Management Context

The authority to manage federal fisheries in the United States was granted to the Secretary of Commerce by the Magnuson-Stevens Fishery Conservation and Management Act, also known as the Magnuson-Stevens Act (P.L. 94-265 as amended by P.L. 109-479). NOAA Fisheries or the National Marine Fisheries Service (NMFS) is the federal agency delegated authority from the Secretary of Commerce to oversee fishing activities in federal waters. Federal fisheries are generally defined as fishing activities that are prosecuted between 3 and 200 nautical miles from the coastline. Generally, individual states retain management authority over fishing activities within 3 nautical miles of their coasts.

Nationwide, there are 47 fishery management plans[1] that provide a framework for managing the harvest of 230 major fish stocks or stock complexes that comprise 90% of the commercial harvest. These fishery management plans (FMPs) are developed by Regional Fishery Management Councils (FMCs) in each of eight regions nationwide: the North Pacific, Western Pacific, Pacific, New England, Mid-Atlantic, South Atlantic, Gulf of Mexico, and Caribbean Regions. Once an FMP is developed, it must be approved by the Secretary of Commerce in consultation with NOAA Fisheries before it is implemented and enforced.

Regional Fishery Management Councils

- North Pacific Fishery Management Council
- Western Pacific Fishery Management Council
- Gulf of Mexico Fishery Management Council
- Mid-Atlantic Fishery Management Council
- New England Fishery Management Council
- Pacific Fishery Management Council
- South Atlantic Fishery Management Council
- Caribbean Fishery Management Council

Of the 230 major fish stocks and stock complexes currently managed under a FMP, the overfished status of 179 stocks or stock complexes and the overfishing status of 192 stocks or stock complexes is known. Currently, 43 stocks or stock complexes are categorized as overfished and 39 are categorized as subject to overfishing[2].

Less is known about the 302 minor stocks or stock complexes. The overfished status of 28 of these stocks or stock complexes is known and five of these are currently considered overfished. The overfishing status of 61 of the 302 minor stocks or stock complexes is known and two of these are currently considered to be subject to overfishing[2].

Transboundary and International Fisheries

NOAA Fisheries is also actively involved in negotiating conservation measures and fishery allocations for fisheries conducted in areas where the Exclusive Economic Zone (EEZ) of the U.S. overlaps with other nations (transboundary areas), and in areas beyond the U.S. EEZ (international waters or the high seas). The Gulf of Alaska and the Gulf of Maine are examples of these transboundary areas. An area in the Bering Sea outside of EEZs of Canada, Japan, and Russia, called the Donut Hole, is an example of international waters. Loss of sea ice will create new transboundary areas and international waters in the Arctic.

Regional Fishery Management Organizations

- International Convention for the Conservation of Atlantic Tunas (Basic Instrument for the International Commission for the Conservation of Atlantic Tunas - ICCAT),
- Convention for the Conservation of Salmon in the North Atlantic Ocean (Basic Instrument for the North Atlantic Salmon Conservation Organization - NASCO),
- Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries (Basic Instrument for the Northwest Atlantic Fisheries Organization - NAFO),
- Convention for the Establishment of an Inter-American Tropical Tuna Commission (IATTC),
- Convention for the Conservation of Anadromous Stocks in the North Pacific Ocean (Basic Instrument for the North Pacific Anadromous Fish Commission - NPAFC),
- Western and Central Pacific Fisheries Convention (WCPFC),
- Asia-Pacific Fishery Commission (APFIC),
- Fishery Committee for the Eastern Central Atlantic (CECAF)

Regional Fishery Management Organizations (RFMOs) are multinational organizations with interests in transboundary and international fish stocks and associated fishing activities. NOAA Fisheries is party to eight RFMOs globally[3]. The goal of these RFMOs is to adopt measures for the conservation and coordinated management of target species such as bluefin tuna. RFMOs also provide measures for the conservation and scientific assessment of non-target species. Also known as bycatch, non-target species include seabirds, marine mammals, sea turtles, and fish species caught incidentally to target species. The commitment to conserving and protecting all species associated with, or affected by, fishing activities is outlined in the Food and Agricultural Organization's (FAO's) Code of Conduct for Responsible Fisheries

[1] Fishery management plans and fishery ecosystem plans for each region covered in this report are listed in their respective sections. The Caribbean region and its four FMPs are not currently included in this report. These FMPs are developed by the Caribbean Fishery Management Council (San Juan, Puerto Rico). In addition, the Atlantic Highly Migratory Species FMP is not listed in this report. This FMP is developed by the Office of Sustainable Fisheries at NOAA Fisheries Headquarters (Silver Spring, MD).

[2] Fish Stock Sustainability Index (FSSI) - 2010 Quarter 3 Update through September 30, 2010. The NOAA Fisheries Office of Sustainable Fisheries. http://www.nmfs.noaa.gov/sfa/statusoffisheries/SOSmain.htm

[3] For more detailed information about international agreements in relation to NOAA Fisheries, please go to: http://www.nmfs.noaa.gov/ia/docs/2009_International_agreements.pdf

established in 1995.

Another issue of particular concern for NOAA Fisheries is the problem of illegal, unreported, and unregulated (IUU) fishing activities in international waters. The RFMOs report estimates that in 2009, there were 42 vessels flying the national flags of 14 nations participating in IUU fishing activities.[1] NOAA Fisheries is actively working bilaterally and multilaterally with other nations on the adoption of strategies to reduce the level of IUU fishing around the world.

Threatened and Engangered Species

NOAA Fisheries is also the lead agency for the conservation and protection of over 69 fish and non-fish species that fall within the purview of the Endangered Species Act (ESA). Status determinations related to the viability and health of these populations have been made. The status of these populations have been determined as 'threatened' or 'endangered', and, in one case, 'recovered'.

