostris</i>	4	Individuals
Shearwater	Procellariidae	595	Individuals
Short-tailed albatross	<i>Phoebastria albatrus</i>	0	Individuals
Unidentified albatross	Diomedeidae	7	Individuals
Unidentified shearwaters and petrels	Procellariidae	49	Individuals
Unidentified seabirds		589	Individuals
TOTAL BYCATCH		7,280	Individuals