

Survey on Village Reef Fishing Problems in American Samoa

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COMMUNITY SURVEY ON FISHING PROBLEMS IN AMERICAN SAMOA

American Samoa, the only U.S. territory south of the equator, consists of five rugged, highly eroded (and extinct) volcanic islands, and two coral atolls. It is composed of the major island of Tutuila, Aunu'u (a small island less than 1 mile off Tutuila), the Manu'a Islands of Ofu, Olesega, Tau, located about 65 miles east of Tutuila, the uninhabited Rose Atoll about 180 miles east of Tutuila, and Swains Island about 220 miles north of Tutuila.

The land area of the territory is 76 square miles. The population is approximately 63,000 with most people living on the main island of Tutuila. Tuna fishing and canning are major industries. Many native Samoans practice subsistence farming and fishing.

The population of American Samoa is rapidly increasing which places an increasing pressure on its marine environment. With this increase in population and cash economy, the villages may be adversely affecting the marine environment and their fisheries. Catches of fish and shellfish have been declining in the lagoons and inshore reefs of American Samoa for many years. Reasons for this decline include probable overexploitation, the use of destructive fishing methods (including the use of traditional poisons, bleaching agents and dynamite), and environmental disturbances. These activities include the destruction of nursery areas (including mangrove areas) by road construction and land reclamation. In addition, poor land management practices have resulted in erosion and the siltation of lagoons.

The extent of the problems in fishing was obtained through carefully designed surveys. The Department of Marine and Wildlife Resources conducted a village survey in 11 selected villages. These villages are mostly from the main island of Tutuila and only one from the Manu'a islands.

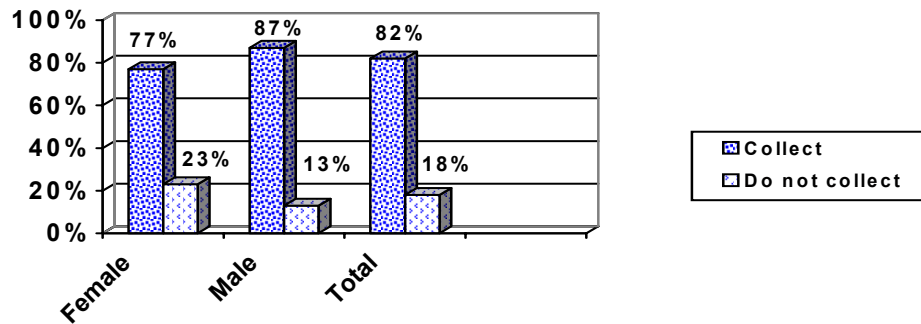
These villages were: Three villages (Onenoa, Masefau, Alofau) from the east side of Tutuila; Three villages (Vatia, Aua, Matu'u) from the central area of Tutuila; Four villages (Nu'uuli, Amanave, Poloa, Fagamalo) from the west side of Tutuila; and Ofu village from Manu'a.

There were 293 Respondents, male and female, obtained from the selected villages with age range from 11 to 80 years old (Figure 1). Out of 293 Respondents, there were 156 males and 137 females. The highest percentage of female respondents surveyed falls at the age between 11 and 15 – 26%. From age 61 to age 80, the least percentage of female respondents (3%) are found. For male respondents, the highest

percentage surveyed falls at age 16-20 – 16%, and least percentage (2%) between age 71 to age 80.

From the population of respondents, 87% of males collected food from the ocean or are fishers and 13% are non-fishers. On the other hand, 77% of female respondents are fishers and 27% are non-fishers as shown in Figure 2. Therefore, the total percentage of respondents all together as fishers is 82%.

Figure 2: Percent of respondents who collect food resources from the ocean in American Samoa



From the fishers, 73% fished the reef rather than the open ocean (Figure 3). On the other hand, 17% fish only the open ocean and 10% fish at both the reef and the open ocean. Most of these fishers go out fishing twice to 12 times a month whereas few fishers would go out more than 12 times a month as shown in Figure 4.