Currently, there are 35 marine and anadromous fish species and subspecies[2] that are protected under the ESA. These species include: Atlantic salmon, coho salmon, green sturgeon, shortnose sturgeon, smalltooth sawfish, steelhead trout, and totoaba. Many of these species are further delineated into distinct population segments or evolutionarily significant units that are based on genetic similarities within geographically- or reproductively-isolated populations.

Endangered and Threatened Species under NMFS Jurisdiction

Species Group	Number of Species
Marine and Anadromous Fish	35
Marine Mammals: Whales	12
Marine Mammals: Dolphins	2
Marine Mammals: Porpoise	1
Marine Mammals: Seals	4
Marine Mammals: Sea Lions	2
Sea Turtles	8
Marine Invertebrates	4
Marine Plants	1
Total	**69**

In addition to threatened and endangered fish species, NOAA Fisheries is also involved in the conservation and protection of ESA-listed non-fish species. Marine mammals such as whales, dolphins, and seals, as well as species of sea turtles, marine invertebrates, and one marine plant are listed. There are currently 90 candidate species for listing (82 are coral species) and 17 species proposed for listing.

In 1970, the Eastern North Pacific gray whale was listed under the ESA, but has since made a comeback and was considered 'recovered' in 1994. The Caribbean monk seal, listed in 1967, was delisted in 2008. This species is considered to be extinct. In addition to endangered and threatened species under the Endangered Species Act, NOAA Fisheries is also responsible for providing protection for marine mammals under the Marine Mammal Protection Act. Passed in 1972, Congress recognized that protecting populations of marine mammals contributes to the overall health of marine ecosystems.

NOAA Fisheries is responsible for preventing the harrassment, capture, or killing of whales, dolphins, porpoises, seals, and sea lions.[3] However, exceptions are made for scientific research, unintended interactions with commercial fisheries, subsistence and traditional uses by Alaska natives, and public display at some aquaria.

Essential Fish Habitats

Sustainable commercial and recreational fisheries depend on healthy habitats. These habitats include rivers, estuaries, and the open ocean where marine and anadromous species feed, grow, and reproduce. Consideration of these habitat areas are part of an ecosystem-based management approach for managing fisheries in a more sustainable and holistic manner. Since 1996, federal fishery management plans are required to identify and describe essential fish habitat (EFH) for all federally-managed species.[4] Habitat areas that are necessary for a fish species' growth, reproduction, and development are considered EFH. To the extent practicable, NOAA Fisheries and the Councils must minimize adverse effects to EFH caused by fishing activities.

Though not required, habitat areas of particular concern (HAPC) can be identified to help focus EFH conservation efforts. HAPCs are a subset of EFH and are particularly vulnerable or ecologically important. To date, approximately 100 HAPCs have been designated including specific coral, seamount, and spawning areas.

A recent effort undertaken by the NOAA Fisheries Office of Science and Technology was to create a Habitat Assessment Improvement Plan[5] to advance NOAA Fisheries' ability to identify EFH and HAPCs and to provide information needed to assess impacts to EFH.

Catch Share Programs

A variety of market-based tools are available to fishery managers. NOAA Fisheries is currently implementing several different types of catch share programs such as limited access privilege programs (LAPPs), which include individual fishing quota programs

[1] An additional 51 vessels with unknown country affiliation also participate in IUU fishing activities.

[2] Subspecies includes distinct population segments and evolutionarily significant units, terms defined under the ESA.

[3] The U.S. Fish and Wildlife Service provides protection for walrus, manatees, otters, and polar bears.

[4] The 1996 reauthorization of the Magnuson-Stevens Fishery-Conservation and Management Act included this requirement.

[5] The Habitat Assessment Improvement Plan is available at: `http://www.st.nmfs.noaa.gov/st4/documents/HabitatAssesmentImprovementPlan_052110.PDF`

[1] See Section 303(A) of the Magnuson-Stevens Act for more information

[2] For more information about LAPPs and other catch share programs, please see *Excess Harvesting Capacity in U.S. Fisheries: A Report to Congress* available at: www.nmfs.noaa.gov/msa2007/docs/042808_312_b_6_report.pdf and *National Assessment of Excess Harvesting Capacity in Federally Managed Commercial Fisheries* available at: `http://spo.nmfs.noaa.gov/tm/spo93.pdf`.

(IFQs), regional fishery associations, and fishing community quotas[1]; community development quota programs (CDQs); fishing cooperatives; and sector allocation programs[2].

Existing Catch Shares Programs (2009)

Region	Program	First Year	Ex-vessel Value ($ millions)
Mid-Atlantic	Surfclam and ocean quahog IFQ	1990	52.9
South Atlantic	Wreckfish IFQ	1991	ND[3]
North Pacific	Western Alaska CDQ	1992	46.9
North Pacific	Pacific halibut and sablefish IFQ	1995	209.9
Pacific	Pacific whiting catcher/processor cooperative	1997	4.1
North Pacific	Bering Sea (BS) pollock cooperative	1999	291.3
Pacific	Sablefish permit stacking program	2001	11.5
North Pacific	Alaska weathervane scallop cooperative	2001	ND[3]
New England	George's Bank cod hook gear sector[4]	2004	ND[3]
North Pacific	Bering Sea king and ranner crab IFQ and cooperative	2005	148.5
New England	George's Bank cod fixed gear sector[4]	2007	ND[3]
Gulf of Mexico	Red snapper IFQ	2007	8
North Pacific	Central Gulf of Alaska rockfish pilot sector program	2007	5.9
North Pacific	BS groundfish (non-pollock) trawl catcher/ processor cooperative	2008	96
Mid-Atlantic	Golden Tilefish	2009	4.2
Gulf of Mexico	Grouper and tilefish	2010	--
New England	Multispecies sector[5]	2010	--
Pacific	Pacific Coast Groundfish Trawl Rationalization	2011	--

In 2010, the NOAA catch shares policy[6] was released to encourage well-designed catch share programs to help maintain or rebuild fisheries, and sustain fishermen, communities and vibrant working waterfronts, including the cultural and resource access traditions that have been part of this country since its founding. The Pacific Coast groundfish trawl rationalization program is the Nation's newest catch share program.

