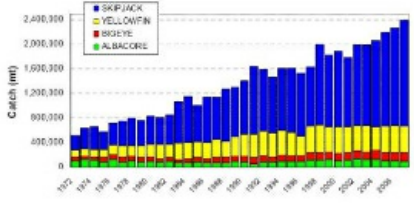




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## Pacific Pelagic Fisheries Overview

Tuna fisheries in the Pacific Ocean as a whole catch about 2.7 million mt of fish, with US fisheries catching about 5 percent of the total. Most of the catch is taken by fleets of high seas longliners and purse seiners from countries such as Japan, Taiwan, Korea and the nations of Central and South America. More recently, Pacific Island countries such as Papua New Guinea have grown in importance in terms of their large scale purse-seine and longline fisheries. Small scale artisanal longlining is also conducted in Pacific Island countries like Samoa and in South America, where there are thousands of small scale longline vessels fishing in coastal waters.



Catch (mt) of albacore, bigeye, skipjack and yellowfin in the Western & Central Pacific Ocean. Source: Secretariat of the Pacific Community's Oceanic Fisheries Program

The largest US pelagic fisheries in terms of tonnage of fish landed is the US purse-seine fishery with catches of tuna amounting to about 90,000 mt. The US fleet of albacore trollers, based at West Coast ports, amounts to about 400 vessels, fishing primarily in the North Pacific and landing about 12,000 to 14,000 mt. Some vessels from this fleet also fish seasonally for albacore in the South Pacific, catching up to 1,500 mt.

Of all fisheries managed under the Pacific Pelagic Fishery Ecosystem Plan (FEP), the Hawaii-based longline fishery is the largest accounting for the majority of Hawaii's commercial pelagic landings. Troll fishing for pelagics is the most common recreational fishery in the islands of the Western Pacific Region (American Samoa, Guam, Hawaii, Northern Mariana Islands and US Pacific remote island area). The definition of recreational fishing, however, continues to be problematic in a region where many fishermen who are fishing primarily for non-commercial purposes may sell their fish to cover their expenses.

### American Samoa [\[top\]](#)

The harvest of pelagic fish has been a part of the way of life in the Samoan archipelago since the islands were first settled some 3,500 years ago. Subsistence fishing continues to the present, but the importance of pelagic fisheries as a source of income and employment is increasing. Modes of pelagic fishing in American Samoa include:

**Small-scale longline:** Most participants in the small-scale domestic longline fishery are indigenous American Samoans with vessels under 50 ft in length, most of which are *alia* boats under 40 ft in length. The stimulus for American Samoa's commercial fishermen to shift from troll or handline gear to longline gear in the mid-1990s was the fishing success of 28' *alia* catamarans that engaged in longline fishing in the EEZ around Independent Samoa. Following this example, the fishermen in American Samoa deploy a short monofilament longline, with an average of 350 hooks per set, from a hand-powered reel. An estimated 90 percent of the crews working in the American Samoa small-scale *alia* longline fleet are believed to be from Independent Samoa. The predominant catch is albacore tuna, which is marketed to the local tuna canneries.



**Large-scale longline:** American Samoa's domestic longline fishery expanded rapidly in 2001 with the influx of large (>50 ft overall length) conventional monohull vessels similar to the type used in the Hawaii-based longline fishery. These vessels were larger, had a greater range and were able to set more hooks per trip than the average *alia* vessel. Albacore tuna (*Thunnus alalunga*) is the target species in the longline fishery. While the smallest vessels (≤ 40 ft) average

350 hooks per set, a vessel over 50 ft can set 1500 - 2500 hooks and have a greater fishing range and capacity for storing fish (8-40 metric tons) as compared with (0.5-2 metric tons) small-scale vessels. Larger vessels are also outfitted with hydraulically powered reels to set and haul mainline, and with modern electronic equipment for navigation, communications, and fish finding. Most are presently being operated to freeze albacore

onboard, rather than to land chilled fish. Several vessels that left Hawaii after the swordfish longline fishery closure are operating in the American Samoa tuna longline fishery under new ownership.

In 2005, regulations came into effect establishing a limited entry program for the American Samoa longline fishery. Permits are issued in four vessel classes based on vessel length. Upon initiation of the initial permit application and issuance process, only sixty permits were approved and issued by NMFS.