Figure 3: Preferred Fishing Locations for Fishers in American Samoa

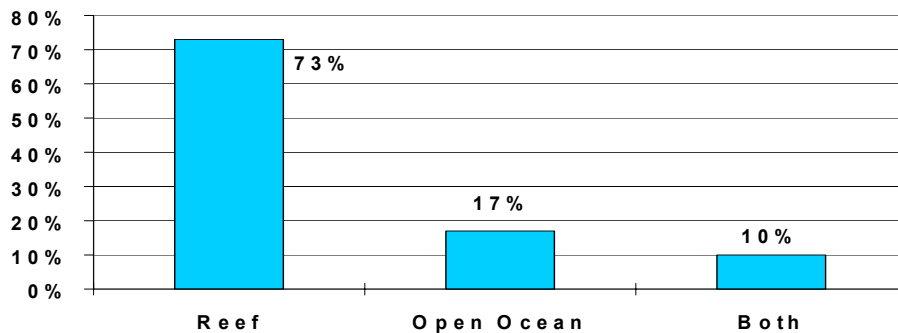
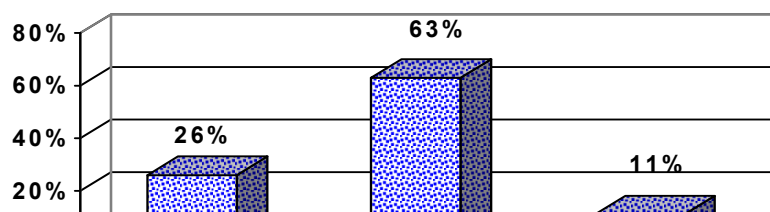
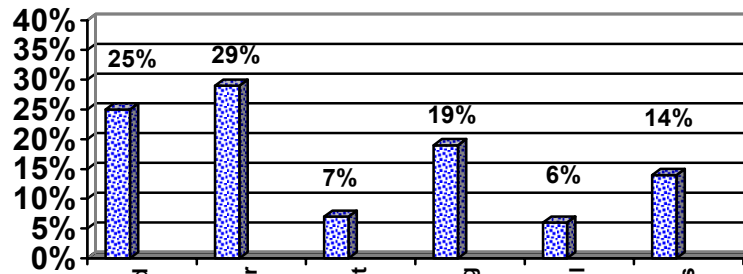


Figure 4: Frequency of Fishing Events in American Samoa

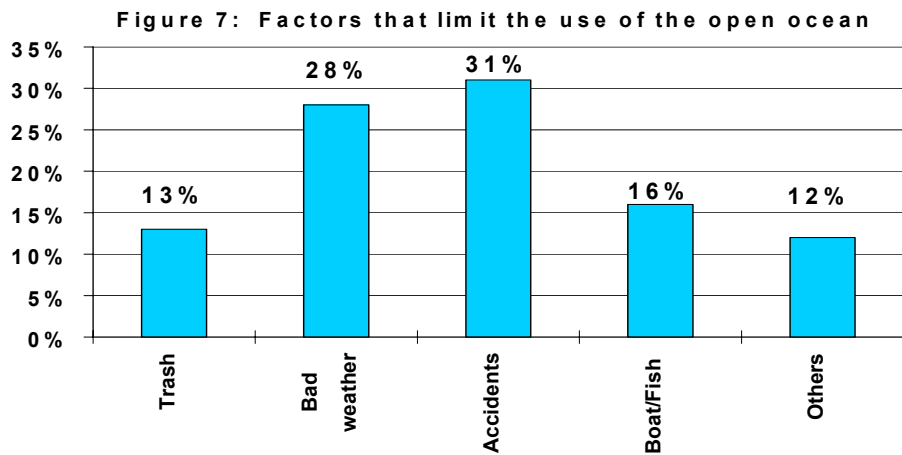
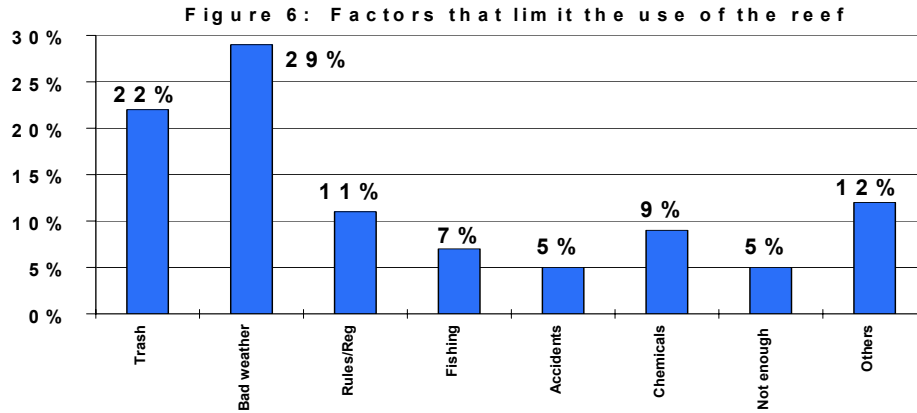


