

# PACIFIC ISLANDS FISHERIES SCIENCE CENTER



## American Samoa Fishing Community Profile: 2013 Update

Cynthia A. Grace-McCaskey

February 2015



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2013 Update

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## LIST OF ACRONYMS

ACL	annual catch limit
ASG	American Samoa Government
CEDS	Comprehensive Economic Development Strategy
CFBS	Commercial Fisheries Biosampling Program
CFMP	Community-based Fisheries Management Program
CNMI	Commonwealth of the Northern Mariana Islands
CRAG	Coral Reef Advisory Group
DMWR	Department of Marine and Wildlife Resources
DOC	Department of Commerce
EO	Executive Order
FEMA	Federal Emergency Management Agency
GAO	Government Accountability Office
HDRP	Human Dimensions Research Program
MPA	marine protected area
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NMFS	National Marine Fisheries Service
NMSAS	National Marine Sanctuary of American Samoa
NOAA	National Oceanic and Atmospheric Administration
ONMS	Office of National Marine Sanctuaries
PIFSC	Pacific Islands Fisheries Science Center
PIRO	Pacific Islands Regional Office
PPGFA	Pago Pago Game Fishing Association
SFA	Sustainable Fisheries Act
SIGFA	Samoa International Game Fishing Association
SSC	scientific and statistical committee
SSI	Samoa Studies Institute
STP	Samoa Tuna Processors
U.S.	United States
WPacFIN	Western Pacific Fisheries Information Network
WPRFMC	Western Pacific Regional Fishery Management Council

## INTRODUCTION AND PURPOSE

The purpose of this report is to provide an update to *American Samoa as a Fishing Community* (Levine and Allen, 2009), which describes the extent to which American Samoa is engaged in and dependent on fishery resources economically, socially, and culturally. On April 19, 1999, the National Marine Fisheries Service (NMFS) approved the designation of American Samoa as a fishing community (64 *FR* 19067). This designation stemmed from the 1996 reauthorization and amendment of the Magnuson Fishery Conservation and Management Act by enactment of the Sustainable Fisheries Act (SFA), which also renamed it the Magnuson-Stevens Fishery Conservation and Management Act (MSA). The SFA made it mandatory to include the effects that new fisheries regulations or changes to existing ones would have on people (fishermen and fishing communities) in the development of fishery management plans. Fishing community profiles were developed to describe the current state of fishing communities throughout the United States (U.S.) so that future changes to communities' engagement in and dependence on fishing and fisheries resources could be identified and monitored.

In their 2009 report, Levine and Allen identified several topics that could be monitored in American Samoa to gauge how the territory as a fishing community is changing. In addition, social scientists at the Human Dimensions Research Program (HDRP) at NMFS Pacific Islands Fisheries Science Center (PIFSC) have monitored developments and changes in American Samoa since 2009, including traveling to American Samoa in September 2012 to speak with agency partners, fishermen, American Samoa Government (ASG) employees, and village leaders. As a result, topics and events identified as relevant to the changing American Samoa fishing community described in this update include:

- Trends in the territory's population and demographics, updated with 2010 U.S. Census data;
- The economic conditions of the territory, including the impacts of minimum wage increases and the Chicken of the Sea cannery closure, current status of cannery operations, and the economic future of the territory;
- Impacts from the 2009 tsunami;
- Status of the territory's fisheries;
- The status of fisheries management efforts, including federal and territorial research programs, recent regulations, and changes to marine protected areas (MPAs).

This update is meant to complement the original 2009 Levine and Allen fishing community profile rather than to replace it. Readers are referred to the original profile for historical and background information including: the history and culture of American Samoa, the development of specific commercial and non-commercial fisheries in the territory, and the development of several of the territorial management programs referred to in this report.

## **CHANGES IN AMERICAN SAMOA'S POPULATION AND ECONOMY, 2009 – 2013**

This section presents a general overview and update of changes since the 2009 profile regarding the demographics and economic conditions of American Samoa.

### **Population and Demographics**

The best source of recent population and demographic data currently available for American Samoa is the 2010 U.S. Census. Table 1 provides basic demographic information from the 2000 and 2010 censuses for the territory as a whole, and by island or island group: Tutuila, Manu`a Islands (Ofu, Olosega, and Ta`u), and Swains Island.

According to these data, little overall change has occurred in the population of American Samoa in terms of gender, age, ethnicity, nativity, and citizenship since 2000. The total number of people living in the territory decreased by 3.1 percent between 2000 and 2010. Both the total population and each of the island-specific populations showed declines. Although the population decline is small, it is noteworthy because this is the first time in more than a century that the census has recorded a decrease. Beginning in 1900, the population of American Samoa increased, and the growth rate became particularly high in the 1970s; the population more than doubled between 1970 and 2000 (Table 2). This was largely the result of the expansion of the local economy, stimulated by the development of tuna cannery operations, increases in federal expenditures, and a large-scale shift from a subsistence economy to a cash (commercial) economy. In addition, it is likely that the population increase in Tutuila continued throughout the early- to mid-2000s, when two tuna canneries were still operating at full capacity and before the Fair Minimum Wage Act of 2007 established a time frame in which employers in American Samoa (including the canneries) were required to raise their minimum wage pay to the federal level of \$7.25 per hour. Further discussion of the relationship between population, cannery operations, and the economic status of the territory can be found later in this section.

The data also suggest an interesting relationship between overall population and the number of households in the territory. Although the population of each island or island group in Table 1 decreased slightly between 2000 and 2010, the number of households increased on each island (except Swains). Census data also indicate that while the average household size was 6.05 persons in 2000, it decreased slightly to 5.60 persons in 2010. As shown in Table 3, while this household size is still much larger than that of the other U.S. Pacific Island territories (Guam was 3.67 persons per household and the Commonwealth of the Northern Mariana Islands was 3.26 persons per household in 2010), the state of Hawai`i (2.89 persons per household in 2010), and the United States as a whole (2.58 persons per household in 2010), this could represent a shift in the structure of households in American Samoa and should be monitored in the future.

As described in the 2009 Fishing Community Profile (Levine and Allen), the population of American Samoa continues to be relatively young, with a median age of about 22 years according to the 2010 Census. This is much younger than that of the other U.S. Pacific Island



Table 1. – Select population and demographic characteristics for American Samoa, for territory as a whole and by island or island group (U.S. Census Bureau, 2013b).

Demographic Characteristics	American Samoa				Tutuila				Manu`a				Swains			
	2000		2010		2000		2010		2000		2010		2000		2010	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Total population	57,291	---	55,519	---	55,876	---	54,359	---	1,378	---	1,143	---	37	---	17	---
Total # of households	9,349	---	9,688	---	9,069	---	9,400	---	273	---	282	---	7	---	6	---
Males	29,264	51.1	28,170	50.7	28,577	51.1	27,578	50.7	669	48.5	584	51.1	18	48.6	8	47.1
Females	28,027	48.9	27,349	49.3	27,299	48.9	26,781	49.3	709	51.5	559	48.9	19	51.4	9	52.9
Population over 16 yrs.	33,945	59.3	34,767	62.6	33,138	59.3	34,035	62.6	785	57.0	717	62.7	22	59.5	15	88.2
Born in A.S.	32,470	56.7	31,964	57.6	31,321	56.1	31,060	57.1	1,130	82.0	896	78.4	19	51.4	8	47.1
Not born in A.S.	24,821	43.3	23,555	42.4	24,555	43.9	23,299	42.9	248	18.0	247	21.6	18	48.6	9	52.9
1 ethnicity/race	54,882	95.8	54,040	97.3	53,499	95.7	52,891	97.3	1,346	97.7	1,132	99.0	37	100.0	17	100.0
Samoan	50,545	88.2	49,333	88.9	49,213	88.1	48,206	88.7	1,319	95.7	1,112	97.3	13	35.1	15	88.2
Tongan	1,598	2.8	1,614	2.9	1,589	2.8	1,608	3	9	0.7	6	0.5	0	0.0	0	0.0
Filipino	792	1.4	1,217	2.2	790	1.4	1,212	2.2	2	0.1	4	0.3	0	0.0	1	5.9
White	655	1.1	493	0.9	642	1.1	487	0.9	13	0.9	6	0.5	0	0.0	0	0.0
2+ ethnicities/races	2,409	4.2	1,479	2.7	2,377	4.3	1,468	2.7	32	2.3	11	1.0	0	0.0	0	0.0
Samoan & other(s)	1,991	3.5	1,342	2.4	1,969	3.5	1,331	2.4	22	1.6	11	1.0	0	0.0	0	0.0
Not U.S. citizen/national	20,251	35.3	19,395	34.9	20,099	36.0	19,245	35.4	141	10.2	144	12.6	11	29.7	6	35.3

Table 2. – U.S. Census recorded population of American Samoa since 1900 (U.S. Census Bureau, 2013b).

<b>Year</b>	<b>Population</b>	<b>Percent Population Change</b>
2010	55,519	-3.1
2000	57,291	22.5
1990	46,773	44.8
1980	32,297	18.9
1970	27,159	35.4
1960	20,051	5.9
1950	18,937	46.7
1940	12,908	28.4
1930	10,055	24.8
1920	8,058	41.8
1900	5,679	---

Table 3. – Average household size and median age of population in 2010 in various Pacific Island region locations and the United States overall (U.S. Census Bureau, 2013b).