With many catch share programs, the individually-assigned harvest privileges can be transferred (sold or leased) to those who can use them more beneficially. In contrast, the sector allocation program currently in place for the Northeast multispecies fishery does not assign harvest privileges that can be sold or leased by individual fishermen. Instead, a group of vessel permit holders voluntarily agree to form a sector and request exemptions from certain fishing restrictions in exchange for the opportunity to catch a portion of the total catch allocated to the fishing industry. A sector could, however, assign shares of its allocation to individual fishermen and allow transfers among its members or potentially to another sector.

Nationwide, there are 18 catch share programs currently in operation in six different regions. The total landings revenue of the fisheries for which information was available was $879 million in 2009 amounting to 23% of the total landings revenue for all U.S. commercial fisheries.

Other Market-based Management Tools

Vessel or permit buyback programs are another market-based tool used by fishery managers. Under these programs, fishing vessels or permits are purchased by the government to permanently decrease the number of participants in the fishery to ease fishing-related pressure on marine resources. To date, there have been ten buyback programs instituted nationwide. The cost of seven[7] of these buyback programs totaled of $397 million. Eighty-five percent of this total cost was funded by loans from the federal government that will be repaid by the commercial fishing industry.

License limitation programs, also known as limited entry programs, are another management tool available to fishery managers. In these programs, the number of fishing vessels allowed to harvest a specific fish stock or stock complex is limited to a fishermen or vessels with permission to fish. Unlike catch share programs, license limitation programs have been implemented for almost all federally-managed commercial fisheries and have been implemented in every region except the Caribbean.

Ecolabels are a market-based tool available to improve fisheries sustainability. An ecolabeling program entitles a fishery product to bear a distinctive logo or statement that certifies the fishery resource was harvested in compliance with specified conservation and sustainability standards. This ecolabel is intended to inform the consumer or purchaser of the fishery product of this compliance. It allows the buyer to potentially influence the sustainable harvest of fishery resources through the purchase of such ecolabeled seafood products at a price premium.

[3] ND = these data are confidential thus not disclosable

[4] The George's Bank cod hook gear and cod fixed gear sectors were merged into one sector within the Multispecies sector program in 2010.

[5] Amendment 16 to Northeast Multispecies Fishery Management Plan expanded the number of sectors from 2 to 17.

[6] `http://www.nmfs.noaa.gov/sfa/domes_fish/catchshare/index.htm`

[7] This total excludes three buyback programs associated with Northwest Pacific salmon disasters in 1994, 1995, and 1998 because data were not available.

The Marine Stewardship Council (MSC) has one of the most recognizable ecolabeling programs in the world. There are currently 102 fisheries worldwide that meet MSC sustainability standards[1], 16 of which are U.S. fisheries.

U.S. Fisheries with MSC Certification

Region	Fishery	Certified
North Pacific	Alaskan salmon	Sep 2000; Nov 2010
North Pacific	Bering Sea/Aleutian Islands (BSAI) pollock	Feb 2005; Dec 2010
North Pacific	Gulf of Alaska (GOA) pollock	Apr 2005; Sep 2010
North Pacific	US North Pacific halibut	Apr 2006
North Pacific	US North Pacific sablefish	May 2006
Pacific	Pacific albacore tuna - (American Albacore Fishing Association)	Aug 2007
Pacific	Oregon pink shrimp	Dec 2007
Mid-Atlantic	Atlantic deep sea red crab	Sep 2009
North Pacific	BSAI Pacific cod	Jan 2010
North Pacific	GOA Pacific cod	Jan 2010
North Pacific	North Pacific albacore tuna (American Western Fish Boat Owners Association)	Mar 2010
North Pacific	Bering Sea and Aleutian Islands flatfish	Jun 2010
North Pacific	Gulf of Alaska flatfish	Jun 2010
North Pacific	Gulf of Alaska Pacific cod	Jan 2010
Pacific	Pacific hake mid-water trawl	Oct 2009
Pacific	Oregon dungeness crab	Dec 2010

Commercial Fisheries

Commercial fishermen in the U.S. harvested 7.9 billion pounds of finfish and shellfish in 2009, earning $3.9 billion for their catch. Shrimp ($378 million) followed by sea scallop ($376 million), Pacific salmon ($370 million), and walleye pollock ($308 million) contributed the most to total revenue in the U.S. In terms of pounds landed, walleye pollock (1.9 billion pounds), menhaden (1.4 billion), and Pacific salmon (705 million) comprised over half of total pounds landed in 2009.

Key U.S. Commercial Species

- American lobster
- Blue crab
- Menhaden
- Pacific halibut
- Pacific salmon
- Sablefish
- Sea scallop
- Shrimp
- Tunas
- Walleye pollock

When looking at key species or species groups, commercial fishermen in Alaska caught the most salmon (671 million pounds) and earned $345 million for their catch in 2009. Tuna was caught in large numbers in Hawai'i (15 million pounds) and generated $48 million in landings revenue.

On the East Coast, Maine fishermen contributed the most to the total landings of American lobster (79 million pounds) and earned $231 million for their catch in 2009. In Massachusetts, sea scallop was a major contributor to total revenue, earning $197 million for 30 million pounds landed. More blue crab was caught in Louisiana (51 million pounds) than any other state, earning fishermen in this state over $36 million. Louisiana landed over half of the menhaden in 2009 with fisherman landing 786 million pounds and generating $43 million in landings revenue.

