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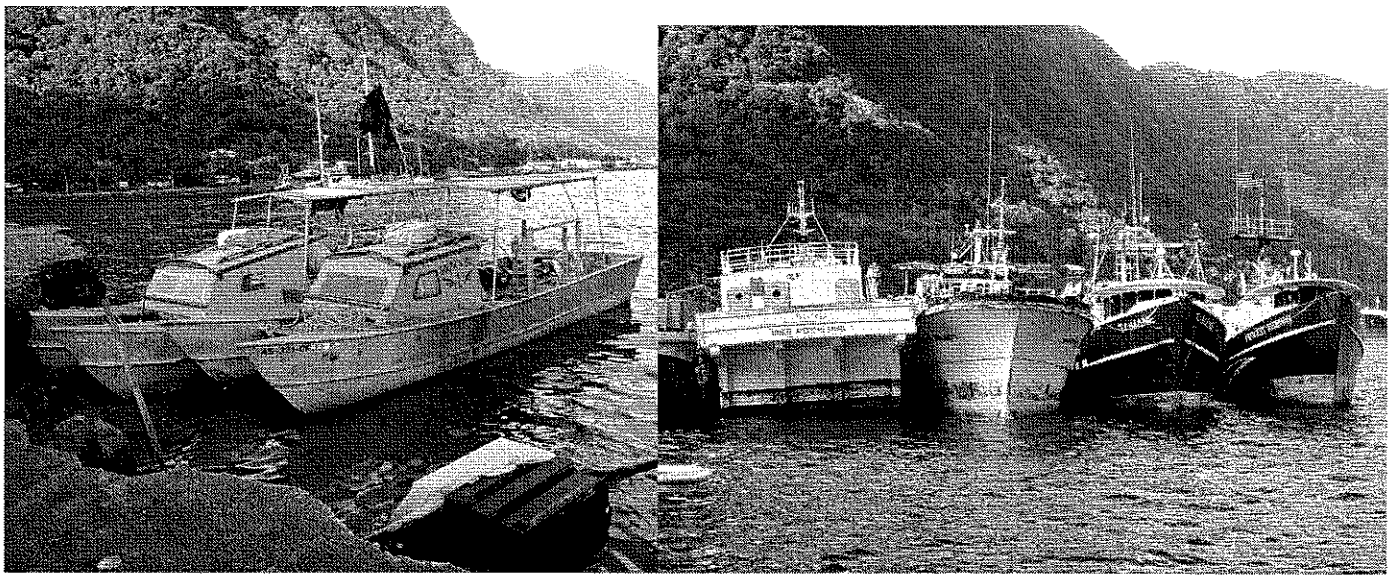
Potential Modifications to the American Samoa Pelagic Longline Limited Entry Permit Program

Fishery Ecosystem Plan for Pelagic Fisheries of the Western Pacific Region

Including an Environmental Assessment



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Draft: February 8, 2011

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1.0 Abstract

The American Samoa longline fishery, which primarily targets albacore tuna, is managed under the Western Pacific Regional Fishery Management Council's (Council) Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region. In 2002, the Council recommended a vessel size-based limited entry system for the American Samoa longline fishery with criteria for participation in the fishery. The management objectives of the limited entry program are to: 1) prevent local depletion, 2) maintain sustained community participation in the fishery, 3) ensure opportunities for participation by indigenous American Samoans, 4) reduce gear conflicts, and 5) minimize fish bycatch. In 2003, small vessel participation in the fishery began to steadily contract due to what is believed to be from the combination of high economic costs such as fuel, bait, safety equipment and reduced albacore catch rates. In 2005, NMFS implemented the program and issued a total of 60 permits to qualified candidates amongst four vessel size classes. The American Samoa longline fishery has undergone substantial shift in participation in terms of vessel sizes, from a fishery once dominated by small vessels (37 active in 2002) generally less than 40 feet in length, to a large vessel fishery with all but one vessel over 50 feet (25 active in 2009). The lack of participation in the small vessel fleet is concerning to the Council, as this fleet when active is believed to provide important socio-cultural and economic benefits to the American Samoa fishing community. This document considers potential modifications to the limited entry program to reduce programmatic barriers that may be limiting small vessel participation, which in turn, may be affecting sustained community and indigenous American Samoan participation in the longline fishery.

1.1 Document Overview and Preparers

This is a combined Fishery Ecosystem Plan (FEP) Amendment/Regulatory Amendment and Environmental Assessment. The contents of this document comply with Magnuson-Stevens Act requirements for fishery management plan amendments, and with National Environmental Policy Act (NEPA) requirements. The document informs interested and affected parties about the Council's recommended fishery management measures, and serves as the basis for a determination by NMFS on whether or not to prepare an environmental impact statement. The document also informs NMFS in its development of regulations that would implement the proposed action, if approved by the Secretary of Commerce.

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2.3 List of Acronyms/Abbreviations

ASG	American Samoa Government
CMM	Conservation and Management Measure
CPUE	Catch per Unit of Effort
Council	Western Pacific Regional Fishery Management Council
DMWR	American Samoa's Department of Marine and Wildlife Resources
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EPO	Eastern Pacific Ocean
ESA	Endangered Species Act
F	Fishing Mortality
FAD	Fish Aggregating Device
FEP	Fishery Ecosystem Plan
FMP	Fishery Management Plan
FR	Federal Register

HAPC	Habitat Areas of Particular Concern
HBF	hooks between floats
IATTC	Inter-American Tropical Tuna Commission
ITS	Incidental Take Statement
km	kilometer
lb	pound(s)
MMPA	Marine Mammal Protection Act
MSY	Maximum Sustainable Yield
mt	metric tons(s)
MUS	Management Unit Species
nm	nautical mile(s)
NMFS	National Marine Fisheries Service
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
PIFSC	Pacific Islands Fisheries Science Center
PIRO	Pacific Islands Regional Office
PMUS	Pelagic Management Unit Species
RFMO	Regional Fishery Management Organization
SEC	South Equatorial Current
SECC	South Equatorial Counter Current
SSC	Scientific and Statistical Committee
SPC	Secretariat of the Pacific Community
TDR	temperature-depth recorder or time-depth recorder
USCG	U.S. Coast Guard
USFWS	U.S. Fish and Wildlife Service
VMS	vessel monitoring system
WCPFC	Western and Central Pacific Fisheries Commission
WCPO	Western and Central Pacific Ocean
WPFMC	Western Pacific Fishery Management Council

