Final Report

Historic Fishing Methods in American Samoa

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# Table of Contents

Introduction 3  
Fishing Seasonality 3  
   Atule 4  
Palolo and Seasonality 4  
Samoan Social Structure 6  
Division of Labor 9  
   Fishing by women 9  
Technique: Nets 10  
   Ordinary family fishing 11  
   Fishing for two kinds of mullet 11  
   Fish drives in Pago Harbor 13  
Technique: Stone Fish Weirs 14  
Technique: Floats (uto) 15  
Technique: Specialized Fishing with Boats 15  
   Fishing for sharks 17  
   Bonito fishing 17  
Technique: Fishhooks 21  
Technique: Fish Poisoning 23  
Other Types of Fishing 25  
   Squid lures: catching octopus 25  
   Vaotuua’s Tale 25  
   Traps and pots 26  
   Turtles 27  
   Prawns 27  
   Eels 29  
Legends: Significance and Continuity 29  
   Atule Stones: Aoloau 30  
   Atule Stones: Fagasa 30  
   Talking Chief Sala’s Tale 31  
   The Dolphins of Fagasa 32  
   The Blessing of the Rocks, Fagasa 34  
Fishing Rock: Fagamalo 34  
Search of the Polynesia Photo Archives 35  
Polynesian Photo Archives Photographs 36  
Recent Atule Rock Photographs 44  
Evelyn Lilio Atule Rock and Traditional Fishing Photographs 45  
Annotated Bibliography 48  
Appendix: Traditional Fishing Chronology 63  
Appendix: Fish Terms and Size 67
Introduction

This report focuses on traditional fishing practices in American Samoa before 1950. It relies on the observations of explorers, missionaries and ethnographers who recorded what they observed and learned from talking to Samoans of their day. Other reports about marine resources (e.g. Dye and Graham 2004; Linnekin et al 2006; Severance and Franco 1989) have described the general history and context of the Samoan Islands. We narrow the focus to look at fishing techniques over a roughly fifty year period, from 1900 to 1950, in order to outline continuity and innovation in fishing practices. In particular, Augustin Krämer (1897-99 [1994-95]) and Te Rangi Hiroa (1930; also known as Peter Buck) provide the most exhaustive descriptions of Samoan fishing practices, with illustrations and photographs of the various material items associated with fishing. Using these writings as baseline data, we have snapshots of two time periods: the late 1890s, when Krämer was collecting his data, and 1927, the year of Hiroa’s visit as part of the Bishop Museum group. We supplement these two texts with a chronology that lists the observations of earlier navigators and missionaries and with observations by a few other people who visited American Samoa between 1900 and 1950.

There were common fishing techniques – gleaning, diving, rod and line, netting and trapping (including communal fish drives), and boat fishing – throughout the Samoan islands but there were also slight differences in practices according to particular village rules and techniques related to the habits of the marine resources. The village has been, and remains, an important organizing unit in Samoan society (Keesing 1934) and the village customarily controlled the usage rights to a lagoon and its produce. While individual and family fishing occurred on an almost daily basis, there were times when the village organized a communal drive for certain fish or there were occasions when men fished outside the lagoons under the leadership of a fishing expert, a tautai. There were rules that certain fish were to be given to the chiefs, and restrictions were occasionally made regarding the lagoon and its produce. All of these practices were, in essence, under the control of the village and its decision-making body, the village fono.

We have decided to review some general practices – especially regarding fishing for atule, i’a sina, palolo, ‘anae, sharks and bonito – while at the same time anchoring our examples to descriptions of fishing practices in communities in Tutuila and Manu’a.

Fishing seasonality

Fish were, and are, available year round in the Samoan islands, leading Krämer to conclude that “the sea is just as inexhaustible as the land” (Krämer 1995:198). However, there was some seasonal variation, and Samoan fishing methods were also synchronized to the tides, time of day, cycles of the moon and weather and surf conditions. All the observers note, and the evidence accords, that Samoans understood intimately the behavior of the marine resources they fished. According to Krämer, the beginning of the rainy season, October to December, was considered to be the most profitable time for fishing. During this time, the fish spawn and move in great numbers at high tide from the open sea to the lagoons. During the palolo season of October and November, numerous schools of young fish arrive in the lagoons, for example, the lō, the palai’a, the nefu, and the palagi, often followed by larger fish, and the lagoons were full of fish (Krämer 1995:198) The fact that tides were noted and significant to the fishing is reflected in the
various words and phrases which include the word *tai* (tide). For example, game or fish in season: *‘Ua a’e le tai lo or taivale*, a poor season when fish are scarce (Milner 1966: 229). *Vaipalolo* was the period of the wet season, beginning with the rise of the *palolo* in October or November (ibid. 310).

Because of the need to synchronize with the tides or because of the characteristics of the fish, much of the fishing was done at night, sometimes all night. For example, Krämer reports (ibid. 202) that fish spearing took place at night by torch light on the reef at the time of the new moon or full moon when the spring low tide occurs at noon and midnight. Llewella Churchill (1902: 127) describes how women frequently fished at night at low tide with coconut leaflet torches and spears at Vaiala. Bruce Cartwright has a short description of the torches used in Aunu’u during his visit with the Bishop Museum group in 1927:

The natives do much fishing with rod and line and torches here. The eastern half of the island is occupied by a hill with deep water along the shore while the western half is low-lying with shoal water extending out quite a distance and then abruptly dropping into deep water – heavy surf breaks on this reef shelf.

We saw many women bound along the NE shore of Aunu’u carrying bundles of thin sticks about 4 feet long and with a diameter of a fountain pen. Upon inquiring, we found that about half of these rods were tied together and used as torches in fishing on the reefs at low tide, at night (Field Notebook I: 93-94, from the Bishop Museum Archives).

**Atule**

Fishing for *atule* is a good example of how seasonality, time of day and tides came together. The *atule* appeared in large schools in April/May and October (Krämer 1995: 218) and they were often caught by using a communal effort – *lauloa* – of driving the fish towards a trap with branches. The effort began at night, when the fish had come in with the high tide. Then, as the tide went out, the fish, seeking to reach the sea through the trap opening, were scooped up as they tried to get through (ibid.). The fishing ended with low tide in the morning. Many thousands of *atule* could be caught with this method. They were distributed equally to all the village families who participated in the fishing, and when there was a large catch, they were given as gifts to family and friends in other villages. Gifts of fish are part of the reciprocal relations and constant circulation of food and gifts that maintains Samoan social structure to this day. Krämer notes that the missionaries called this fish herring because it also glistens like silver and comes in large numbers, but *atule* (big eye scad) is a species, *Caranx affinis*, closely related to the bonito (1995: 236, footnote 81).

**Palolo and seasonality**

In an article published in 1928 the anonymous author makes a strong case for the central event of the rise of the *palolo* worm in the Samoan calendar year. First, he notes that the Samoan word for year is *tausaga*, from the Polynesian root word *tau*. According to Pratt, this word originally meant a season, a period of six months, corresponding to the wet and dry seasons (Anonymous 1928: 229). The lists of the month names, collected from Krämer, Turner and others are not very consistent. It seems that they varied from place to
place, sometimes because a month was named for a local deity. The article finds some consistency however in month names connected to the growth of taro and the appearance of marine resources. For example, in some places April was called Lō, from the name of the fish which is plentiful that month. Significantly, July was called Palolomua, and designated as the first month of the palolo season, distinguished from the other half of the year which was called the trade wind season. August was called Palolomuli, the time after palolo. The author reports that the local explanation was that, while palolo were caught in October and/or November, July and August were the months when the preserved palolo would be eaten and finished off. November was called Taumafamua according to some, meaning the first month of plenty because fish were numerous this month and December was sometimes called Toetaumafa, the finish of the feasting (of November) (ibid. 233-34). In all these distinctions, the appearance of the palolo is connected with the season of plenty for marine resources.

According to the anonymous author, the Samoans had no name for “week” but the names of the days of the month, according to Krämer, follow the phases of the moon. Here, too, several day names were connected to palolo: Masina usunoa, first day of the appearance of the palolo; Masina motusaga, first real appearance of palolo; Masina tatelega, the great scooping up of palolo (ibid. 236). All of this lends credence to the claim that the advent of palolo in the lagoon was a significant moment in the calendar year.

The palolo worm (Eunice viridis), which is also found on other islands in the Pacific, is a classic example of a marine animal exhibiting lunar periodicity (Caspers 1984: 229; Fig. 44, p. 475 in Krämer). The color of the male is reddish brown; the female is bluish green. The palolo appears during three days of the third quarter moon in October or November. The epitokous segments of these worms break off from the head (the atokous segments) and have been, and are, a favorite food of Samoans. The palolo swarms at different times on the different Samoan islands. Generally, it appears near Manu’a at 10:00 at night; at Tutuila at 1:00 am and off Upolu and Savai’i at 4:00 to 5:00 am, that is, moving from east to west (Caspers 1984: 230; Drees n.d.: 97). Krämer says it appears at the time of the lowest, or spring, tide, at the time when the sun is nearest its zenith (he says in Samoa the sun culminates in November and February). At the time of the palolo, numerous small fish appear in the reef lagoons and some swim up fresh water rivers. People on Upolu reported that about ten days before the palolo appear a common crab (mali’o) living inland moves down to the sea to spawn during the night. Others claimed, on Ta’ū, that they could tell the palolo are coming by the smell of the reef, called pua palolo (Hiroa 1930:439), and even today people say this on Tutuila.

Krämer reports that there were special festivities organized for the night before the palolo catch, according to the timetable of Upolu and Savai’i. The chief of the village which had jurisdiction over the reef channel would send the fishermen out to search for the first signs of palolo (the first day). When they reported success, preparations were begun at the chiefs’ house: food was amassed and ‘ava was prepared by the taupou (village virgin), although all other women were excluded. Once the food was piled up in the house and on the final night for the catch, everyone came to the chiefs’ house for feasting and amusements until the time arrived for all to go to catch the palolo, which would have been shortly before dawn in the western islands (Krämer 1995: 481).
Traditionally, the worms were caught in small funnel-shaped baskets (Stair 1897: 141). When taken on shore, the worms were tied up in leaves in small bundles and baked. Large quantities were also eaten uncooked. Messengers were sent immediately in all directions with gifts of worms for those parts of the islands where none are found (ibid. 142). Rev. Stair, a missionary, witnessed the palolo catch in 1843 on Upolu and, while the net for catching palolo is different, much of his description of the fishing and distribution remains recognizable. Stair reports that July and August are named for palolo in the districts where it is found (ibid. 143).

Krämer described two types of scoops that were used for palolo, one was a coconut fabric scoop, while the other, and stronger one, was the coconut leaflet midrib scoop. By 1927, both were no longer in use according to Hiroa. He found that people made palolo nets by using thin gauze that could be bought from the traders; on Manu’a it was said that people saved gauze from the Naval infirmary for their palolo nets. Hiroa witnessed the palolo catch at Ta’u on October 17, 1927, at about midnight, at full tide; it lasted until the rising of the moon, when the tide went out, taking the palolo segments with it (Hiroa 1930: 441).

According to Hiroa (ibid.), the chief’s palolo was cooked with coconut cream. But it was common everywhere to wrap the palolo in banana leaves and keep it fresh though the whole year by re-cooking and pouring coconut milk upon it (Anonymous 1928: 233).

Samoan Social Structure

The basic units of Samoan social structure were (and are) the family and village. Unlike Western society, the family was the central unit rather than the individual, and unlike Western capitalist society, the emphasis was on reciprocity rather than individual accumulation. “High virtues are to be polite, kind and generous to relatives, friends and dependents; … prestige comes through generous distribution, not accumulation, of wealth” (Keesing 1934: 30-31). The generous distribution of food marked – and still marks – every occasion, and from the 19th century into the early 20th century, fish and marine produce were central items in the circulating baskets of food. For example, Peter Turner has descriptions of opening a chapel with a feast in the 1830s that includes 260 pigs, 1,900 baskets of taro, 60 bunches of bananas and 600 fish (July 19, 1837; p. 66). About one hundred years later, in the 1930s in Vatia, Frank Drees, the visiting Superintendent of Schools, was presented, all together, “thirty fish, sixty taro, twelve lobster and crabs, six wild pigeons, twenty breadfruit, several dozen little bundles of palusami, and … a seventy-five pound roast young pig…” (n.d.: 70).

Each family was (and is still) headed by a matai, and the matais of a village constituted (and still constitute) the village fono, or village decision-making and administrative group. The matais were ranked according to local hierarchies of ranked titles, and the basic fono organization was reproduced in district and island-wide political organizations. However, for organizing work, the family and the village remained central. Typically, the heads of families in the village met in a guest house, and over a bowl of ‘ava decided according to the season what form of community fishing should take place (Hiroa 1930: 517). The control of natural resources, therefore, was mediated through the individuality of the villages (Watters 1958a: 56).
There was recognition of individual talent regarding fishing, building canoes, and house building, and men who were noted specialists were called by a special term (tufuga). A village gained enviable social status for its rich taro gardens, the skill of its bonito fishermen, or the skill of its canoe builders (Watters 1958a: 55). In fishing, the tautai (or tautai aliʻi as Thilenius [1900] reports) was a recognized expert at fishing and, during fishing he had higher status and authority than a matai who might otherwise rank higher on land in the fono. Margaret Mead gives a description of the tautai’s role in Taʻū in 1926:

Although all men fish, the master fisherman (tau tai) is always distinguished. He is usually also a master net-maker, and weaver of eel traps. He combines skill in fishing, the ownership of a good bonito boat, and proficiency in the secondary industries dependent on fishing. Usually the tau tai knows only the rudiments of the carpenter’s art and is therefore more dependent upon other craftsmen, tufuga, than is the less skilled man who combines a general knowledge of all the arts with a special skill in no one of them. Between house builders (tufuga fau fale) and canoe builders (tufuga fau vaʻa) there is no hard and fast line. This is becoming increasingly true with the decrease in the manufacture of larger native canoes (Mead 1930: 68).

According to Mead’s observations on Taʻū, the village fono regulated the food supply, especially for anything involving the consumption of a great deal of food like ceremonies and emergencies, and this was probably in line with other village practices:

The usual formal food regulations are of two sorts: to tapu the sea (namu le tai) and to tapu the land (namu le eleʻele). These are not necessarily exercised together. The tapu of the sea forbids reef fishing, but when the occasion is economic and not ceremonial (for identical tapus are observed during mourning for a high chief) it does not forbid deep-sea fishing where the supply would be only slightly affected. Special prohibitions may be laid upon coconuts, taro, pigs, or more special prohibitions may be declared under which each family is allowed to make palusami (a dish made of grated coconut meat and taro leaves which requires a great many coconuts) only once a week or once every ten days. (The sale of coconuts for copra has greatly enhanced their value and the rigor of the prohibition regarding their use has probably greatly increased.) The fono also decides upon the making or renewing of a masi pit (fermented breadfruit stored in the ground) or the baking of a communal ti oven (only resorted to in times of great food scarcity).

The food supply is further regulated by feasts for each breadfruit season (until the breadfruit feast has been held by the fono, no one else may eat of the breadfruit), and by the assignment of certain rare fish to one or more high chiefs, or of special parts of a pig or fish to special groups; for example, the head of the pig is assigned to the aualuma, and the head of the shark to the aumaga (Mead 1930: 16).

In fishing, the families made up the work units and the fish were distributed in the village to which the lagoon belonged (this is still the case). A communal fish drive – for atule or any other fish – was done by a village community in its own lagoon (Krämer
In Samoa in 1930, “[S]upernatural influences are vastly important in human life, and give sanction to the whole political and social system as established by tradition. In olden times these were in terms of Polynesian deities and taboos, but nowadays they are defined mainly according to the interpretations current in the various mission sects” (Keesing 1934: 31). George Turner (1989) provides many examples of fish and sea creatures that were considered sacred in various districts and villages and well as sanctions associated with violating taboos. For example, Turner relates the following concerning the deity incarnate in the fe’e or octopus.

"The month of May was sacred to his worship. No traveller was then allowed to pass through the village by public road; nor was any canoe allowed in the lagoon off that part of the settlement (Turner 1989: 29)."

"In another district three months were sacred to the worship of the Fe’e. During that time any one passing along the road, or in the lagoon, would be beaten, if not killed, for insulting the god (Tuner 1989: 30)."