The highest ex-vessel price per pound in 2009 was for Eastern oyster, which received $40.37 per pound in Massachusetts, $22.23 per pound in New York, and $7.73 per pound in Maryland, with price differences largely attributable to difference in product form. Other key species or groups with high ex-vessel prices included: lobsters ($12.37 per pound in Hawai'i), spiny lobster ($11.24 per pound in California) and bloodworms ($10.79 per pound in Maine).

In the Gulf of Mexico, shrimp was a highly valued species. Fishermen in Texas earned $131 million for their catch (90 million pounds). Although, more shrimp was landed in Louisiana (114 million pounds) the total landings revenue was less ($121 million). The ex-vessel price in Texas ($1.46) was greater than that in Louisiana ($1.06).

Economic Impacts[2]

In this report, the U.S. seafood industry includes the commercial harvest sector, seafood processors and dealers, seafood wholesalers and distributors, importers, and seafood retailers. In 2009, this industry supported approximately 1 million full- and part-time jobs and generated $116 billion in sales impacts, $32 billion in income impacts, and $48 billion in value added impacts.

Commercial Economic Impacts Trends for the United States
(thousands of dollars)

	2006	2007	2008	2009
Jobs	1,350,498	1,141,921	1,144,353	1,029,542
Income	46,174,306	34,258,018	34,544,909	31,556,643
Sales	104,770,788	126,261,815	126,175,684	116,224,548
Value Added	NA	52,423,024	52,726,594	48,282,319
Total Revenue	4,041,780	4,199,319	4,399,439	3,899,692

Seafood retailers generated the highest job and income impacts, contributing 484,000 jobs and $10 billion in 2009. In contrast, the largest sales ($49 billion) and value added impacts ($15 billion) came from the importer sector. The seafood wholesalers and distributors sector contributed the least to the national

[1] More information about the Marine Stewardship Council and its certification process is available at: http://www.msc.org/track-a-fishery/certified.

[2] In earlier years, the NMFS Commercial Fishing & Seafood Industry Input/Output Model did not separate out the import sector but rather only included the commercial harvester, seafood processors and dealers, seafood wholesalers and distributors and retail sectors. Note that 2007 and 2008 estimates have been updated using the newer version of the model. For more information, see: `http://www.st.nmfs.noaa.gov/documents/commercial_seafood_impacts_2007-2009.pdf`

seafood industry impacts with 47,000 employees, $6.5 billion in sales impacts, $2.1 billion in income impacts, and $3.1 billion in value added impacts.

Commercial Fisheries Facts

Landings revenue

- The ten key U.S. key species or species groups accounted for 60% of total landings revenue in 2009.
- Finfish and other fishery products ($1.9 billion) contributed slightly less than shellfish ($2 billion) to total landings revenue in the U.S. in 2009.
- Together, Pacific salmon and walleye pollock accounted for 36% of total finfish revenue.
- Shrimp, sea scallop, and American lobster earned the most in shellfish revenue in 2009, contributing 18.7% 18.6%, and 15%, respectively.
- Pacific salmon had the largest annual increase in landings revenue over the 10 year time period, increasing 52% from $199 million in 2003 to $303 million in 2004.
- Pacific halibut had the largest decrease in landings revenue over the 10 year time period, decreasing 35% from $218 million in 2008 to $141 million in 2009.

Landings

- The U.S. key species and species groups accounted for 60% of total landings in 2009.
- Finfish and other fishery products accounted for 84% of total U.S. landings in 2009 or 6.6 billion pounds.
- Walleye pollock and menhaden contributed 28% and 21%, respectively, to U.S. finfish landings.
- Shrimp and blue crab contributed 25% and 14%, respectively, to shellfish landings.
- Sea scallop had the largest annual increase in landings over the 10 year time period, increasing 44% from 32 million in 2000 pounds to 46 million pounds in 2001.
- Pacific salmon had the largest annual decrease in landings over the 10 year time period, decreasing 26% from 900 million pounds in 2005 to 664 million pounds in 2006.

Prices

- Of the top ten key species or species groups, sea scallop ($6.49), American lobster ($3.09), and sablefish ($2.87) had the highest ex-vessel price per pound in 2009.
- Walleye pollock ($0.16) and menhaden ($0.06) had the lowest ex-vessel price per pound in 2009.
- Walleye pollock had the largest annual increase in ex-vessel price over the 10 year time period, increasing 59% from $0.13 per pound in 2007 to $0.20 in 2008.
- Pacific salmon had the largest decrease in ex-vessel price over the 10 year time period, decreasing 33% from $0.43 per pound in 2000 to $0.29 in 2001.

Relative to 2008, decreases were experienced by all impact types in all industry sectors. The employment impacts decreased 10% from 1.1 million to 1 million jobs. The decreases in employment impacts ranged from 6.1% in the importers sector to 14% in the commercial harvesters sector. Overall, there was a 7.9% decrease in sales impacts, a 8.7% decrease in income impacts, and a 8.4 decrease in valued added impacts between 2008 and 2009. The smallest decrease across impact types and sectors occurred in the importers sector with a 6.1% decrease in employment, sales, output and value added impacts.

The greatest employment impacts generated by the seafood industry were generated in California with 121,000 jobs, followed by Massachusetts (78,000 jobs), Florida (65,000 jobs), and Washington (58,000 jobs). The lowest number of jobs were supported in Delaware (407 jobs). The importers sector generated the greatest job impacts in California, Massachusetts, Florida, and Washington.

Jobs supported by the U.S. Seafood Industry (2009)

State	Jobs	State	Jobs
United States	1,029,542	Maryland	14,778
California	120,583	Oregon	13,754
Massachusetts	77,820	Alabama	8,759
Florida	64,744	North Carolina	8,479
Washington	57,643	Rhode Island	7,888
Alaska	44,297	Georgia	7,390
New York	44,172	Hawai'i	7,270
New Jersey	37,887	Mississippi	6,392
Louisiana	29,185	New Hampshire	4,951
Maine	21,200	Connecticut	3,806
Virginia	19,064	South Carolina	1,169
Texas	18,874	Delaware	407

The highest sales impacts were generated by the seafood industry in California with $20 billion in sales, followed by Florida ($13 billion), Washington ($7.3 billion), and Massachusetts ($6.7 billion). The importers sector generated the highest level of sales impacts in all four states. The lowest sales were generated in Delaware ($57 million).