A record number of hooks, over 14,250,000, were set by American Samoa-based longline vessels during 2006 and more than 12 million pounds of pelagic species were landed. Tunas account for over 11 million pounds of landings (93 percent) by American Samoan vessels. Albacore is the major species landed with over 9.2 million pounds or 76 percent of landings. Yellowfin, skipjack, and bigeye tuna; and wahoo contribute the bulk of the non-albacore landings. The longline catch rate (catch per thousand hooks) increased 2.5 percent between 2005 and 2006 to 27.7 fish-per-hour for American Samoan monohull vessels. The albacore catch rate increased by 6 percent between 2005 and 2006 to 18.5 fish-per-hour for American Samoan longline vessels.



**Distant-water purse seine fishery:** The largest US fishery in terms of tonnage of fish landed is the U.S. purse-seine fishery. Purse seine vessels often land their catches at canneries based in American Samoa. Skipjack tuna or aku (*Katsuwonus pelamis*) makes up 70-85 percent of the total western and central Pacific (WCPO) purse seine fishery landings with yellowfin accounting for 15-30 percent. The

US purse seine fleet operating in the WCPO uses large nets to capture tuna near the ocean surface, in free-swimming schools and around fish aggregation devices (FADs) deployed by the fleet. Most of the fishing activity by U.S. purse seine vessels occurs in areas between 5° N and 10° S latitude and 150° E and 170° W longitude in the EEZ waters of PNG, the Federated States of Micronesia and other Pacific island nations. During El Nino events, however, these vessels are known to shift their fishing activity to the equatorial central Pacific.

The majority of the purse seine catch in the WCPO is taken by the distant water fishing nations fleets of Japan, Korea, Chinese Taipei and the U.S. The total number of vessels fishing in the WCPO for the past 20 years ranged between 200-230. The number of US purse seine vessels in the WCPO had been steadily declining since the late 1990s. Since 2007, however, this trend is reversing and the number of vessels increased to 39 by 2009. In accordance with international treaties the US fleet may have 40 purse seiners in the WCPO region.

**Distant-water jig albacore fishery:** Domestic albacore jig vessels also supply tuna to the canneries in American Samoa. Since 1985, about 50-60 US vessels have participated in the high-seas troll fishery for albacore. This fishery occurs seasonally (December through April) in international waters at 35°-40° S latitude. The vessels range in length from 50 to 120 feet, with the average length about 75 feet. They operate with crews of 3-5 and are capable of freezing 45-90 tons of fish.

**Troll and handline fishery:** Since 2001, the number of American Samoa troll vessels actively landing pelagic species has steadily decreased. Effort is currently dominated by longline vessels as the troll fleet continues to decrease in numbers of vessels and trips. Recreational fishing purely for sport or pleasure is uncommon in American Samoa. Most fishermen normally harvest pelagic species for subsistence or commercial sale. However tournament fishing for pelagic species began in American Samoa in the 1980s, and between 1974 and 1998, a total of 64 fishing tournaments were held in American Samoa. Most of the boats that participated were alia catamarans and small skiffs. Catches from tournaments are often sold, as most of the entrants are local small-scale commercial fishermen. In 1996, three days of tournament fishing contributed about one percent of the total domestic landings. Typically, 7 to 14 local boats carrying 55 to 70 fishermen participated in each tournament, which were held 2 to 5 times per year.

The majority of tournament participants have operated 28-foot alia, the same vessels that engage in the small-scale longline fishery. With more emphasis on commercial longline fishing since 1996, interest in the tournaments has waned and pelagic fishing effort has shifted markedly from trolling to longlining. American Samoa has been unable to develop a significant tourist industry that could support charter fishing nor is American Samoa known for producing large game fish. Few, if any, charter boats are in operation, so no data are collected specifically for the charter fishing sector.

In 2006 American Samoa-based troll vessel landings were mostly skipjack (11,400; lbs 42 percent) and yellowfin (8,300 lbs; 30 percent) tunas; other top troll landings categories included miscellaneous species (17 percent) and mahimahi (4 percent).