<b>Location</b>	<b>Avg. Household Size (# of persons)</b>	<b>Median Age (in years)</b>
American Samoa	5.60	21.8
Guam	3.67	29.5
CNMI	3.26	33.4
Hawai`i	2.89	38.6
United States	2.58	37.2

areas (see Table 3) and the United States as a whole. Additionally, 76 percent of households in American Samoa have at least one child under the age of 18, compared with only 33.4 percent of households in the United States overall. As described by Levine and Allen (2009), this means there continues to be a high level of need for public services such as early childhood education and pediatric health and medical care.

As in 2000, slightly less than 60 percent of American Samoa residents were native to (born in) American Samoa in 2010. Of those 23,555 residents who are not native to American Samoa, the majority (68 percent) were born in the Independent State of Samoa (formerly known as Western Samoa), and 15 percent were born elsewhere in the United States. Additionally, as in 2000, almost all (97.3 percent) American Samoa residents identified themselves as having only one “ethnic origin or race,” and 92.1 percent of those individuals identified themselves as Samoan. The population data for other ethnicities can be found in Table 1.

### **Economics and Employment**

For more than 30 years, American Samoa’s economy has been dependent on two primary sources of income: the American Samoa Government (ASG, funded largely by grants from the federal government) and the tuna canning industry (U.S. Department of Labor, 2007; U.S. Government Accountability Office, 2011; American Samoa Government, 2012b). After several decades of economic development and growth, the territory’s economy has recently entered a period of decline. Two factors have contributed to this economic downturn: first, the U.S. Congress passed the Fair Minimum Wage Act of 2007, which required an incremental increase in the minimum wage for all industries in American Samoa at a rate of \$.50 per year until it reaches the federal minimum wage (federal minimum wage was \$7.25 per hour in 2013); and second, the Chicken of the Sea tuna cannery closed in 2009.

In 2006, the ASG and the tuna canneries were the two largest employers in the territory. As the territory’s single largest employer, the ASG employed 5,894 individuals (33.9 percent of all jobs). Many of those jobs were associated with operational and capital grants from the U.S. federal government (Table 4), and included individuals working in all general government departments, American Samoa Telecommunications Authority, Lyndon B. Johnson Tropical Medical Center Authority, American Samoa Power Authority, and American Samoa Community College. In 2006, two tuna canneries operated in Pago Pago: StarKist (a subsidiary of the Dongwon Group) and Chicken of the Sea (a subsidiary of Thai Union Frozen Products of Bangkok). The canneries accounted for just over one-quarter (27.3 percent) of all jobs in the territory, and made up the largest private sector source of employment (American Samoa Government, 2012a) (Table 4). In addition to playing a major role in the territory’s employment, canned tuna and other fish products have been the territory’s main exports for decades. In 2006, canned tuna accounted for 98.4 percent of the territory’s exports (in total value), valued at approximately \$431.5 million (American Samoa Government, 2012a) (Table 5). As the primary manufacturing activity in the territory, tuna processing directly or indirectly supports much of the remaining economy (U.S. Department of Labor, 2007). Another 38.8 percent of employment occurred in the secondary economy, made up primarily of businesses providing goods and services to the canneries and their workers (American Samoa Government, 2012b; U.S. Department of Labor, 2007).

When the Fair Minimum Wage Act was implemented in American Samoa in 2007, it raised the minimum wage for tuna cannery workers \$.50 per year beginning in 2007 through 2014. As planned, this program was projected to raise the minimum wage from \$3.26 per hour to the federal minimum wage rate (\$7.25 per hour) by 2014 (U.S. Government Accountability Office, 2010). Increases occurred three times, reaching \$4.76 per hour for cannery workers in May

Table 4. – American Samoa employment data from 2001 – 2011 (American Samoa Government, 2012a).

<b>Employment Sector</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Total Employment	17,113	17,230	17,407	17,354	17,344	17,395	17,047	16,990	14,108	18,862	18,028
A.S. Government	5,283	5,397	5,621	5,754	6,064	5,894	6,052	6,035	6,004	6,782	6,177
% of total	30.6	31.3	32.3	33.2	35.0	33.9	35.5	35.5	42.6	36.0	34.3
Canneries	5,230	5,133	5,036	4,600	4,546	4,757	4,633	4,861	1,562	1,553	1,815
% of total	30.6	29.8	28.9	26.5	26.2	27.3	27.2	28.6	11.1	8.2	10.1
Private sector/other	6,600	6,700	6,750	7,000	6,734	6,744	6,362	6,094	6,542	10,527	10,036
% of total	38.6	38.9	38.8	40.3	38.8	38.8	37.3	35.9	46.4	55.8	55.7

Table 5. – Export of commodities by value (USD), fiscal years 2004 – 2011 (American Samoa Government, 2012a).

<b>Commodity</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Total	445,589,464	373,811,584	438,529,360	330,620,350	336,787,332	483,505,786	177,883,684	16,999,686
Aluminum	---	3,000	---	---	950,000	---	---	---
Fish meal	1,977,646	195,480	---	758,592	1,454,782	3,593,242	3,606,103	3,627,152
Pet food	42,035,303	21,904,190	7,050,488	9,072,214	2,193,069	5,820,742	1,034,081	---
Canned tuna	401,576,515	351,708,914	431,478,872	320,789,544	332,189,481	474,091,803	173,243,499	13,372,534

2009, but additional increases were delayed by Congress until 2015, in response to government reports (U.S. Government Accountability Office, 2010; 2011) and ASG and employer concerns about the detrimental impact the wage increases are having on the territory's economy.

The minimum wage increase was one of several factors that contributed to the downswing in the tuna processing industry in American Samoa in the late 2000s and the closure of the Chicken of the Sea cannery in 2009, which resulted in the loss of approximately 2,000 jobs. According to the GAO (2010), cannery representatives indicated that the minimum wage increases have widened the minimum wage gap between American Samoa and other tuna canning facilities in the Pacific region, such as Thailand, which has a minimum wage of less than \$1.00 per hour. This makes it more desirable for companies to base their processing activities in other locations. Cannery representatives indicated that other factors contributing to the cannery's closure include:

- 1) The highly competitive market for tuna products, limiting canneries' ability to pass on increased labor and operating costs to consumers;
- 2) An attractive environment for investment in alternative locations;
- 3) The rising cost of shipping and utility costs—owing to increased fuel costs in recent years;
- 4) The lessening of the value of tariff protection, owing to global trade liberalization; and
- 5) High costs associated with environmental regulations. (U.S. Government Accountability Office, 2010:65-66)

Representatives from StarKist say the company has struggled to continue operations at the full level, and have had to lay off close to 1,000 workers since May 2008 (U.S. Government Accountability Office, 2010). Table 5 shows the steep decline in the value of tuna exports, from a high of \$474 million in 2009 down to only \$13 million in 2011.

Reports suggest that between the closure of the cannery and the minimum wage increases, 5,737 jobs were lost in 2009 (American Samoa Government, 2012b). However, American Samoa has been able to avert economic disaster temporarily as a result of a large increase in federal funding through U.S. economic and disaster recovery programs. Between 2008 and 2010, federal expenditures in American Samoa more than doubled, increasing from \$257 million to \$515 million (Table 6). Additionally, the percentage of ASG total revenue coming from federal grants and assistance reached a high of 71.1 percent in 2010 (Table 7). This increased funding translated into almost 4,000 new jobs between 2008 and 2010, about 70 percent of those lost in 2009 (American Samoa Government, 2012b). However, because many of these new jobs are funded by programs related to the American Recovery and Reinvestment Act (Recovery Act), the 2010 Decennial Census, and recovery efforts after the 2009 tsunami, these jobs are not permanent and job losses will likely recur when these programs end and federal funds run out.

Table 6. – Federal Government expenditures in American Samoa, 2000 and 2005 – 2010  
(USD, millions) (U.S. Census Bureau, 2013a).

<b>Expenditures</b>	<b>2000</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
USD, in millions	112	243	246	213	257	381	515

Table 7. – American Samoan Government revenue, 2000 and 2005 – 2010 (USD, millions)  
(American Samoa Government, 2006; 2012a).

<b>Revenue</b>	<b>2000</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Total revenue	130.9	182.0	195.2	172.0	201.0	211.2	267.4
U.S. federal grants & assistance	89.0	117.2	118.3	105.4	115.0	140.1	190.1
% of total revenue from federal government	68.0	64.4	60.6	61.3	57.2	66.3	71.1

## Labor Force

Table 8 shows labor force and employment statistics for American Samoa since 1990. These data indicate that the population of individuals 16 years of age and over has increased throughout this time period, as has the percentage of those individuals who are in the labor force. However, the percentage of individuals in the labor force who are employed has decreased slightly over the past 20 years and is currently at 90.8 percent, yielding an unemployment rate of 9.2 percent (U.S. Census Bureau, 2013b). As mentioned previously, these data reflect the impacts from the minimum wage increases and cannery closure.

Small-scale fishing often provides food security and functions as a “safety net” during poor economic conditions and periods of high unemployment (Andrew et al., 2007). Interestingly, although unemployment in the territory has increased, the percentage of individuals participating in subsistence activities (including fishing for food or home use) has decreased since 2000 (U.S. Census Bureau, 2013b).<sup>1</sup> Only 4.6 percent of the population 16 years of age and over was employed and also undertook subsistence activity, and only 1.9 percent undertook subsistence

<sup>1</sup> According to the U.S. Census, individuals were engaged in “subsistence activities” if they mainly produced goods for their own or family’s use and needs, such as growing/gathering food, fishing, cutting copra for home use, raising livestock, making handicrafts for home use, and other productive activities not primarily for commercial purposes (U.S. Census Bureau, 2014).