Total sales generated by the U.S. Seafood Industry (2009)
(thousands of dollars)

State	In-State Sales	State	In-State Sales
United States	116,224,548	Maine	1,203,248
California	20,101,324	Oregon	1,127,435
Florida	12,988,379	Georgia	1,007,118
Washington	7,300,279	Rhode Island	905,714
Massachusetts	6,711,215	North Carolina	696,091
New Jersey	5,831,812	New Hampshire	651,278
New York	5,317,630	Hawai'i	628,717
Alaska	3,300,925	Connecticut	621,496
Virginia	1,736,517	Alabama	391,300
Louisiana	1,691,033	Mississippi	289,241
Texas	1,682,135	South Carolina	70,202
Maryland	1,654,072	Delaware	57,286

The greatest value added impacts were generated by the seafood industry in California with $7.1 billion in value added impacts, followed by Florida ($4.3 billion), Washington ($2.9 billion), and Massachusetts ($2.6 billion). The importers sector generated the greatest value added impacts in all four states The smallest value added impacts were generated in Delaware ($19 million).

Total value added impacts generated by the U.S. Seafood Industry (2009)

(thousands of dollars)

State	Value Added	State	Value Added
United States	48,282,319	Maine	570,452
California	7,139,844	Oregon	500,498
Florida	4,341,208	Georgia	369,134
Washington	2,924,888	Rhode Island	347,570
Massachusetts	2,614,296	North Carolina	298,805
New Jersey	2,120,274	Hawai'i	273,116
New York	1,882,974	New Hampshire	242,845
Alaska	1,742,391	Connecticut	216,641
Louisiana	803,135	Alabama	196,785
Virginia	722,111	Mississippi	146,527
Texas	716,100	South Carolina	35,869
Maryland	634,712	Delaware	19,011

Landings Revenue

Landings revenue in the U.S. totaled $3.9 billion in 2009. This was a 6.1% increase (9.3% decrease in real terms) from 2000 levels ($3.7 billion) and a 11% decrease (11% decrease in real terms) relative to 2008 ($4.4 billion). Finfish and shellfish revenues mirrored this increasing trend. Totaling $1.9 billion in 2009, finfish revenue experienced a 14% increase (2.8% decrease in real terms) from 2000 to 2009, but decreased 17% (17% decrease in real terms) from 2008 to 2009. U.S. shellfish revenue totaled $2 billion in 2009, decreasing 0.1% (15% decrease in real terms) from 2000 to 2009 and decreased 5% (a 5.1% decrease in real terms) from 2008 to 2009.

Total Landings Revenue by Region (2009)

(thousands of dollars)

Region	Total Revenue	Region	Total Revenue
United States	3,899,692	Pacific	488,155
North Pacific	1,340,996	Mid-Atlantic	434,763
New England	782,170	South Atlantic	144,143
Gulf of Mexico	629,276	Western Pacific	71,168

The ten U.S. key species and species groups comprised 60% of total revenue in 2009. Of these, shrimp, sea scallop, Pacific salmon, walleye pollock, and American lobster contributed the most to total revenue in the U.S. in 2009. These species or groups totaled approximately $1.7 billion in 2009 or 45% of total revenue. The largest increases in total revenue among the national key species or species groups from 2000 to 2009 were experienced by: sea scallop (134%, 100% in real terms), Pacific salmon (37%, 17% in real terms), and sablefish (13%, 3.7% in real terms).

The largest decreases in total revenue over the 10 year time period were observed for shrimp (51%, 58% in real terms), menhaden (22%, 33% in real terms), and American lobster (3.3%, 17% in real terms). Relative to 2008 totals, key species or species groups with the largest increases in total revenue in 2009 were: sablefish (2%, 2.4% in real terms), sea scallop (1.7%, 2.1% in real terms), and blue crab (1.2%, 1.5% in real terms).

Total Landings Revenue by State (2009)

(thousands of dollars)

State	Total Revenue	State	Total Revenue
Alaska	1,340,996	Maryland	76,057
Massachusetts	400,248	Hawai'i	71,168
Maine	285,925	Rhode Island	61,663
Louisiana	284,425	New York	49,271
Washington	227,773	East Florida	40,933
Virginia	152,730	Alabama	40,530
Texas	150,232	Mississippi	37,998
California	149,977	New Hampshire	17,708
New Jersey	149,032	South Carolina	16,916
West Florida	116,091	Connecticut	16,626
Oregon	102,453	Georgia	9,296
North Carolina	77,011	Delaware	7,536

Over the same time period, the largest decreases in total revenue occurred in Pacific halibut (35%, 35% in real terms), walleye pollock (33%, 32% in real terms), and shrimp (16%, 15% in real terms).

Overall, the greatest portion of the nation's landings revenue was generated in Alaska ($1.3 billion), which contributed 35% to the U.S. total. Alaska also contributed more than any other state to total U.S. finfish revenue ($1.1 billion), accounting for 62% of total finfish revenue. More than half of Alaska's finfish landings revenue came from walleye pollock and salmon. Massachusetts ($285 million) and Maine ($255 million) contributed the most to total U.S. shellfish revenue, contributing 14% and 13%, respectively. Sea scallop accounted for most of the revenue generated in Massachusetts and American lobster contributed the most to revenue in Maine.