In American Samoa, modern fishing methods are more often used than the old traditional fishing methods. The most preferred fishing gear that fishers use is spear. Fishing pole/rod and reel showed slightly less percentage of use as spear (Figure 5). The use of knife in fishing is mainly for gleaning on the reef. Gleaning is mostly practiced by women in American Samoa. The use of fishing nets is not in high usage as the knife, spear, and fishing pole or rod and reel. However, it is in the same demand as traditional fishing methods.

Figure 5: Types of Fishing Methods Preferred by Fishers in American Samoa



When people were surveyed, we found out that almost everyone from all the selected villages gave the same answer regarding problems they encountered when they would go out fishing in the reef or the open ocean. These problems are litter or trash covering the reef, no fishing gears available, bad weather, rules and regulations that keep people from fishing on certain areas of the reef, afraid of accidents, chemicals damaging the reef, and hard to find targeted species in the reef. Trash found on the reef comes from the streams where nearby families are dumping their trash. From all these problems that kept people from fishing, the most common one for fishing in the reef is bad weather (Figure 6). For the open ocean, the most common problem is being afraid of accidents such as getting snapped by a shark, drowned, or stung by a jellyfish (Figure 7).



Although people are facing problems from fishing on the reef and in the open ocean, they would still bring home fish catch. The most common foods collected from the reef are sea urchin, turbo snails, octopus, clams, sea cucumber, lobsters, snappers, groupers, surgeon fish, and others. These ocean foods, sea urchin is the most commonly collected from the reef (Figure 8). The percentage on the y-axis represents the number of people (Respondents) who collected the items from the reef. In the open ocean, the most common food collected are sea cucumber, clams, crabs, bluefin trevally, sea urchins, carangidae, and others. Strangely, out of this open ocean catch, sea cucumber is the most collected (Figure 9). Since the respondents from the survey had a little misunderstanding of what open ocean means, most of them interpreted the open ocean as an area just seaward of the reef.