Table 8. – Labor force and employment data for American Samoa, 1990 – 2010 (U.S. Census Bureau, 2013b).

Employment Characteristics	1990		2000		2010	
	#	%	#	%	#	%
Population 16 years of age and over	27,991	100.0	33,945	100.0	34,767	100.0
In labor force	14,198	50.7	17,664	52.0	18,387	52.9
Civilian labor force	14,187	50.7	17,627	51.9	18,300	52.6
Employed	13,461	48.1	16,718	49.3	16,616	47.8
Employed, % of civilian labor force	---	94.9	---	94.8	---	90.8
Also did subsistence activity	1,608	5.7	2,904	8.6	1,614	4.6
Unemployed	726	2.6	909	2.7	1,684	4.8
% of civilian labor force	---	5.1	---	5.2	---	9.2
Armed forces	11	< 0.1	37	0.1	87	0.3
Not in labor force	13,793	49.3	16,281	48.0	16,380	47.1
Subsistence activity only	543	1.9	2,276	6.7	633	1.8

activity only. This is surprising, in that one would typically expect subsistence activities (such as fishing and growing or gathering other foods) to increase during a period of increasing unemployment and deteriorating economic conditions. However, further research is needed to better understand the complexities of subsistence activities in American Samoa, and what factors impact when and how such activities are utilized by individuals and households.

Despite the general decline in American Samoa’s economy and the rise in unemployment, 2010 Census data show that both the median and mean household income in the territory increased from 2000 (Table 9). Additionally, the percentage of households with lower income levels decreased slightly, while those with higher income levels increased. Further, the percent of families living below the national poverty level decreased from 58.3 percent in 2000 to 54.4 percent in 2010 (U.S. Census Bureau, 2013b). It is unclear whether these data actually reflect improved household financial conditions, or if they are influenced by temporary conditions in the territory, such as salaries from temporary Recovery Act jobs. Regardless, the American Samoa economy should be regarded as being in a state of transition, and it is important that these factors be monitored.

Table 9. – American Samoa household income data (in USD), 2000 and 2010 (U.S. Census Bureau, 2013b).

Household Income Characteristics	2000		2010		% change
	#	%	#	%	
Total number of households	9,349	100.0	9,688	100	---
Less than \$2,500	509	5.4	504	5.2	-0.2
\$2,500 to \$4,999	250	2.7	182	1.9	-0.8
\$5,000 to \$9,999	1,585	17.0	1,087	11.2	-5.8
\$10,000 to \$14,999	1,535	16.4	1,203	12.4	-4.0
\$15,000 to \$24,999	2,079	22.2	2,048	21.1	-1.1
\$25,000 to \$49,999	2,255	24.1	2,648	27.3	3.2
\$50,000 to \$74,999	739	7.9	1,100	11.4	3.5
\$75,000 or more	397	4.2	916	9.5	5.3
Median household income (USD)	18,219		23,892		---
Mean household income (USD)	26,093		34,254		---

### Employment: Manu`a Islands & Swains Island

Continuing the trend discussed in Levine and Allen (2009), the population of the Manu`a Islands (Ofu, Olsega, and Ta`u) and Swains Island again decreased according to the 2010 U.S. Census (Table 1). Although nearly one-third of the territory's total population lived on these islands in 1900, only about two percent of the population lived there in 2010. Because of the lack of higher education and employment opportunities, people continue to leave Manu`a and move to Tutuila, Samoa, and other locations (Levine and Allen, 2009).

As a result of fewer employment opportunities on the outer islands, a larger percentage of those individuals who remain on the Manu`a Islands and Swains Island participate in subsistence activities. (See footnote on page 8 for the U.S. Census definition of subsistence activities.) The data provided in Table 10 show that in 2010 more than 20 percent of the population aged 16 years and over in Manu`a were both employed and participated in subsistence activities, and nearly 13 percent only participated in subsistence activities (U.S. Census Bureau, 2013b). On Swains, with a total population of only 17 people, 15 of whom are 16 years and over, only 20 percent are officially employed in the labor force, while more than 13 percent participate in



Table 10. – 2010 Census employment data comparing Tutuila to outer islands (U.S. Census Bureau, 2013b).

Employment Characteristics	Tutuila		Manu`a		Swains	
	#	%	#	%	#	%
Population 16 years and over	34,035	100.0	717	100.0	15	100.0
In labor force	18,006	52.9	378	52.7	3	20.0
Civilian labor force	17,919	52.6	378	52.7	3	20.0
Employed	16,275	47.8	338	47.1	3	20.0
Also did subsistence activity	1,463	4.3	151	21.1	0	0.0
Unemployed	1,644	4.8	40	5.6	0	0.0
Percent of civilian labor force	18.6	---	10.6	---	0.0	---
Armed Forces	87	0.3	0	0.0	0	0.0
Not in labor force	16,029	47.1	339	47.3	12	80.0
Subsistence activity only	540	1.6	91	12.7	2	13.3

subsistence activities only. Compared to the percent involved in subsistence activities in Tutuila, it appears that in these more remote locations, subsistence activities such as fishing for food play an important role in fulfilling the needs of individuals and households.

### Status of Cannery Operations

Although StarKist reduced their staff by more than half (down to about 1,200 employees) between 2008 and 2010, they began rehiring in the beginning of 2011, increasing their workforce to more than 2,000 people by the end of 2012 (StarKist official, personal communication). In September 2012, StarKist was producing 400 – 450 tons of canned tuna per day. The freeze in the minimum wage increases has allowed StarKist to continue to operate in American Samoa, and the company has reaffirmed its commitment to the territory and suggested interest in further investing in their operations there. However, a company spokesperson stated recently that “better clarity on wage costs, the federal economic development tax credit and additional land all make such investment more tenable” (Sagapolutele, 2013).

On October 5, 2010, Tri Marine International bought the former Chicken of the Sea tuna cannery in American Samoa. Operating as Samoa Tuna Processors (STP), the company has been receiving, processing, and exporting fresh tuna by air freight for the premium tuna markets in the U.S. mainland and Japan (Tri Marine, 2012). The company’s \$55 million renovation of the site

includes a more than 5,000-ton cold storage facility (completed April 2013), a fresh and frozen fish plant, and a tuna cannery (both scheduled to be completed sometime in 2014) (Tri Marine, 2013). The new cannery is designed to process 250 – 300 tons per day, creating approximately 1,200 direct and 650 indirect jobs. The fresh fish processing operation is in its pilot stages now, but STP hopes to ship out 10 – 20 tons of fresh fish per week when fully operational. Although the company also plans to install a low-height jetty where the local alia boats can offload, these boats are currently lacking the ice-making equipment needed to provide premium fresh fish to the plant. Overall, Tri Marine views these developments as critical steps in establishing American Samoa as a hub for tuna processing in the region (Sagapolutele, 2012).

## **Tourism**

Tourism continues to play a small role in American Samoa's economy. Since reaching a high of 7,762 visitors in 2006, tourist arrivals have declined each year, dropping to 5,682 visitors in 2011 (American Samoa Government, 2012a). The majority (56.7 percent) of the tourists in 2011 were from the United States, followed by New Zealand (29.1 percent), and Australia (10.5 percent). The territory's remote location and limited visitor amenities continue to limit expansion of the tourism economy in American Samoa (Levine and Allen, 2009).

## **Economic Future of the Territory**

Currently, the economic future of the territory is uncertain. The establishment of STP operations may be considered a positive step toward boosting American Samoa's economy, especially in terms of providing jobs and incomes to the territory's unemployed residents. However, it is possible that increased federal aid in recent years has masked the full extent of economic recession. Local economic conditions may actually worsen before improving. The recent Comprehensive Economic Development Strategy (CEDS) report prepared by American Samoa's Territorial Planning Committee and Department of Commerce (American Samoa Government, 2012b) suggests that planning for the economic future of the territory should not be focused on trying to re-establish old, low productivity, low-wage jobs (such as the majority of those associated with the canneries). Rather, the report suggests that the economy must be developed so that it is able to support high productivity industries and jobs, which will also help increase salaries overall and reduce income disparities between American Samoa and the rest of the United States. The CEDS also recognizes that education and training will be fundamental to the transition, and that existing industries must be supported and retained in the meantime. Additionally, diversifying the economy will allow for increased stability in the future and can help safeguard American Samoa from the ups and downs of the tuna canning industry.

The CEDS report (American Samoa Government, 2012) describes the territory's economic development opportunities and constraints, and identifies strategic projects, programs, and activities to help move American Samoa forward. These include strategies for expanding tuna industry employment, promoting visitor industry growth, and increasing the viability of the eCommerce sector. However, the CEDS report also acknowledges that increasing the capacity and efficiency of territorial government agencies, as well as improving working relationships between the government and private sectors, are critical to the expansion and diversification of the economy.

## **2009 Tsunami**

On September 29, 2009, a magnitude 8.1 submarine earthquake took place along the Tonga Trench subduction zone in the Samoan Islands region, generating a tsunami which hit American Samoa, Samoa, and Tonga. Wave heights up to 46 feet were recorded in American Samoa, killing 34 people and injuring hundreds. The tsunami and subsequent flooding destroyed 241 homes and one school, and caused major damage to more than 3,000 additional homes, businesses, and schools (Western States Seismic Policy Council, 2012). The event also severely impaired important infrastructure, including electric and water facilities. The tsunami hit one day before the Chicken of the Sea cannery was scheduled to close, and although there was only minimal damage to both canneries, StarKist lost power during the event and operated at a decreased level for more than a month (McAvoy, 2009).