3.0 Introduction

3.1 Background Information

The American Samoa longline fishery is managed under the Western Pacific Regional Fishery Management Council's (Council) Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region. Prior to 1995, the pelagic fishery in American Samoa was primarily a small-vessel troll fishery, but in that year began to change when horizontal longline fishing was introduced by Western Samoan fishermen using *alia* vessels. *Alia* are Samoan-built, twin hulled aluminum vessels typically 24-38 ft in length with fiberglass or wood superstructures, powered by small (e.g. 40 hp) gasoline outboard engines (Kaneko and Bartram 2004). Longline fishing using *alia* vessels is generally a small scale operation, typically setting approximately 350 hooks per set and hauling the gear with hand-operated reels. The primary target species of longline vessels in American Samoa is albacore tuna, which sold frozen to the canneries in Pago Pago. By 1997, 33 *alia* vessels received general longline permits from NMFS to fish in U.S. exclusive economic zone (EEZ) waters around American Samoa (see Figure 1), although 21 were reported to have been actively fishing on a monthly basis at that time.

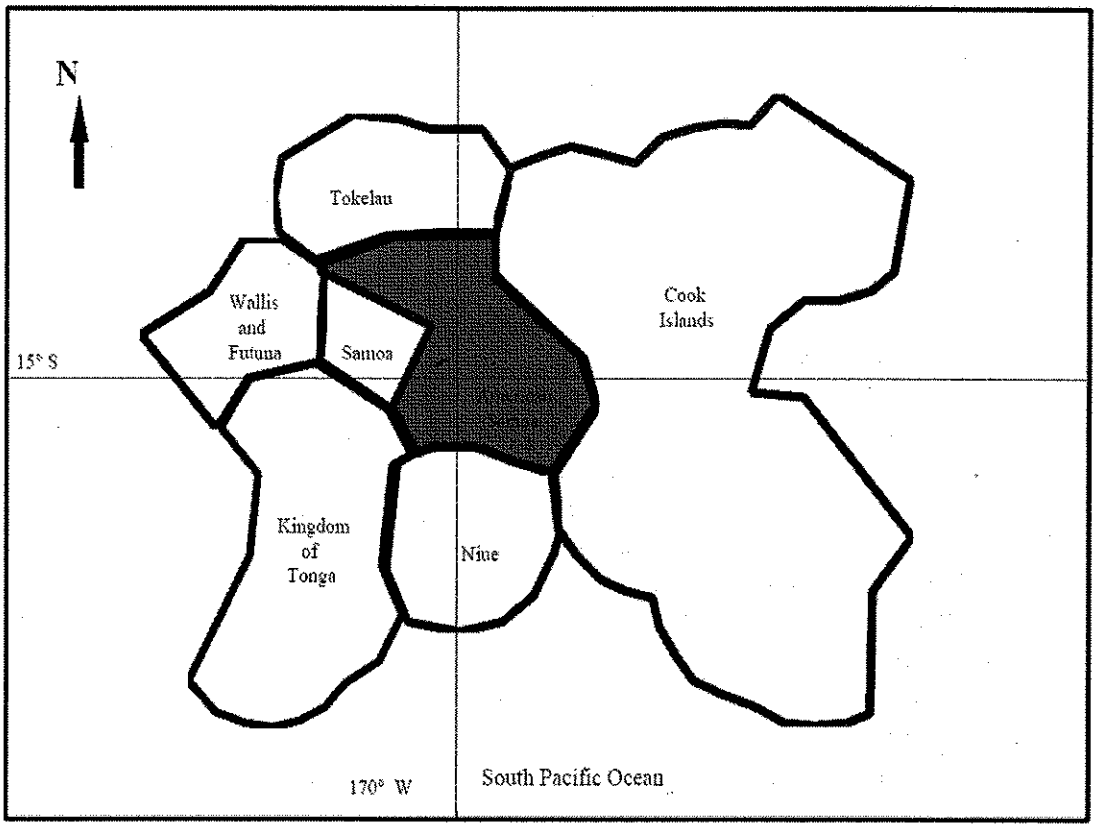

Figure 1: Exclusive Economic Zone around American Samoa

The possibility of gear conflict between alia vessels and larger vessels became a concern for American Samoan *alia* fishermen. Because *alia* vessels typically fish within 50 miles from shore, as a precaution to reduce potential gear conflicts, the Council, in 1998, recommend an FMP amendment to prohibit fishing in EEZ waters within 50 nm from shore around Tutuila, the Manua Islands, and Rose Atoll by large vessels (greater than 50 ft in length) targeting pelagic species. NMFS implemented the large vessel closed area in March 2002 (67 FR 4369; See Figure 2).

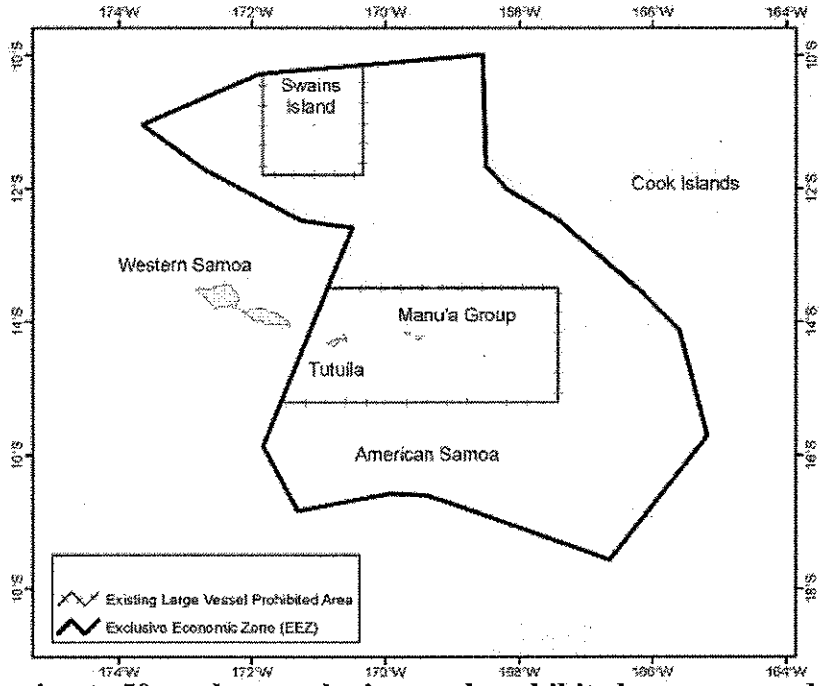

Figure 2: Approximate 50 nm large pelagic vessel prohibited areas around American Samoa, and U.S. EEZ Waters.