While sanctions today come from the church or government, it is still possible in 2008 in American Samoa, following the Polynesian practice of taboos, to make a village lagoon ‘sa’, or restricted.

It should be remembered that for the period of time that we are discussing, the population of Samoa was much smaller than it is today. There were an estimated 5,499 people in American Samoa and an estimated 32,815 in Western Samoa in 1900, according to the American Naval and German censuses (Keesing 1934: 33). By 1930, these respective numbers were 8,926 and 40,722 (ibid.). Of course, this means far fewer people in relation to the land and marine resources available.

R. F. Watters (1958a: 45) states that a population density of 130 per square mile does not overtax the natural resources in a system of shifting cultivation, as in traditional Samoa. He estimates that the population of Samoa was 54,000 in 1840, with a density of 44.5 per square mile, after a decline from the pre-European population estimate of 80,000. There were large areas of Upolu and Savai’i with ample agricultural resources; only in Apolima and Manono (340 per square mile), Tutuila (212 per square mile) and Manu’a (153 per square mile), and possibly coastal areas of Aana, was there some population pressure on the gardens (ibid.). However, he concludes that, because of the possibility of traveling parties (malaga), where a village could pick up and visit another village especially if the land or lagoon was not providing enough food, population pressure never effected any modifications in the utilization of land and sea resources (ibid. 47; Hudson 1939: 333). As an economic activity, fishing came second to gardening and Samoans took full advantage of the marine life available off-shore. Fish were eaten every day in the Samoan household and only seven species of fish were not eaten due to being poisonous or unpalatable, although some species were not eaten in particular families or villages because they were deified (ibid. 48, Watters 1958b: 349 citing Krämer 1995: 182-183). As a result, fishing activities stood in high esteem in traditional Samoan culture, fishing skill brought high social status, and fishing activities figured importantly in mythology (ibid. 49). There is no evidence from early observers that the lagoons were “fished out” (ibid.).

Based on his research in American Samoa in 1937, John Coulter (1941: 37) stressed, even at this early date, the importance of increased population density in relation
to resources and an increased reliance on imported foods. In 1937 he reports the population of American Samoa as 11,906 (including 125 people for Swains Island) and he notes that fishing was less important than previously because of the availability of canned fish. Judd noted in 1926 that, “Today the natives are not fishing as they could”, and Frank Drees (n.d.: 163) describes many cases of canned salmon and sardines at a funeral in Vaitogi in the mid-1930s. In 1955, Coulter (1957: 76) reports the population of American Samoa as 20,500, and he cautions that there is a high population density in relation to the available resources (especially land). It should be remembered, also, that before 1950 there was very little emigration from the islands.

As in other parts of Polynesia (see Firth 1953 for Tikopia), we did not find evidence of what could be called a society of “natural conservationists”, but for the period before 1950 we do find evidence of a non-western or non-capitalist economy that emphasized social relations over the unlimited exploitation of resources. This point has also been made regarding traditional fishing methods in Oceania more generally by Johannes (1978). With westernization and markets for fish, there is a different attitude about economic and natural resources – a capitalist one – and this, combined with new technology like scuba gear, as well as the possibility for refrigeration of the catch, leads easily to a kind of over-fishing that was not common traditionally. Having said this, Johannes (1978: 360) cites an example from (Western) Samoa where a local chief, using his traditional authority, imposed a taboo on a part of the beach which limited the taking of turtle eggs after he realized that too many people were taking them. In most villages today, for example, it is forbidden to use poison or dynamite in reef fishing, although poisoning was practiced widely earlier. Traditional village management practices, therefore, can be appropriate for contemporary conservation goals and have been part of a plan for the management of subsistence fisheries in Samoa (King and Faasili 1999).

**Division of Labor**

As reported by Krämer (1995: 205; Illustration #57, p. 200), Hiroa (1930: 447-449), Judd (field notes 1926: 97), and more recently, Linnekin et al (2006: 59), women gather shellfish, octopus, seaweed, and small fish on the reef, men do not. Men fish by snorkeling, diving with a spear or angling with a rod, women take fish that dig under the sand. Men use large nets while women do not. Men hunted turtles, women did not. Both men and women use the ‘enu (fish basket) to catch small school fish like the i’a sina and both men and women participate in the communal fish drives. Young men do most of the diving, while older men fish with poles. Only men fished for bonito and shark, using boats.

**Fishing by Women**

According to Krämer (1995:198), small fishery (figota) was done by women. During the time of the new moon and full moon period, when the low tide was in the forenoon, women went to the dried up reef lagoons with a short stick, a longer stick, and a fish basket (ola). Using the sticks, they poked in the reef and caught many species of small fish and shellfish, including octopi, which they killed by biting them through the neck (Krämer) or between the eyes (Hiroa). The more dangerous morays, sea eels and large crabs were caught by men.
One type of trap, called the *fanga fa’atau tu’u u*, was the smallest trap – the size of a child’s head – and was used only by women in day fishing amongst the coral in the shallow parts of the lagoon. It was used to catch the dark fish, the *tu’u u* (*damsel fish)*.

The *tu’u u* is an aggressive fish, ready to fight anything of its size. The Samoans recognized this trait, so the woman first laid the trap on its side on the bottom of the lagoon, with a dark stone about the size of the fish in the trap. The woman stood nearby, with her head submerged, watching the trap, and her presence did not disturb the fish. When the *tu’u u* went into the trap to fight the other “fish”, the woman put her hand on the entrance and lifted the trap, thus catching the fish. The first fish caught then replaced the stone as a decoy. The woman used a coconut leaflet mid-rib, pushed through the lower lip of the fish, in order to tie the live fish to the trap (Krämer says they attached it by its tail). Hiroa notes that the women caught fairly large numbers of *tu’u u* in this manner, and that the introduction of water goggles (by 1927) greatly assisted this method (1930: 447).

Hiroa did not see any of these traps on Tutuila, although they were known by the people. He notes that it was the most common form of fishing for women in Savai’i, and the easiest way for them to get a large number of fish for the daily meal.

The *tu’u u* is one of the fish that is eaten raw and there is a saying about this: *Euliuli fua le tu’u u ae otangia* (The *tu’u u* is black but is eaten raw). According to Hiroa, the significance is that blackness is associated with dirt and low status, but the fact that a fish is eaten raw shows that it has edible status over many other fish that are not so eaten (1930: 449).

*Tutui* or *tuinga*, according to what Tufele told Alfred Judd in 1926, was a method of fishing done only by women, who work in pairs. Each has a stick or short pole which they jab under opposite sides of a coral rock in the shallows and thus drive the small fish into a basket laid in the water near by. This method was practiced at Ofu. A similar method of fishing by women – called *sasa’e* – is described by Krämer (1995: 206). The women search the corals with their right hand, while with their left hand they hold the fishing basket. Then they speak the following words: “Go inside *malau*, inside *tu’u u*, inside *fō*, inside *fuga*, inside *pone*, inside *sugale*, inside *lō*” (Krämer 1995: 206).

*Safunua* is the word for a fishing method in which about two dozen women – it was women’s work – formed a semi-circle in place of a net and then moved forward in close formation towards the shore, scooping up the trapped fish in small nets (ibid. 214).

**Technique: Nets**

As can be seen with the descriptions of fishing for various species, nets – both large and small – were important fishing gear in traditional Samoan fishing. Krämer notes that Stair recorded 130 different types of nets, although he did not detail the names of all of them or what exactly they were used for. According to Barradale (1907: 112-14), a missionary, the women of the inland villages made most of the nets on Upolu and Savai’i. This was because the nets were made of tree fiber and the inland villages were closest to the bush where the trees grew.

According to Krämer, fishing with nets was more important and more frequently practiced than fishing with baskets, and net-making could involve a special meal for the artisans, called an *umusā* (sacred meal). Although both women and men participated in gathering the materials to make the net, and some nets were made by both women and
men, the making of fine mesh nets was often done by a male net-making specialist. The matai who was organizing the net-making first ordered his family to collect all the materials needed and the women, girls and men twisted the sennit for the net for several weeks. After this, the matai made a piece of wood the length that he wished the meshes to be and made an agreement with an artisan to make the net, with meshes of a certain size and a net of a specified length. After the man wove the net, the matai directed the family to prepare for the tying of the net by preparing a feast of banana, coconut and taro baked in the oven. When this “loloi” dish was ready, people brought other food and, under the direction of the net-maker, other fishermen helped to tie the net. After the net was tied, the net-maker directed the distribution of the food to the fishermen who helped to tie the net. Finally, they made ‘ava so that very many fish would be caught with the net (Krämer 1995: 211-12).

There is evidence from the missionaries, from the Wilkes Expedition (1839), and from Krämer and Hiroa that nets, in all sizes and varieties, were a staple tool in Samoan fishing. Fishing with nets ranged from everyday family fishing in the lagoon to more specialized nets for fishing for certain species.

Ordinary Family Fishing
Short nets (‘upenga fa’alava) of 8 to 10 fathoms with pegged float lines and stone sinker lines were used in ordinary family fishing by a small party. At Leone, Hiroa participated with the Ripley family in this form of fishing. Two persons were stationed with a net which was spread across a channel. The channel is called ‘ava and the method of fishing by stretching the net across is tu ava ava. The fisherman dived down to see that the sinker line rested on the bottom and adjusted it into holes, depressions, and around rocks so that no openings were left below the sinker line. The other members of the family, spread out in a curve, worked down towards the net, splashing and beating the water to drive the fish into the net. On the way they subjected rocks to close scrutiny by diving down and feeling or spearing in the crevices. In this manner they caught several fish and others were driven into the net. Every crevice and hole in the rocks was known to them. After the drive the net was taken up and carried across to another channel. The net, being short and light, was quickly folded at the float line and carried over the shoulder of one person. The part of the lagoon adjacent to the family dwellings was worked with this technique (Hiroa 1930: 482-83).

Short nets were also useful with the artificially made rock heaps. After driving the fish into the heaps, the net was run around it and the sinker line carefully adjusted to the bottom. The stones were then removed by dropping them outside the net line. The fish were speared or caught up in some form of scoop net and the surrounding net prevented their escape, some being caught in the meshes.

The casting net was used for the above purposes quite readily. When opened out across a channel or used around a rock heap, it was an ‘upenga fa’alava, but when folded and cast, the same net was an ‘upenga tili (Hiroa 1930: 482).

Fishing for Two Kinds of Mullet
Different netting techniques were used for catching grey mullet (‘anae) and ia’eva, the current Samoan term for the red-lipped mullet (Hiroa 1930: 439, 478, 485; Krämer 1995: 219-221; AusAID No. 19, July 2000). Hiroa says that ‘anae (mullet) and atule
(mackerel) are the two important fish for Samoans that swim in shoals. The mullet hand net (alangamea) was used for catching mullet as they jump over a seine net. The Samoan mullet was usually caught with an ordinary net, but the alangamea was used for it in Nu’uuli and in some villages in Upolu and Savai’i. Hiroa says that the use of the alangamea net in Nu’uuli was a practice imported from Upolu and Savai’i. Krämer has a picture of an alangamea net, circa 1900 (1995: 220, Illustration #66).

In Upolu and Savai’i a long net (tolo matu) was used in connection with catching mullet. Mullet will not go through the net but endeavor to escape by leaping over it. The nets are used to form an enclosure around the fish. The fish are actually caught with the alangamea net: after the long net has been set across the direction in which the fish are moving, the fishermen, each armed with an alangamea, take up their positions outside the net and close together.

The mullet caught with the tolo matu and the alangamea are red-lipped mullet and were called ‘anae ngutu mumu. This distinguished them from the other mullet (‘anae Samoa). Tradition says that Sina (a well-know figure in Samoan legends) brought the red-lipped mullet from Fiji and that the family of Toaloa in Puapua Savai’i has the right to rule (pule) over the fishing arrangements for her mullet (Hiroa 1930: 485-86; 522). In Tutuila, the red-lipped mullet appeared only at the Western end. They appeared first at Lauanae and then moved westward to Amanave near the light house island. Here they were caught in nets stretched across the channel between the small island and the coast. No alangamea scoop was used (Hiroa 1930: 485).

The season for red-lipped mullet extended from October to December. The spawning of the red-lipped mullet was known in the villages of Luatuanu’u and Moata’a on Upolu, at Pu’apu’a on Savai’i, and at Nu’ulopa island near Manono, in addition to Lauanae and Amanave on Tutuila. By 1993, the red-lipped mullet was almost non-existent although they were considered an indicator species for the health of the lagoon fishery (AusAID 2000:36). By 2000, there was a substantial recovery of the fishery in Pu’apu’a, Savai’i. Traditionally, most of the families of the village made a section of net and joined together to encircle the school of fish when it came inshore to spawn (a similar method was used for i’a sina and atule, and managed by an expert, according to Hiroa, 1930: 432). The last mullet net of this type was used in 1960. Today, there is an attempt to restore the fishery at Pu’apu’a, under the leadership of a ‘fish leader’. A description of the fishing in 2000 demonstrates continuity in how the village manages the fishing effort through organization and by banning certain activities at Pu’apu’a:

A village elder was in charge of the fishing. When he believed the mullet were about to enter the lagoon, he called together a group consisting of five of the village orators (known as aitu ole i’a). The group decided whether to have a fish drive and advised the village families. At this time, no one was allowed to enter the lagoon. Before dawn the next day, all 60 or so families would gather with their nets and scoops at the shore and join their pieces of net. An elected ‘fish leader’ is said to be the only person that the fish will follow. If the mullet are present, he blows a shell horn to tell the villagers to set their net. He then paddles his canoe past the school using a particular flick of the paddle. The fish follow the canoe and enter the net which is then closed. Once encircled, the fish attempt to escape by jumping over the net, to be caught by the villagers using scoop nets. When the orators decide that enough fish have been caught to satisfy village
needs, they end the fishing. The catch is placed on a flat rock and shared out. There is a ban in the village on the sale of the fish, though there is some distribution, notably to the pastor. In an average year, such group fishing activities would occur about five or six times (AusAID 2000: 37).

Both Krämer and Hiroa emphasize in their descriptions how the Samoans understood the natural behavior of the various species fished and adjusted their techniques accordingly. While the red-lipped mullet appeared only in certain places, the grey mullet (family Mugilidae) was more common. Krämer reports that it was a special fishery and a favorite occupation of chiefs because of the inclination of mullets to jump over the net. Samoans made an analogy between this fishing (seu ‘anae) and pigeon hunting (seuga lupe), which was also a favorite pastime of chiefs, because both mullets and pigeons were caught with nets while in the air (Krämer 1995: 222). This description also shows how Samoans distinguished fish according to size and age: the small ‘anae was called aua (see Appendix II for more examples).

This fishing depended on a large number of people, about 100-150 Krämer reports, who were led by a special fish spotter. At the time of rising water, the fish spotter went into the lagoon in his canoe and when he saw the young mullet (called aua at this stage) eating sand on the bottom or swimming on the surface, he twisted his oar as a sign to the 6-8 canoes behind him who held the net. Following his instructions, they lay out the net to the right and left with the help of about 40-50 canoes who composed the net-laying fleet. When the fish spotter lowered his paddle straight into the water, they lowered the net. They then jumped out of the canoes and, standing by the net, they caught the aua in flight as the fish jumped over the net (ibid.; see illustration #60, large net for grey mullet fishing, in Krämer 1995: 207).

Fish Drives in Pago Harbor
This description was made by Commander E.M. Blackwell, who was in Pago Pago in 1900 with Commander Tilley. It is one of the few descriptions we found about communal fish drives in Pago harbor.

They had a peculiar fishing custom there. An old man named Magia who lived about 200 feet up on the side of the mountains above Pago Pago claimed that he owned all the fish in the harbor. At certain seasons they would have fish drives. Magia would be up at daybreak calling the fish. All the boats would stretch across the mouth of the harbor with lines running across them and cocoanut branches weighted and hanging down 10 to 15 feet in the water. The boats would pull slowly up the harbor, scaring and driving the fish before them. When they got up near the end and the water became shallow, they would stretch a long net or seine in front of the boats from shore to shore and haul that up gradually until the fish got in a very small space. Men would stand outside and spear and keep fish from jumping over, and men, women and children would be inside catching them and throwing them on shore. When all were caught and piled up, every man, woman and child there was entitled to a share of the fish. They would form a line, Magia presiding, and pick up a fish as they passed the pile and keep this up until all the
fish were taken. Whenever this would happen, we would send our mess steward up there with the mess boys to get our part of the fish (Blackwell 1948: 31-32).