Landings

In 2009, U.S. commercial fishermen landed 7.9 billion pounds of finfish and shellfish. Relative to 2000 levels, this was an 14% decrease and a 5.6% decrease relative to 2008 (8.4 billion pounds). Finfish landings totaled 6.6 billion pounds in 2009, a 15% decrease from 7.8 billion pounds in 2000 and a 9.1% decrease from 2008 (7.3 billion pounds).

Total Landings by Region (2009)

(thousands of dollars)

Region	Total Landings	Region	Total Landings
United States	7,885,626	Mid-Atlantic	695,636
North Pacific	4,064,224	New England	646,876
Gulf of Mexico	1,429,933	South Atlantic	110,899
Pacific	894,200	Western Pacific	26,906

Over 60% of total catch in 2009 was made up of the ten U.S. key species and species groups. Walleye pollock and menhaden had the highest landings totals in 2009 with 1.9 billion pounds and 1.4 billion pounds landed, respectively. These two species accounted for 42% of total U.S. landings in 2009.

Total Landings by State (2009)
(thousands of pounds)

State	Total Landings	State	Total Landings
Alaska	4,064,224	North Carolina	68,635
Louisiana	1,005,145	Maryland	68,313
Virginia	426,252	West Florida	65,314
California	372,337	New York	34,413
Massachusetts	355,965	Alabama	29,693
Mississippi	230,284	East Florida	27,460
Oregon	198,331	Hawai'i	26,906
Maine	184,558	New Hampshire	13,886
Washington	163,937	South Carolina	9,438
New Jersey	161,599	Connecticut	7,972
Texas	99,497	Georgia	5,366
Rhode Island	84,495	Delaware	5,010

The greatest increases in landings between 2000 and 2009 occurred in sea scallop (80%), American lobster (13%), and Pacific salmon (12%). During the same time period, decreases were seen in walleye pollock (29%), menhaden (20%), and Pacific halibut (20%).The largest increase in landings of key species or groups between 2008 and 2009 was experienced by shrimp (20%) and the largest decrease was experienced by walleye pollock (18%).

Alaskan fishermen harvested the majority of the Nation's total landings. Alaska contributed 53% to the U.S. total in 2009, landing 4.1 billion pounds of finfish and shellfish. Alaska also contributed the most to the U.S. finfish total, landing 4 billion pounds or 61% of the U.S. finfish total. Walleye pollock comprised much of the landings in Alaska (46%). More shellfish was landed in California (225 million pounds) and Louisiana (199 million pounds) than any other single state. The landings in these two states comprised 34% of all shellfish landed in the United States in 2009.

Prices

Of the ten U.S. key species and species groups, sea scallop, American lobster, and sablefish received the highest ex-vessel prices in 2009 at $6.49 per pound, $3.09 per pound, and $2.87 per pound respectively.

Significant increases in price were observed for walleye pollock, which increased 43% (22% in real terms) from 2000 to 2009, but experienced a decrease of 17.8% (17.5% in real terms) from 2008 to 2009. Shrimp ex-vessel price experienced the next largest change between 2000 and 2009, with a decrease of 39% (48% in real terms). The greatest change in price between 2008 and 2009 was also experienced by shrimp (29.3% decrease a 29.1% decrease in real terms), followed by Pacific halibut with a 27.7% decrease (a 27.4% decrease in real terms).

Menhaden and walleye pollock had the lowest ex-vessel prices in 2009 at $0.06 and $0.16 per pound, respectively. However, landings of menhaden and walleye pollock were the largest among the U.S. key species and groups: 1.4 billion pounds of menhaden and 1.9 billion pounds of walleye pollock.

Recreational Fisheries

In 2009, there were approximately 11 million recreational anglers across the U.S. who took 74 million saltwater fishing trips around the country. These anglers spent $4.5 billion on fishing trips and $15 billion on durable fishing-related equipment. These expenditures contributed $50 billion in sales impacts to the U.S. economy, generated $23 billion in value added impacts, and supported over 327,000 job impacts. Of the U.S. key recreational species or species groups, seatrout (44 million fish), and Atlantic croaker and spot (36 million fish) were the most often caught by recreational anglers in 2009.

Key United States Recreational Species

- Atlantic croaker and spot
- Seatrout
- Little tunny and Atlantic bonito
- Pacific halibut
- Pacific salmon
- Rockfishes and scorpionfishes
- Sharks
- Striped bass
- Summer flounder
- Large Atlantic tuna

Expenditures and Economic Impacts[1]

Economic impacts from recreational fishing activities (impacts from fishing trips and durable equipment combined) supported over 327,000 full- and part-time jobs across the U.S. in 2009. Sales impacts from recreational angling trips and durable expenditures totaled $50 billion and value added impacts totaled $23 billion. Durable equipment impacts contributed the most to these totals, accounting for 74% of employment impacts, 79% of total sales impacts, and 77% of value added impacts. Of the three fishing trip modes, shore-based fishing trips contributed the most to the number of jobs supported by recreational angling with 11% of employment impacts. For-hire sales ($1.9 billion) and value added impacts ($1 billion) were approximately half the magnitude of impacts generated by either private boat ($4.2 billion, $2.2 billion) or shore-based trips ($4.3 billion, $2.2 billion).

Recreational Economic Impacts Trends for the United States
(thousands of dollars)

	2006	2007	2008	2009
Jobs	533,813	468,298	384,707	327,124
Income	NA	NA	NA	14,574,464
Sales	82,323,771	72,254,430	58,877,647	49,811,961
Value Added	38,080,224	33,418,845	27,350,783	23,196,423
Total Trips[2]	88,203,216	88,587,085	84,397,961	74,437,656

U.S. anglers spent a total of $4.5 billion on expenditures related for fishing trips in 2009. Of this total, expenditures for private boat-based fishing trips contributed the most ($1.9

[1] Expenditures and economic impacts from recreational fishing activities were generated using the The Economic Contribution of Marine Angler Expenditures in the United States, 2006 model developed by Brad Gentner and Scott Steinback: `http://www.st.nmfs.noaa.gov/st5/publication/AnglerExpenditureReport/AnglerExpendituresReport_ALL.pdf`

[2] The number of trips excludes Alaska and Texas.

billion), followed by shore-based fishing trips ($1.8 billion), and for-hire-based fishing trips ($763 million). Expenditures on fishing-related equipment totaled over $15 billion in 2009. Anglers spent more on boat expenses ($4.5 billion) than any other durable good. Other major expenditures include vehicle expenses ($4 billion), second home expenses ($3 billion) and fishing tackle ($2.4 billion).

