

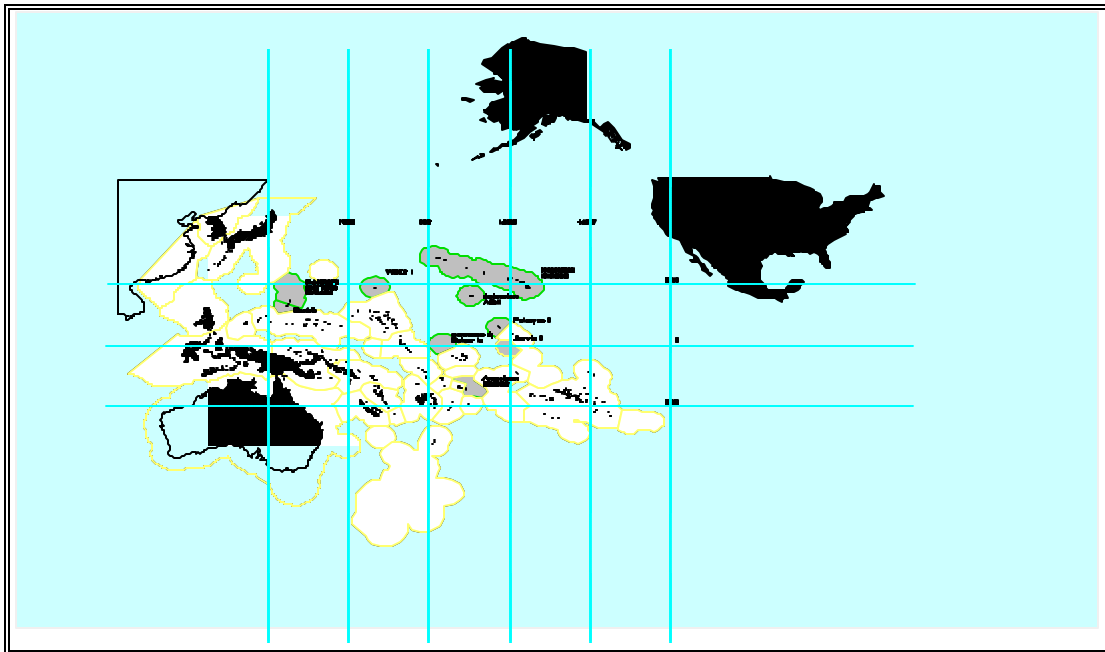


WESTERN
PACIFIC
REGIONAL
FISHERY
MANAGEMENT
COUNCIL

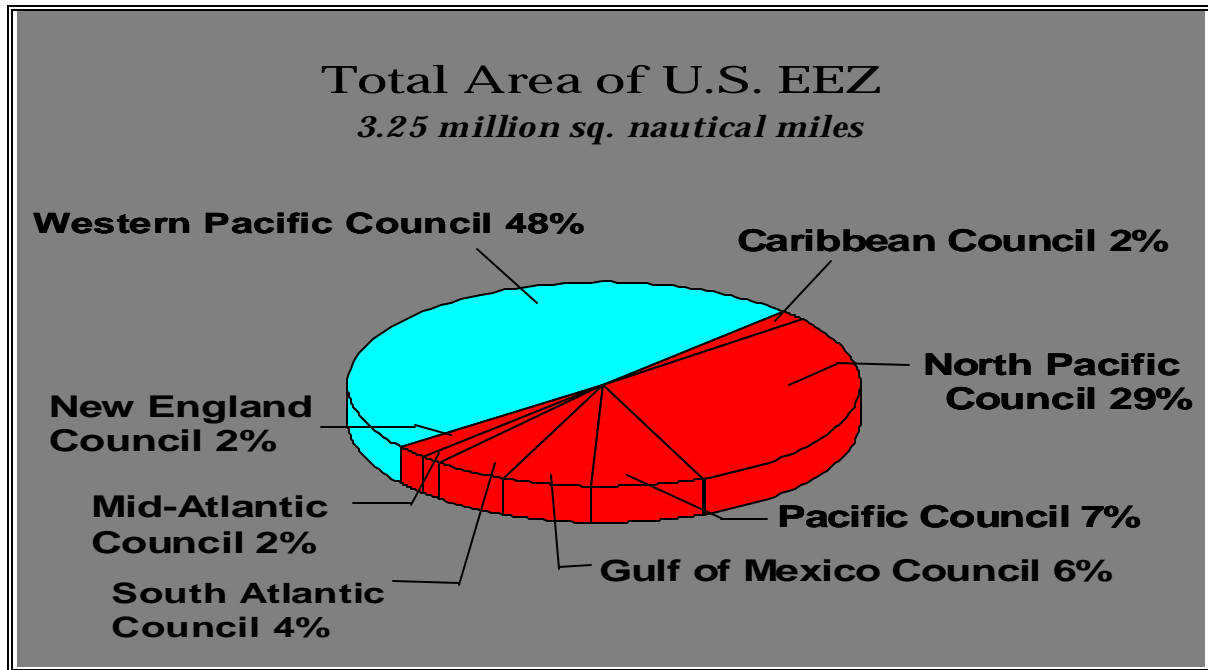
July 1999

**The Value of the Fisheries
in the
Western Pacific Fishery Management Council's Area**

The Western Pacific Fishery Management Council is responsible for the development of management plans for fisheries in the United States Exclusive Economic Zone (EEZ) around American Samoa, Guam, Hawaii, the Northern Mariana Islands and other US-affiliated Pacific islands, including Johnston Atoll, Kingman Reef, Palmyra Atoll, Jarvis Island, Howland Island, Baker Island, Midway Island and Wake Island (Figure 1).



Most of these islands are very small, but the EEZ waters surrounding them encompass nearly 1.5 million square miles, an area nearly equal to all other US EEZ waters combined (Figure 2). The fishery



resources within this vast area have played a central role in shaping the social, cultural and economic fabric of local island communities since time immemorial. In contrast to many US mainland residents, who live inland and have little contact with the marine environment, the people of the Western Pacific region observe and interact daily with the ocean for food, income and recreation. In effect, the constituency of the Western Pacific Council extends beyond the individuals participating directly in local fisheries to virtually the entire population of the islands. The following is a descriptive overview of the economic and social importance of fishing in the region.

Commercial Fisheries

Domestic Pelagic Fisheries