**Technique: Stone Fish Weirs**

Walled weirs of stone were known throughout the Samoan group but were confined to one village on each of the three large islands and in the Manuan group. They were situated at the mouth of a bay or lagoon. The walls, made of loosely built coral stone, were termed *pa*, and the fish weir, *pa i’a*. Hiroa’s data and diagrams were obtained from the answers sent in to Mr. Stokes in reply to a questionnaire on walled fish traps sent out from the Bishop Museum. By 1927, the time of Hiroa’s visit, they had all disappeared (Hiroa 1930: 446).

In Savai’i, at Iva, the walls were renovated each year before the season; “they are not used now and have fallen down” (Hiroa 1930: 444).

In Upolu, according to Dr. E. Schultz, Chief Justice of German Samoa in 1911, at Falelatai, the fish were caught by means of a hand net by the men who were waiting at the entrance of the *pa* when the tide was going out. Schultz claimed 6 types of fish were caught, including *malauli*.

On Tutuila, at Nu’uuli, as reported by N.E. Crosse, Governor of American Samoa in 1911 and Mr. J. L. Lisonbee (with a sketch by Mr. Lisonbee), there was a stone weir between Nu’uuli and Tafuna around 1900. The walls were built as to form weirs with the entrances opening both towards the sea and towards the shore. The traps spread right across the lagoon entrance, there being 7 narrowed exits towards the shore and 6 towards the reef. Fish coming in on the rising tide were caught in the first set and fish returning to the sea on the falling tide were intercepted by the others. The distance of the weir covered about 208 rods [a rod is 16.5 feet]; they were about 2-4 feet wide at the bottom and about 3 feet high. When in use they were probably higher. The fish were caught at the exits with nets. The traps belonged to the people and had been in existence since “before the time of the grandparents of the oldest inhabitants.” These were the only traps known in Tutuila. The traps were visited by Mr. A.G. Mayer in 1920, but only the remains were seen. The walls were knocked down by a storm and the weirs went out of use (Hiroa 1930: 445-446).

On Manu’a in 1920 the pointed ends were in good preservation but Hiroa saw nothing of them seven years later. Krämer pictured the Ta’ū weir when it was being used to catch *atule* (Illustration #65, 1995: 217) when he observed the *atule* catch in May 1898.

Both the Falelatai and Nu’uuli weirs provide converging walls which force the fish through an opening into the net. The methods at Iva and Ta’ū are simply an open enclosure which must be closed with the coconut leaf *lauloa*.

On Savai’i, Hiroa observed two leaf weirs, each with 20 yard-long sides, used to catch *i’a sina*. The *i’a sina* move in shoals towards the east in the morning and towards the west in the evening, and both times they swim close to the bottom of the weir. A weir made of banana leaves was constructed to catch the fish as they move east in the morning, while the weir of coconut leaves nearby was to catch them in the evening as they move west. When the fish swim east, the optimal time is in the morning before 5:30, and when they are swimming west, the right time is at sunset. The fisherman stood
alongside, outside the weir, and scooped the fish out with small nets attached to the narrow opening of the weir (Hiroa 1930: 432).

In Upolu and Savai’i by 1927 there were many V-shaped weirs with walls made of wire netting supported by stakes driven into holes made with an iron crowbar. According to Hiroa, the form was old but the method of execution was modern. At Fagamalo, large numbers of atule were caught, and elsewhere the wire trap was used for i’a sina (Hiroa 1930: 477). The advantage of a wire netting trap was that it was permanently set and did not need watching (ibid. 446).

**Technique: Floats (uto)**

A bait float was used for shark fishing and wooden floats were used with nets and the line of a squid lure. The floats were termed uto. Uto means a piece of wood of the tou tree which is very light and can float on the sea (Krämer 1995: 211). A green branch tied to an eel line also acted as a float and was termed fa’autouto (to act as an uto). One special float, not seen by Hiroa, but described by Fepulea’i Ripley of Leone in 1927, was the flying fish float (Hiroa 1930: 428).

According to Fepulea’i Ripley, a particular bone in the flying fish (malolo) was tied to a line at an angle to form a crude hook. The short length of line was tied to a wooden float and the bone baited with a variety of coconut called niu uto. A number so prepared were set in line outside the reef and the fisherman watched from one end of the line. When the float moved out of line, he knew that a fish was on. He paddled down, removed the fish and reset the float in line again. The method was apparently unknown in Manu’a and Savai’i, yet Pratt had a term, pangi, as the bait for flying fish, and pangiuto, to fix the bait for flying fish, indicating knowledge of this technique on Upolu and that the bait was fixed to the float. Ripley claimed that the bone of the flying fish was used to make the hook, and he quoted his father, “E fano le malolo i lona au” (“the flying fish perishes through its own sharp point”), a saying that also applies to someone who brings trouble upon himself. Hiroa quoted this saying in Savai’i and described the hook technique but they didn’t know it (Hiroa 1930: 428).

When Hiroa returned to Leone, he asked Ripley to make one of these floats for him, but Ripley could not do it. Following Ripley’s suggestion, Hiroa consulted with High Talking Chief Leoso, who knew the saying but claimed that the au was not the bone but the liver of the fish, used as bait on an ordinary hook. After investigation, and by consulting the journal of John Williams, who gives a description of the bone, Hiroa concluded that Ripley’s story was correct: the bones were used as gorges to catch the malolo.

Krämer reports (1995: 207) that flying fish were often scooped out of the sea with nets by torch light at night. They could also be fished with fish hooks made of fish bones that were attached to floats along a line; used primarily to catch flying fish, the method is called tagataga in Pratt (ibid. 208). This, too, supports Ripley’s description of a method that was used apparently throughout the islands.

**Technique: Specialized Fishing with Boats**

*Fishing for sharks*

Hiroa describes the shark noose in some detail because he claims that, while noosing was common in Samoa, it was rare in other parts of Polynesia. He saw a proper shark rope at
Leone, about 22 feet long; netting sharks in Samoa was rare, as was catching them with a hook (1930: 421).

There were two kinds of bait used in shark fishing: the float bait to lure the shark near to the boat, and the near bait (usually a bonito head) to get the shark near for noosing. The bonito head was preferred as bait because of the strong odor; it might be that they used a shark rattle also to lure the shark near to the boat (it mimicked the movement and activity of small fish). When the shark came near the canoe, the expert managed the noose. As the shark bit the bonito head bait, the expert slipped the noose over the head and pulled the noose when it was beyond the lower jaw. He had to do this as the head was directed downwards or his hand could be bitten. After the shark was in the noose, they used a club to kill the shark when it was next to the canoe; often they jammed a shark spear (taova’a) into its mouth so that it couldn’t bite (Hiroa 1930: 424-25).

Shark nets (‘upenga malie) were sometimes used. In Ta’u, the nets were made of the thick three-ply twisted cord of matiata bast. The mesh was large; the length about 50 yards, and the depth 18 feet. Floats made of breadfruit wood were attached to the upper rope at about 2 feet apart. Large stone sinkers were attached at either end, with a lighter one in the middle. One of these stones with a well-marked longitudinal groove on either side was secured by Albert Judd at Leone for the Bishop Museum and was said to be an anchor for special bait used in connection with the net. It could serve both purposes. The bait of fish attracted sharks and other large fish which, in trying to secure the bait, got caught by the gills in the meshes of the net. The net was set outside the reef and at right angles to it. The net was set in the afternoon and left until morning; the fish were caught by the gills at night. When the net was set, it was described as fa’atofo le ‘upenga (putting the net to sleep for the night). The phrase was used only with a shark net (Hiroa 1930: 487).

Sharks could be fished with hooks when many sharks appeared in a lagoon. In this method, the shark bites the hook and is dragged to shallow water, where it eventually dies of exhaustion (Krämer 1995: 228).

There was a large species of shark called naiufi that was regarded by fishermen as the king of sharks and treated with ceremonial respect. Speeches were given to the shark and if it was seen but not fished, the head fisherman gave a speech about how he would return to meet it. It was considered a great honor to kill a naiufi. As the canoe came in with a naiufi, the shell trumpet was sounded and the canoe paraded backward and forward before the village. The owner met his canoe at the landing with a fine mat and touched the head of the shark with it. The mat was given to the tautai and the shark was given to the canoe owner and the village chiefs, where it was ceremonially divided among them. The tautai who noosed a naiufi thus established his authority. The son of a successful tautai might succeed him after he retired. According to Hiroa, in an argument between two aspirants to the position, the decision in favor of one is clinched if it can be said, “His father caught a naiufi” (Hiroa 1930: 521).

Shark fishing, as with bonito, was surrounded by ceremony. When a tautai caught a shark, the boats would make a procession home with the tautai in the lead canoe. He stood in the canoe and jiggled his oar as a sign of a successful catch but there was no shouting or singing, as, like bonito fishing, all noise, laud talk and similar actions were forbidden. Then the tautai who had noosed the shark was met with a mat by his wife on
shore; after this, he gave the shark to the chiefs because it was a forbidden fish (*i’a sā*) for commoners, and he retired to his house; he sat in his house looking sad (i.e. gave the appearance of mourning) and returned to the group only after being summoned by the chiefs to come to them and receive his title of *tautai ali’i* (Thilenius, 1900: 129; Krämer 228).

By contrast, in Leone in 1903 there was a lively arrival of the boats after sharks were caught. In the Governor’s Annual Report for fiscal year ending June 30, 1903, Commander E. B. Underwood states that shark fishing took place frequently when there were no trade winds and the Samoans could take their boats to the feeding grounds of the sharks. He says that the boats went out one day, stayed out all night and returned the following day. Large numbers of sharks were caught, and the boats arrived back displaying a sign of their good luck:

The return of the boat is a picturesque sight, the natives singing while laboring at the oars, and there being displayed from a mast or pole a towel, handkerchief, or other similar token for each shark caught. I have seen a returning boat with nine of these signals flying (Underwood, July 10, 1903).

On Tutuila there were festivities prior to fishing for sharks, and, as with bonito, there were special words for parts of the shark, for example, *tulāgogo* (dorsal fin), which is called “resting place for seagulls” (Krämer 1995: 228). The shark, like the bonito, was cut into ceremonial divisions, with certain parts to certain people. With a shark, for example, the stomach and intestines were regarded as the best parts of the fish and they were shared by the talking chief and the head fisherman (Hiroa 1930: 125). Leone was divided into seven parts, so when the canoes came in, they took their catch to their own part of the village, only to come together again later for a communal meal and ʻava (ibid.). In these situations, chiefs from neighboring villages might hear of the catch and they would ask for their official shares. The only excuse was if the shares were already eaten or given away; otherwise, this request could not be denied because these exchanges were central to the social organization (ibid. 126).

Becke (1901) tells this story of a particular technique for hunting the *tānīfa* (shark) at Vaivasa River, Upolu. The *tānīfa* seldom exceeds 10 feet but has a solitary nocturnal habit of haunting the mouths of shallow streams and were a serious threat to those using or crossing the streams. After one was seen, the Samoans failed to catch it with a metal hook or shoot it with a rifle. Then two appeared, each about 8 feet long. An old man took two strips of green bamboo, charred the pointed ends, and coiled them into a small ball, bound by the skin of a fish known as the “leatherjacket”. Then two dogs were killed and eviscerated and the bamboo coils were put into the stomachs of the dogs, in order to use the dogs as baits. The dogs were snatched by the sharks when they came near. As soon as the dogs were digested, the skin of the fish was intended to break and the coil would fly apart, killing the shark. A week later they found one dead shark with the bamboo protruding from its belly and assumed that the other had died at sea.

**Bonito Fishing**

One of the earliest contacts by Europeans with Samoans was made by Roggeveen in 1772, when he traded 4-5 strings of glass beads for 4-5 flying fish off Ofu. Here, Roggeveen and his men saw very neat and fast canoes with three paddles. At Ta’ū he
noted that some canoes were not made of hollowed-out trees but were made of planks and very neatly joined together. In both cases, he seems to be describing bonito canoes, which were made of planks and typically were manned by three men (although it could be two men in Western Samoa). Hiroa reports that the sight of bonito canoes far out at sea in the 18th century caused Bougainville to call the Samoan Group the Navigator Islands (1930: 509). Many people (most recently, Severance and Franco 1989; Linnekin et al 2006) have written about Samoan bonito fishing, perhaps because, as Krämer writes, it was “the most elegant sport on Samoa” (1995: 225). Bonito fishing required a special boat (va ’aalo) and great strength and endurance in the crew. Every person of high status had a bonito canoe (Hiroa 1930: 417). In 1926, when he was purchasing material items for the Bishop Museum, Alfred Judd reports that there were few va ’aalo available on Tutuila, while it was still possible to buy one in Ofu for a price ranging from $0 to $50 (Judd 1926: 84).

According to Krämer (1995: 225), the bonito season began in April or May, when the rainy season was over and the consistent trade winds began to blow. At this point, especially if the winds were mild and gentle, the fishermen were able to move out to sea under the best conditions for canoe fishing. However, Hiroa (1930: 509) gives slightly different information. According to him, there were three seasons in the year for catching bonito, and they corresponded to the breadfruit seasons. The first was at the beginning of the year (January and February), the second was during May, June and July, and the third was at the end of the year, in October, November, and part of December. Here too, the condition of the sea determined whether or not the boats went out. Bonito fishing was further classified according to the days of the month, when certain days were considered to be appropriate fishing days. These classifications are (ibid.):

- ‘Atu pulapula – Bonito of the new moon
- ‘Atu fa’afitu – Bonito of the 7th day
- ‘Atu oa toa – Bonito of the full moon
- ‘Atu o ngafoa – Bonito of the half-moon waning

The bonito sought at the end of the month, when they were scarce, were called ‘Atu o le sela ma le miti loa, or “bonito of weariness and profuse perspiration” (ibid.).

Building the bonito boat was a special task, done by a specialist who belonged to Sa Tagaloa, the builders’ guild (see the video, “Vea: Tufuga Samoa”, for one of the last of the specialists at work on Manu’a in 1972). The canoe was paid for by the chief, who commissioned it with a gift of a fine mat over a ceremonial bowl of ‘ava. After they agreed on the conditions, the builder and his party built the canoe. During the process, they had to be fed the best of food and attended to with respect by the chief’s family. Interim payments were made as the work progressed, much the same as with house building. When the canoe was finished, more mats, food and gifts were given. If the builders were unhappy, they could make the canoe unlucky, either by changing the number of lashings or by leaving in one small wooden wedge. If they changed the correct number of lashings, for example, the canoe would never catch more than ten bonito (Hiroa 1930: 416).

Krämer claims that four woods are used for building the boat: the breadfruit, Hibiscus, Afzelia, and Jatropha (1995: 226). Hiroa, however, has a more complete description of what wood was used for each section of the canoe (1930: 403). The bow and stern covers of the boat were decorated with a row of wooden knobs on which were
mounted white ovula shells (Krämer 1995:225; Hiroa 1930: 401). Hiroa reports that the number of shells varies, but on a boat in Ta’ū, the bow set consisted of eight shells while the stern set consisted of nine. According to Hiroa, the shells were difficult to get in Samoa and often came to chiefs as presents. As a result, by 1927, some of the sets had been in the possession of the families for quite some time and some boats did not have shells at all because the family did not have a set of shells available. In Ta’ū, lashing the shell to the end of the middle boom was a sign of distinction. Hiroa says this was the privilege of the Tui Manu’a and the Fiti family (1930: 402). While Thilenius claimed that the shells were a sign that the boat belonged to a master fishermen, Krämer reports that all the bonito canoes in Manu’a were decorated with these shells during the time of his visit, while in Western Samoa at the same time the shells had disappeared almost completely (1995: 237, fn. 112). In 1927, Hiroa says that he only saw the shell ornamentation in Manu’a, although the wooden knobs remained in other regions and became the decoration (1930: 403).

The bonito hook is very important in the fishing. It is also made by a specialist and it is important to tie the hook correctly. Krämer reports that Samoans said that if the hook was done wrong, misfortune followed and no bonito and no shark would be caught.