Figure 8: Most common food collected from the reef in American Samoa

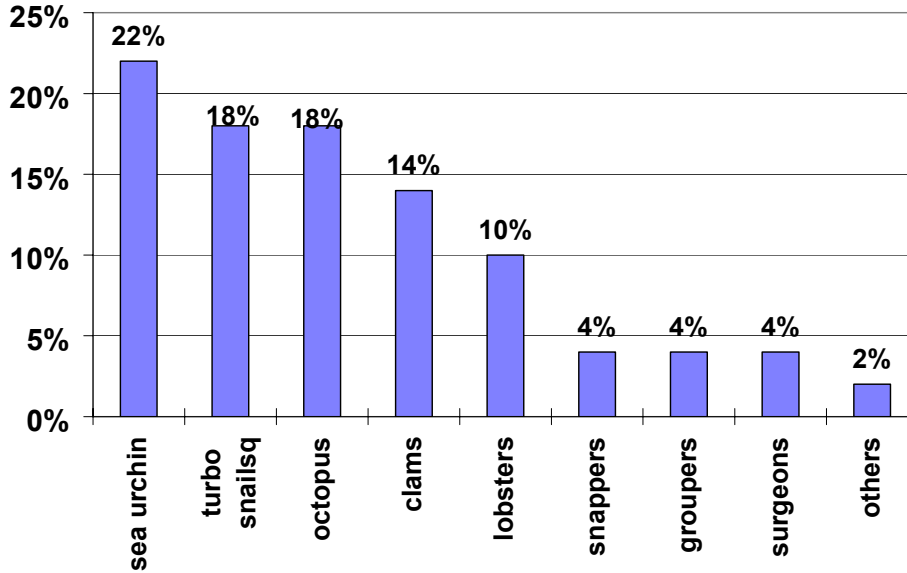
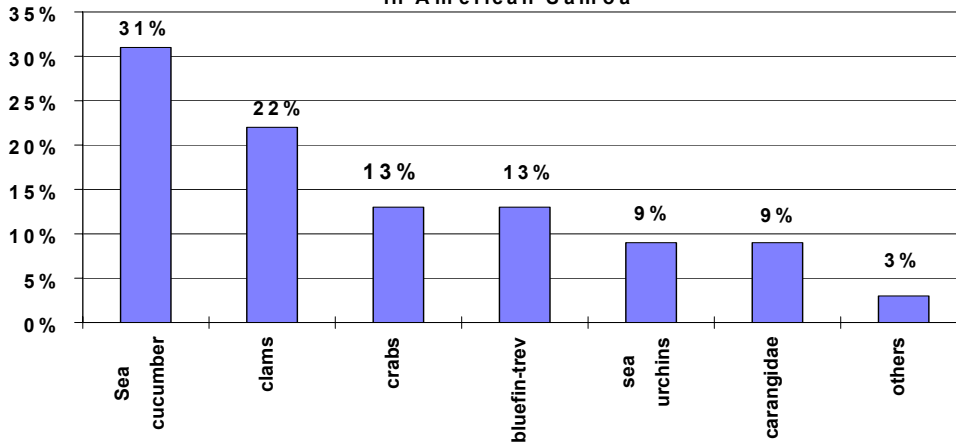


Figure 9: Most common food collected from the open ocean in American Samoa



In American Samoa, fishing in the open ocean or on the reef simply requires careful and discreet fishing practices. However, survey results showed a high percentage of respondents' opinion that there are destructive fishing methods still in used that have damaged the village reefs (Figure 10). These destructive fishing methods include the use of bleaching agents, dynamite, and ava niukini. In addition, outside fishermen, who were often reported to be Tongans, have lurked in the villages and used bleaching agents to make their fish catch. There have also been various reports of fishing nets which are left on the reef and eventually trapped and killed many marine species (Figure 11).

Figure 10: Respondents opinion about fishing methods damaging the reef in American Samoa