The management of pelagic fisheries is of particular importance to the Western Pacific Council, as the harvest of highly migratory species is the major fishing industry in the region. The central and western Pacific contain immense pelagic fishery resources and provide more than 40 per cent of the world tuna catch. The annual landings of various tuna species harvested from the region total over one million metric tons (mt), with a dockside value of \$1.5 billion (Lawson, 1995).

When the Western Pacific Council was created in 1977 foreign fleets were fishing heavily for tuna as close as twelve miles to American-flag Pacific islands. The Council's initial priority was to restrict foreign fishing and allow domestic fishermen more opportunities to catch fish. Hawaii, being the most industrialized and populated island area, was in the best position to support an expansion of the

domestic commercial fishery. The number of Hawaii-based longliners skyrocketed in the late 1980's. Landings by longline vessels increased from 1,900 mt to 11,500 mt between 1987 and 1993. The inflation-adjusted ex-vessel value of the catch more than tripled during this period to \$56 million. Swordfish catches accounted for most of this revenue and represented about 60% of the total US domestic landings for this species. More recently, the longline fleet has increasingly targeted tuna species, and the harvest of albacore, bigeye and yellowfin reached a record high of 7,651 mt in 1997. The value of the commercial landings of all pelagic species during that year was \$60.9 million. In 1998, the amount of tuna landed declined to 6,850 mt, and the value of the commercial landings of all pelagic species fell to \$54.8 million.