The federal government issued a disaster declaration and the Federal Emergency Management Agency (FEMA) has provided close to \$100 million for disaster recovery and post-tsunami improvements to American Samoa (Federal Emergency Management Agency, 2012; Government Accountability Office, 2011). The improvements include an early-warning siren system, 9-1-1 emergency call center, and the completion of a formal tsunami hazard plan. Implementing these measures allowed each of the island communities (Tutuila, Aunu`u, Ofu, Olosega, and Ta`u) to achieve the NOAA/National Weather Service status of "TsunamiReady".<sup>2</sup>

Additionally, the U.S. Army Corps of Engineers conducted the "American Samoa Tsunami Study," focused on examining and increasing coastal community resilience to tsunamis in the territory (U.S. Army Corps of Engineers, 2012). The study included the development of a Governor-appointed Tsunami Advisory Committee, wide-spread stakeholder involvement and consultation, extensive research regarding coastal resilience, and the development of recommendations and a multi-year implementation plan geared toward improving community resilience.

The 2009 tsunami also had large-scale impacts on the fishing community of American Samoa. The Western Pacific Regional Fishery Management Council (WPRFMC), working in cooperation with NMFS's Pacific Islands Regional Office (PIRO) and the American Samoa Department of Marine and Wildlife Resources (DMWR), prepared a report describing the

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<sup>2</sup> To be recognized as TsunamiReady, a community must establish a 24-hour warning point and emergency operations center, develop multiple ways to receive tsunami warnings and alert the public, develop a formal tsunami hazard plan, conduct emergency exercises, and promote public readiness through community education (Federal Emergency Management Agency, 2012).



Figure 1. – Damage to docks, vessels, and gear due to 2009 tsunami (Western Pacific Regional Fishery Management Council, 2010).

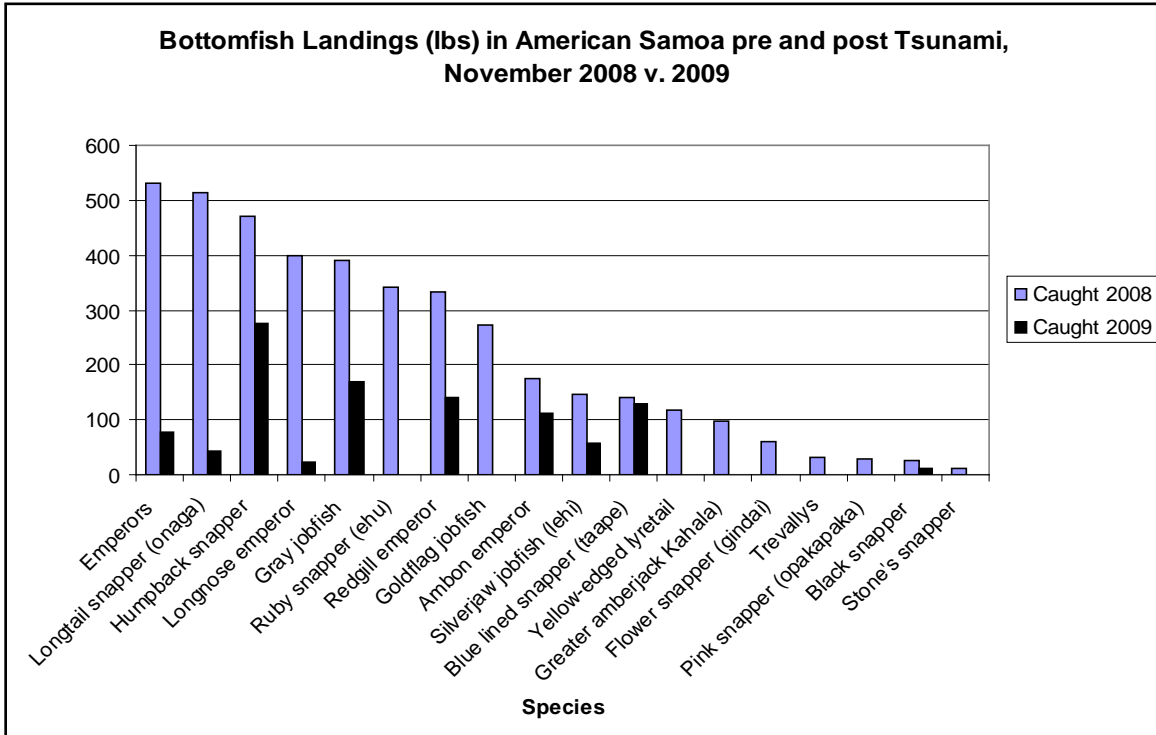


Figure 2. – Bottomfish landings, pre- and post-tsunami (November 2008 vs. 2009). Figure taken directly from Western Pacific Regional Fishery Management Council, 2010.

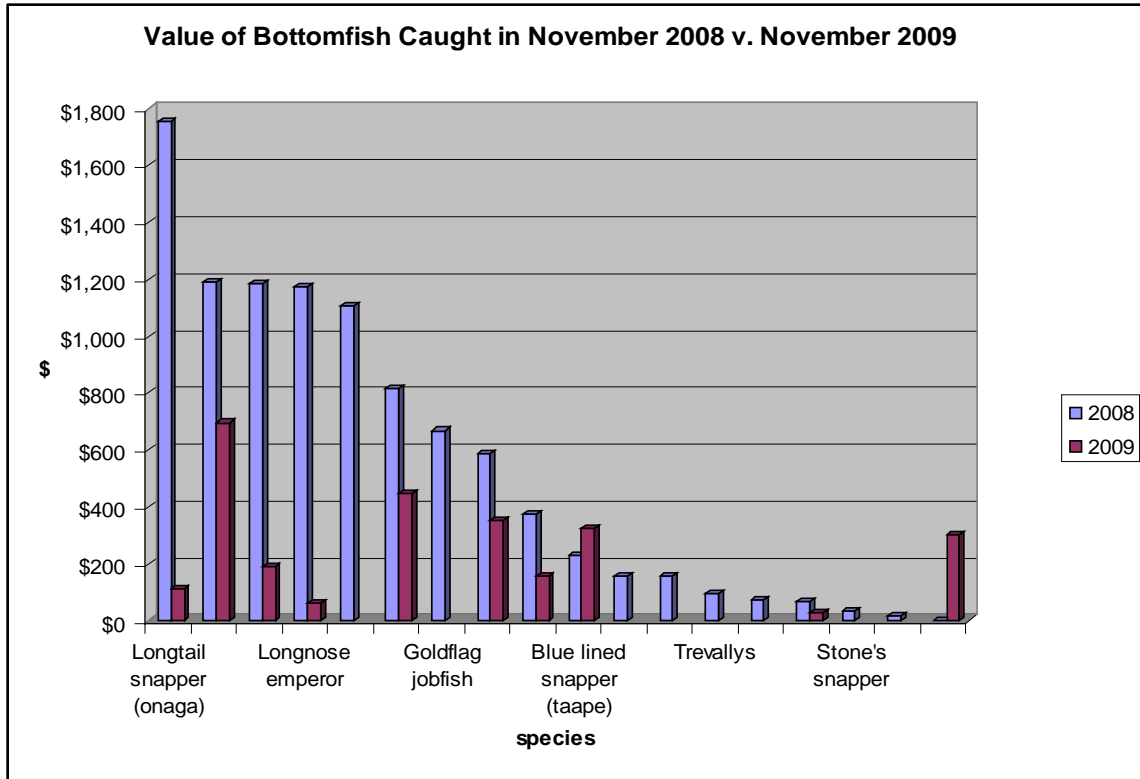


Figure 3. – Bottomfish fishery revenue, pre- and post-tsunami (November 2008 vs. 2009). Figure taken directly from Western Pacific Regional Fishery Management Council, 2010.

impacts of the tsunami on the territory’s fisheries, primarily due to destroyed or damaged vessels, gear, and infrastructure (Fig. 1) (Western Pacific Regional Fishery Management Council, 2010). Comparisons between fisheries landings data from pre-tsunami (October – November 2008) to post-tsunami (October – November 2009) indicate that almost no commercial bottomfishing or reef fishing took place in the months immediately following the tsunami and that there were large declines in revenues from bottomfishing (Figs. 2 and 3). The report was utilized by the ASG in a request to the U.S. Department of Commerce for fishery disaster relief funds pursuant to the MSA and the Interjurisdictional Fisheries Act. In 2012, the Department of Commerce determined that a commercial fishery failure occurred for the bottomfish fishery in American Samoa, but to date, Congress still has not appropriated funds (Western Pacific Regional Fishery Management Council, 2013a).

Coral reef fish habitat was also damaged by the tsunami, especially due to marine debris. NOAA conducted a survey of approximately one-third of Tutuila’s coastline for marine debris damage in 2009, and removed more than four tons of tsunami-generated marine debris that threatened coral reefs (National Oceanic and Atmospheric Administration, 2010). While this effort was beneficial, a large deal of debris remains, and the full impact of the tsunami on coral reefs in the archipelago is unknown.