When the boats and hooks were ready, the bonito boats left shore and went outside the reef as a fleet under the command of the tautai. He decided on the movements at sea. Krämer reports that some left at twelve o’clock at night while others left at four o’clock in the morning. Beyond the reef, the man sitting in the bow looked for schools of bonito or for flocks of sea birds which pursue schools of small fish. The canoes raced to intercept the birds because often bonito were following the schools of small fish. When the crew saw the bonito school, they dropped the hook from the back of the boat and rowed through the school of fish, rowing quickly to keep with the school and so that the hook rested in the water. When the tautai at the back of the boat caught a fish, he yelled and swung the fish from the right side into the middle of the canoe. A skillful fisherman could flip the rod so that the hook jerked free in the air while the fish landed in the canoe. Hiroa explains that the hooks were not barbed because time spent in unhooking a fish would be time lost and a barbed hook would be a drawback and not an advantage in bonito fishing. Some boats could catch as many as 100 bonito (Krämer 1995: 227). Krämer says that, while fishing for bonito, if the tautai saw a shark, he would let go of the bonito so that he could go after the shark with a noose (ibid.). Once the school of bonito got past the canoe, the hooks trailed in the water and the fishing was over (Hiroa 1930: 508).

Bonito fishing was so special that there were many taboos, or restrictions, regarding it. To begin with, bonito was considered a fish for chiefs, and even the supreme god, Tagaloa, wanted a bonito. According to Pratt, cited by Krämer, the bonito is called pau in poetry and on Tutuila simply i’a. There are many other special terms and phrases related to bonito. For example, the first bonito of the season is called gatogi and should be given to the high chief; the first bonito in a new canoe is called o le i’a a Tagaloa (Tagaloa’s fish); sopoliu means to transgress the laws of bonito fishing by stepping over the canoe, and so on (Krämer 1995:227). In counting bonito, they were grouped in tens expressed by prefixing tino to a unit, such as tinolua (twenty bonito) (Hiroa 1930: 520). One saying refers to the fact that bonito chased by a sawfish will often take cover under a bonito canoe. The Samoans did not attempt to catch the bonito in this case for fear that
the sawfish may charge if it sees the bonito being taken out of the water. Hence the saying of a hard-pressed man to a more powerful chief: “O lo’o tuli mata’i nei le ‘atu i le sa’ula” (“The bonito is now carefully watching the sawfish”; in other words, “It’s your move”) (ibid. 508-09).

In bonito fishing, as in netting mullet, the fishermen wore nothing but a ti leaf kilt, later a cloth kilt at the time of Hiroa’s visit in 1927 (ibid. 520). The upper body was to be bare and nothing could be worn on the head except lime to protect from the sun. The crew members were prohibited from spinning their paddles in the air or stretching their legs over the topsides (ibid.).

On Manu’a in the 1950s, as reported by Holmes, the families of the crews and boat owners were forbidden to do any work while the fleet was out. They were expected to remain idle and pray for the fishing. The idle people were called the family of Tuiatua, since Tuiatua was a kind of patron saint of fishing (Holmes 1974: 48).

When the tautai decided the fishing was over, the fleet returned to shore. Before reaching the shore, however, he made a levy against all the canoes, by going to each one and asking, “How many?” Based on the answer, he demanded his share, which he used for a ceremonial meal for the fishermen. Holmes (1974: 48) reports that, in Manu’a, all the crew shared the ceremonial meal of raw bonito, the aleaga, before the boats came ashore individually. In general, fishermen were to give a fish or a portion of a fish to anyone they met in the water of the lagoon or on the shore. Hiroa reports, without specifying who they were, that the people who had not been fishing – and were termed tui atua – were entitled to a share of the catch by custom (Hiroa 1930: 519). Likewise, any matai the fisherman met on his way home should be given a fish or could demand a fish. A set division and allocation of the parts of the bonito was customary, with the head going to the high chief, the sides to the talking chief, and the back to the other chiefs. The belly was put aside and the tail was discarded (Hiroa 1930: 124). The bonito was a favorite dish for eating raw. It was cut up into small pieces in a large wooden bowl with water and lime in it and served as portions in half-coconut shells (ibid.).

This one type of fishing, this elegant sport with its specially built canoe, was full of ritual and social significance in Samoa, especially when the bonito was about 60 cm in size and classified as trevalli or malauli (Krämer 1995: 226, illustration #69). At this stage in its growth, it was the food of chiefs and a common fisherman was supposed to give it over to the chiefs and not eat it himself. A transgression of this rule was the basis for the famous “Skipjack Case” in American Samoa in 1900, when the American colonial government intruded into, and denied, Samoan customary law (Gray 1960: 132; Wright n.d.). In this case, in the Western District, a junior matai named Fagiema caught and cooked a malauli which he should have given to High Chief Letuli. As punishment, Letuli ordered that Fagiema’s house be burnt to the ground and that his taro and bananas be uprooted (a traditional punishment). Fagiema sought refuge in Leone with Fai’ivae and High Chief Tuitele, who was also the District Governor (it was the custom also to give refuge). When Tuitele called Letuli to him to explain, Letuli disobeyed Tuitele and did not come. Tuitele (or, Wright suggests, a representative of the London Missionary Society) reported Letuli to Commander Tilley. There was a trial, where much of the discussion focused on the size of the fish. A skipjack about 12 inches long is a malauli, and as such it is to be given to the high chief. When it is lupo (small) or grown so that it can eat a mullet (soponae) or full grown (ulua), it can be eaten by anyone. The hearing
judged against Letuli and he was fined, lost his title for a year, and was confined to Pago Pago for one year. From Letuli’s perspective, he was following *Fa’aSamoa* (Samoan tradition), but Tilley (and Dorn who wrote the judgment) saw it as taking the law into his own hands (Wright n.d.). While an incident about a fish may not have seemed especially significant to the Americans, Samoan chiefs Mauga and Tuia later told Governor Graham in the 1920s, that this incident was one of many that undermined the local *matai* system because the senior matai could not punish a junior one (Gray 1960: 134; Keesing 1934: 243; Olsen 1976: 78). That same *matai* system was important in managing the local resources, and remains important today for the same reasons.

**Technique: Fishhooks**

According to legend, Samoan fish-hooks have divine origins because the shell that was used for the original fish-hook was said to have been brought down from heaven (Krämer 1995: 197). In the archaeological evidence, fish-hooks made from Turbo shell (*Turbo setosus*) have been found at two of the earliest known sites in American Samoa, the Toaga site on Ofu island in Manu’a, and the Agana site on Tutuila (Kirch 1993:160-161; Pearl & Sauck 2007: slides 30-32). The fishhooks from these sites date to approximately 2500-2200 B.P. (Kirch 1993: 87; Pearl & Sauck 2007: slide 30). The presence of fishhooks, as part of Samoan material culture, has also been noted by the earliest explorers including Bougainville in 1768, La Perouse in 1787, and Von Kotzebue in 1824, as well as missionaries such as Williams in 1830 and 1832, Turner from 1841-1860, and Stair from 1838-1845 (La Perouse 1799; Bougainville 1821; Turner 1861, 1898 [1884]; Von Kotzebue 1987 [1830]; Stair 1897 [1897]; Moyle 1984). The anthropological writings of Krämer (1995 [1903]), Demandt (1913), Beasley (1928), and Hiroa (1930) have the most detailed descriptions of traditional Samoan fishhooks. Of the four, Hiroa provides the most complete descriptions of the greatest number of known hooks and their manufacture. Hiroa (1930:490-522) has extensive detailed drawings illustrating how the hooks were made, as well as a photographic plate showing many of the hooks discussed in the text (Hiroa 1930: Plate XLVII).

The general Samoan name for hook is *matau* with more specific names given to hooks using different methods to attract the fish such as baited hooks, gorges, and trolling lure type hooks. Hooks were designed to catch particular species of fish, with design features compatible with certain fishing methods. For instance, a hook called the *pa ‘atu* was a trolling style of hook (*pa*) (Krämer calls a *pa* a “spinner”) used to catch bonito (*’atu*). It was a composite two piece lure made of a shell shank, lure or spinner (*pa*) with a barb-less turtle shell hook. This design made it possible for the fisherman, using a fishing rod, to pull the fish out of the water and throw it into the front of his boat in one motion with the fish easily sliding off the hook since it was not held by a barb.

The term *matau* for hook is broader than the English term “hook” as it includes gorges which are not hook shaped but are rather a straight piece of wood or bone. The gorges, attached to a twisted fiber line, were baited and once a fish took it, it became lodged in the fish’s mouth or throat. Hiroa (1930: 489-90) describes three varieties of wooden gorges and a single type of gorge that used a float and fish bones. John Williams described this gorge plus float device in 1832 as follows:

The Samoans form a float of hollow wood about eight inches in diameter & eight inches high. To this they attach a sharp piece of fish bone straight like a needle.
This is tied in the middle & suspended by a piece of fine line about ten inches below the float & baited with cocoanut, 20 or 30 of these floats are then strung together at some little distance apart on a strong string. The fish are attracted I believe by the whiteness of the float with which the wood is made and seize the bait. The fish bone pierces on each side the mouth by which the fish is held. The violent motion of the float indicates to the fisherman that a fish is fast (Moyle 1984: 227).1

Hiroa (1930: 489-517) also describes eight basic types of hooks with at least eleven varieties that were named for different colored shells and materials used. The types include: a hook for catching the mumu fish outside of the reef opposite the reef channel; a hook for catching freshwater eels in streams and wetland areas called a matau tuna; a masimasi or dolphin fish hook; a hook for catching tagi (a large open ocean fish) called a pa tagi; a hook used to catch bonito on the open ocean called a pa 'atu; a hook used for catching malaufi (just outside the reef and sometimes in the reef area in the early morning and evening) called a pa ala; and the hook for catching small fish was called a pa seuseu. Hiroa (1930: 517) lists the names of the small fish in question as follows: gatala (Epinesphelus when about six inches long), 'ata'ata (Epinesphelus when over 1 ft. in length) matamu (Lethrinus), malai (Lutjanus when about 1 ft. long), matalau (?), umiumia (Polydactylus), sugalupe (?), and patagaloa (Julis). (Note: scientific names and their related sizes were found when possible in Milner 1966.)

Hiroa (1930: 404, 514) notes that the pa 'atu and pa ala hooks had additional names that were tied to differences in shell color. For the pa 'atu those names included: pa tio, pa usi, pa laumilo, pa ulia, pa lautoe, pa sulu, pa lanulua, and pa lupovai. For the pa ala hooks the names were: pa ulutoto, pa laveuli, pa ululalafi, pa lau and pa ala sina. Hiroa explains that the variety of colors did not indicate a one to one relationship between different types of shell used and different colors, rather, “The craftsmen were expert in producing shades of color by varying the amount of dark outer [shell] surface removed in grinding” (Hiroa 1930: 498).

The hooks were made of various materials including wood from a tree fern, coconut tree wood, including the mid-rib of the coconut leaves, whale ivory, bone, fish bone, the shell from various invertebrates, and turtle shell. In addition, fine threads were used for lashing, a three ply twisted string made from fau soga was used as a snood (line attached to the leader line) and fau soga strips were used for the hackle (at the end of the hook). Milner (1966: 60) identifies fausoga (one word) as a small tree (Pipturus sp.); presumably the lines were made from strips of its inner bark. Feathers were also used as hackle with some types of hooks though Hiroa (1930: 513-14) argues, contra Stair (1983: 203), not with the bonito hook (pa 'atu).

A wide variety of shell was used for fishhooks. Early explorers and missionaries frequently referred to the shell used as "pearl" or "mother of pearl" (La Perouse 1799: 110; Turner 1861: 179; Von Kotzebue 1967: 268; Stair 1983: 203; Moyle 1984: 227), but while imported pearl shell was commonly used in the 1920s, Hiroa (1930: 498) points out that such shell was not native to Samoan waters and was unlikely to have been used in pre-European times. This seems to be born out archaeologically where recovered ancient fishhooks tend to be made from Turbo shell (Kirch 1993; Pearl, personal communication

1 This quotation from Williams was referred to earlier in the text in Ripley’s story of the flying fish float.
2008), as well as historically where a wide variety of different shell species have been identified in museum collections of Samoan fishhooks collected in the 19th and early 20th century.

In Hiroa's (1930: 510, 515) review of the literature he notes that the following types of shell were used to make the shanks for trolling/lure style fish hooks: pala’au (Pterocera), fatuaua (Spondylus), foafoa (Cypraea), ‘ali’ao (Trochus), alili (Turbo), faisua (Tridacna), fole (Pinna), and tofe (Perna). In addition, in the case of the pa seu seu Hiroa (1930: 515) notes that tupe or the operculum of the Turbo shell was also used likely because the pa seu seu was the smallest of the trolling hooks. Historically the pointed hook that was lashed to the shank was most commonly turtle shell though Hiroa (1930: 497-98, 501) says that sometimes other materials such as wood (including niuvao and olilil), shell, and bone were sometimes used. He notes that a bonito hook made entirely of wood was seen on Ta’u (Hiroa 1930: 501).

The trolling hooks were the most difficult to manufacture. They required the shaping of the shell shank (by a combination of cutting and grinding) to resemble a small fish along with the drilling of holes in order to tie down the snood and the carving of grooves for lashing (fausaga) on the curved turtle shell hook. Hiroa (1930: 495-96) describes and illustrates a drill (vili) that had a point made from a stone flake or spine of a sea urchin, the vana (Echinus). The turtle shell hook had to be carved into a hook-like shape that included a flat edge on the bend that butted up against the shank with a point at the end of the material forming the opposite bend of the hook. All of the hooks for trolling (Hiroa calls them points) had holes drilled through them along the flat edge that so they could be tied down to the shank (pa) using strong thread material. In some cases, such as the pa ala, the holes also were used to attach feathers and additional fau soga strips for the hackle. The lashing was complex and each expert hook maker had a style of lashing that he found lucky. Hiroa (1930: 499-503) provides a full example of a "lashing formula" that was written down by Le Oso Ripley, the senior Tulafale for Leone, Tutuila, and demonstrated for him by Le Oso’s son Fepuleai Ripley.

Once made, the hooks were attached via a nine or ten feet fine leader line to five-ply sennit braid about 22 feet long. This would in turn be attached to one of two types of fishing rods (bamboo poles with wooden handles). One type was a long rod (launiu) 15 feet 6 inches long while the other was a shorter rod (matila) about eight feet long (Hiroa 1930: 503-504). In some cases, however, the line was paid out from a boat as a hand line or even attached to a toe (Hiroa 1930: 514).

Pearl and Sauck (2007) note that some of the hooks they found at the Aganoa site seem to have this flat edge that suggests a hook designed to be lashed to a pa. No pa were recovered and none of these hooks had holes drilled in them, but the possibility is open that these hooks were broken in the manufacturing process or otherwise rejected for use before holes were drilled in them.

Technique: Fish Poisoning
Samoans are reported to have used as many as four different types of plant based poisons to stun fish so that they could be easily collected. The poisons reported by various authors include the seeds of the futu (Barringtonia asiatica) (Stokes 1921: 230; Judd 1926: 63; Hiroa 1930: 443; Coulter 1941: 30 and 1957: 98; Milner 1966: 73; Cox 1979: 398; Moyle 1983: 227; Krämer 1995: 204; Whistler 2000: 137); the leaves, stems, and roots of the
‘avasa (Tephrosia purpurea) (Stokes 1921: 230; Pratt 1893: 81; Judd 1926: 63; Milner 1966: 37; Whistler 2000: 137); f ‘o’ona (Derris trifoliata) (Whistler 2000: 137); and ‘ava niukini, in English “New Guinea kava” (Derris malaccensis) (O’Meara 1990: 88; Whistler 2000: 137).

Whistler (2000: 137), citing Buck (a.k.a. Hiroa), says there was also a Samoan word for a plant called ‘au’u’u, but he suspects that it is another term for (Derris trifoliata) as he says that it “appears” that ‘au’u’u may be cognate with the Tongan term kavahuhu for the same plant. However, Judd (1926: 63) notes that the Hawaiian term ‘auhuhu (which appears to be a closer match) refers to Tephrosia piscatorial (syn. Tephrosia purpurea) so it could instead be another term for ‘avasa. (Note that Stokes (1921) describes the use of ‘auhuhu as a fish poison in Hawaii.)