Jobs supported by the U.S. Recreational Fishing Industry (2009)

State	Jobs	State	Jobs
West Florida	42,314	Massachusetts	4,987
East Florida	27,445	Alabama	4,924
Texas	22,127	New York	4,568
Louisiana	19,688	Hawai'i	4,286
North Carolina	17,221	Washington	3,348
California	13,567	Mississippi	3,188
New Jersey	8,513	Maine	2,039
Maryland	5,714	Oregon	1,649
Alaska	5,338	Georgia	1,613
Connecticut	5,212	Delaware	1,270
Virginia	5,167	Rhode Island	1,005
South Carolina	5,035	New Hampshire	418

Total Sales generated by the U.S. Recreational Fishing Industry (2009)

(thousands of dollars)

State	Jobs	State	Job
West Florida	4,369,022	Alabama	474,746
East Florida	3,112,439	Alaska	469,507
Texas	2,846,858	Hawai'i	460,808
California	2,043,304	South Carolina	441,442
North Carolina	1,785,194	Mississippi	417,080
Louisiana	1,774,692	Washington	346,679
New Jersey	1,412,488	Georgia	196,836
Connecticut	797,209	Delaware	193,334
Maryland	769,979	Oregon	167,603
New York	680,460	Maine	166,564
Massachusetts	656,958	Rhode Island	113,817
Virginia	579,911	New Hampshire	45,516

Participation[1]

Nationwide, there were 11 million recreational anglers who fished in their home states in 2009. Approximately 9.4 million of these anglers were residents of a U.S. coastal county and 1.7 million anglers were residents of a non-coastal county. Between 2000 and 2009, the total number of U.S. anglers fishing in their home states increased 12%. However, the number of anglers decreased 10% between 2008 and 2009. The number of coastal county anglers increased 6.4% from 2000 to 2009 and decreased 12% from 2008 to 2009. The number of non-coastal county anglers increased 41% between 2000 and 2009 and from 2008 to 2009, there was a 10% increase.

The majority of U.S. anglers fished in the Gulf of Mexico (2.8 million anglers), the Mid-Atlantic (2.6 million anglers), and the South Atlantic (2.4 million anglers). The Pacific (1.8 million anglers) New England (1.4 million), North Pacific (284,000), and the Western Pacific (246,000) Regions followed in terms of total anglers.

Fishing Trips [2]

Approximately 74 million fishing trips were taken in the U.S. in 2009. Of these, 39 million were fishing trips taken from a private or rental boat (53% of total fishing trips). Approximately 34 million trips were taken from shore and 6 million trips were taken from a for-hire fishing boat. Most of these trips were taken in the Gulf of Mexico (22 million trips), the South Atlantic (19 million trips), and the Mid-Atlantic (17 million trips). New England (7.5 million trips), the Pacific (6.3 million trips) and the Western Pacific (2.2 million trips) Regions followed in number of trips taken. Anglers in the North Pacific fished approximately 914,000 fishing days[3] in 2009.

The total number of fishing trips taken in the U.S. decreased 5.8% from 2000 to 2009. Relative to 2008, total fishing trips taken in the U.S. decreased 12% with the largest increase occurring in the for-hire mode (81%).

Harvest and Release

Among the ten key U.S. recreational species or species groups, seatrout, Atlantic croaker and spot, summer flounder, and striped bass were the most commonly caught by anglers in 2009. These species or groups were caught in large numbers relative to the other key species or groups: seatrout (44 million fish), Atlantic croaker and spot (36 million fish), summer flounder (25 million fish), and striped bass (9.9 million fish). Anglers fishing in the Mid-Atlantic and New England caught most of the Atlantic croaker, summer flounder, and striped bass in 2009, while most seatrout were caught in the Gulf of Mexico and the South Atlantic.

In the North Pacific Region, salmon (Chinook, chum, coho, pink, and sockeye) and Pacific halibut were the most commonly caught species or group in 2009 with 1.1 million fish and 761,000 fish caught, respectively. Rockfishes and scorpionfishes (2.7 million fish), mackerel (2 million fish), and barracuda, bass and bonito (1.6 million fish) were caught in high numbers in the Pacific Region, while bigeye and mackerel (1.1 million fish) comprised 39% of fish caught by anglers in the Western Pacific.

Recreational catch of sharks experienced a 73% increase between 2000 and 2009, the largest change during this 10 year time period. There were 5.3 million sharks caught in 2009. Other key species or groups with large changes in recreational catch include: striped bass (48% decrease), Pacific salmon (38% increase), rockfishes and scorpionfishes (33% decrease), and large Atlantic tuna (26% decrease).

[1]Participation estimates do not include Alaska and Texas. Hawai'i is included for 2003-2009; Numbers include the Caribbean.

[2]Effort numbers do not include Alaska and Texas. They include Hawai'i only for 2003-2008. California numbers were estimated differently from 2004-2009.

[3]In Alaska, fishing effort information is collected as the number of fishing days rather than the number of fishing trips taken.