# AMERICAN SAMOA'S FISHERIES

## Small-scale Fisheries

Fishing in American Samoa continues to be a mix of commercial, subsistence, traditional, and sport fishing. The commercial fisheries include spearfishing from boats, bottomfishing, trolling, and mixed bottomfishing-trolling. Subsistence fisheries include the use of spears and slings, rods and reels, bamboo poles, throw nets, and gill nets. Fisheries data (for both commercial and subsistence fisheries) continue to be collected by DMWR primarily through creel surveys; monitoring of the boat-based fisheries started in 1982, and monitoring of shore-based fisheries started in 1990. DMWR continues to coordinate with the Western Pacific Fisheries Information Network (WPacFIN) to compile and analyze fisheries data.

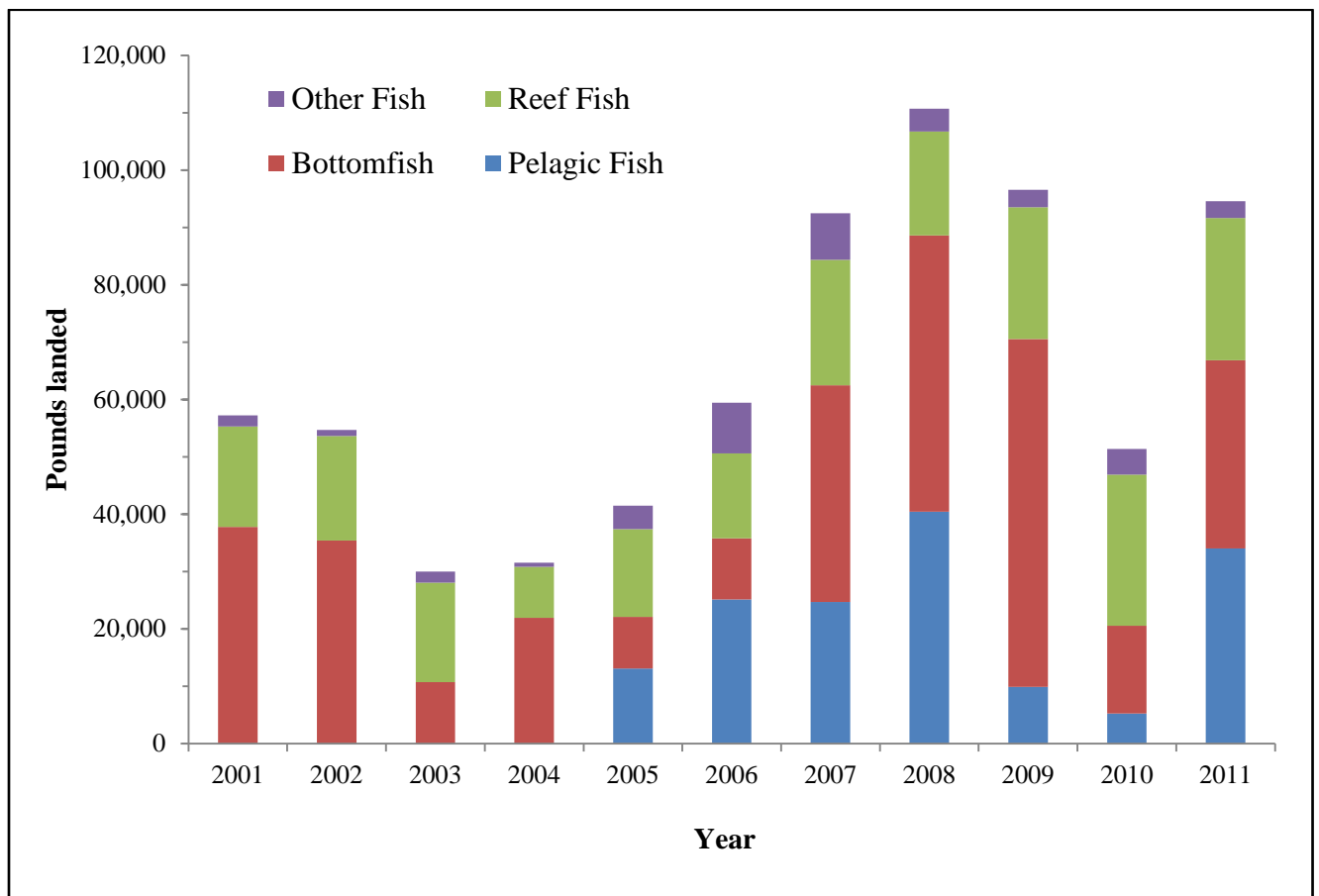


Figure 4. – Total estimated commercial landings of pelagic fish (non-longline caught), bottomfish, reef fish, and other fish in American Samoa from 2001 to 2011 (Western Pacific Fisheries Information Network, 2014). Estimated commercial pelagic fish landings data taken from Pacific Pelagic Fishery Ecosystem Plan Annual Reports, 2005 – 2011 (Western Pacific Regional Fishery Management Council, 2014). Comparable pelagics data unavailable for 2001 – 2004.

While the ongoing creel survey data collection efforts provide fisheries scientists and managers in the region with important data, because participation in these surveys is voluntary, these efforts do not provide sufficient data for stock assessments. Based on data that are available, however, seemingly little has changed in terms of fishing trends since the first American Samoa fishing community profile was published in 2009 (Levine and Allen, 2009). Figure 4 shows the total estimated commercial landings of pelagic fish (non-longline catch), bottomfish, reef fish, and other fish species in American Samoa from 2001 to 2011. Although the number of boats landing bottomfish has declined continuously since 2007 (down to only 12 boats in 2011), bottomfish landings increased steadily from 2005 to 2009. The significant drop in bottomfish landings in 2010 reflects the aforementioned loss of and damage to fishing vessels in the 2009 tsunami. Although many of these boats remain damaged, bottomfish landings increased again in 2011. This increase is likely due to the implementation of a biosampling program (discussed later in this report) by DMWR in 2010, which offers free ice and pays fishermen for each fish sampled. (For a more in-depth assessment of American Samoa’s fisheries, please see Carroll et al., 2012.) Traditional harvests of certain species, including *atule* (bigeye scad), *i`asina* (juvenile goatfish), and *palolo* (a coral-dwelling polychaete worm), continue to be important social and cultural village-level events.

### **Fisheries Development in the Manu`a Islands**

In an effort to improve fishing opportunities and infrastructure in the Manu`a islands, in 2010, the WPRFMC began implementing a series of projects to construct fuel storage and ice-making facilities and to establish fishermen’s cooperatives in the outer islands. These projects seek to provide economic opportunities and food security to people in the Manu`a islands, who face a lack of consistent supplies from Tutuila, including fuel. Further, the WPRFMC hopes that the establishment of fishermen’s cooperatives and the training of members in the management of small-scale non-profit organizations will allow for the sustainable development of these fisheries in a manner beneficial to Manu`a fishermen and other community members (Western Pacific Regional Fishery Management Council, 2013a).

As of June 2013, fuel storage and ice-making facilities had been set up in Ta`u and Ofu, and a cooperative had been established in each location—the “Tai Samasama Fishermen Co-op,” currently with 25 members, on Ta`u, and the “Faleluaanu`u Fishermen Co-op,” with 15 members, on Ofu. Bylaws were approved at that time and members began to hold regular meetings. DMWR and WPRFMC assisted with development of the co-ops during the first year of operation. The next steps in fisheries development in Manu`a involve the establishment of cold storage space at the fishermen’s co-ops to keep fish fresh (Western Pacific Regional Fishery Management Council, 2013a). This will assist in the development of commercial fisheries in the Manu`a group by allowing fish to be stored while awaiting delivery to Tutuila.

### **Longline Fishery**

According to American Samoa federal logbook data, 25 vessels accounted for an estimated 98.4 percent of the sets made by large and small longline vessels throughout 2012 (Fisheries Research and Monitoring Division, 2013). A total of 280,574 fish (pieces, all species) were caught in 2012, which is an increase of approximately 31 percent from 2011. The catch of albacore, the

target species which dominates the catch, increased by approximately 35 percent from 2011. However, landings have diminished since their peak in 2007 (Fig. 5).

As described in Levine and Allen (2009), most of the small, local alia vessels were exiting the longline fishery by 2007, and the fishery was dominated by fewer large vessels (Fig. 6). Despite WPRFMC's efforts to encourage the participation of small-scale boats in the longline fishery (including the continued closure of the area within 50 nautical miles around American Samoa to fishing vessels larger than 50 feet in length), only a few alia vessels reported any longline trips in 2012 (Fisheries Research and Monitoring Division, 2013). The destruction of many boats and gear during the 2009 tsunami has contributed to the small-scale boats' continued absence from the fishery. In addition, the announcement of upcoming increased commercial fishing vessel safety requirements by the U.S. Coast Guard is prompting several alia owners and fishermen to sell their vessels to those outside the territory, such as Samoa (anonymous, pers. comm.).