The methods for using the poisons varied slightly. The poison from the futu seed was used by scraping the seed with a piece of coral lapa, or sometimes it was pounded in stone mortars and then the particles were scattered in the water at reef pools during a low tide (Stokes 1921: 230; Hiroa 1930: 443; Coulter 1941: 30 and 1957: 98). Hiroa says that the scrapings were mixed with wet sand to form balls and then introduced into the water. Stokes says that a Mr. Mooker (who witnessed the process many times between 1901 and 1912 on Tutuila) told him that “soon after grating the prepared meal the fishermen throw it into the water by the handfuls, where it sank slowly” (Stokes 1921: 230). It is said to have stunned the fish that were collected with nets (Moyle 1983: 227 Krämer 1995: 204). Krämer (1995: 204) states that balls of the poison were made and the fisherman would dive down and push them into rock (presumably coral) crevices.

The ‘avasa was used by pounding the leaves, stems and roots with stones and forming it into a ball. This was then released around the coral of the reef and the stunned fish were collected (Hiroa 1930: 444; Whistler 2000: 137). Hiroa (1930: 444) notes that in addition to the poisoning of pools (oloolo) that the ‘avasa was also used in lauloa fish drives to drive the fish out of their hiding places. Stokes (1921: 23-31), citing Brown (1910), says that it was mixed with taro when applied.

O’Meara (1990: 88) reports that ‘ava niukini was also pounded and was wrapped in leaves. Again, a fisherman would dive down and open them and spread the poison around coral heads. This poison, though its use is illegal and banned by village councils, is still used occasionally by fishermen. Herdrich saw it in use in 1986 and the stunned fish were collected by hand and placed in baskets woven from coconut leaves. Whistler (2000: 137) states that ‘ava niukini was introduced into Samoa sometime prior to 1929 and likely came from, as the name implies, New Guinea. The likelihood is good, as Verdcourt says, that Derris malaccensis is “Used by some tribes [in New Guinea] as a fish poison, an emulsion being made from the roots...” (Verdcourt 1979: 323).

Lewella Churchill (1902) in her book Samoa ‘Uma describes the use of a vine that was used as a fish poison. She does not identify the vine, but Stokes speculates that it might be Ipomea pes-caprae, I. terebrethum, or Derris uliginosa that was apparently used in Fiji to poison fish. Perhaps of more interest is that Churchill noted that after a sufficient quantity of fish were collected the poison vines were collected from the reef tidal pool and put into a reef channel to be carried away so that its poison would not continue to harm the fish sheltering in the reef. Churchill felt that this was evidence of Samoan “recognition of the principles of game preservation” (Churchill 1902: 125).
We were unable to find descriptions of the uses of the *fue o’ona*, nor have we seen reference to it other than in Whistler (2000).

**Other types of Fishing**

**Squid Lures: catching octopus**

The squid lure has been described and diagramed by several authors (Beasley 1921; Hiroa 1930: 435-36; Krämer 1995: 229-30) and we include a drawing made by Bruce Cartwright, a member of the Bishop Museum group in 1927. (Note that the terms squid, cuttlefish, and octopus were used interchangeably by early explorers, missionaries, and other observers, but as far as we can tell from the context of use and descriptions they were all speaking of octopus and not true squid or cuttlefish. To the extent that we use the terms squid or cuttlefish it is in keeping with our sources uses, but we are confident that in all cases they were referring to octopus.) Octopuses were caught by women at low tide using a stick to poke in the holes in the reef. But men used lures inside the reef when the tide was in. Using a small *paopao* canoe, a man paddled backwards and forwards in the parts of the lagoon where he was likely to find an octopus. While paddling, he managed the line of the lure. The lure was lowered to just above the bottom and kept in motion by constant jiggling. This motion was said to look like a rat, and when the shells click the stone, it was said to sound like the squeaks of a rat (this method is still used). The octopus was attracted to the lure and as the lure was drawn away, it held onto it even more with its tentacles. The fisherman drew it out of the water and as both Hiroa and Krämer report, the octopus was bitten between the eyes to kill it.

This fishing method, perhaps more than any other, is accompanied by a mythological story, which explains the style of the lure and why it should resemble the actions of a rat. Hiroa gives a version of the tale that he collected on Tutuila (1930: 438). Here is another version, very similar, collected in the Western District of Tutuila during the same trip in 1927 by Bruce Cartwright (Notebook II: 58-59, from the Bishop Museum Archives):

**Vaotuua’s Tale**

**Why Squid are caught with Imitation Rat**

Once upon a time ‘I SUMU (the rat), UNA (the coconut crab) and VE’A (the rail-bird) met at the land of ‘Ā and decided to make a pilgrimage to a celebrated and sacred place located on Cape TAPUTAPU. The rat and the rail-bird wanted to make the journey on foot but the coconut crab objected saying that he could not walk so far. He suggested that they build a “waa” (canoe) in which they could all sail. This was agreed to – so the coconut crab climbed up a coconut tree that hung over a large rock and cut off a coconut which fell onto the rock and split to pieces. The meat in one half was cleaned out by the rat and the coconut crab. It was placed in the sea and they got aboard – the rat sitting in the coconut-crab’s lap while he held on to the rail-bird’s legs. The rail-bird flapped his wings and the canoe sped over the water. When they had nearly reached their destination a hurricane came down upon them and wrecked the canoe. The coconut crab sank into the water where he was perfectly at home. The rail flew to safety but the rat had to swim. He soon tired in the angry sea and cried out in his distress. A FE’E heard him and coming to the surface told him to climb up on its head and he
would take him ashore safely. This the rat did. As they neared the shore and the rat realized he was saved he deposited some pellets on the squid’s head. Finally the squid came to the beach and the rat jumped ashore and started for the bush. “You have not thanked me,” said the squid. “You will find your reward on top of your head,” replied the rat over his shoulder as he hurried away. Thereupon, the squid reached one of his tentacles up to the top of his head and discovered what had been deposited there. He was frightfully angry and grievously insulted and made an oath that forever after when it was in the power of a squid to catch a rat he would kill it without hesitation.

Drawing by Bruce Cartwright, 1927, Field Notebook II: 60, from the Bishop Museum Archives Collection²

**Traps and Pots**

**Fish Crabs, Crayfish, Lobsters**

 Versions of fish pots were used as traps to catch fish, crabs, crayfish and lobsters. For fish, bait was put in the pot and the pot was set in likely looking pools or passages from the reef (Hiroa 1930: 451). The open bottom of the trap was fitted on the sand and stones were put around the fish trap, which also served to attract other rock-frequenting kinds of fish to the spot. Often rocks were piled up in shallow water, without a pot, to attract fish. After a week or so, a net was put around the rocks and the villagers lifted the rocks out of the net, thus catching the fish attracted to the rocks (Judd 1926: 98).

The crab pots, which Hiroa saw at Nu’uuli in Tutuila, were built just like the fish pots, only stronger. Hiroa observed the pots being baited and set at Nu’uuli, where *tupa*

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land crabs (*Cardisoma* sp.) were broken into pieces and used to bait the traps. The traps were taken out into the lagoon where the water was about waist deep. The fisherman made a depression in the sand and put the trap into it; he also put a stone in the bottom to anchor it. There were no stones around the outside as with the fish pot. Each trap had a float attached to it and the traps were set about 20 yards apart. The pots were set in the evening and picked up the next morning (Hiroa 1930: 453). Bruce Cartwright gives us an idea of how the crabs were stored in Nu’uuli:

When the rain let up Chief SOLIAI took us for a walk around the village. We saw crab traps and learned that these crabs only occur here and at Leone (occasionally). They can be kept out of water in baskets filled with leaves for a month – saw one which had been out of water a week was very lively. Dr Buck has description of trap and method of capture (Cartwright Notebook II: 13, from the Bishop Museum Archives).

The crayfish pot was of the same type and technique as the fish pot and was used only for sea crayfish. The pot Hiroa saw was stronger than the crab pot used at Nu’uuli. Sometimes a young crayfish was placed in the pot as a decoy (ibid. 454).

The funnel type of lobster pot ("enu") was still made in Tutuila and Manu’a when Hiroa visited in 1927, where it was sometimes used to catch *i’a sina* (ibid. 455). Judd obtained one of these ‘enu at Fitiuta for the Bishop Museum (1926: 96). In Leone, Ripley told Judd that the fish trap known on Manu’a as ‘enu was known on Tutuila as *faga* (ibid. 23).

**Turtles**

Krämer reports that a large net was used made of coconut sennit with meshes about the size of one foot. The fishing had to take place at high tide, no matter what time of day. The net was taken out to the outer reef or reef channel on a boat and unrolled in deep water. Ten to twenty people stayed near the net while others came from the beach, striking the sea. The turtles ran into the net and people dove down and brought them up, putting them into the boat. Krämer says they could catch ten or more turtles this way before they brought them to the shore (Krämer 1995: 219).

On Savai’i, where Hiroa watched villagers netting turtles, the net was used along the coast where there was no reef. They beat the water and worked the lines of the net inwards to trap the turtles’ heads and fins in the net. In daylight, the turtles were easily removed from the net but at night the turtle and net were bundled together and taken to the shore (Hiroa 1930: 488).

**Prawns**

Bruce Cartwright has a short description of how boys practiced catching prawns in a mountain stream near Fagasa in 1927 (Notebook I: 97-98, from the Bishop Museum Archives):

Our boys went down to the stream and brought us back taro-leaf cups full of delicious cold water. They then returned to the stream to catch prawns, many of which could be seen from where we were. They were about six inches long and when approached, snapped backward, with their tails like all members of the shrimp family.
The boys took coconut leaf mid-ribs at the ends of which they tied small nooses of sennit. These nooses, one to a mid-rib, they tried to place directly behind the prawn. When they succeeded in doing this, which seemed quite difficult, they splashed the water in front of the prawn. This caused him to snap back into the noose, when he was thrown up on the bank. They had great fun, but only caught two prawns, which Fepulea’i casually picked up, pinched the heads off, and ate without comment.
Eels

At Malaeloa, Tutuila, Hiroa went with a local fisherman to observe how he fished for eels (1930: 492). The fishing ground was a marshy spot where the stream flowed over flat ground to form a lagoon. They waded in; the bottom was soft and muddy and occasionally they sank up to their armpits in water. The fisherman baited a hook with a grub, tied the hook to a small branch with leaves, so that the branch and leaves acted like a float. The hooks were set at different places in the evening and left overnight. In the early morning the fisherman picked up the hooks and he could tell immediately by the way the branches floated in the water whether or not he had caught an eel. Hiroa says that the process of making the hook (matau) is called fafau matau. On Tutuila the matau tuna was used in 1927 in the freshwater lagoon at Malaeloa and in the freshwater stream at Aoloau (ibid.). Alfred Judd collected some of these eel hooks from Ngangi of Malaeloa for the Bishop Museum (1926: 62). The tail of the fresh water eel went to the chief (Hiroa 1930: 126).

Sea eels were caught with snares and traps (Hiroa 1930). When a sea eel was located among the rocks inside the reef, the fisherman used a bait stick to lure the eel, and as the eel followed the bait, he caught it with a noose around its head (ibid. 422). The trap was also used inside the lagoon. Here, bait was put into a tube-styled trap, with an inside slit of coconut fabric. Once the eel had passed through the slit, to the bait, it could not find its way out (ibid. 469).

Legends: Significance and Continuity

There are many myths and legends associated with various places and activities in Samoa. Like other artisans, fishermen had their special gods and the fishery was subject to superstitions and mysticisms (Krämer 1995: 198). A common legend was that, just as Pili taught the Samoans to plant taro and to cook, he taught them to fish, above all, with a net (ibid. 196). In Manu’a (and maybe elsewhere), Pili was said to learn fishing from the female demon Sasa’umani, whose son Pulele’i’ite absconded with his wife. Sināsa’umani, Sasa’umani’s sister, had been caught by Tagaloaaui (the son of the girl Ui and the god Tagaloa) in his net and so Sasa’umani also caught everything she could get (Krämer 1994: 9). She was a great fisher woman of the olden days and the friend of Fe’e, the octopus who carried on at the Utumanu’a cape on Ta’ū (story in Krämer 1995: 197). On Ta’ū, Krämer visited “Sa’umani’s net lowering rock”, where people formerly offered sacrifices (Krämer 1995: 509). Hiroa found that the mesh of a hand scoop in Ta’ū was called mata ‘upenga a Sasaumani, which indicated extra knotting of mesh (Hiroa 1930: 472-73). He was told that these meshes were said to be derived from the nets of the Sasaumani [sic], an early fishing community who were on Ta’ū when Tangaloa-ui grew to man’s estate (ibid. 472). This community was said to have left Manu’a and migrated to Savai’i due to a number of causes, among which, one was the theft of a turtle belonging to the Tui Manu’a (the highest title holder in Manu’a). According to legend, the Tui Manu’a had a special monopoly on turtles (Hiroa 1930: 522).

Hiroa tells the following story about a bonito rock that could bring good luck (1930: 510):

There is a myth about a rock in a river in Savai’i to which the bonito came and left part of their flesh as an offering. If a bonito is caught off of Savai’i with a
portion of its flesh missing, it is held to have been to the rock. Such a fish caught on a new hook is a lucky omen for the owner.

Atule Stones: Aoloau
Bruce Cartwright has a description of the Bishop Museum visit to Aoloau in 1927, where he describes a stone, which was meant to lure atule into the lagoon (Cartwright 1939: 79-80). The account begins with a description of the types of canoes in Aoloau and the division of labor in the village. Aoloau is no longer occupied at this location, having moved up the mountain, so this description is when the village was sited along the shore.

The village of Aoloau is quite primitive and shows very little outside influence. Behind the guest house near the bank of a trickling stream some men were building canoes. One, a large bonito canoe, and two small pau-pau. In every house the women were busy making mats, tapas, nets and other articles.

Chief Fuimaono said that formerly there was a stone, which lay in the water near the beach. It was an atuli [sic] stone. It had two holes in it, and was very sacred. Large schools of atuli came to the vicinity of Aoloau and visited this stone. I asked him if the atuli still came to visit the stone. He replied that atuli still came to Aoloau at certain times, but that their numbers were not as great as formerly and they did not visit the stone because it had been removed from the sea and now adorned the western corner of the pae pae of his home. We asked if he would show us the atuli stone, and he replied that he would do so with pleasure. … On the way there I picked up several stone adzes which lay in the path, as did Dr. Buck.

The stone was set in the pae pae about one foot from the ground and about two feet from the western corner of the pae pae. It was a round water-worn black basalt lava stone, with a small overlap of lava on the edge of which were two natural holes, probably bubbles, about a half inch in diameter and an inch deep. Chief Fuimaono knew nothing more about it than what he had told us. I asked him if Sina had anything to do with the stone. He said that Sina was a celebrated traditional woman who had a lot to do with most things Samoan, and that it was quite possible that her name was connected with the stone, but he did not remember ever having heard her name used in connection with it. In Hawaii the fish god was KU and his wife was HINA. Hina and Sina would be the same person in Samoa.

Atule Stones: Fagasa
There is a similar relation of stones to atule found in Fagasa, where the legend can be found today. In Fagasa there are two sacred stones which are believed to attract atule to the lagoon. Here is the story of the stones, as recorded by Bruce Cartwright in 1927, along with his illustration of the stones (Cartwright Field Notebook I: 82-84, from the Bishop Museum Archives):

FAGATELE – up at dawn
We were taken by Talking Chief Sala and the pastor’s father to the pro-wall back of the pastor’s to see the two sacred stones placed on a stone “alu” about 2 feet
high and surrounded by a hedge of croton bushes. These stones were water-worn and flattish – about 1 foot across
- one stone is SIGA, daughter of LIIA WAA, has two holes
- other stone is TOGAMANA, son of ALO

Talking Chief Sala’s Tale
One stone was once TOGA MANA the son of chief ALO the other stone was once SIGA, the daughter of chief LII-A-WAA.

LII-A-WAA came from PULOTU, an island to the West – then he arrived at UPOLU and could get no food there – he then went to MANU’A for water and food but found none. He heard in Manu’a that there was plenty of food and water on TUTUILA so he came here – to FAGATELE. The people of the village got FAPUTU and the boat was loaded with food. Chief LII-A-WAA told his daughter SIGA (HINA in Hawaii) to go to the stream and fill 10 water bottles with water. While she was searching for a nice pool (to get the water from) chief LII-A-WAA ordered the boat, a canoe of ALIA type with over 100 passengers, to leave – so they started off and were soon out of sight.