Between 2000 and 2002, there was a rapid increase in number of large longline vessels participating in the fishery – from three large vessels in 2000 to 30 large vessels in 2002. Faced with growing concern that an uncontrolled influx of large vessels could result in adverse impacts to local stocks and the small vessel fleet, the Council recommended Amendment 11 to the Pelagics Fishery Management Plan (Amendment 11) that would institute a limited entry system for the American Samoa longline fishery, structured within four vessel size classes:

- Class A Permits— less than or equal to 40 ft.
- Class B Permits— over 40 ft. to 50 ft.
- Class C Permits— over 50 ft. to 70 ft.
- Class D Permits— over 70 ft.

The management objectives of the limited entry program are to: 1) prevent local depletion, 2) maintain sustained community participation in the fishery, 3) ensure opportunities for participation by indigenous American Samoans, 4) reduce gear conflicts, and 5) minimize fish bycatch. In May 2005, NMFS published the final rule in Federal Register to implement the program through regulations found at 50 CFR § 665.816. To initially qualify for a limited entry

permit, an individual was required to submit an application and provide documentation to NMFS that he or she owned a vessel that was used to legally harvest and land Pelagic Management Unit Species (PMUS) with longline gear in the U.S. exclusive economic zone around American Samoa prior to March 22, 2002. In addition, any individual who had provided written notice to NMFS or the Council of the intent to participate in the fishery prior to March 22, 2002, and landed longline caught fish by June 28, 2002, was also considered for qualification for an initial limited entry permit. Applicants were also required to be U.S. citizens or nationals to qualify for an initial permit. When developing the program in 2002, the Council determined that 138 permits could be issued to persons that met the criteria above. The initial permit application period opened August 2005 and ended November 2005. Sixty permits were initially approved and issued by NMFS in 2005 (see Table 1). Permit holders were required to register a vessel for use with the permit within 120 days.

Table 1: Maximum Number of Qualifying Vessels and Number of Initial Permits Issued by Vessel Class in 2005

Vessel Class	Maximum Number of Qualifying Vessels	Initial Permits Issued	Existing Number of Permits
A (40' or less)	93	22	16
B (40.1' – 50')	9	4	5
C (50.1' – 70')	15	13	13
D (> 70')	21	21	26
Total	138	60	60

Source: Amendment 11 to the PFMP; NMFS PIRO

The American Samoa longline limited entry program also caps the maximum number of permits for each class at the total number of initial permits issued by NMFS, with one exception. The program also allows for a total of 26 permit upgrades to be made available by permit holders in Class A, with potential upgrades distributed over a four-year period (see Table 2).

Table 2: American Samoa Longline Permit Upgrade Schedule and Permit Upgrades Issued

Vessel Size Class	**2006**		**2007**		**2008**		**2009**	
	Avail.	Issued	Avail.	Issued	Avail.	Issued	Avail.	Issued
B-1 (40.1 ft. to 50 ft.)	4	1	4	0	4	0	2	0
C-1 (50.1 ft. to 70 ft.)	2	0	2	0	2	0	0	0
D-1 (70.1 ft. or larger)	2	1	3	3	2	1	0	0

Note: Of the 26 upgrade permits available for the four year period, only 8 were issued, with 5 out of 8 issued D-1 permits.

To renew an American Samoa longline limited entry permit, permit holders are required to land, over three consecutive calendar years (beginning with the year after the permit was issued in the name of the current permit holder), a total of at least 1,000 lbs of PMUS caught with longline

gear in the EEZ around American Samoa for a Class A or Class B permit and 5,000 lbs of PMUS for Class C or Class D permit. In the event that a permit holder does not make the minimum landings, the permits are relinquished back to NMFS who may then announce the availability of permits and issue permits to qualified applicants with priority given to individual with the earliest participation in the fishery onboard a Class A vessel. The next priority for available permits is given to an individual with earliest participation in the fishery onboard a Class B, Class C and Class D vessel in that order.

The regulations also allow a holder of an American Samoa Class A longline permit to transfer the permit (by sale, gift, bequest, intestate succession, barter or trade) to:

a. A family member of the permit holder;

b. A Western Pacific community located in American Samoa that meets the criteria set forth under the Section 305(2) of the Magnuson-Stevens Act (Community Development Program); or

c. Any person with documented participation in the pelagic longline fishery on a Class A size vessel in the EEZ around American Samoa before March 22, 2002.

Holders of Class B, C and D permits are allowed to transfer their permit (by sale, gift, bequest, intestate succession, barter or trade) to:

a. Any person with documented participation in the pelagic longline fishery in the EEZ around American Samoa; or

b. A Western Pacific community located in American Samoa that meets the criteria set forth under the Section 305(2) of the Magnuson-Stevens Act (Community Development Program).

The initial permit issuance required the permit holder to be a U.S. citizen or national; however initial permits could be transferred later to foreign nationals. Of the 138 individuals who owned a longline vessel at any time prior to March 21, 2002, 93 individuals owned Class A size vessels, 9 owned Class B size vessels, 15 owned Class C size vessels, and 21 owned Class D size vessels (WPRFMC 2003; Table 3). As mentioned earlier, only sixty initial permits were approved and issued by NMFS with less than 30 percent of potential Class A size vessels applying for and receiving permits in comparison to 56 percent of Class B, 75 percent of Class C, and 100 percent of Class D size vessels. There was a relatively low number of Class A applicants for initial permits, in comparison to the potential applicant pool expected at the time Amendment 11 was approved by the Council. According to Ikehara (2006) a number of reasons may explain the lack of applications for the Class A permits, including:

- Albacore catch rates decreased, making it more difficult to obtain a full load and vessels had to travel farther to find albacore, putting smaller vessels at a disadvantage
- Fuel and other costs increased
- Canneries would only accept frozen fish; hence fishermen had to freeze fish at home

before delivering to the cannery, incurring delays in delivery, increased costs, and delayed revenue

- Increasing costs and declining revenues of longline fishery caused many to switch to bottomfishing or leave fishing for other employment

The highest number of active small vessels in the fishery was in 2000 and 2001 with 37 vessels, although there were 45 and 61 general permits issued during those years, respectively. By 2003, the small vessel sector was already showing signs of retraction, going from 32 active vessels in 2002 to 17 active vessels in 2003. Participation in the fishery by large vessels has remained stable since 2001 (see Table 3).