## **Guam [top]**

Guam's pelagic fisheries consist of primarily small, recreational, trolling boats that are either towed to boat launch sites or berthed in marinas and fish only within local waters, either within the exclusive economic zone (EEZ) around Guam or on some occasions in the adjacent EEZ waters around the Northern Mariana Islands. Pelagic fishing vessels based on Guam also include distant-water purse seiners and longliners that fish outside Guam's EEZ and transship through the island.

Domestic annual pelagic landings in Guam have varied widely, ranging between 322,000 and 937,000 lbs over the past twenty years with 2006 landings of 510,608 lb. with a value of about \$323,500. Landings consist primarily of five major species: mahimahi (*Coryphaena*

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*hippurus*), wahoo (*Acanthocybium solandri*), bonita or skipjack tuna (*Katsuwonus pelamis*), yellowfin tuna (*Thunnus albacares*), and Pacific blue marlin (*Makaira mazara*). Other minor pelagic species caught include rainbow runner (*Elagatis bipinnulatus*), great barracuda (*Sphyræna barracuda*), kawakawa (*Euthynnus affinis*), dogtooth tuna (*Gymnosarda unicolor*), double-lined mackerel (*Grammatorcynus bilineatus*), oilfish (*Ruvettus pretiosus*), and three less common species of barracuda.



The number of boats involved in Guam's pelagic or open ocean fishery gradually increased from 193 in 1983 to 469 in 1998. This number decreased until 2001, but has generally been increasing since that year. More boats making more trips may indicate an increase in good weather days, or increased effort due to an abundance of fish. There were 386 boats involved in Guam's pelagic fishery in 2006, an increase of 8 percent from 2005. About twice as many trips were taken by the non-charter fleet (4,440) as by the charter boats (1,973) in 2006. The number of troll trips

began to decline in 1999, due to a number of factors including a continuing economic recession on the island, a decline in Asian visitors for charter boats, and an increase in cost to maintain, repair, and fuel boats for the average fishermen compared with fish caught for sale to make up for expenses. In 2006, the number of charter trips increased which has been attributed to an increase in tourism to Guam, as well as an increasing military presence on Guam.

A majority of the fishing boats are less than 10 meters (33 feet) in length and are usually owner-operated by fishermen who earn a living outside of fishing. Most fishermen sell a portion of their catch at one time or another. And a small, but significant, segment of the pelagic group is made up of marina-berthed charter boats that are operated primarily by full-time captains and crews.



In 2006, trolling catch rates (pounds per hour fished) showed a significant increase compared with 2005. Catch rates for skipjack tuna by the Guam troll fleet have fluctuated widely over the past 25 years. The wide fluctuations are probably due to the high variability of the year-to-year abundance and availability of the stocks, although skipjack tuna is caught year round.

#### Hawaii [top]

Hawaii's pelagic fisheries, which include the longline, main Hawaiian Islands troll and handline, offshore handline, and the aku boat (pole and line) fisheries; are the state's largest and most valuable fishery sector. A total of 3,150 fishermen were licensed in 2007 by the State of Hawaii, including 2,164 (69%) who indicated that their primary fishing method and gear were intended to catch pelagic fish. Most licenses that indicated pelagic fishing as their primary method were issued to trollers (65%) and longline fishermen (28%). The remainder was issued to ika shibi and palu ahi (handline) (6%) and aku boat fishers (1%).

#### Longline Fishery

The Hawaii-based longline fishery's catches account for the majority of Hawaii's commercial pelagic landings with nearly 25 million lbs resulting in revenue exceeding \$62.7 million in 2007. This fishery began around 1917 and was based on fishing techniques brought to Hawaii by Japanese immigrants. The early Hawaiian sampan-style flagline boats targeted large yellowfin and bigeye tuna using traditional basket gear with tarred rope mainline. This early phase of Hawaii longline fishing declined steadily into the 1970s due to low profitability and lack of investment in an aging fleet.

Currently, the Hawaii longline fishery is a limited entry fishery with a maximum of 164 permits available. Current participation is about 125 vessels which target a range of pelagic species. The fleet includes many newer steel longliners that were previously engaged in fisheries off the U.S. mainland. Vessels are limited to 101 ft in length. All vessels carry mandatory vessel monitoring system (VMS) monitored by NMFS and must submit Federal logsheets at the completion of every trip. Vessel sizes range up to nearly the maximum 100 foot limit, but the average size is closer to 65 – 70 ft. Almost all of the vessels are of steel construction and use flake ice to hold catch in fresh/chilled condition. A few older wooden boats persist in the fishery.