The expansion of the longline fishery in Hawaii during the past decade has been accompanied by a general trend away from bulk fisheries for pelagic species (e.g., fish cake and canned tuna) and development of quality, high-price products (e.g., *sashimi* tuna) that have enhanced the market value of Hawaii's pelagic fisheries (Boehlert, 1993). Local and export markets for Hawaii's seafood products have expanded enormously in recent years, and fresh fish from Hawaii's waters now appears on restaurant menus throughout the United States, from Honolulu to Des Moines to Boston (Pooley, 1993). In 1998, the port of Honolulu ranked 30th in the nation in terms of the quantity of fish landed, but it ranked 7th in terms of the value of fish landings (Table 1).

Table 1. Ex-vessel value of commercial fishery landings by domestic and foreign vessels at major US ports.

Port	Value of Landings -Million Dollars-		
	1996	1997	1998
Pago Pago, American Samoa	211.8	192.7	~232.0
Dutch Harbor-Unalaska, Alaska	118.7	122.6	110.0
New Bedford, Massachusetts	100.5	103.2	93.5
Agana, Guam	94.2	NA	NA
Kodiak, Alaska	82.3	88.6	78.7
Brownsville-Port Isabel, Texas	60.0	46.1	64.2
Honolulu, Hawaii	50.1	53.7	49.0
Key West, Florida	62.8	54.9	44.8
Reedville, Virginia	NA	29.5	42.6
Point Judith, Rhode Island	46.0	47.6	41.8

Sources: National Marine Fisheries Service and Western Pacific Fishery Management Council.

Hawaii's smaller-scale troll and handline fishery has also benefitted in recent years from

expanding local and export markets for high quality seafood products. Annual revenues within this fishery average around \$9 million. Related to the troll fishery is the charter boat industry that targets billfish, tuna and other pelagic species mainly for a tourism-based clientele. It is estimated that charter boat patrons in Hawaii spend \$61 million (adjusted to 1995 dollars) a year on charter fishing as a vacation or leisure activity (Samples and Schug, 1985). Another indication of the economic importance of the charter boat industry is that the winner of a 1998 fishing tournament in Kona won \$111,000 after landing a 500 lb blue marlin.

Distant-Water Pelagic Fisheries

Other island areas in the Council's jurisdiction have not experienced the same increase in domestic industrial scale fisheries that recently occurred in Hawaii. The local fishing fleets that operate in the EEZ around American Samoa, Guam and the CNMI consist mainly of small boats operated by part-time commercial fishermen. However, these islands have discovered alternative ways to take economic advantage of expanding Pacific pelagic fisheries. Tuna processing, transshipment and home-porting industries have developed in these islands because they possess a comparative economic advantage over other locations in the region. These advantages include proximity to fishing grounds, shipping routes and markets; the availability and relatively low cost of fuel and other goods and services that support tuna fishing operations; tariff-free market access to the US; and significant tax incentives.

For many years American Samoa's capital of Pago Pago has been the site of a major tuna canning industry and one of the leading ports in the United States in terms of the dollar value of fish landings (Table 1). At present, the Star-Kist cannery at Pago Pago is the world's largest tuna processing facility. In 1998, American Samoa received 208,300 short tons of fish worth approximately \$232 million. Since the tuna processing industry began in American Samoa four decades ago, it has been the largest private sector employer in the Territory and leading exporter. The principal suppliers of tuna to the canneries are island-based US purse seiners that fish primarily in the central and western Pacific for skipjack and yellowfin tuna. During some years, particularly during an *El Niño*-Southern Oscillation event, a substantial portion of the US purse seine harvest comes from the EEZ around Palmyra Atoll, Jarvis Island, Howland Island and Baker Island. For example, 36,970 mt of skipjack and yellowfin tuna were caught around these islands in 1997. Other major suppliers of tuna to the canneries in American Samoa include US albacore trollers operating in the north and south Pacific and foreign longline vessels that fish for large albacore, yellowfin and bigeye tuna. In addition, freezer vessels deliver tuna to American Samoa from various transshipment centers around the Pacific. During the past decade Guam has been one of the largest tuna transshipment centers in the Pacific. The value of the fish transshipped in Guam in 1996 was estimated to be more than \$94 million. Frozen fish is delivered by US and foreign purse seiners and fresh fish is landed by foreign longliners or air-freighted from the Marshall Islands, Federated States of Micronesia and other neighboring Pacific islands.