SIGA came back from the stream with her 10 full water bottles and saw just the tip of the sail on the horizon. She ran along the shore in desperation dropping water bottles now and then – these places where these bottles fell and broke are now springs – welled up where people bathe – then she ran out into the water and the 10th water bottle, that belonged to her father, fell into the water – at the place where there is now a fresh water spring cut on the reef under the salt water. She went as far as she could toward the distant sail, but the villagers went out and got her and brought her to the village where they built a house for her and took care of her.

In the meantime the canoe sailed on – SIGA’S absence unnoticed until her father LII-A-WAA wanted ‘ava. He called for his daughter and taupou but she was not on the alia (double canoe). LII-A-WAA took each passenger and threw them overboard telling them to find SIGA and bring her back to him. They turned into 2 varieties of fish – the ATULE (AKULE in Hawaii) and the MUMUA (for when the latter are skinned you can see their human hands – 4 fingers and a thumb and they are tattooed on the sides – you will also find in their stomachs the food that was prepared for them by the people of Fagatele). The mumua [dolphins] always come to Fagasa before the atule – the latter following them – when they are sighted a paddle is raised as a signal to the village. A chief with a fan and clad in a fine mat then stands on the shore and waves the fan and invites the fish to come in by singing the following song:

VALOGA AU UKI I MA SALOGA
AUTAI MALIU MAI I UTA
MA LE APULUPULU OLE TAI
UA LILIU LE SONA UA ITA INA
UA LE IFO MAINAINA IFO
MAIō
(Song written by Malama, the son of Leoso, on the spot)

SIGA married TOGAMANA of FAGATELE and before they died, they turned into the stones.

Illustration from Bruce Cartwright, 1927, Field Notebook I: 81, from the Bishop Museum Archives

A similar version of the Fagasa legend was collected by Brother Herman (1970 [1955]) in the early 20th century, although here the emphasis is on the dolphins:

The Dolphins of Fagasa
The boat came from the west and called at Fagasa for a rest. It was the boat of Liʻavaʻa, the king of Fiji, who was on a voyage with his daughter Sina. It was the king’s custom to have his kava daily while sailing on the high seas.

While they were in Fagasa, Liʻavaʻa asked Sina if she had filled her water bottles. The girl answered, “No.” So Liʻavaʻa sent her to draw water. The girl took the coconut bottles and went to the spring Vaïloloia inland of the place called Taputapu. When Sina had filled the bottles, she wished to pick some Job’s tears.

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The plant grew near the spring. She put down the bottles and got busy picking the berries.

When the Fijians were about to resume their journey, Li’ava’a asked whether Sina had returned. The crew answered that she was asleep. But it was not so; the girl was still engaged picking Job’s tears. Li’ava’a ordered: “Raise the anchor and let us go.”

When the canoe was far out in the sea, Li’ava’a suddenly said, “Awaken Sina that she may chew some kava.” They searched and searched, but the girl was not to be found. Li’ava’a now knew that she had been left behind in Fagasa. Then Li’ava’a took hold of the paletua (a stick for the steersman to lean against) and beat the men. The crew cast themselves into the sea and begged Li’ava’a to spare their lives. He answered, “No, you shall die this very day.” Then he threw bananas at them. The crew said, “Li’ava’a, please command what we are to do.” Li’ava’a replied, “Be changed into dolphins and rise in Fagasa Bay every year.”

When Sina had finished picking the berries, she went with her water bottles toward the sea. She stood on the beach. She looked, but there was no boat. Only the mast could still be seen in the distance. Then the girl cried and one of her water bottles cracked. A spring bubbled up which exists to this day. It is called Tufu. Then the girl waded into the sea with the other coconut bottle. She stood on a rock in the sea. She waved her white fan, but no one saw her. The boat was too far away. She cried again and the other bottle cracked. A spring bubbled up from under the rock in the sea. Even at high tide its water is fresh to the present day.

While Sina was standing there weeping, Togamana, who had been out fishing, came along. He asked, “Why do you cry?” The girl replied, “I have been left behind by my father and his crew.” So he made Sina jump into his canoe and took her ashore. Then Sina lived with Togamana in wedlock.

Before long, Li’ava’a’s boat was seen approaching. Li’ava’a said to Togamana, “Did you notice those dolphins in the sea?” Togamana replied, “Yes, I saw them.” Li’ava’a then said, “They shall be Sina’s dowry to your Excellency and come to you every year.”

In Fagasa there still are two rocks known as “Sina’s Rock” and “Li’ava’a’s Rock.” And to this very day the dolphins appear every year in the Bay of Fagasa.

What makes this story especially interesting is that the stones are still in Fagasa, and in July 2007, they were washed as part of a ceremony to celebrate the return of the atule. During this time, the lagoon was made sa. In 2007, HC Lilio provided a copy of his version of legend associated with the stones. It is presented below with his permission.
\textbf{The Blessing of the Rocks, Fagasa}

\textit{The Story of Sina and Liava’a as told by Chief Lilio Aliitai}

We believe that the \textit{akule} [a linguistic variation of the term \textit{atule}] is a blessing from God and was given to our ancestors hundreds of years ago and to this day, still provides food for the village.

As the legend goes, years ago a member of the Royal Tongan family, Liava’a, and his daughter Sina sailed to Tutuila in search of the pure waters of Fagasa. Upon arrival, Sina set off with her coconut shells to locate the beautiful springs. Her father, not realizing that his daughter was on land, ordered the boat to leave as soon as they had filled their containers with water.

When Sina returned to the shore and found her father’s boat gone, she knelt, crying loudly in despair at having been left behind. To this day, three fresh water underground streams in Fagasa still flow, signifying the fresh water spilled as Sina ran along the shore, crying for her father’s return.

Miles out to sea, her father called for Sina to prepare the \textit{ʻava}. Learning that his beautiful daughter was not on board, he became enraged and threw his entire crew into the sea with orders to return to Fagasa to take care of Sina. The blessings were upon the men and they were changed to dolphins to hasten their return to Fagasa. Spotting a school of \textit{akule} outside the bay, they quickly herded the \textit{akule} into shore to make certain all who cared for Sina would be well fed.

Meanwhile, Sina was taken in by High Chief Lilio of Fagasa who loved her dearly and adopted her as his own. Her death, and the love of her father were forever preserved in stone. From that day on, Chief Lilio and his family are the keepers of the rocks and are given the responsibility of preserving the legendary practice of showing appreciation for the generous harvest of \textit{akule}.

\textbf{Fishing rock: Fagamalo}

Though not recorded within the historic period we have been reviewing with we think we would be remiss not to report that the village of Fagamalo has a legendary rock that is tied to fishing (Ofisa and Ripley: 1976). The legend is presented in an interview conducted in 1976 by students from the American Samoa Community College. The students interviewed Chief Loa Mailei and High Talking Chief Moi Falelua of the village of Fagamalo. The story concerns the legendary Siamese twins Taema and Tilafaiga who were said to have been split apart when a wave threw them against a rock in a section of Fagamalo village (Ofisa and Ripley 1976: 69).

During the interview when asked if the section of the village where this event happened still exists Chief Moi reponded and told the students the following:

Moi: Yes, this part of the village still exists. People often go fishing there. There is that rock that I mentioned earlier, a flat rock (the rock that split apart the twins), which the people of Fagamalo go to fish. It is said that if you cast your nets over that rock your fishing will prosper. But there is one catch to this rock. The
moment you touch the rock the fish will disappear. You have to collect the net without touching the rock. For some strange reason once you touch that rock one cannot see a fish or living organism in that area of water.

A preacher wanted so much to see if this legend was true. He journeyed to this part of the village and touched the rock. To his surprise he did not see a fish in the sea for miles. Whether you believe it or not is left up to you.

Cheri: Does it affect you, if you touch it? Will any harm come to you?

Moi: No. It would not affect you or harm you at all.

Solo: What if you do not believe in this saying about touching that rock?

Moi: There will be no fish for your catch whether you believe it or not because as soon as you touch that flat rock no fish can be seen for miles (Ofisa and Ripley 1976: 71-73).

**Search of the Polynesian Photo Archives**

The Polynesian Photo Archives located in the Feleti Barstow Public Library, Tutuila Island, American Samoa contains over 2000 historic photographs from Polynesia with a focus on historic photographs from American Samoa. A keyword search of the archives revealed 11 historic photographs of historic fishing methods, gear, techniques and legendary sites related to the same. To follow are the photographs thus far located in the search with a brief description of each photograph. (The photographs in this report are low resolution copies of the original photographs, high resolution copies are available from the Feleti Public Library upon request.)

Of particular note are a set of three photographs of “atule rocks” and their traditional ceremonial care and use. *Atule*, bigeyed scad (*Selar crumenophthalmus*), are prized fish that are historically known to spawn in great numbers in waters adjacent to the village of Fagasa, Tutuila Island, American Samoa. The *atule* rocks relate to a legend associated with the origin of the fish and their continued abundance. The rocks are still in existence and the traditions and ceremonies associated with them, as well as historically known fishing techniques, are still practiced by the Fagasa villagers.

*Atule* have also been harvested from the waters adjacent to Ofu Village, Ofu Island, American Samoa as recently as 2002 (Craig et al in press). Craig et al. (in press), report that a historic fishing technique using a rock V-shpae weir, a large basket and villagers to herd the fish) is still used by the Ofu villagers in their harvest of the *atule*. (1995) notes that *atule* were also harvested in the reef flat area off of Ta’u Village, Ta’u Island, American Samoa and provides a photograph of a similar rock weir technique being used by Tau villagers in the early 20th Century.
Plate 1. Two Atule rocks from Fagasa, Tutuila Island American Samoa (PH-137-A).
Plate 2. Two *Atule* rocks on altar at Fagasa, Tutuila Island American Samoa (PH-137-B).
Plate 3. High Talking Chief (HTC) Tua Faima (sitting with bottle), Left to Right: HTC Atuatasi Talosaga, High Chief Alo Su’esu’emanogi W. Steffany, and HTC Mata’u Auvasa; washing of Atule Rocks in front of Faletalimalo of Mata’u at Fagatele, Fagasa, Tutuila Island, American Samoa (PH-137-C).

Plate 5. People in several paopao boats at Fagasa bay circa 1950 (PH-CR-14).
Plate 7. A young fisherman poising with a string of fish in Amouli, Tutuila Island, American Samoa, 1941 (PH-JK-27).
Plate 8. Enu (Fish Trap) Traditional Fish Trap woven with sennit. Displayed at Jean P. Haydon Museum, Fagatogo, Tutuila Island, American Samoa (PH-M-08).

Plate 9. Paopao boat with fish nets in the background, circa 1929 (PH-VM-118-x).

Recent Atule Rock Photographs

In addition to the photographs of the atule rocks in Polynesian Photo Archives, a photograph of the rocks on their rock altar found in Volk, et al (1992) is presented below.


Furthermore, recent photographs (August 2007) of the atule rock ceremony and the traditional fishing practices used to catch the atule were obtained through the cooperation of HC Lilio Aliitai, Evelyn Lilio, and the Village Council of Fagasa. A sample of the photographs shot by Evelyn Lilio are presented below.

The Lilio photographs are presented with the understanding that they are to be used for education purposes only and not for any commercial purposes. HC Lilio Aliitai and Evelyn Lilio expressed willingness to allow the photographs to be used in the video documentary and to participate in the video documentary that is a part of the overall project. HC Lilio Aliitai also stated that he is willingness to participate in the video documentary part of the overall project with the proviso that interviewers and camera crew recognize and abide by traditional Samoan rules of dress and manners. He also requested that he be contacted well before any interviews or filming take place so proper arrangements can be made and so that time is allowed for the Fagasa Village Council to be consulted concerning the sharing of traditional information that is sacred to the village of Fagasa. With regard to the atule rock photographs and photographs of traditional fishing in Fagasa HC Lilio consulted with the Fono (Village Council) of Fagasa and they consented to the release of the photographs for this report.
Plate 14. An *Atule* rock is taken into Fagasa Bay to undergo traditional ritual washing, August 2007 (Photo E. Lilio).
Plate 15. Fagasa Villagers use a traditional *launiu* (coconut frond) weir to encircle and catch atule, August 2007 (Photo E. Lilio).
Annotated Bibliography

Anonymous
Information about fish and *palolo* seasons; months and moon for *palolo*.

Auapa'au, S.
Good list of fishing methods in Samoan, with a short description in English; tells where the methods are practiced, although specific to Upolu and Savai’i, with no mention of specific locations in American Samoa; short description of spawning of Tilipia.

AusAid

Barradale, V. A.

Beasley, H. G.
Includes descriptions and drawings of Samoan octopus lures.

Beasley, H. G.
Section on Samoan Fish Hooks, comparative data; drawings.

Becke, L.
*Tanifa* is the Samoa term for a large man-eating shark; this provides a description of a unique way to kill sharks.

Becke, L.
A basic description of harvesting of *palolo*.

Blackwell, E.M. Commander
Blackwell was in Pago Pago with Commander Tilley in 1900; he has a description of a fish drive in Pago Harbor and also a description of the Skipjack Case.
Caspers, H.
A biologist’s description of the *palolo*; describes the relationship between the moon and tides and the appearance of the worm; good historic chart of known dates of appearance of worm.

Churchward, W. B.

Clark, J. T.
Basic inventory of archaeological sites, some of which relate to traditional fishing practices on Tutuila and Manu’a.

Cleghorn, P. L., W. Shapiro, J. Robins, and K. Latinis
Describes some fish and shellfish remains recovered at Faga prehistoric village on Ta’u.

A source we would like to get, but it is checked out and overdue at UH-Hamilton.

Coulter, J. W.
Describes fishing based on 1937 field research; comments on rods and lines, spears and nets, traps, poison, types of fish caught, *palolo*, and the increased consumption of tinned fish.

Coulter, J. W.
Descriptions of fishing and fishing methods in American Samoa such as net throwing, poisoning, and trolling.

Cox, P.
Craig, P., A. Green, and F. Tuilagi
Compares modern and prehistoric fish catches and concludes that there is continuity in practices; based on archaeological data from the Toaga site, Ofu Island, and modern surveys of annual harvests.

Demandt, E.
Compilation of Samoan fishing methods, cited by Hiroa; not able to find at UH.

Demandt, E.
Types of marine animals and the fishing practices of the Samoans; we were not able to find at UH.

Des Rochers, K. and F. Tuilagi
UH: lost in flood of 2004

Dye, T. S. and T. R. Graham
Basic review of sources; can be used as a reference for other research but not very descriptive about American Samoa.

Eisler, D.

Enright, J., S. Ortquist, and R. LaTour
Popular description of fishing methods with drawings; a small booklet.

Firth, R.
This is a comparative work, based on Firth’s data from fieldwork in Tikopia in the 1920s and 1930s; it gives a broader picture of the use of traditional fishing resources in Polynesia.
Gray, J. A. C.
Description of conflict between traditional fishing practices and U.S. Naval Administration, in particular the “skipjack case” on Tutuila.

Green, R. and J. Davidson

Hart, J. W.
Popular description of fishing methods with drawings.

Herdrich, D., J. R. Moore, N. Kilzer, and J. Kennedy
1996 *A Cultural Resource Evaluation Phase I and II for a Portion of Road 1b, Phase 1 of the Ta’u Road Reconstruction, Ta’u Island, Manu’a, American Samoa*, Prepared for McConnel Dowell. Hale‘iwa, Hawaii: Archaeological Consultants of the Pacific, Inc.
Report describing fish and shell remains excavated on Ta’u.

Herman, B.
Contains myths and legends, some of which are related to beliefs about fish and fishing practices; describes legend of dolphins at Fagasa.

Hill, H. B.
MA thesis: contains data and charts on the frequent and basic fishing techniques found in eastern Tutuila during the fieldwork period of 8 months in 1975-76; focus on three villages – Faga’itua, Lauili’ifou, and Aua – and their use of the reefs; based on observations and interviews with local fishermen.

Hiroa, T. R. (Peter Buck)
Honolulu: Bishop Museum Press.
The section on fishing methods pages 418-522: detailed descriptions of traditional Samoan fishing methods, including drawings, figures and photographs; this is the most comprehensive text for traditional Samoan fishing methods, based on fieldwork in 1927; he covers techniques on Tutuila and Manu’a, in addition to Upolu and Savai‘i.
Holmes, L.
He describes the variety of fishing methods for Fitiuta, for both men and women; also claims that people were not fishing so much – but eating tinned fish (during 1950s); has some data about taboos and restrictions on Ta’u; comments on the work of Margaret Mead.