Table 3: Number of American Samoa Longline Permits and Active Vessels, 1994-2009

	Class A < 40 Feet		Class B 40.1 - 50 Feet		Class C 50.1 - 70 Feet		Class D > 70 Feet	
Year	Permits	Active	Permits	Active	Permits	Active	Permits	Active
1994	0	0	0	0	0	0	0	0
1995	14	4	0	0	0	0	0	0
1996	26	11	1	0	1	0	0	0
1997	35	19	1	0	1	1	2	2
1998	37	21	1	0	1	1	1	1
1999	45	35	2	1	2	2	1	1
2000	45	37	2	2	5	3	2	2
2001	61	37	6	6	11	9	23	18
2002	55	32	6	6	14	6	25	18
2003	31	17	5	4	15	9	23	22
2004	11	9	2	2	13	8	22	21
2005	8	5	3	2	11	9	20	18
2006	21	3	5	0	12	6	24	19
2007	18	2	6	0	11	5	26	22
2008	17	1	6	0	11	5	26	22
2009	12	1	0	0	12	5	26	20

Initial Permit Issuance (2005)

During the initial permit application issuance process (August-November 2005), NMFS denied a total of nine permit applicants – three in Class A, one in Class C, and five in Class D (Ikehara 2006). NMFS reported that eight of the nine denied applicants failed to qualify because they could not document that they owned a vessel that fished with longline gear in the EEZ around American Samoa or landed longline caught fish in American Samoa before March 22, 2002, or landed before June 28, 2002 with notification to NMFS or the Council before March 22, 2002. The other applicant failed to qualify as the application was submitted to NMFS after the application submittal deadline, although NMFS noted that the applicant did provide documentation fulfilling the established criteria. Also, one permit was revoked because it was issued in error to a vessel owner whose vessel, as it was subsequently learned, did not fish with longline gear or land longline caught fish in American Samoa by the control date. As mentioned earlier, sixty permits were issued out of an identified potential 138.

When initial permits came close to expiring, NMFS PIRO mailed letters to all permit holders reminding them of the expiration date of their permit and that there are minimum landings requirements to be met for renewal. After the three year period that initial permits were valid for, twenty two permits became available due to non-renewal or revocation for not meeting minimum landing requirements. NMFS solicited applications for permits in 2009, and received 26 applications for 22 available permits (Table 4).

Table 4: 2009 Permit Availability, Applications, and Issuance

Vessel Size Class	Permits Available	Applications Received	Permits Issued
Class A	13	16	11
Class B	4	0	0
Class C	4	5	4
Class D	1	5	1

Source: NMFS PIRO unpublished data

Most recently, on July 15, 2010 (75 FR 41142) NMFS advertised the availability 10 permits of various class sizes (4 in Class A, 5 in Class B, and one in Class D). Completed applications were accepted until November 12, 2010. NMFS received zero applications for Class A permits, two applications for Class B, and 13 applications for the one Class D permit available (Table 5). In January 2011, NMFS published an FR notice soliciting applications for the 4 available Class A and the 3 available Class B permits.

Table 5: 2010 Permit Availability, Applications, and Issuance

Vessel Size Class	Permits Available	Applications Received	Permits Issued	Permits currently available
Class A	4	0	0	4
Class B	5	0	0	3
Class C	0	--	--	0
Class D	1	13	1	0

Source: NMFS PIRO unpublished data

Under the regulations, permit applicants, regardless nationality, with the earliest documented participation in the fishery on a Class A sized vessel will receive the highest priority for obtaining permits in any size class, followed by persons with the earliest documented participation in Classes B, C, and D, in that order. In the event of a tie in priority, the person with the second earliest documented participation will be ranked as higher priority. Also under the existing regulations, if an applicant has no history in the American Samoa longline fishery, then he or she cannot qualify for a limited entry permit.

4.0 Purpose and Need

In regards to the limited entry program and its management objectives, the following points have been identified: 1) *Local depletion*: albacore catch rates have been going down similarly across

the South Pacific region, but the stock is still considered healthy, and not experiencing overfishing or is considered overfished. Local depletion of albacore may be occurring in the American Samoan EEZ; however, local albacore stocks may be offset by inter-annual recruitment as well as intra-annual seasonal patterns. Furthermore, on going fishing operations by large vessels indicate that current catch rates are providing viable levels of economic return for that sector of the fleet; 2) *Sustained community participation in the fishery*: opportunities for the community participation still exist in the fishery; however, the current limited entry system requires past fishing history to acquire a permit which could be acting as a barrier to new community interest and participation in the fishery; 3) *Opportunities for participation by indigenous American Samoans*: opportunities still exist within the fishery; however, participation by indigenous American Samoans in the fishery is most likely to occur via an active small vessel fleet, which has significantly contracted since 2002 and after the implementation of the program in 2005; 4) *Gear conflicts*[1]: nearshore (0-50 nm) gear conflicts between participants in the small vessel fleet is not an issue because the lack of an active small vessel fleet in recent years; however, the large vessel fleet fishing outside of the large vessel prohibited area is experiencing hook density levels at or a little above 55 hooks/km^2, which is a level identified in Amendment 11 that could result in potential gear conflicts. Hook density levels of 70 hook/km^2 prompted neighboring Samoa to implement controls to reduce gear conflict and to maintain economically viable tuna catch rates in its domestic longline fishery (WPFMC 2003); 6) *Minimizing fish bycatch:* markets other than the local cannery(s) have yet to develop in American Samoa, which suggests bycatch of valuable species such as bigeye and yellowfin tuna, mahi mahi, ono/wahoo, opah, monchong, and others could be reduced from current levels. However, Tri Marine[2] has announced intentions to do canning operations as well as buy fresh and frozen fish for sashimi and other markets (Samoa News, Nov. 22, 2010), which could reduce bycatch in the fishery.