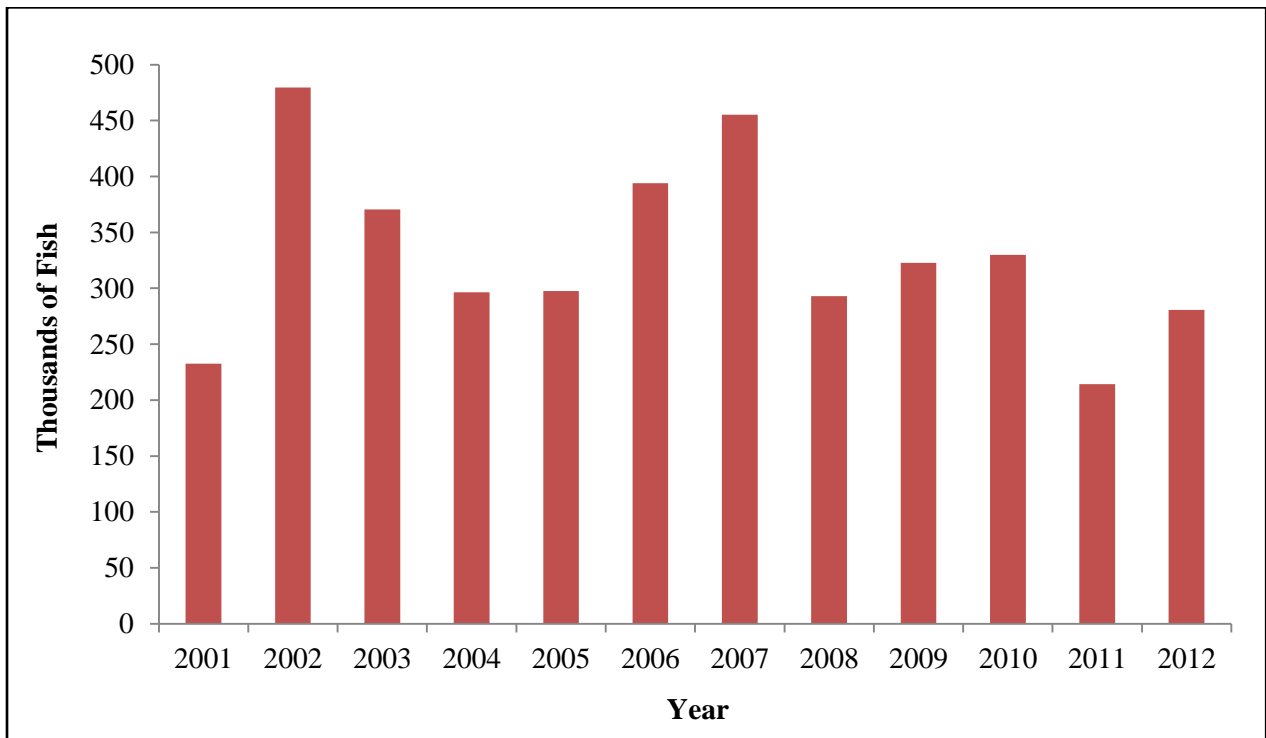


Figure 5. – Total catch of all species from longline boats, 2001 – 2012 (Fisheries Research and Monitoring Division, 2013).



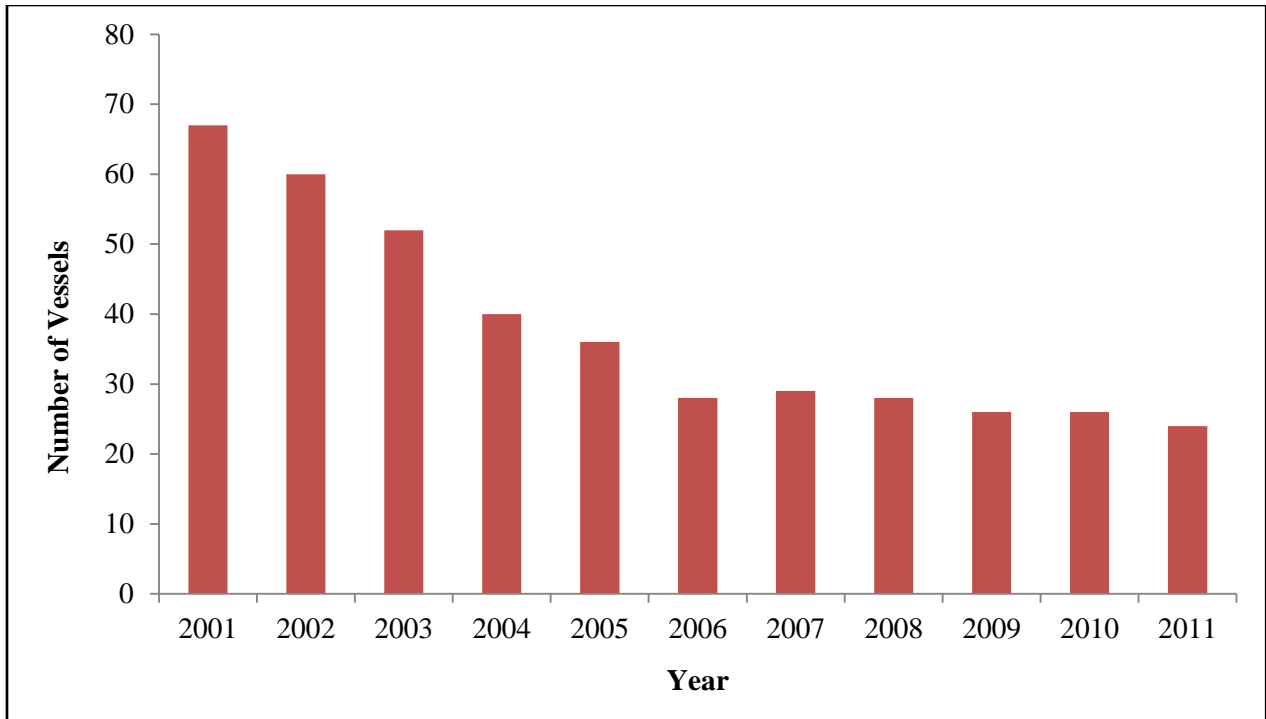


Figure 6. – Total number of longline vessels, 2001 – 2011 (Fisheries Research and Monitoring Division, 2013).

### Sport Fishing

The Pago Pago Game Fishing Association (PPGFA) was founded in 2003 by a group of recreational anglers with a desire to hold semi-organized competitions. Today, the PPGFA has more than 40 members, and holds several one-day tournaments throughout the year along with one multi-day tournament—the Steinlager Γ a Lapo`a International Game Fishing Tournament. The year 2014 marked the 15<sup>th</sup> year of the tournament, held annually in May. Several years ago, the PPGFA teamed up with members of the nearby Samoa International Game Fishing Association (SIGFA) to hold their international tournaments within weeks of one another annually so that boats and fishermen visiting from New Zealand could fish both tournaments. The PPGFA has coordinated with several government offices, including the American Samoa Visitor’s Bureau, the Office of the Governor, Ports Administration, and Customs, to make it easy for foreign anglers to visit American Samoa and participate in the tournament (Mossman, 2012). Although the tourism industry is small in the territory, the PPGFA and the Γ a Lapo`a Tournament has done a great deal to increase awareness of angling opportunities available in American Samoa.

## **FISHERIES MANAGEMENT UPDATES**

### **Federal Management and Regulations**

#### **Annual Catch Limits and Accountability Measures**

The reauthorization of the MSA in 2006 required that the nation's eight regional fishery management councils develop annual catch limits (ACLs) for each of their managed fisheries. The ACLs may not exceed the fishing-level recommendations of the councils' scientific and statistical committee (SSC) or peer review process. Additionally, councils were required to amend their fishery management plans to establish a mechanism for specifying ACLs at a level such that overfishing does not occur in the fishery, including measures to ensure accountability (Western Pacific Regional Fishery Management Council, 2012).

In 2011, the WPRFMC established the 2012 ACLs for American Samoa for several species groups, as shown in Table 11. As a general rule, these ACLs were set at 75 percent of the historic catch level. The table also shows the estimated catch for those species groups for 2012. None of the ACLs was exceeded in 2012, so it is possible that the ACLs have had minimal impacts on the fishermen or other members of the fishing community. Further research is needed to better understand how the implementation of ACLs has changed fishing behavior in American Samoa.

For 2013, all of the ACLs remained the same as those from 2012, except for the bottomfish stock complex, which was increased to 101,000 pounds due to a new stock assessment conducted in 2012. Setting the ACLs with limited and poor data has been challenging for the SSC and WPRFMC, and they are currently working to develop better methods for collecting fisheries data and for setting ACLs.

Table 11. – ACLs for 2012 and 2013, and 2012 catch, by fishery and management unit species (Western Pacific Regional Fishery Management Council, 2013b).