Hornell, J.

Johannes, R. E.
An overview of methods in Oceania; stresses the importance of village level restrictions on rights to fish the adjacent waters; gives example of Samoa and how a ‘sa’ (restriction) was put on the area where sea turtles lay their eggs so that villagers would not take them; makes the argument that Oceania has a different approach to fishing than Western society and that a market economy changes traditional practices of conservation.

We did not get this one.

This is much the same as the 1978 article; a shorter version making much the same argument.

Jordan, D. S. and A. Seale
Includes Samoan and scientific names of fish based primarily on fieldwork conducted between February and May, 1888.

Keesing, F.
Keesing, an anthropologist, compares developments in Western Samoa and American Samoa based on field research in 1930; he has good descriptions of the social structure and how Samoan cultural practices continue under two separate governments.
Kikuchi, W. K.
A description of fishing stone heaps on Tutuila; legendary sites in Fagasa related to Sina; bait cups on Manu’a.

King, M. and U. Faasili
This article reports on the successful community-owned Fisheries Management Plan instigated in independent Samoa during the 1990s. The project depends on the fact that fishing communities are repositories of valuable traditional knowledge and have a high awareness of the marine environment. Within the first two years of the project, 44 villages produced Village Fisheries Management Plans and 38 of these villages established community-owned Marine Protection Areas.

Kirch, P. V.
Contains comparative data, drawings and photos of fishhooks and fishing shrines.

Kirch, P. V. and T. L. Hunt, eds.
1993 *The To’aga site: Three Millennia of Polynesian Occupation in the Manu’a Islands, American Samoa*, number 51 in Contributions of the University of California Archaeological Research Facility, University of California, Berkeley, CA.
A detailed description and analysis of shellfish and fish remains from a large sample; descriptions of prehistoric fishhooks, shell rings, beads, shell bead abraders, coral abraders, sea-urchin spine abraders, and a drilled shark’s tooth; a major archaeological site in American Samoa; this is the data set that Craig, et al were using in their study.

Krämer, A.
Section on fishing pages 196-233, and boat building, pp. 281-308; Based on field research circa 1900 throughout the Samoan islands, with detailed descriptions of fishing methods, including drawings and photographs; also has various legends related to fishing including the Fagasa legend of the dolphins; often cited by Hiroa and others following.

La Perouse, J.-F. d. G.
Includes descriptions of fishing methods; this was the ill-fated trip where they were attacked at Aasu; he notes fishing methods such as line, hooks, nets and spears; also a description of outrigger canoes.
Latinis, K., J. R. Moore, and J. Kennedy

Lewthwaite, G. R.

Linnekin, Jocelyn, Terry Hunt, Leslie Lang and Timothy McCormick.
Review of fishing methods, legends, and restrictions applying to the National Park areas around Vatia and in Manu‘a; they used the “free list data” method where they asked people to name the most important fish and marine species in order to assess local cultural knowledge.

Lockwood, B.

Lockwood, B.
Based on field research in the 1960s, a study of 4 village economies in Western Samoa and the transition to a market economy; looks at the source of cash and the dependence on traditional forms of subsistence; not particularly focused on fishing but some data on fishing methods and contribution of fishing to household economy.

Lundie, George Archibald
1846 Missionary Life in Samoa, as exhibited in the journals of the late During the revival in Tutuila in 1840-41, edited by his mother, Mary Lundie Duncan. Edinburgh: William Oliphant and Sons

Matagaluega o le Autalavavou, Taaloga and Aganuu [1990?] O le mafuala o upu o le faigafāiva: O le Tusi Faamatala Upu o le Gagana Samoa. 96 Pages.
A Samoan language dictionary of fishing terms produced by the church groups of the villages Taaloga and Aganuu, Independent Samoa.
Maruyama, K.  
A small sample of fish and shellfish remains are noted;

Mayor, A.  
We were unable to get this.

McGerty, L., R. L. Spear, P. L. Cleghorn, and W. A. Shapiro  

Mead, M.  
Description of Manu’a social organization and restrictions surrounding fishing, distribution of fish; fishing methods; bonito fishing; legends; dreams.

Milner, G. B.  
The different language used for chiefs; shows system of hierarchy and social structure.

Milner, G. B.  
Excellent dictionary of Samoan/English; many terms regarding fish and fishing techniques; also proverbs related to fishing.

Moore, C., (Director)  
On file, American Samoa Historic Preservation Office, Pago Pago, American Samoa. An educational video produced in the 1972 that features the construction of a traditional *va’a alo* or bonito boat on Ta’u, using traditional construction techniques.

Moore, J. R. and J. Kennedy  
Moore, J. R. and J. Kennedy

Moore, J. R. and J. Kennedy

Moyle, R.
1984 *The Samoan Journals of John Williams 1830 and 1832*. Pacific History Series No. 11, Australian National University Press, Canberra. Describes a fish gorge with float, notes nets, shell hooks, spears, fish drives, poisoning and the use of a stick; also verifies the flying fish float technique; also notes they use the shell of the turtle to make rings, fish hooks, neck and ear ornaments.

Ofisa, Salota and Cheraldine Ripley

Olsen, Fredrick Harris
1976 *The Navy and the White Man’s Burden: Naval Administration of Samoa*. Ph.D. dissertation Department of History Washington University, St. Louis Missouri; A review of the history of American Samoa based mainly on documents from the Naval Administration in the National Archives; includes mention of the Skipjack Case.

O’Meara, J. Tim

Neich, R.

Pearl, F. and W. Sauck
Ponwith, B.

Powell, T.

Pratt, Reverend George
An older dictionary of Samoan terms than Milner, useful as a cross-reference and for dating terms and techniques; used by Hiroa in his research in order to judge continuity in certain practices or to verify stories about what had been done in the past.

Pritchard, W. T.

Richards, R.
1988 *Samoa’s Forgotten Whaling Heritage: American Whaling in Samoan Waters 1824-1878, a chronological selection of extracts from primary sources, mainly whaling logbooks, journals and contemporary news items*. Wellington, New Zealand: Lithographic Services, Ltd.
Notes on what was being traded with the Samoans by the whaling fleets; the Samoans were interested in metal fishhooks, muskets; they provide fish, turtle shell, and different kinds of shells.

Roggeveen, Jacob
First European contact with the Samoan group; observations of bonito canoe at Ta’u and Ofu; trade of flying fish for glass beads.

Safford, W. E.

Saipele, Nuuiali’i Mulipola Ma’ilo
[1990?] *Proverbs of Samoa*. Wellington, New Zealand: Snap Printing Ltd.
Contains 25 Samoan language proverbs related to fishing.
Saucerman, S.


Severance, C. J. and R. Franco
1989 *Justification and design of limited entry alternatives for the offshore fisheries of American Samoa, and an examination of preferential fishing rights for native people of American Samoa within a limited entry context*. Final Report, Western Pacific Regional Fishery Management Council, Honolulu.
Reviews historical fishing techniques and documents practices up to 1980, focusing on proverbs, the importance of bonito fishing, ceremonial cuts and distribution of certain fish; asked informants their opinions about restricted fishing.

Schultz, E.
Contains proverbial expressions related to fishing.

Shapiro, W. A. and P. L. Cleghorn

Solomon, K. H., J. A. Beck and P. Cleghorn

Stair, J.
Notes small funnel-shaped baskets, beautifully made, to catch palolo; remarks about the distinctive name of the day; small fish said to appear just before palolo (also in Drees).

Stair, J. B.
Descriptions of canoes and fishing methods; can be compared with others, like Krämer.
Stokes, J. F. G.
Describes fish poisoning method on Tutuila; notes other methods used in Samoa generally.

Thilenius, G.
About bonito and shark fishing in traditional Samoa; the bonito sections are much like Hiroa; the shark-hunting adds some different details about the head fisherman on shore;

Tuiteleleapaga, Chief, N. A.
Brief discussion of taboos on fish and turtles and sharks.

Turner, G.
1861 *Nineteen Years in Polynesia: missionary life, travels and researches in the islands of the Pacific*.
Includes a lot about Samoa: discussion of fish taboos, canoes, fishing nets and fish hooks.

Turner, G.
Discussion of fish prohibitions and the manufacture of various types of fishing gear.

Turner, P.
Jan 1, 1836 – June 11, 1839 Journal Book 4 and 5
Missionary who provides descriptions of distributions of fish and food, large exchanges and quantities.

Underwood, E.B. Commander
1903 Governor’s Annual Report for fiscal year ending June 30, 1903;
This annual report, as was the custom, was sent to the Assistant Secretary of the Navy, Naval Department, Washington D.C.

Van Pel, H.
Veitayaki, J. and V. Ram-Bidesi, E. Matthews, L. Gibson and V. Vuki
Summary of destructive fishing methods used in the Pacific islands region, including American Samoa; good chart.

Verdcourt, B.

Volk, R. D., P. A. Knudsen, K. D. Kluge and D. J. Herdrich
Contains photographs of a turtle petroglyph and Fagasa atule rocks;

von Bulow, W.
1902 “Fishing rights of the natives of German Samoa.” Globus, 82:40–41.

von Kotzebue, O.


Watters, R. F.
Includes a discussion of sea resources; brief description of importance of fish resources for the Samoan diet.

Watters, R. F.
1958b Cultivation in Old Samoa. Economic Geography Vol. 34, No. 4 (Oct.): 338-351.
Much the same points as Watters above.

Whistler, W. A.
Wilkes, Charles
The expedition visited Tutuila in 1839; includes a description of fish hooks and fishing; the La Perouse affair, and Rev. Murray’s activities with the LMS.

Willis, L.
A discussion of reef fishing, including gathering shellfish, fish poisoning, groping and nets; palolo; fish drives.

Unpublished Sources

Cartwright, Bruce
September 1927 Field Notebooks I and II, Bishop Museum Archives, Honolulu, Hawaii.
Extensive notes about the Bishop expedition in 1927, in the company of Alfred Judd and Te Rangi Hiroa (Peter Buck); good personal observations; some drawings and descriptions about fishing; fishing shrines; places visited on Tutuila.

Cartwright, Bruce
1939 My Samoa; manuscript (typescript) in Pacific Collection, Hamilton Library, University of Hawaii.
This documents his visit in 1927; a more polished form of the field notebooks.

De Bougainville, Lewis

Drees, Frank J.
n.d. Samoa and Her People: A group of anecdotes about my travels by longboat and trail over a large part of the Islands of Samoa.
Personal copy of Charles Myers, Honolulu
Covers period around 1935 when Drees was Superintendent, Department of Education; very good photos; some notes about fish eaten and exchanged; canoes.

Edwards, E.
1915 Voyage of the H.M.S. ‘Pandora’: dispatched to arrest the mutineers of the ‘Bounty’ in the South Seas, 1790-91. Being the narratives of Captain Edward Edwards, the commander, and George Hamilton, the surgeon, with an Introduction and Notes by Basil Thomson. London: Francis Edwards.
Ellitott, J. L.
1839 Journals of J. L. Ellitott, a member of the Wilkes Expedition, Microfilm, University of Hawaii Hamilton Library.
Describes how Samoans worship aitu (spirits) of fish and others; travels around Tutuila.

Hudson, Captain W.
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Describes how Samoans move around according to food availability.

Judd Alfred
Some observations about fishing and canoes, based on a 1926 field trip.

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Wright was the Territorial Archivist and wrote this description of the Skipjack case based on three sources in the Territorial Archives; describes the problem caused when a man took a malauli home rather than giving it to the high chief, according to custom; much of the debate surrounded the size of the fish because only at the stage when it is malauli does it have to be presented to the chief; larger or smaller fish are not affected by this custom; Western District, Tutuila.
Appendix I: Traditional Fishing Chronology

1722 (June) **Roggeveen and Bouman**: At Ta’u and Ofu they see canoes that are likely Bonito canoes (i.e. they have plank construction, are “neat and fast” and have “three paddles”). At Ofu they trade beads for a mat and flying fish (Roggeveen 1970: 151-153).

1768 (May) **De Bougainville** Between Tau and Ofu-Olosega Traded, one of the items received fish hooks made of fish bone and “some pieces of very fine shell.” Described what are likely bonito canoes with outriggers and line of white shells on pegs on the on back and fore deck. “They did not choose to have any iron: they preferred little bits of red stuffs (cloth) to nails, knives, and earings, which we had had so great a success at Taiti” (De Bougainville 1772: 280-281).

1787 (December) **La Perouse** At Tutuila describes canoes, notes fishing with line and hooks, hooks made of “tortoise” (turtle) shell and “inclosed in a sort of case of mother-of-pearl, or white shell, skillfully wrought in the resemblance of a flying fish.” La Perouse traded for “tunny, bonetfish, or dorado.” Says the largest fish would be traded for a few beads. Observed “arrows” that he thinks are likely small spears for spearing fish. Also notes the use of sweep net and types of fish caught, also observed “greatly ornamented” canoes (La Perouse 1799: 110, 112-113).

1791 (June) **Edwards** **HMS Pandora** Tutuila Notes that islanders have canoes. No explicit mention of fish or fishing, saw canoes and traded. Also that, “Natives have blue, mulberry and other coloured beads about their necks, and we understood they got them from Captain Cook at Tongataboo. Also, notes some natives covered in Turmeric (Edwards 1915: 55-56).

1824 (April) **Von Kotzebue**. “Our visitors proved to be merry fishermen, for their carefully constructed little canoes adorned with inlaid muscle-shells, were amply provided with large angling hooks made of mother-of-pearl, attached to long fine lines, and various kinds of implements for fishing, and contained an abundance of fine live fish of the mackerel kind” (Von Kotzebue 1967: 268).

An expression of openness and confidence sat on the countenances of this people. Our purchases were carried on with much gaiety and laughter on both sides. They gave us their fish, waited quietly for what we gave them in return, and were perfectly satisfied with their barter” (Von Kotzebue 1967: 268-69).

1824 **Captain Richard Macy** in the Maro says that “natives fond of blue beads” (Richards 1988: 20).
1826  (December) **William Plasket**  Traded for shell clubs with blue and green beads (Richards 1988: 22).

1827  (January) **William Plasket** During trading obtained “shells of different kinds” (Richards 1988: 22).

1827  (September) **Captain Benjamin Vanderford** in the Clay traded three hundred pounds of sennit for “the value of twenty cents in beads, hooks, etc. (Richards 1988: 20).

1830  **John Williams**  Notes that various fish, such as *Anae* (grey mullet *Velamugil* sp), shells, and eels were held sacred as gods. He also notes that fish were presented along with pigs in ceremonial exchanges which involved reciprocal gifts of tapa cloth (*siapo*) and fine mats (Moyle 1983: 126 and 133).

1832  **John Williams**  Describes gorge fishing device with floats and fish bones for the gorges. Also notes the use of fishing nets, pearl and turtle shell hooks, spear, and the coconut leaves for fish drives as well as the use of the *futu* seeds for fish poisoning. He also notes that there are water snakes and that these are “held sacred by some particular Chiefs being the object in which the Spirit of his god resides and is called his Etu” (Moyle 1983: 227).

1835  (June) Salem Trader ship *Emerald* at Savaii “canoes came off with coconuts and a white man came off, he says there is no *shell* which is our object in stopping here.” They note about Shell “Thirty to 40 head of shell may be picked up here in the months of April, May, and June at the rate of a musket a head. (Shell averaged at the rate of 2 1/4 pounds per head.) Thirteen pieces of shell of one Turtle or head” (Richards 1988: 44 and 46).

Also: Upolu “Our principal object was Hogs and Turtleshell “we traded for about 70 grunters and three turtles. We gave them one musket for ten good sized hogs and one musket for one turtle shell” (Richards 1988: 47).

“Told the natives to bring all their shell this am as we intended to leave this noon. Canoes came along side loaded with hogs for the most of which we traded with bayonets giving one bayonet for a small sized pig. This am we bought all the turtleshell they had which amounted to 8 lbs” (Richards 1988: 48).