Of the issues identified above, programmatic barriers may exist that could be hindering active participation in the small vessel longline fleet (Class A and Class B vessels). An active small vessel longline fleet is believed to provide socio-cultural and economic benefits to the communities of American Samoa. Furthermore, an active small vessel fleet is an important pathway to sustain community participation in the fishery as well as participation in the fishery by indigenous American Samoans.

Since implementation of the limited entry program in 2005, participation in the small vessel fleet has contracted, while participation in the large vessel fleet has remained stable. However, participation in the small vessel fleet was showing signs of attrition as early as 2003 when active Class A vessels dropped from 32 in 2002 to 17 in 2003 (see Table 3). In 2004, active Class A vessels were reduced to 9, and by 2008, only one Class A vessel was active in the fishery. Similarly, Class B vessels went from a high of six vessels in 2001-2002, to zero active vessels from 2006 to the present. Economic costs associated with fuel, bait, and safety equipment coupled with reduced albacore catch rates are attributed to the decline in the small vessel fleet.

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[1] Gear conflict involves the physical entanglement of gear deployed by two or more vessels as well as potential for local depletion. Impacts of gear conflict include costs to untangle gear, increased search time for fish, longer trips, and potentially lower catch rates as well as social costs from confrontations and loss of cohesion amongst fishery participants (WPFMC 2003 Amendment 11).

[2] In October 2010, Tri Marine, Chicken of the Sea, and the American Samoa Government agreed on Tri Marine acquiring the lease and equipment in the vacated Chicken of the Sea cannery in Pago Pago.

Although these factors remain, there may be interest from new participants to enter the small vessel fishery, especially if new markets for pelagic species other than frozen albacore tuna are established in American Samoa. The existing limited entry program may be acting as a barrier to new participation, because to qualify for an available permit, the applicant must demonstrate to NMFS that he or she has documented history in the American Samoa longline fishery. This draft document examines alternatives to the existing eligibility requirements for available permits within the limited entry program.

Another potential barrier to sustaining participation in the small vessel fleet may the existing minimal landing requirements. This document also provides alternatives that would modify minimum landing requirements.

The complexity of the limited entry program has also been identified to deter potential permit applications and permit renewal. An overly complex system could affect sustained community participation in the fishery as well participation by indigenous American Samoans. To address the issue of complexity, this document examines alternatives that would modify the existing vessel classes.

5.0 Initial Actions

At the 133rd Council meeting in June 2006, NMFS Pacific Islands Regional Office provided the Council with an update on the American Samoa longline limited access program and identified several issues with implementation of the program including the issuance of permits to partial owners, verification of qualifying longline fishing activity, and relative lack of Class A vessel applicants, among other issues.

At its 135th meeting held in October 2006, the Council directed staff to draft options to amend the American Samoa longline limited entry program in response to permit issuance grievances raised by several American Samoa longline fishermen who were denied initial permits. The grievances were related to documentation prior to control date and timely submission of required application materials.

Based on these recommendations, the Council and NMFS jointly convened a workshop for longline fishery participants and the public in American Samoa on April 3, 2007. The workshop included a review of the limited entry program and the following issues:

1. Lack of Class A permit applicants
2. Revocation/re-issuance of unregistered permits
3. Vessel agent as a documented participant for permit transfers
4. Verification of qualifying longline fishing activity
5. Discretion for RA to issue permits, criteria to guide decision-making
6. Re-opening of applications for initial permits:
   a. Class A only or all classes
   b. Extend upgrade program past 2009
   c. Maintain or modify initial permit qualifications
7. Rescind use or lose it provisions for renewal of Class A only or all classes
8. Modify/abolish Class A transfer restrictions

9. Additional issues identified by Council or public
10. 2007 permit upgrade program

The topics were also discussed at the American Samoa Fishery Ecosystem Plan Advisory Panel meeting held in American Samoa on April 5, 2007. The findings of the workshop were then presented to the Council at its 138th meeting in Honolulu, Hawaii in June 2007. At that time, the Council took no management actions on these issues.

At the 139th meeting held in Honolulu in October 2007, the Council reviewed a draft document that included a description of the issues raised by American Samoa longline fishery participants and potential management options. The issues included:

1. Maintenance or modification of the current 50 nautical mile area closure for pelagic fishing vessels greater than 50 ft around the islands of the American Samoa archipelago. This would include options for modifying area closure with periodic review of developments in the fishery, in particular the revival of the small scale longline fleet;
2. Review options to develop a near-shore longline area closure around Tutuila Island to protect the FADs from longline gear conflict. An eight mile closure was suggested as a possible compromise for alia fishermen to maintain their operations while providing a buffer zone for small scale commercial troll and recreational fishermen. It was also noted that an option to develop a near-shore closure program only to be implemented in the result of a revival of the alia longline fishery;
3. The reopening of the application process for American Samoa longline limited entry permits;
4. Whether the Council should review individual permit applications that had been denied;
5. Whether the RA should have greater discretion in reviewing and approving permit applications that may have initially been denied, based on guidance from the Council;
6. Explore options on how the alia longline fishery can be revived, and whether alia fishermen should be encouraged to switch to more appropriate small scale longline fishing vessels;
7. Consider eliminating the use or lose provision for permits in the American Samoa longline limited entry program; and
8. Consider modifying the American Samoa longline limited entry permit regulations so that the only foreigners that can hold limited entry permits are (Western) Samoans.

After reviewing the issues and options, the Council directed staff to draft an amendment that would consider reopening the permit application process, the elimination of the minimum landing requirements for all vessel size classes, and modification of the existing large (>50ft) pelagic vessel 50 nm closed areas. Prior to the October 2007, 139th meeting, the Council received five public comments from longline fishery participants. All five were in support of reducing the 50 nm large vessel closed area; three supported retaining the minimum landing requirements and two supported removing it; and four were opposed to the Council re-opening the permit process.