<b>Fishery</b>	<b>Management Unit Species</b>	<b>2012 ACL (lbs)</b>	<b>2012 Catch (lbs)</b>	<b>2013 ACL (lbs)</b>
Bottomfish	Bottomfish multi-species stock complex	99,200	16,665	101,000
Crustacean	Deepwater Shrimp	80,000	no fishery	80,000
	Spiny Lobster	2,300	1,056	2,300
	Slipper Lobster	30	0	30
	Kona Crab	3,200	no fishery	3,200
Precious Coral	Black Coral	1,742	no fishery	1,742
	Precious Corals in the American Samoa Exploratory Area	2,205	no fishery	2,205
Coral Reef Ecosystem	Acanthuridae – surgeonfish	19,516	6,394	19,516
	Lutjanidae – snappers	18,839	2,240	18,839
	Selar crumenophthalmus – atule or bigeye scad	8,396	7,314	8,396
	Mollusks – turbo snail; octopus; giant clams	16,694	4,549	16,694
	Carangidae – jacks	9,490	2,374	9,490
	Lethrinidae – emperors	7,350	1,889	7,350
	Scaridae – parrotfish	8,145	2,807	8,145
	Serranidae – groupers	5,600	1,325	5,600
	Holocentridae – squirrelfish	2,585	905	2,585
	Mugilidae – mullets	2,857	1,252	2,857
	Crustaceans – crabs	2,248	1,055	2,248
	Bolbometopon muricatum – bumphead parrotfish	235	0	235
	Cheilinus undulatus – humphead (Napoleon) wrasse	1,743	0	1,743
	Carcharhinidae – reef sharks	1,309	18	1,309
	All Other CREMUS* combined	18,910	2,616	18,910

\*Note: CREMUS = coral reef ecosystem management unit species

## **Rose Atoll Marine National Monument**

Rose Atoll Marine National Monument (Monument) was established on January 6, 2009, under the authority of the Antiquities Act of 1906. The Monument includes the 21 acres of emergent land of the Rose Atoll National Wildlife Refuge and the waters surrounding the atoll out to approximately 50 nautical miles from the mean low-water line. Commercial fishing is prohibited within the Monument, and although a recent federal rule (78 *FR* 32996) developed by NMFS and WPRFMC prohibits all fishing within 12 nautical miles of the atoll, non-commercial fishing per customary exchange<sup>3</sup> is allowed outside of the 12 nautical mile boundary.

The establishment of the Monument has been controversial, particularly as a result of the cultural importance of Rose Atoll (known as *Muliava* to American Samoans) to residents of the Manu`a Islands, who view Muliava to be part of *Manu`a Tele* (Great Manu`a). In 2011, the Samoan Studies Institute (SSI) conducted a study to document the connection of the Manu`a people to Muliava and to gauge residents' perspectives regarding the establishment of the Monument. They found that the majority of residents surveyed (45 percent;  $n = 265$ ) disliked the idea of Muliava being declared a Marine National Monument. Additionally, most of the people surveyed knew that Muliava had been a national wildlife refuge since 1973, but were uncertain about the Monument's establishment and regulations (Samoa Studies Institute, 2012). Manu`a residents also said they were not involved in or consulted regarding the inception of the Monument, and they were not aware of the regulations that were being developed at the time regarding non-commercial fishing activities within the Monument (mentioned previously). These issues regarding lack of representation and the feeling that the atoll belongs to the people of Manu`a and not the federal government continue to affect how the Monument is perceived.

## **National Marine Sanctuary of American Samoa**

In 1986, the U.S. Congress designated the Fagatele Bay National Marine Sanctuary on the western side of Tutuila in order "to protect and preserve an example of a pristine tropical marine habitat and coral reef terrace ecosystem of exceptional biological productivity" (51 *FR* 15878). In 2012, an additional five areas were added to the sanctuary, and the name was changed to the National Marine Sanctuary of American Samoa (NMSAS). The sanctuary now includes areas of Tutuila, Aunu`u, Ta`u, Rose Atoll (including Rose Atoll Marine National Monument), and Swains Island (Fig. 7). According to the Federal Register, "NOAA chose these units based on the quality and diversity of their biological resources, their scientific and cultural value, and the specific desire of the communities intimate with these marine habitats, including the government of American Samoa" (77 *FR* 43945).

NOAA's Office of National Marine Sanctuaries (ONMS) serves as the trustee for the National Marine Sanctuary System, and NMSAS is co-managed by ONMS and the American Samoa Department of Commerce (DOC). Since 2009, sanctuary staff worked closely with several

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<sup>3</sup> Customary exchange is defined in the federal rule as "the non-market exchange of marine resources between fishermen and community residents, including family and friends of community residents, for goods, and/or services for cultural, social, or religious reasons, and which may include cost recovery through monetary reimbursements and other means for actual trip expenses, including but not limited to ice, bait, food, or fuel, that may be necessary to participate in fisheries in the western Pacific" (78 *FR* 32997).

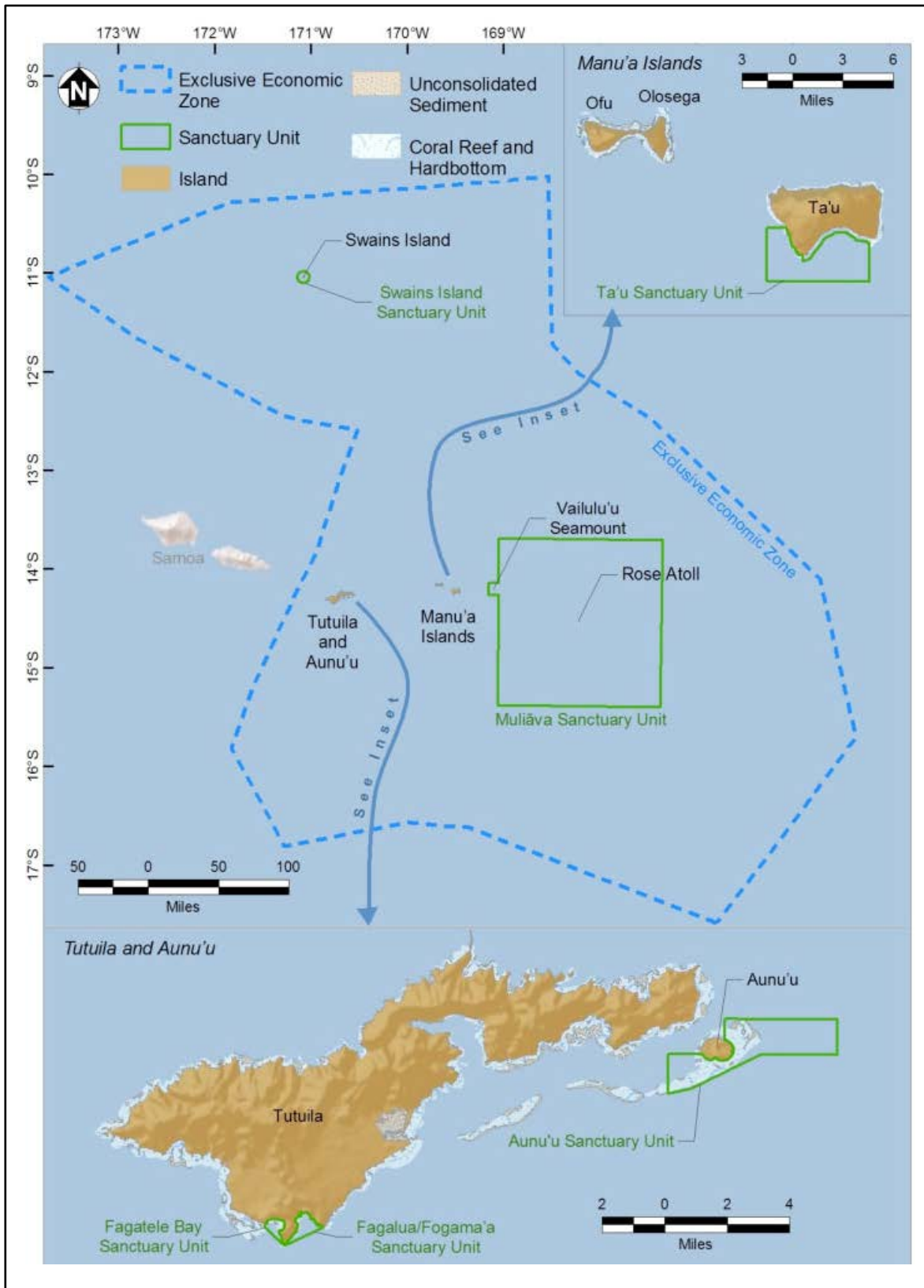


Figure 7. – Map of the National Marine Sanctuary of American Samoa (National Marine Sanctuary of American Samoa, 2013).

stakeholder groups, including the DOC, the Office of Samoan Affairs, and the Sanctuary Advisory Council, to conduct a series of public meetings to solicit feedback regarding expansion of the sanctuary. The final rule establishing the expansion of the sanctuary and finalizing the management plan was published on July 26, 2012 (77 FR 43942).

Throughout the public comment period, members of the fishing community expressed concerns regarding the impact of the sanctuary expansion on fishing activities (see 77 FR 43942 for a complete description of public comments, along with responses from NOAA). Although additional restrictions on fishing were included in the proposed rule, based on the public comments received, the final rule and management plan only designates the Fagatele Bay Unit as no-take (no change from when the sanctuary was first established) and restricts fishing for bottom-dwelling species (e.g., trawling) in Zone B of the Aunu`u Unit. (Because the Rose Atoll Marine National Monument is within the Muliava Unit, fishing regulations are currently being developed by NMFS and the WPRFMC.)

Despite the pared down restrictions on fishing within the NMSAS in the final rule (relative to the proposed rule), members of the fishing community continue to express concerns regarding the impact sanctuary expansion will have on fishing practices as well as broader social and cultural issues such as traditional marine tenure and the ability of villages to manage their own resources. According to the management plan, the sanctuary program will engage local community leaders and residents through the “Cultural Heritage and Community Engagement Action Plan” and the “Ocean Literacy Action Plan,” and will strive to incorporate aspects of American Samoan culture into management. Further, in response to public comments regarding their concerns on this issue, NOAA stated:

The importance of *fa`a-Samoa* [the traditional Samoan lifestyle, or way of life] and Community Marine Tenure is a cornerstone of the management plan and is incorporated throughout the MP/EIS. The first activity listed in the management plan, *Activity CH&CE-1.1: Support development of an advisory council working group on Samoan cultural heritage within 2 years*, is intended to address this specific public desire. A standing working group focused on incorporating traditional management provides both a venue to incorporate traditional community management efforts of Manu`a (e.g., Taisamasama, Muliāva, and Ku ulaula ole Fe`e) and of the villages of Vaitogi, Futiga, and Ili`ili (e.g., Fogama`a and Fagalua), as well as that of the chief system and Community Marine Tenure. This working group is an ideal forum to consider traditional management within a modern society. (U.S. Department of Commerce, 2012: p. A-14)

These concerns, along with the sanctuary program’s efforts to incorporate *fa`a Samoa* into the management process, should continue to be monitored to assess any impacts the sanctuary expansion may have on traditional fishing and management practices.