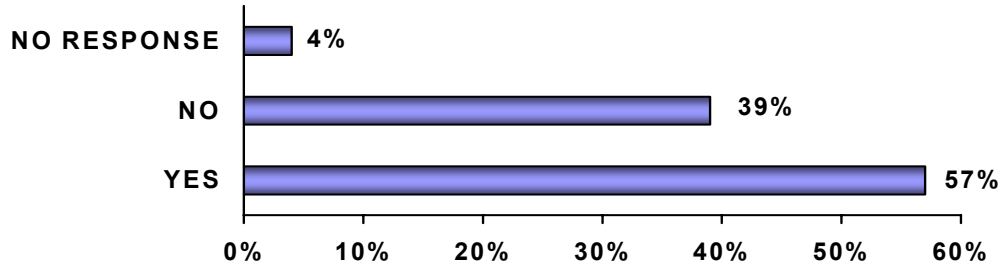
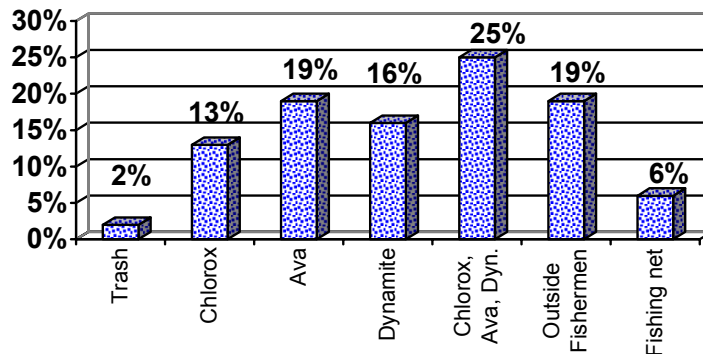
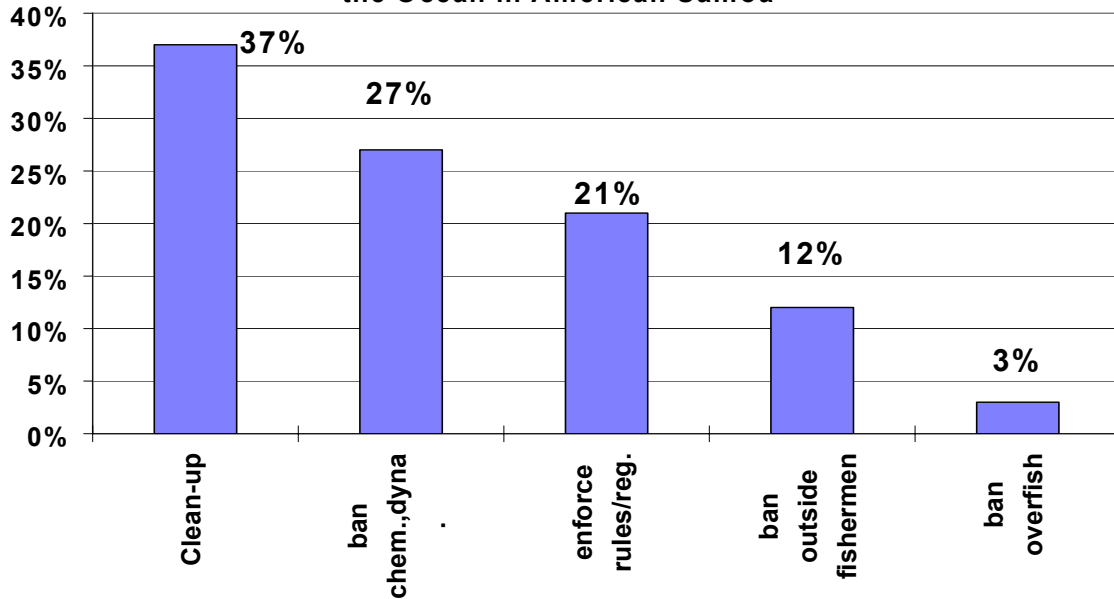


Figure 11: Fishing methods damaging the village reefs



To help minimize the problems in fishing, village people suggested clean-ups on the reefs (37%), ban the use of dynamite, bleaching agents, and ava niukini (27%), enforce rules and regulations (21%), ban outside fishermen from utilizing the village reefs (12%), and ban overfishing (3%) as shown in Figure 12. These preferred ways will aid in preventing fishing problems in the villages and improving food resources from the ocean.

Figure 12: Preferred Ways to Improve Food Resources From the Ocean in American Samoa



The results of the survey were presented and explained by our Fisheries staff to church groups from the participated villages. This was done in Focus Groups where the results of the village survey from the participating villages were given and clarified in a discussion with a selected church group from that village.

Findings from the community survey on fishing problems have helped the Department to recognize some of the fishing problems due to community actions and the use of destructive fishing activities. In addition, recommendations and needs from the respondents through this survey will help the Department of Marine and Wildlife Resources' activities during the upcoming 5-year program. Community-based fishery management program will be used by the department to improve fishing and the sustainable development of marine resources in the selected villages as well as in the Territory.