At the Council's 141st meeting in Honolulu, Hawaii on April 14, 2008, the Council recommended that the American Samoa longline permit process be reopened for one year for all vessel size classes under the existing American Samoa longline limited entry program. The

Council did not recommend modifying the large vessel prohibited area or to eliminate the minimum landing requirements. The Council did not formally transmit this recommendation because NMFS, under the authority of the existing limited entry regulations, was preparing to open the application period for permits that either expired or were not renewed after the initial three year permit period (2006-2008). In January 2009, NMFS announced that 22 permits were available (13 in Class A, 4 in Class B, 4 in Class C, and 1 in Class D) and opened the 120 day permit application period (see Table 4).

At the 147th meeting, March 21-26, 2010, held in Guam and Saipan, the Council reviewed an options paper and recommended Council staff prepare a draft amendment analyzing alternatives to simplify the vessel class system as well as options regarding permit eligibility criteria.

The American Samoa Advisory Panel held a meeting on April 19, 2010, in American Samoa. At this meeting, they discussed the longline limited entry program including that the American Samoa community should be able to participate, not just indigenous American Samoans; that some longline permits be provided to the community before outside interests (perhaps through the community development program), and overall it was stressed to ensure young people with no fishing history be able to enter the fishery.

The American Samoa Plan Team met on April 20, 2010, in American Samoa, and reviewed the longline limited entry program and potential modifications. The Plan Team recommended that the Council should re-visit the efficacy and purpose of the existing large vessel closed area, and that Council staff should look into adding spatial alternatives to the limited entry program amendment.[3]

The Council held a two-day Western Pacific Longline Fisheries Regional Meeting on April 27-28, 2010, in Honolulu, and a review of the limited entry program and potential modifications to the program was discussed. Meeting participants generally supported the combining of Class A and Class B into one small vessel class, but expressed concern at combining Classes C and D as it could lead to increased large vessel capacity in the fishery, and preferred that the two large vessel classes to remain separate.

At its 148th meeting, held June 29 – July 1, 2010, in Honolulu, Hawaii, the Council reviewed the draft amendment document, any public comment, and recommendations from Pelagic FEP advisory groups and public meetings. The Council selected the following preliminarily preferred alternatives: 1) Modify program to establish two vessel classes by combining Class A and B and combining Class C and D, 2) Remove past history in the fishery as an eligibility criteria, but require U.S. citizenship or national status for new available permits, 3) reduce Class A and B minimum landing requirements from 1,000 mt to 500 mt over a three period.

At the 148th meeting, the Council also recommended that NMFS temporarily lift the minimum landing requirements for the American Samoa limited entry longline fishery so as to make it easier for local fishermen to recover from the impacts of the 2009 tsunami and remain in the fishery. NMFS PIRO responded in a letter to the Council that the Regional Administrator does

[3] Potential modifications to the large vessel prohibited area is being considered in a separate document for the 150th Council meeting.

not have the discretion under the limited entry program regulations to temporarily lift minimum landing requirements.

6.0 Description of Alternatives

To meet the purpose and need to reduce programmatic barriers that could be affecting the small vessel fleet and thus community participation and opportunities for indigenous American Samoans, alternatives under three Topic Areas are provided below. All other existing management measures in the fishery would remain unchanged. Under all alternatives, existing provisions regarding application procedures and timelines, priority issuance based historical participation, appeals of application denials, 120 day vessel registration period, among other things, set forth in the regulations at 50 CFR§ 665.816 would be maintained. The maximum number of total permits would continue to be capped at 60.

6.1 Topic 1: Vessel Size Classes

6.1.1 Alternative 1A: No-action

Under Alternative 1A, vessel class sizes would be maintained in the American Samoa limited entry program.

6.1.2 Alternative 1B: Remove Vessel Size Classes

Under Alternative 1B, vessel size classes would be eliminated (i.e. remove Class A, B, C and D class sizes) and all those with permits currently would keep their permits without the vessel classification; i.e. their Class A, B, C, or D permits would simply become an American Samoa longline fishery limited entry permit.

6.1.3 Alternative 1C: Modify to Establish Two Vessel Classes (Preliminarily Preferred)

Under Alternative 1C, the four vessel size classes would be replaced with two vessel class sizes (small and large) whereby Class A and B vessels (less than 50 ft) would be considered "small" and Class C and D vessels (equal to or greater than 50 ft) would be considered "large". All those currently possessing permits would have their permits modified into one of the two class sizes.

6.1.4 Alternative 1D: Modify to Establish Three Vessel Classes

Under Alternative 1E, the two vessel size classes for small vessels, Class A and B (less than 50 ft), would be combined and the two vessel size classes for large vessels, Class C and D would be maintained.

6.2 Topic 2: Eligibility Criteria

Initial permit issuance conducted in 2005 included a set of eligibility criteria which a permit applicant must meet to qualify. The criteria was mainly based around an applicant showing they are a vessel owner that landed in PMUS in American Samoa waters prior to March 22, 2002 (or they notified NMFS by then of their intention to do so and landed fish by June 28, 2002). The initial permit issuance also required that permit holders be U.S. citizens or nationals (§665.816(e)). The American Samoa longline limited entry program is the only one of the western Pacific federal fishing permits that required initial permit holders to be U.S. citizens or nationals.

After the initial permit issuance period in 2005, the regulations state that American Samoa longline limited entry permits that are not renewed become available to applicants that show documented history in the longline fishery. Also under the regulations, a priority ranking system exists where the applicant for an available permit that has the earliest documented participation in the longline fishery in the EEZ around American Samoa on a Class A vessel has first priority for an available permit. The next priority accrues to the person with the earliest documented participation in the longline fishery on a Class B, Class C, or Class D size vessel, in that order. In the event of a tie between two or more applicants, permits are awarded based on an impartial lottery.

While eligibility for an available permit requires documented participation in the longline fishery, it does not require that permit holders by U.S. citizens or nationals. Similarly there is no requirement for U.S. citizenship or national status for permit transfers, whereby for Class B, C, or D permit can only be transferred to persons with documented history in the longline fishery or a western Pacific community located in American Samoa that meets the criteria in §305(I)(2) of the MSA. Class A permits can only be transferred (by sale, gift, bequest, intestate succession, barter, or trade) to: (i) A family member of the permit holder, (ii) A western Pacific community located in American Samoa that meets the criteria set forth in §305(I)(2) of the MSA, or (iii) Any person with documented participation in the pelagic longline fishery on a Class A size vessel in the EEZ around American Samoa prior to March 22, 2002.