1836  **Turner, P.**  Notes that fish are important part of exchange ceremonies and feasts. For example: opening of a "leaders house." "It is 28 feet by 57 and very handsomely wrapped. (Elsewhere he claims it is the largest house in Samoa.) "After a sermon we distributed a large feast prepared by the teachers and some of the people. Pigs 260, baskets of tarro 1,900, fish 600, bananas 60 bunches" (Turner 1836-1839: 66).
1839 Wilkes Ofu: Gives fishhooks as presents. Tutuila: Notes that a Fagasa Chief Toa had fresh water eels has his aitu (spirit god). He said with regard to the eels that he “constantly fed [them] in the brook near the village. I visited it, and requested him to catch one, which he attempted to do; but after a long search, turning over large stones, and examining holes, he was unsuccessful. He said there were many in it formerly, and quite tame; but since he had embraced Christianity, they had all been caught and destroyed; on farther questioning him, he told me that he had himself eaten them; that formerly if any one had touched, disturbed, or attempted to catch one, he should have killed him immediately” (Wilkes 1844: 72-73, 81).

Fishing is described as a great employment, Wilkes has a detailed description of a fish drive in Savaii with the use of nets and coconut leaves. Says that, “About a canoe load was caught, comprising thirty different kinds of fish, some of which were six or eight pounds in weight, but the majority were smaller. The haul was considered an unsuccessful one, which was attributed to some misunderstanding and mismanagement among the natives, by which a large stone fell on the net, and allowed many of the fish to escape” (Wilkes 1844: 84).

In addition, the cast net is also used. Notes that fish and taro are the principle food mullet being usually caught and that they also eat shellfish and a large kind of worm. Also describes a fish drive in waters off Savaii that caught 30 different kinds of fish(Wilkes 1844: 84, 87, 117).

Ellitott Notes that animate and inanimate objects were deified including birds, fish, stones. He says that, “The fisherman the farmer and the voyager had each their Gods who were deified for the skill they had evinced in those products.” Has a brief description of plank built canoes. Notes the use of nets with floats and stone sinkers. Notes that crabs and lobsters are found among the rocks. Describes processing of arrowroot with the use of a coral grater. Provides human population numbers “The population of the Samoan Islands is about 50,000 of whom about 40,000 are on the islands of Savaii, Upolu, Apolima, and Manono. The remainder are distributed on Tutuila, Olosenga and Ofu.” Also, “This Island [Upolu] contains nearly 30000 inhabitants” (Ellitott 1839).

Hudson Interesting discussion of the reasons for malaga trips, including scarcity of food and the fact that virtually the entire village would go on at three month trip. Provides population numbers for Upolu 20,000 are Christian, 5,000 “heathen” (Hudson 1839: 333 and 335).
1840 **Lundie** Fish are part of exchange ceremonies. Notes that Samoans pay “religions honors” to fish and birds. And that they would worship wood and stones. He also noted the great pleasure Samoans express in receiving a fish hook (presumably metal). He says, "The ecstatic joy they experienced on receiving a fish-hook, was expressed by shouting and whooping at the highest pitch of their voices" (Lundie 1846: 109, 145, and 232).

1841-1860 **Turner, G.** Turner reports on an extensive number of Samoan gods that were “incarnate in” various fish and sea creatures, prohibitions against consuming them, sanctions against violators, and prohibitions on using lagoons during festivals related to the deities. (Turner 1861).

After 1840 there are extensive descriptions of fishing and fishing related activities in Turner (1861), Stair (1897), (Krämer 1994, 1995) and Hiroa (1930).
Appendix II: Fish Terms And Size

The fish terms that follow are taken from Milner 1966 and are grouped by genus and/or species and size. Note that there is some variation related to terms that refer to more than one genus and terms that are also related to genus by location and other characteristics.

*Abudefduf*

filimana n. Fish (*Abudefduf* sp.). p. 65

i’usamasama n. Fish (*Abudefduf* sp.) p. 89

mutu² n. Fish (*Abudefduf* sp.). p. 153

pipi³ n. Fish (*Abudefduf* sp.). p. 184

taupou² n. Name given to certain fishes (*Pomacentrus* sp. & *Abudefduf* sp. (pcw tapou1.). p. 255

vaiuli n. Fish (*Pomacentrus* sp.) (also *Abudefduf* sp.). p. 311

*Acanthurus*

afinamea n. Fish (*Acanthurus* sp.) p. 6

alogo n. Fish (*Acanthurus* sp.) when full grown. p. 17

‘iliu n. Name given to certain fishes of genera *Zebrasoma* and *Acanthurus*, the skin of which is said to be poisonous. p. 84

i’usina n. Fish (*Pomacentrus* sp.; also *Acanthurus* sp.) p. 89

logouli n. Whitebait of certain surgeon fishes (*Acanthurus* & *Ctenochaetus*). p. 110

mamapalagi n. Fish (*Acanthurus* sp.) known as i’usina when small. p. 128

manini n. Fish (*Acanthurus* sp.) when full-grown. p. 129

maomao n. Whitefishbait of fish belonging to genera *Acanthurus* and *Ctenochaetus*, when very small. p. 131

maono n. Small fish (*Acanthurus* sp.)
**palagi** n. Name given to certain fishes of genus *Acanthurus* (surgeon fishes) when about 1 ft long.  p. 173

**pala’ia** n. Name given to whitebait of fishes of genera *Acanthurus* and *Ctenochaetus* (surgeon-fishes) when it is large.  p. 173

**pe’a2 pe’ape’a** n. Small fish; name given to two species of genus *Acanthurus* when 2-3 inches long.  p. 179

**pone2** n. Name given to certain surgeon fishes (genus *Acanthurus*) when about 6 inches long.  p. 188

**ponepone** n. Name given when about 2-3 inches long. [see above]  p. 188

**pone i’umumu** n. Fish (*Acanthurus* sp.).  p. 188

**‘unavau** n. Kind of poisonous fish (*Acanthurus* sp.) or perhaps a morbid condition of fishes of genus *Sardinella*. ‘*Ua ʻo se ~* (pv. 520: He is like a ~ (i.e. he is a dangerous person).  p. 301

**Caranx**

**atugaloa** n. Name given to two species of fish of genus *Caranx* when about 2 ft long.  p. 29

**lalafutu** n. Fish (*Caranx* sp.) (also *alaalafutu*).  p. 96

**lupo** n. Name given to certain fishes of genus *Caranx* when 2 to 3 inches long.  p. 116

**lupolago** n. Name given to whitebait of certain species of genus *Caranx*.

**lupota** n. Name given to certain fishes of genus *Caranx* when about 6 inches long.  (s. also *malauli*.)  p. 116

**malauli** n. Name given to certain fishes of the genus *Caranx* (considered to be fit for chiefs) when about 1 ft. long (s. also *lupo* and *ulua*.)  p. 123

**sapo’anae** n. Name given to certain species of fish genus *Caranx* when they are more than 3 ft. long (s. also *ulua*.)  [note *sapo* is v. to catch.]  p. 201

**ulua** n. Name given to two species of fish of genus *Caranx* when about 3 ft. long, and considered to be a present fit for a chief. (s. also *malauli* and *sapo’anae*.)  p. 300
**Centropodus**

toto² n. Name given to a fish (Centropodus sp.) when immature. (s. also valevale.) p. 277

valevale² n. Name given to a fish of genus Centropodus when fully grown. (s. also toto².) p. 312

**Cheilinus**

lalafi² n. name given to fishes of genus Cheilinus when between 6 in. and 1 ft. long. p. 96

tagafa² n. Name given to fishes of genus Cheilinus when 3 ft. long or more (also tanafa). p. 227

**Chromis**

i’a lanumoana n. Fish (Chromis sp.); ~ mai moana (po.): Bonito. p. 82

teatea n. Fish (Chromis sp.). p. 260

tu’u’u n. Name given to certain small and queer fishes of genus Abudefduf, Pomacentrus, and Chromis. E otagia fo‘i le ~ (fs): Even the ~ can be eaten raw (i.e. everybody has his qualities, it takes all kinds to make a world, said when s.o. comments adversely on a person’s appearance, the tu’u’u being regarded as an ugly fish) (cf. proverbial saying concerning sugale). p. 293

**Epinephelus**

gatala n. Name given to certain fishes (sea-basses or groupers) belonging to genus Epinephelus, when about 6 inches long. (s. also ‘ata’ata.) p. 77

mata’ele n. Fish (Epinephelus sp.) p. 135

papa³ n. Fish (Epinephelus sp.). p. 175

tinaelega n. Fish (Epinephelus sp.). p. 265

tonu² n. Name given to fishes of genus Epinephelus when about 3 ft. long or more. 9s. also gatala.) p. 277

‘uo’uo n. Fish (? Epinephelus sp.). p. 302
**Equula**

lufi² n. Fish (*Equula* sp.). (s. also mumu².) p. 114

mumu² n. Name given to a fish (lufi²; *Equula* sp.) when small. p. 152

**Gerres**

matu n. Fish (*Gerres* sp.) when about 6 inches long.

matuloa n. Name given to the last when fully grown. p. 138

**Holocentrus**

malau¹ n. Name given to red squirrel-fishes belonging to the genera *Holocentrus* & *Myripristis* and of which many species are distinguished by name.

tamatolau n. Name given to certain fishes of genus *Holocentrus* when full-grown, i.e. about 1 ft. in length. (s. also malau¹.) p. 240

**Katsuwonu**

atu³ n. Fish. (*Katsuwonu* sp.), the bonito. p. 28

‘auí¹ cp. Classifying particle used with numerals in reference to bonito (in tens). *E lua ~:* Twenty bonito; *e tolu~:* Thirty bonito; *e sefulu~:* One hundred bonito. (N.B. this particle is prefixed to numerals from two to ten and is used mainly in Upolu and American Samoa; s. also tino³.) p. 34

tino³ cp. Classifying particle used with numerals in reference to bonito (in tens). *E ~ tasi:* Ten bonito (also ‘atoa); ‘ua ~tolu le va’a: The bonito-boat has caught thirty bonito; *e ~selau:* One hundred bonito. (N.B. This particle is used mainly in Savaii; s. also ‘auí³.)

inafo n. Shoal of bonito. p. 86

ta’uo n. Kind of large bonito caught by trawling from cutters. p. 255

tavatava n. Name give to bonito when about 1 ft. long. p. 259
**Kuhlia**

‘inato n. Freshwater fish (*Kuhlia* sp.) when full-grown (i.e. about 1 ft. long). p. 86

safole n. Fish (*Kuhlia* sp.). p. 196

salele n. Fish (*Kuhlia* sp.). p. 198

sesele n. Name given to a freshwater fish (*inato, Kuhlia* sp.) when immature. p. 207

**Lethrinus**

filoa n. Name given to fishes of genera *Lethrinus* and *Lethrinella* when fully grown (i.e. about 2 ft. long); ~ va’a n. Name given to one species when about 3 ft. long. p. 65

i’ufiloa n. Name given to one of the stages of growth of filoa. p. 89

mata’ele’ele n. Name given to certain fishes of genus *Lethrinus* when about 1 ft. long. p. 135

mumu³ n. Name given to certain fishes of genus *Lethrinus* when about 6 inches long. (s. also *mu¹*). p. 152

**Lutjanus**

mala’i n. Name given to a fish the genus *Lutjanus* when about 1 ft, long. (s. also *taiva.*) p. 123

mumea n. Fish (*Lutjanus* sp.) which is said to be poisonous in certain districts. p. 152

nanue n. Name given to certain fishes (? of genus *Lutjanus*). p. 154

savane n. Name given to a fish of genus *Lutjanus* when about 1 ft. long p. 203

taiva n. Name given to a fish of genus *Lutjanus* when about 2 ft. long. (s. also *mala’i.*) p. 231

tamala¹ n. Name given to certain fishes of genus *Lutjanus* when not above 1 ft. in length (also tagau¹). (s. also ‘a’a².)

uiui n. Fish (*Lutjanus* sp.). p. 297
**Mulloichthys**

*i’asina* n. Fish (name given to small fry of genus *Mulloichthys*). p. 82

*vete*² n. Fish (*Mulloichthys* sp.). p. 316

**Mulloidces**

*memea*² n. 1. Name given to *afinemea* (a fish) before it is fully grown. 2. Fish (*Mulloidces* sp.). p. 144

**Myripristi**

*manifinifi*² n. Fish (*Myripristi* sp.). p. 129

**Naso**

‘ili‘ilia² n. Name given to fishes of genus *Naso* when about 2 to 3 inches long. p. 84

*ume* n. Name given to mature fishes of genus *Naso* when about 1 ft. long and over. p. 300

**Pempheris**

*foa’ao* n. Fish (*Pempheris* sp.). p. 67

*manifi*² n. Fish (*Pempheris* sp.). p.129

*pula*³ n. Fish (*Pempheris* sp.). p. 191

**Pomacentrus**

*alamu*¹ n. Name given to certain fishes of genera *Pomacentrus, Halacanthus,* and *Pygoplites*. p. 14

*i’usina* n. Fish (*Pomacentrus* sp.; also *Acanthurus* sp.) p. 89

*taupou*² n. Name given to certain fishes (*Pomacentrus* sp. & *Abudefduf* sp. (pcw tapou1.) p. 255
tu’u’u n. Name given to certain small and queer fishes of genus *Abudefduf, Pomacentrus*, and *Chromis*. *E otogia fo‘i le ~ (fs):* Even the ~ can be eaten raw (i.e. everybody has his qualities, it takes all kinds to make a world, said when s.o. comments adversely on a person’s appearance, the *tu‘u‘u* being regarded as an ugly fish) (cf. proverbial saying concerning *sugale*). p. 293

vaiuli n. Fish (*Pomacentrus* sp.) (also *Abudefduf* sp.). p. 311

**Pseudupeneus**

matulau n. Fish (*Pseudupeneus* sp.). p. 139

moana³ n. Name given to certain fishes of genus *Pseudupeneus*. p. 146

ta‘uleia n. Name given to two fishes of genus *Pseudupeneus*, both edible and which has barbels. p. 254

**Scarus**

fuga² n. General name given to fishes of genus *Scarus* (parrot-fishes) when about 1 ft. long (also *fugafuga*). *fugamea* n. Reddish-brown species. *Fugausi* n. Greeny-blue species (s. also *galo², laea, mamanu, ulapo, and usiusi*.) p. 72

galo² n. Name given to parrot-fishes of genus *Scarus* when about 3 ft. long and over. p. 75

laea n. Name given to a green and blue species of genus *Scarus* (parrot-fishes) when it is about 2 ft. long. (s. also *fuga*.) p. 93

mamanu² n. Name given to reddish-brown species of genus Scarus (parrot-fishes when about 1 1/2 –2 ft long. (s also *fuga²*) p. 128

ulapo n. Name given to the lighter-coloured species of genus Scarus (parrot-fishes) when about 6 inches long. (s. also *fuga²*) p. 298

usiusi n. Name given to dark-coloured species of genus Scarus (parrot-fishes) when about 6 inches long. (s. also *fuga²*) p. 303
**Siganus**

lo³ n. Name given to fishes of genus *Siganus*. p. 109

pa’u’ulu n. Name given to a fish of genus *Siganus*. (s. also la³.) p. 179

tito n. Name given to a fish of genus *Siganus* when fully-grown (i.e. 1 ft. long). (s. also lo³). p. 267

**Trachurops**

atule n. Fish (*Trachurops* sp.), the horse mackerel, caught mainly in March and April. p. 29

**Velamugil**

afomatua n. Name given to grey mullet (*’anae*) when 2 ft. long and above. p. 6

alagamea n. Kind of long handled hand-net used to intercept *’anae* (mullet). *‘Ua masae le ~*: The ~ is torn. p. 13

‘ana’analagi n. Name given to adult grey mullet when found in fresh water. p. 20

‘anae n. Fish (*Velamugil* sp.), the grey mullet. p. 20

‘aua n. Name given to grey mullet (*’anae*) when about 2-3 inches in length. *‘A lamo i le ‘anae, ‘o lona ta’u ‘o le ~*: When mullet is small it is called ~. po. Word used (instead of *‘anae*) for grey mullet in Falelatai. p. 32

matapona n. Name given to grey mullet (*’anae*) when about 6 inches long. p. 135

poi² n. Kind of fish, said to be an immature stage of *’anae*. *E tele ‘au~*: There are many shoals of ~. (s. also poipoï³.) p. 186

poipoï³ n. Whitebait of grey mullet (*’anae*). (s. also poi².) p. 186

**Zebrasoma**

‘iliu n. Name given to certain fishes of genera *Zebrasoma* and *Acanthurus*, the skin of which is said to be poisonous. p. 84

samasama n. Fish (*Zebrasoma* sp.). p. 199
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