Recreational Fishing Facts

Participation

- An average of 12 million anglers fished in United States annually from 2000 to 2009.
- In 2009, coastal county residents made up 84% of total anglers. These anglers averaged 86% of total anglers annually over the 10 year time period.
- The largest annual increase in the number of coastal anglers during the 10 year time period was between 2002 and 2003, increasing 21%, from 8.6 million anglers to 10 million anglers. The largest annual decrease during the same period for coastal anglers occurred between 2007 and 2008, decreasing 13%, from 12 million anglers to 11 million anglers.

Fishing trips

- In the United States, an average of 82 million fishing trips were taken annually from 2000 to 2009.
- Private or rental boat and shore-based fishing trips accounted for 39 million and 34 million fishing trips, respectively in 2009. Together, these made up 99% of the fishing trips taken in that year.
- The largest increase in number of total trips taken annually over the 10 year time period occurred between 2002 and 2003, increasing 18%, from 71 million trips to 83 million trips. The largest annual decrease in total trips taken during this period in total trips taken occurred between 2001 and 2002, decreasing 18%, from 86 million trips to 71 million trips.

Harvest and release

- Seatrout was the most commonly caught key species or species group, averaging 44 million fish caught over the 10 year time period. Of these, 60% were released rather than harvested.
- Of the ten commonly caught key species or species groups, five were released more often than harvested over this time period. The species or species group that was most commonly released was sharks (95% released).
- Large Atlantic tuna (89% harvested), followed by rockfishes and scorpionfishes (75% harvested), and Pacific salmon (65% harvested) were key species or groups that experienced the greatest proportion of harvests rather than releases.
- The largest annual change in the number of fish released was for large Atlantic tuna which increased 257% between 2002 and 2003; the largest annual change in number of fish harvested occurred in Pacific salmon, which increased 118% from 2008 to 2009.

From 2008 to 2009, decreases occurred in the recreational catch of Atlantic croaker and spot, seatrout, little tunny and Atlantic bonito, Pacific halibut, sharks, striped bass, and large Atlantic tuna . Of these, the largest decreases occurred in large Atlantic tuna (31%), striped bass (29%), and Atlantic croaker and spot (22%). The largest increase observed for this time period was for Pacific salmon, which experienced a 104% increase.

Marine Economy[1]

In 2008, there were 7.6 billion establishments in the U.S, including marine and non-marine related establishments. These establishments employed almost 121 million full- and part-time employees and had a total annual payroll of $5.1 trillion. From 2000 to 2008, the number of establishments increased 7.5%, employee numbers increased 6%, and total annual payroll increased 32% (a 13% increase in real terms) nationwide. More modest changes were seen from 2007 to 2008: 1.3% decrease, 0.2% increase, and 2.1% increase (a 7.8% decrease in real terms), respectively.

The Nation's gross domestic product was $14.3 trillion in 2008, a 45% increase (a 23% increase in real terms) relative to 2000 levels ($9.9 trillion) and a 2.1% increase (a 7.8% decrease in real terms) relative to 2007 levels ($14 trillion). Employee compensation in 2000 was $5.8 trillion, a 39% increase (a 18% increase in real terms).

For this report, the marine economy, a subset of the national economy, is comprised of two industry sectors: 1) seafood sales and processing (employer establishments and nonemployer firms) and 2) transport, support, and marine operations (employer establishments). These sectors are comprised of several different marine-related industries. The following sections discuss the contribution of these industries to the national marine economy in terms of the number of establishments or firms, employees, and total annual payroll or receipts.

Seafood Sales and Processing

In 2008, there were 1,308 nonemployer firms engaged in seafood product preparation and packaging, a 83% increase from 2000 levels. Annual receipts increased 48% (26% increase in real terms) from $61 million (2000) to $90 million (2008). More of these firms were located in Florida (202 firms) than any other state.

In contrast to nonemployer firms, the number of employer establishments decreased 22% from 854 in 2000 to 663 in 2008. These firms employed approximately 33,000 full- and part-time employees in 2008 and had a total annual payroll of $1.2 billion. Relative to 2000 levels, this was an 20% decrease in workers but a 8.5% increase (a 7.5% decrease in real terms) in annual payroll. More of these establishments were located in Alaska (122 establishments) and Washington (96 establishments) than any other states.

There were over 2,000 employer establishments involved in seafood wholesale activities in 2008. Most of these establishments were in California (278 firms), New York (231 firms), and Florida (229 firms). These establishments employed 20,116 workers and had an annual payroll of $782 million. From 2000 to 2008, the number of establishments in the seafood wholesale sector decreased 31%, the number of employees decreased 30%, and the annual payroll decreased 8.5% (a 22% decrease in real terms).

Nonemployer firms and employer establishments engaged in

[1] Information for 2008 is reported in this section; 2009 data were not available for this report.

seafood retail activities both saw increasing trends from 2000 to 2008. There was a 17% increase in firms (2,522 in 2008) and a 10% increase in establishments (2,044 in 2008). Annual receipts for nonemployer firms totaled $233 million in 2008, a 23% increase (5.2% increase in real terms) relative to 2000 levels. Annual payroll for employer establishments totaled over $205 million, a 50% increase (28% increase in real terms) relative to 2000 levels. Approximately 9,732 full- and part-time workers were employed by the 2,044 establishments in 2008, a 15% increase and a 10% increase, respectively from 2000. The employer establishments for retail seafood sales were primarily located in New York (368), Florida (168), and California (161), while most non-employer firms were located in Florida (331), New York (247), and California (210).

Transport, Support, and Marine Operations

In the U.S. transport, support, and marine operations industry sector, industries involved in marina activities had the highest number of establishments. In 2008, there were almost 4,000 marina industries that employed 29,000 full- and part-time workers. Compared to 2000 levels, this was a 3.7% decrease in establishment numbers and a 16% increase in number of employees. Annual payroll for this industry was $954 million in 2008, a 49% increase (27% increase in real terms) over 2000 levels. Most of these marina industries were located in Florida (442), New York (419), and California (277).