

ORIGINAL ENGLISH

**SOUTH PACIFIC COMMISSION**

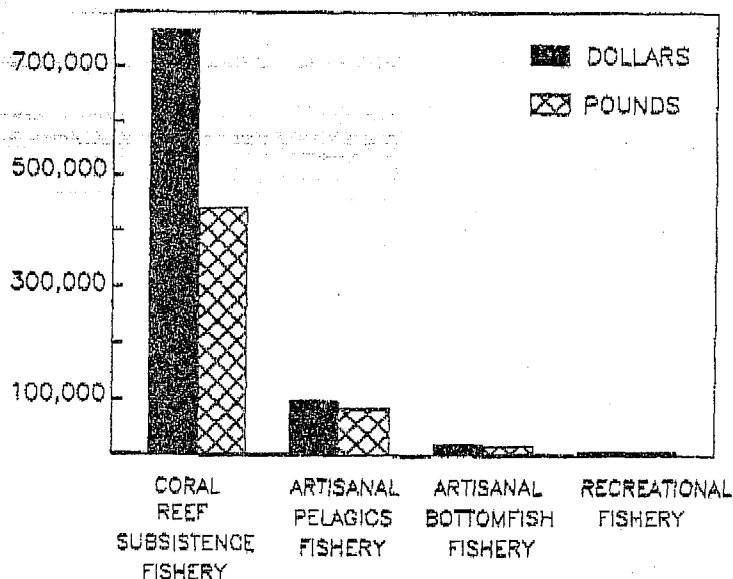
**TWENTY-FOURTH REGIONAL TECHNICAL MEETING ON FISHERIES**  
(Noumea, New Caledonia, 3-7 August 1992)

**COUNTRY STATEMENT**

**AMERICAN SAMOA**

## 1. Status of Domestic Fisheries

In 1991, the annual harvest of combined domestic fisheries was 573,000 lb, valued at \$980,000 at local market prices. By far the majority of this catch (80%) and value (81%) was taken by the shoreline subsistence fishery:



### 1.1 Shoreline Subsistence Fishery

The reeftop and adjacent shallow waters of American Samoa are inhabited by a diverse array of fish and shellfish species that are harvested by local residents on almost a daily basis throughout the year. The average CPUE (catch per unit effort) was 3 lb/gear-hr. Highest CPUE was obtained by gillnetting (12.2 lb/gear-hr), followed by throw net (4.9 lb/gear-hr), free diving (2.9), rod and reel (2.9), gleaning (1.7), handline (1.4), and bamboo pole (0.7).

Virtually all fish and invertebrate species caught were retained for consumption or sale. Altogether, 69 species or species groups were harvested, with fishes accounting for 86% of the total catch. One migratory fish species, the atule (*Selar crumenophthalmus*), dominated the harvest in 1991. Jacks, surgeonfish, mullet, and octopus made up the majority of the reef-resident species taken. One unique invertebrate species taken was the palolo worm (*Eunice viridis*), a burrowing polychaete. Palolo generally emerge once a year to release their reproductive segments (epitokes) into nearshore waters. Samoans, who consider the epitokes a delicacy,

gather in large numbers (up to 1000's) at midnight of the predicted night of emergence to collect the epitokes using scoop nets or long lengths of screen. Palolo catches are highly variable (3400 lb in 1990, 600 lb in 1991) due to the strength of the swarming event and the presence of offshore winds that concentrate the epitokes near the shoreline, making them more accessible to the fishermen.

Subsistence catches were quantified in 1991 and compared to earlier results obtained in 1978. The total subsistence catch was 465,000 lb in 1991, worth \$798,000 at the average rate of \$1.75/lb. It appears that the catch has declined by 25-50% over the past decade due to socioeconomic factors and possibly overexploitation. CPUE for reef-resident species dropped 50% (from 3.8 to 1.9 lb/person-hr). Downward trends in catch and effort seem even more significant since there was a 46% increase in the human population during the same period.

### **1.2 Artisanal Pelagic Fishery**

The artisanal catch of pelagic fish totaled 90,900 lb in 1991, worth about \$138,200 at an average price of \$1.52/lb. The catch consisted primarily of skipjack and yellowfin tuna. Catches have ranged from 100,000 to 240,000 lb in recent years although fishing effort has been relatively stable. CPUE for pelagic species was variable, as might be expected for oceanic migratory species.