6.2.1 Alternative 2A: No-action

Under Alternative 2A, and because the initial permit issuance period is over, eligibility for an available permit would be maintained as described above, whereby only documented participation in the longline fishery is required, with no requirement to be a U.S. citizen or national. Under existing U.S. Coast Guard regulations, a fishing vessel fishing in the EEZ around American Samoa must be a USCG documented vessel with a fisheries endorsement. Eligibility for a USCG fisheries endorsement requires that at least 75 percent of the vessel's ownership be held by a U.S. citizen.

6.2.2 Alternative 2B: Remove Eligibility Criteria Related to Documented History in the Fishery, but Include U.S. Citizenship/National Requirements (Preliminarily Preferred)

Under Alternative 2B, permit eligibility would be limited to U.S. nationals and U.S. citizens, with no other qualifying criteria (i.e. documented history in the fishery would no longer be required). The priority ranking system to award permits would be maintained. If there is a tie amongst two or more applicants, permits will be awarded based on an impartial lottery system.

> Sub-alternative 2B(i)- maintain existing criteria related to permit transfers whereby Class B, C, or D permits can only be transferred to persons with documented history in the longline fishery or a western Pacific community located in American Samoa that meets the criteria in §305(I)(2) of the MSA. Class A permits can only be transferred (by sale, gift, bequest, intestate succession, barter, or trade) to: (i) A family member of the permit holder, (ii) A western Pacific community located in American Samoa that meets the criteria set forth in §305(I)(2) of the MSA, or (iii) Any person with documented participation in the pelagic longline fishery on a Class A size vessel in the EEZ around American Samoa prior to March 22, 2002.

Sub-alternative 2B(ii)- modify permit transfer criteria so that Class A, B, C, and D permits can only be transferred to U.S. citizens or nationals and no requirement for documented history in fishery, or a western Pacific community located in American Samoa, and that Class A permits can also be transferred to family member, regardless of citizenship.

6.2.3 Alternative 2C: Remove Eligibility Criteria Related to Documented History in the Fishery

Under Alternative 2C, permit eligibility would be open to anyone (including foreign nationals) with no qualifying criteria related to documented history in the fishery. The priority ranking system to award permits would be maintained. If there is a tie amongst two or more applicants, permits will be awarded based on an impartial lottery system.

Sub-alternative 2C(i)- maintain existing criteria related to permit transfers (see above)
Sub-alternative 2C(ii)- modify permit transfer criteria so that permits can transferred to anyone and without any requirements for documented history in fishery, as well as transferred to a western Pacific community located in American Samoa.

6.2.4 Alternative 2D: Remove Eligibility Criteria Related to Documented History in the Fishery, Include U.S. Citizenship/National Requirements for Class A and Class B Permits Only

Under Alternative 2D, permit eligibility would be open to U.S. citizens or nationals but with no qualifying criteria related to documented history in the fishery for Class A and Class B permits only. For Class C and Class D permits, the existing criteria to have documented history in the fishery to be eligible for an available permit would be maintained. The priority ranking system to award permits would also be maintained for available permits in all vessel classes. If there is a tie amongst two or more applicants, permits will be awarded based on an impartial lottery system.

Sub-alternative 2D(i)- maintain existing criteria related to permit transfers (see above)
Sub-alternative 2D(ii)- modify permit transfer criteria so that Class A and Class B permits can only be transferred to U.S. citizens or nationals and no requirement for documented history in fishery, or a western Pacific community located in American Samoa, and that Class A permits can also be transferred to a family member, regardless of citizenship.

6.3 Topic 3: Minimum Landing Requirements

6.3.1 Alternative 3A: No-action

Under Alternative 3A, the requirements for Class A and Class B vessels to land 1,000 lbs and Class C and Class D vessels to land 5,000 lbs of PMUS over three consecutive years in order to renew their permit would be maintained.

6.3.2 Alternative 3B: Reduce Class A and Class B minimum landing requirement and maintain Class C and Class D landing requirements (Preliminarily Preferred)

Under Alternative 3B, existing minimum landing requirements would be modified to a 3-year minimum PMUS landing requirement of 500 pounds for vessel classes A and B, but the landing requirements for vessel classes C and D would be maintained at 5,000 pounds over a 3-year period. Reducing the minimum landing requirements for small vessels may reduce a barrier to sustained participation in the fishery.

6.3.3 Alternative 3C: Remove minimum landing requirements for all vessel classes

Under this alternative, minimum landing requirements would be eliminated for all vessel classes.

6.4 Alternatives Considered but not analyzed in detail

Caps on Vessel Length and Tonnage

At the 148th Council meeting, the Council recommended that analysis of the American Samoa longline limited entry include consideration of a cap on vessel size in terms of length and gross tonnage. Amendment 11 considered several alternatives that would have capped vessel size in the fishery to vessels less than 100 ft in length. However, the Council did not choose to cap vessel length in the fishery at that time, as large vessels tend to fish more efficiently, but instead the Council focused on the potential impacts of hook density in the American Samoa EEZ, catch rates, and economic rates of return for fishery participants. Table 6 shows the current average and median vessel lengths in the longline fishery by vessel class.

Table 6: Average and median vessel length by vessel class in 2010

	Class A	Class B	Class C	Class D
Average Vessel Size	31.18 ft (range 28-35 ft)	0 vessels	61.8 ft (53-69 ft)	80.7 ft (range 70-96.7 ft)
Median Vessel Size	31 ft	0 vessels	62	79

Note: Median is defined as the middle number of a group of numbers; that is, half the numbers have values that are greater than the median, and half the numbers have values that are less than the median.