## **Territorial Management and Regulations**

### **Department of Marine and Wildlife Resources Programs**

The American Samoa DMWR continues to be the primary territorial agency that manages fisheries in territorial waters (0 – 3 nautical miles offshore). As mentioned previously, DMWR collects fisheries data through creel surveys, and works with WPacFIN to compile and analyze the data. The Coral Reef Advisory Group (CRAG), made up of several territorial and federal agencies, continues to coordinate coral reef management activities in American Samoa. A recent coral reef management capacity assessment (Page et al., 2012) recognized the high level of commitment to protecting coral reefs among the government agencies and suggested CRAG's capacity and functionality be increased to facilitate adaptive management in the territory. Additionally, DMWR's MPA program continues to develop and manage MPAs through the No-take MPA Program and the Community-based Fisheries Management Program (CFMP) (see Levine and Allen (2009) for a complete description of the history and development of these programs.). At the time of writing, 12 villages are formally part of the CFMP program (Table 12). In addition, the first official no-take MPA (under the No-take MPA Program) has been established at Fagamalo.

### **Commercial Fisheries Biosampling Program**

In response to the need for more comprehensive fisheries data to assist in fisheries management, including the setting of ACLs, PIFSC has worked with DMWR to implement the Commercial Fisheries Biosampling Program (CFBS). The goals of the program are to identify important commercially harvestable species, and to acquire comprehensive life history and size- and age-specific population structure data to estimate levels of exploitation and sustainable yield (Ochavillo, 2012). The program was piloted in American Samoa in 2010, and is intended to complement the fisheries data collected through the creel survey program in order to produce more accurate estimates of catch by species. Most of the sampling occurs at the fish market in Pago Pago, and involves close coordination between DMWR staff and fishermen participating in boat-based spearfishing, trolling, handlining, and bottomfishing. Fishermen are motivated to participate in the CFBS because they are paid for each fish measured and sampled. DMWR staff have routinely sampled the catch of ten spear fishermen, four bottomfish boats, and two troll and handline fishermen, accumulating approximately 84,000 length-weight fish measurements since October 2010 (Ochavillo, 2012). The next steps involve working closely with creel survey and WPacFIN staff in order to determine how to best interpret the two data sets together and to develop an accurate overall picture of fisheries catch, composition, and trends over time.

Table 12. – Villages involved in CFMP in American Samoa (Richmond and Levine, 2012).

<b>Village</b>	<b>Year initiated</b>	<b>Management status</b>
Alofau	2001	Open 1 day/week (Saturday) to villagers only.
Amaua & Auto	2003	No-take for 3 years, open again for 1 month, closed again. Currently open to villagers only to fish.
Aoa	2005	No-take as of early 2008. Previously only open 1 day/week (Saturday).
Fagamalo	2003	No-take.
Masausi	2002	No-take until early 2008, now open to villagers only.
Matu`u & Faganeanea	2005	Closed for 3 years, now open periodically (at chief's discretion) to villagers only.
Amanave	2008	Closed to everyone. In the process of finishing management plan. Village wiped out by tsunami.
Maloata	2009	Currently closed – in the process of finishing management plan.
Poloa	2001	Only villagers allowed to fish.
Sa`ilele	2005	No-take.
Tau	2011	Officially a CFMP village in 2012. A portion of the reef has been designated as a no-take area for 3 years.
Vatia	2001	No-take. Reserve was opened 1.5 years ago for 3 months, then closed again. Now open to villagers only.



## Executive Order on Rare Marine Species

Another important regulatory change impacting American Samoan fishermen is the passing of an Executive Order (EO) in 2012 by the American Samoa governor banning the catch and possession of several rare marine species, including all species of sharks, Humphead wrasse, Bumphead parrotfish, and Giant grouper (Executive Order 002-2012). According to Section 4 of the EO:

- (a) No person shall:
  - (1) Possess, deliver, carry, transport or ship by any means whatsoever any rare marine species<sup>4</sup> or the body parts of any such species;
  - (2) Import, export, sell or offer for sale any such species or body parts of a rare marine species; or
  - (3) Take or kill any rare marine species in American Samoa.
- (b) If any rare marine species is caught or captured, it shall be immediately released, whether dead or alive. If the rare marine species is captured alive, it shall be released in a manner that affords it the greatest opportunity for survival.
- (c) It is not a defense that the rare marine species was caught or captured inadvertently, as bycatch, or from another fishery.
- (d) For purposes of this section, there shall be a rebuttable presumption that any rare marine species, or part of a rare marine species, found in possession was possessed or transferred in violation of this section.

Anyone violating this order is subject to fines and penalties prescribed under local statutes (A.S.C.A. 24.0901; A.S.C.A. 24.0312). Additionally, any species found in violation of this order is to be confiscated by the government and delivered to the DMWR for use other than sale.

During a visit to American Samoa in August 2012, shortly after the signing of the EO, several fishermen expressed concerns to HDRP staff regarding the impact the regulation might have on their fishing practices. They were particularly concerned that it would be difficult to avoid catching these species incidentally while fishing, and that it was wasteful to discard them if they were landed dead or injured. The EO also indicates that DMWR will review these regulations in three years to determine if the fisheries are sustainable, if the rare species need continued protection, and if any new species should be added to the ban. It will also be important at that time to determine the extent to which, and in what manner, these regulations are impacting fishing practices in American Samoa.

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<sup>4</sup> Defined by the EO as all species of sharks, humphead wrasse, bumphead parrotfish, and giant grouper.

## CONCLUSION

This report has provided a complementary update to *American Samoa as a Fishing Community* (Levine and Allen, 2009). Because we—as humans, our communities, and our environments—are constantly changing, it is important to monitor how and why changes occur, and to examine how changes in one part of the social or physical environment impact other areas. This is particularly important for fishing communities, and when people are substantially engaged in and dependent upon fish and fishing socially, culturally, and economically. Monitoring these changes and impacts can allow fisheries managers to anticipate changes and impacts that may occur in the future, and can allow them to make decisions that will enable people and communities to continue to depend on marine resources.

This report identified several topics that should be monitored in American Samoa over the next several years. They are described below.

### **Status of American Samoa's Economy**

As mentioned earlier, American Samoa's economy is currently in a highly transitional state and should be monitored closely. Because of the historically close connection between the tuna canneries, employment levels, population trends, and the economic welfare of the territory, it is important to monitor any changes and developments related to the tuna industry. Although both StarKist and STP have recently reaffirmed their commitments to continuing operations in American Samoa, whether or not this happens will depend largely on economic forces beyond their control, such as the resumption of minimum wage increases by Congress or continued global trade liberalization. Further, although the CEDS report suggests activities promoting stable economic growth in American Samoa should focus on the development of high productivity industries and jobs, it will likely be difficult for such diversification to occur, given the general lack of funding, capital, and higher education and training opportunities for the territory's work force. The outcome of the CEDS planning process should be monitored, as should the relationship between the activities recommended in the CEDS report, cannery operations, and the changing political climate. Further, it is important to continue to monitor how changes in economic conditions impact the participation of fishing community members in commercial, subsistence, and (other) non-commercial fishing activities.

### **Status of American Samoa's Fisheries and Local Participation**

Commercial and non-commercial fisheries will continue to be monitored through the DMWR creel survey and biosampling programs. In light of the recent Congressional mandate for WPRFMC to manage fisheries using ACLs, it is essential that data collection efforts be improved in order to enable better understanding of harvest levels across all the territory's fisheries. It is also important that we increase our understanding of what affects whether American Samoans participate in the different fisheries. As the territory's economy continues to fluctuate, it will be important to monitor how participation in both commercial and subsistence fishing activities change in regards to economic conditions. The impacts of other events and regulations on participation should also be monitored, such as the recent sale of alia boats to fishermen in Independent State of Samoa due to increased Coast Guard fishing vessel safety requirements.

## **Perceptions of American Samoa Residents Toward Marine Protected Areas**

With many recent and continued management efforts in American Samoa focusing on various types of MPAs, it is important to continue to monitor residents' perceptions toward the different sites, programs, and management processes. While some of the programs seem to have achieved a certain level of success, such as the CFMP program, others are much more controversial, such as the expansion of Fagatele Bay National Marine Sanctuary and creation of NMSAS. It will be important to monitor how opinions, perceptions, and compliance levels with MPA regulations vary in terms of the manner in which the MPAs were designated, and how they change over time as management plans are implemented and refined. These factors can directly affect the effectiveness of MPAs and the extent to which goals are attained. Additionally, as some of the newly designated MPAs have brought to light issues surrounding traditional property rights and marine tenure, it will be important to monitor changes in relationships among village leaders, territorial managers and government agencies (especially in light of the recent change in political leaders), and federal managers and agencies.

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