### **1.3 Artisanal Bottomfish Fishery**

Suitable habitat for bottomfish is very limited in American Samoa because the island slopes steeply into deep water and there are few seamounts in the Territory. A small fishery for bottomfish was developed as a result of several government-funded projects in the 1970s and 1980s, but as these projects terminated the fishery declined. The fishery probably exceeded MSY (maximum sustainable yield) during this period. In the past five years, the fishery has collapsed to only 14% of its catch in peak years due to several factors in addition to overfishing: decreased subsidies to the fishery, the departure of several highliners from the fishery, and hurricane-related damage to local boats. Snappers, emperors, and groupers accounted for most of the 18,100 lb of bottomfish landings in 1991. This catch was worth \$32,000 at an average price of \$1.81/lb. CPUE has varied between 10 to 20 lb/hr.

### **1.4 Tournament Fisheries**

Tournaments for pelagic fishes are popular events held about three times per year. Typically 7-14 boats and 55-75 fishermen participate in each tournament. Annual landings from combined tournaments averaged 7500 lb and consisted of skipjack tuna (37%), yellowfin tuna (30%), marlin (21%), dolphinfish/mahimahi (5%), wahoo (4%), sailfish (1%), sharks (1%), and other (1%).

## 2. Distant-water Commercial Tuna Fisheries

In contrast to the small-scale nature of the domestic fisheries, American Samoa is also homeport to a distant-water fleet of large commercial vessels that deliver tuna to the canneries on Tutuila Island. These vessels fish beyond American Samoa's EEZ in the central and western South Pacific Ocean. The fleet consists of (a) US purse seiners that fish for skipjack and yellowfin tuna, (b) US trollers that fish for albacore, and (c) foreign longliners that fish for albacore, yellowfin tuna, and bigeye tuna. In addition, transshipments of tuna are delivered to American Samoa by freezer vessels. Skipjack tuna (61%) accounted for most of the deliveries, followed by yellowfin tuna (20%) and albacore (15%). The catch by gear type was: purse seine (50%), longline (14%), and troll (1%). The remainder (34%) was delivered by freezer vessels.

## 3. Giant Clam Hatchery

When field surveys of native giant clams in American Samoa indicated over-exploited stocks and the unlikely capacity of existing populations to recover naturally, a Giant Clam Project was initiated in 1986 with the introduction of *Tridacna derasa* juveniles from MMDC (Palau) with funds from the Center for Tropical and Subtropical Aquaculture (CTSA). This project is in its 4th year. With additional funds made available through the Pacific Aquaculture Association, *H. hippopus* was re-introduced in 1991 for comparative culture trials with *T. derasa*, and through a PFDF/MMDC/DMWR project, *T. gigas* was introduced in 1991 for comparative culture with *T. derasa*.

Completed tank space at the hatchery includes 2 FRP larval tanks, 2 settling tanks, and 6 raceways. An additional settling tank and 2 raceways are under construction. This would place potential yearling output at approximately 100,000 a year.

The *T. derasa* juveniles imported in 1986 as juveniles have reached maturity and have been successfully induced to produce sperm and eggs. Thus, the hatchery is presently supported by 450 mature *T. derasa* broodstock, and thousands of other clams of all three introduced species, nearing maturity.

The Larval Culture method has been completely switched to the 'indoor intensive' technique, due to massive algae blooms that occurred within the first few days in the extensive method. An additional improvement was the provision of 50% shade when the larvae are transferred to the settling tanks on Day 6. This has worked very well in minimizing the algae blooms.

In addition to the Department's lagoon nursery at Nu'uuli, three private lagoon farms have been initiated within the Territory, two on Tutuila Island and one on Ofu Island. These 'farms' were established in 1991 using imported juvenile clams.

Growth and survival of all clams have been excellent. Four different studies are being conducted: (1) Off-bottom vs on-bottom culture of *T. derasa*, (2) *T. derasa* vs *H. hippopus* growth and survival, (3) *T. derasa* vs *T. gigas* growth and survival, and (4) deep vs shallow culture of *T. derasa*.

There has not been any predatory snail (*Cymatium muricinum*) occurrence in Ofu, whereas nurseries at Nu'uuli have experienced several infestations. However, resulting mortality was minimal due to the effectiveness of 'snail patrols' by DMWR staff.

The greatest losses in nurseries were during Hurricane Val in December 1991, especially those in shallower lagoons. Ofu nursery had a 71% loss, Alofau 33%, and Nu'uuli 17%. Only a few seeds from two different batches that were in Settling Tanks at the time of the hurricane survived.