A particularly lucrative activity related to the tuna canning and transshipment industry is the resupplying of fishing boats which deliver the fish. Pago Pago and Apra harbor in Guam are home ports to several hundred longline and purse seine vessels. Expenditures by these fleets on fuel, provisions and

repairs make an important contribution to the economies of these islands. Fleet expenditures in American Samoa were estimated in 1994 to be between \$45 million and \$92 million (Hamnett and Pintz, 1996). Fleet expenditures in Guam were about \$68 million in 1998 (Guam Department of Commerce, 1999). This home-porting industry in the islands has both created primary jobs and enhanced investment opportunities for local entrepreneurs.

Domestic Bottomfish and Crustacean Fisheries

In contrast to the stocks of pelagic species occurring in the offshore waters of the islands, the abundance of individual stocks of bottom-dwelling species is limited by the relatively narrow coastal shelves surrounding the islands. Nevertheless, a valuable deep-slope bottomfish fishery has existed for many years in the state and federal waters surrounding the main Hawaiian islands and uninhabited Northwestern Hawaiian Islands (NWHI). In 1998, 347 mt of snapper, carangids and grouper were harvested with an estimated ex-vessel value of \$2.3 million.

In the late 1970s, productive fishing grounds for spiny and slipper lobsters were identified in the NWHI, and a commercial fishery rapidly developed. From 1985 to 1990, the NWHI lobster fishery averaged annual landings of 1.5 million pounds with a dockside value of \$5.3 million (Dollar, 1995). During the early 1990s, the catch rate of lobsters declined sharply due to environmental factors that reduced recruitment success. In 1993, the fishery was closed. However, a recent recovery of the stock has allowed the fishery to fully resume. During the 1998 season, 219,700 pounds of frozen and live lobster were landed with a value of \$1.04 million.

Subsistence and Recreational Fisheries

While it is important to recognize and document the significant role marine fisheries play in contemporary Pacific island economies, it is equally important to keep in mind that the value of these fisheries extends beyond the creation of employment and the generation of exports and income. Fishing activities have been interwoven into the daily lives of the people of the Pacific islands for hundreds if not thousands of years. Over time, local communities developed a close, emotional as well as utilitarian association with the marine environment. It shaped their social organization and cultural values.

Most island residents today no longer depend on their catches for food, but seafood continues to be an integral part of the local diet. In Hawaii, for example, the per capita consumption of seafood is almost twice the national US average and is comparable to that of other Pacific islands. There has been no attempt to formally assess the subsistence fishing contribution to island economies, but the value to consumers is known to be substantial. In particular, subsistence fishing is an important supplement to cash income in many rural communities despite increasing commercialization of the catch in these areas.

Fishing also continues to contribute to the cultural integrity and social cohesion of Pacific island communities. In American Samoa, for instance, skipjack tuna, known locally as *atu*, is an especially important species both nutritionally and culturally. The methods and equipment for catching skipjack

have changed, but the fish brought to shore continue to be distributed within Samoan villages according to age-old ceremonial traditions. One can find similar traditions still practiced in Hawaii, the Northern Mariana Islands and Guam. These sociocultural attributes of fishing are at least as important as the contributions made to the nutritional or economic well-being of island residents.