The longline fleet has historically operated in two distinct modes based on gear deployment: deep-set longline by vessels that target primarily bigeye tuna and shallow-set longlines by those that target swordfish or have mixed target trips including albacore and yellowfin tuna. Swordfish and mixed target sets are





buoyed to the surface, have few hooks between floats, and are relatively shallow. These sets are primarily targeting swordfish at night. Tuna sets use a different type of float placed much further

apart, have more hooks per foot between the floats and the hooks are set much deeper in the water column.

Tuna vessels may currently range out to 1,000 nautical miles (nm) but generally make trips within 500 nm from Honolulu. Prime tuna fishing grounds lie to the south of the MHI and towards Johnston Atoll. The swordfish grounds center around the sub-tropical convergence zone that forms north of the Hawaiian archipelago near 35°N. Catches by the Hawaii fleet also include mahimahi (dorado), wahoo, blue and striped marlins, opah (moonfish) and monchong (pomfret). The Hawaii fishery does not freeze its catch, which is sold for the fresh fish and sashimi market in Hawaii, Japan and the U.S. mainland. Almost all of the Hawaii-based longline catch is sold at the United Fishing Agency auction in Honolulu. It is believed that very little of the longline catch is directly marketed to retailers or exported by the fishermen; however, there are significant exports by wholesalers and retailers.

Pelagic longline fishing around Hawaii is restricted from use within a buffer zone surrounding the main Hawaiian Islands which ranges from 50-75 nm to reduce gear interaction between small and large scale fishing methods. Further buffer zones were established within a 50 nm radius of the Northwest Hawaiian Islands to minimize interactions with the endangered Hawaiian monk seals, although these waters are now encompassed by the recently established Papahānaumokuākea Marine National Monument-- the single largest conservation area under the U.S. flag, encompassing 139,792 square miles of the Pacific Ocean - an area larger than all the country's national parks combined.

*Troll and Handline Fishery*

There are 1,399 troll vessels and 131 handline vessels in Hawaii according to license records as of 2007; their catches are dominated by yellowfin and bigeye tuna. In 2007, their combined landings amounted to over 4.2 million lbs with revenues over \$7.8 million.



Hawaii's recreational fishery landings amount to about 8,000 mt annually, based on surveys of fishermen, with blue marlins catches ranging from 400 to 600 mt.

**Northern Mariana Islands** [\[top\]](#)

*Turtle Island Restoration Network v. U.S. Dept. of Commerce No. 11-15749 archived on March 29, 2012*

Pelagic fisheries within the CNMI occur primarily from the island of Farallon de Medinilla south to the island of Rota. Trolling is the primary fishing method utilized in the pelagic fishery. The pelagic fishing fleet consists primarily of vessels less than 24 ft in length which usually have a limited travel radius from Saipan of about 20 miles. The number of fishermen reporting pelagic landings has fluctuated in the past 20 years from 114 in 1996 to 51 in 2007. Factors that may have influenced the reduction in fishermen making pelagic landings include the bad weather that plagued the Marianas throughout 2003 and early 2004, the continued increase in fuel price plus the continued decline in the average price per pound of skipjack tuna.



The primary target and most marketable species for CNMI's pelagic fleet are skipjack tuna. In 2007, skipjack tuna landings comprised around 76% of the entire pelagic landings. Schools of skipjack tuna have historically been common in near shore waters, providing an opportunity to catch numerous fish with a minimum of travel time and fuel costs. Skipjack is readily consumed by the local populace and several Korean restaurants, primarily as sashimi. Yellowfin tuna and mahimahi are also easily marketable species but are seasonal. During their

seasonal runs, these fish are usually found close to shore and provide easy targets for the local fishermen. In addition to the economic advantages of being near shore and their relative ease of capture, these species are widely accepted by all ethnic groups.

In 2007, skipjack tuna landings comprised over 258,000 lbs valued at nearly \$330,000, which accounted for 85% of total fish revenues. Yellowfin tuna landings were close to 38,000 lbs followed by mahimahi at 28,500 lbs.



In late 2007, the first established longline fishing company in the CNMI began its operation out of the island of Rota. It currently has two licensed fishing vessels but only one is currently being utilized.