The fish resources under Council jurisdiction also support an important private boat recreational fishery that targets both pelagic and bottom-dwelling species. Maharaj and Carpenter (1998) estimated that 1996, a total of 260,000 US anglers participated in a total of 2.5 million recreational fishing trips in Hawaii. The researchers estimated that the total fishing trip-related expenditures that year was \$130 million, of which \$96 million was trip-related expenses (\$37 million for food and lodging, \$33 million for transportation and \$27 million for bait, fuel and equipment rental), \$33 million was for fishing-related equipment and \$949,000 was for miscellaneous items. However, sports fishermen value the activity of fishing over and above what they spend to engage in it. A study conducted some years ago that asked fishermen what their sport fishing experience was actually worth to them in dollar terms estimated the value of fishing trips to Hawaii recreational fishermen to be \$347 million (adjusted to 1995 dollars) (Meyer Resources, Inc., 1987).

One component of recreational fishing that has gained in popularity is tournament fishing. Most notable is the Hawaiian International Billfish Tournament conducted annually on the Big Island of Hawaii. Since its inception in 1958, this tournament has consistently attracted the most serious big game anglers in the world. In 1995, 72 boats with fishermen from 15 countries participated. Tournament fishing for pelagic species is also becoming increasingly important in American Samoa and Guam and accounts for a significant portion of domestic landings.

Dynamic Aspects of Fisheries

The fisheries of the western and central Pacific are in constant flux. This is especially true of the fisheries for tuna, billfish and other pelagic species. Fishing fleets that face restrictions or declining stocks in other areas of the world are appearing in the Pacific islands region in ever-increasing numbers. Fish prices, fishing costs and international exchange rates are subject to large random variations and cyclical movements. The fish resources themselves are very mobile and their abundance fluctuates between seasons and from year to year.

Pacific pelagic stocks are the targets of increasingly intense competition among the many US and foreign vessels operating on the high-seas and within the EEZs of Pacific islands. Furthermore, both US-affiliated and foreign Pacific islands are vying with one another to maximize their share of the short and long-term economic benefits generated by these fisheries. To date, the pay-off for the Pacific islands as a whole has been limited largely to the collection of access fees. Island nations which are regional neighbors to Guam and the Northern Mariana Islands derive substantial income from the sale of permits allowing foreign fishing vessels access to their EEZs. The 1996 Magnuson-Stevens Act provides Guam, the Northern Mariana Islands and American Samoa with the opportunity to profit from fishing agreements with distant water fishing nations.

Access fees, however, represent only a small fraction of the value of the tuna fish harvested by foreign vessels. Currently, average access fees are a little more than 4 percent of the value of the catch (that is, the reported catch - illegal fishing by some countries may be high). To capture additional benefits many of the islands are endeavoring to develop further their own commercial fishing capabilities as well as improve their port, fish processing and transshipment facilities associated with offshore fishing operations. The difficulty is that investment in fisheries development is a highly capital-intensive undertaking - be it in vessels, canneries or transshipment bases - and given the high risk and technical requirements of the sector, success is not easy to achieve (World Bank, 1995). Government investment in development of industrial fishing operations has a dismal track record; there has yet to be a single financially viable government fishing enterprise in the tropical central and western Pacific. However, governments can play a crucial role in enhancing private sector investment in fisheries development by helping identify economic opportunities and facilitating business access via infrastructure improvements, financing, training, regulatory relief and product promotion (MacDonald et al., 1995).

Possible obstacles that may inhibit the US-affiliated Pacific islands from realizing continuing high growth in the fisheries sector include competing Asian domestic production, highly restrictive quality and handling requirements for *sashimi*-grade product, limited port infrastructure to accommodate expanded fishing fleets and high labor costs (MacDonald et al., 1995). The dynamic nature of fisheries in the region makes it difficult to predict the degree to which the islands will be able to surmount these obstacles. However, what is certain is the importance of providing for the conservation and future sustainable use of the region's fishery resources. Regardless of what particular economic scenario transpires in the islands of the Western Pacific, these resources are likely to remain one of the islands most valuable cultural, recreational and commercial assets.

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