Although data are lacking, the average vessel sizes in the Class C and Class D classes are not believed to have increased since the implementation of the limited entry program. If fact, the average vessel size in Class D has likely gone down, because in 2002, there were two vessels over 100 ft fishing in the EEZ around American Samoa (WPFMC 2003). Those vessels have since left the fishery. The relationship between vessel length, tonnage, hold capacity, and potential effort is not well understood. For example, the number of hooks a vessel is capable of setting is dependent on the hydraulics of a vessel, the size of the mainline drum, and the deck configuration of the vessel, among other things. Whether the vessel is 95 ft vs. 105 ft long, may or may not be a factor in potential effort. Furthermore, with the exception of 2007, the level of effort (in number of hooks) observed in the EEZ around American Samoa since the implementation of the limited entry permit program has been below large vessel gear conflict levels identified in Amendment 11 (Table 7). Also, Amendment 11 argued that the large vessel fleet should seek opportunities to fish in the EEZs of neighboring countries and the high seas in

order to reduce effort in the EEZ around American Samoa. While some this has occurred on an individual vessel basis, the Te Vaka Moana[4] initiative may provide opportunities for the large vessel fleet to expand its range. However, do so efficiently, upgrades to larger vessels for some fishery participants may necessary. For these reasons, detailed alternatives related to vessel size and tonnage were not evaluated further.

Table 7: Longline Effort (Hooks) and Offshore Hook Density

	2006	2007	2008	2009
Annual Number of Hooks Set (millions)	14.3	17.5	14.4	14.9
Offshore Hook Density (hooks/km^2)	55	67.3	55.3	57.3

Note: Offshore hook density is calculated by using the annual number of hooks set divided by 260,000 km^2, which the area of remaining portion of the EEZ outside of the large vessel prohibited area (generally 50 nm from shore). Amendment 11 identified 55 hooks/km^2/yr as a threshold for gear conflicts to increase significantly. Data on nearshore (0-50 nm) hook density since the start of the limited entry program is unavailable, but with only 1-3 alia vessels fishing since 2006, hook density levels have been well below those predicted in Amendment 11 (22 hooks/km^2/yr).

Reopen initial permit process with new control date set after March 2002

As described earlier, the Council recommended to reopen the initial permit application process, but did not recommend changing the criteria of being a U.S. citizen or national and having history in the fishery prior to March 2002 to quality for an initial permit. However, reopening the initial permit issuance process has not occurred pending the fishery's participation status in response to NMFS' announcement and issuance of available permits. From the application periods for available permits in 2009 and 2010, the most demand for permits are in large vessel classes, C and D. If the Council was to recommend the initial permit issuance process to be reopened to change the status quo, the Council would need to consider the need for a new control data after the existing control date of March 2002. However, as the small vessel fleet was already contracting after 2002, and the large vessel fishery was stable or increasing between 2002 and 2005, a new control date after March 2002 could allow for more large vessels in the fishery. Because the large vessel fleet is currently fishing at effort levels that could potentially result in gear conflict in the offshore fishing area, this alternative is considered in further detail.

[4] The Te Vaka Moana Arrangement is a co-operation between the governments and fisheries industries of the Cook Islands, New Zealand, Niue, Samoa, Tokelau to sharing of information between on fisheries policy, management, development, and science as well as fishing industry related issues, MCS, and other areas of technical expertise. American Samoa, which is geographically in the center of these countries, is seeking to participate in this arrangement.

7.0 Description of the Affected Environment

7.1 American Samoa

American Samoa has been a U.S. territory since 1899, in part, because of U.S. interests in Pago Pago harbor. New Zealand occupied Western Samoa in 1914, and in 1962 Western Samoa gained independence. In 1997, Western Samoa changed its name to Samoa (it is also referred to as Independent Samoa). The demarcation between Independent Samoa and American Samoa is political. Cultural and commercial exchange continues with families living and commuting between the two. American Samoa is more than 89 percent native Samoan. This population is descended from the aboriginal people who occupied and exercised sovereignty in Samoa before the arrival of outside people.

There is approximately 199 sq km (~ 77 sq mi) of land divided between five islands and two coral atolls (Rose and Swains Islands). EEZ waters around American Samoa comprise 390,000 square kilometers and are truncated by the EEZs around the other nearby island nations (Figure 1). Under the MSA, American Samoa is recognized as a fishing community.

American Samoa has a small developing economy, dependent mainly on two primary income sources: the American Samoa Government (ASG), which receives income and capital subsidies from the federal government, and a fish cannery on Tutuila (BOH 1997). Prior to 2009, there had been two operating tuna canneries in American Samoa; however, one of two canneries, Chicken-of-the-Sea, closed in September 2009. These two primary income sources have given rise to a third: a services sector that derives from and complements the first two.

American Samoan dependence on fishing undoubtedly goes back as far as the peopled history of the islands of the Samoan archipelago, which is about 3,500 years ago (Severance and Franco 1989). Many aspects of the culture have changed in contemporary times, but American Samoans have retained a traditional social system that continues to strongly influence and depend on the culture of fishing. Traditional American Samoan values still exert a strong influence on when and why people fish, how they distribute their catch, and the meaning of fish within the society. When distributed, fish and other resources move through a complex and culturally embedded exchange system that supports the food needs of `aiga (family), as well as the status of both matai (talking chiefs) and village ministers (Severance et al. 1999).

The excellent harbor at Pago Pago and certain special provisions of U.S. law form the basis of American Samoa's largest private industry, fish processing, which is now more than 40 years old (BOH 1997). The territory is exempt from the Nicholson Act, which prohibits foreign ships from landing their catches in U.S. ports. American Samoan products with less than 50 percent market value from foreign sources enter the United States duty free (Headnote 3(a) of the U.S. Tariff Schedule). Currently, no foreign vessels may fish in the US EEZ around American Samoa and there are no foreign fishing access agreements at this time to provide access to foreign fleets.

The ASG has estimated that the tuna processing industry directly and indirectly generates about 15 percent of current money wages, 10 to 12 percent of aggregate household income, and 7 percent of government receipts in the territory (BOH 1997). Until 2009, the canneries provided

8,118 jobs – 45.6 percent of total employment (in American Samoa) including both directly (5,538 jobs) and indirectly (2,580 jobs). On the other hand, both tuna canneries in American Samoa, until September of 2009, were tied to multinational corporations that supplied virtually everything but unskilled labor, shipping services, and infrastructure facilities (Schug and Galeai 1987) including a substantial portion of the raw tuna processed by StarKist Samoa landed by vessels owned by the parent company. Furthermore, most of the unskilled labor of the cannery is imported. Up to 90 percent of cannery jobs have been filled by foreign nationals from Independent Samoa and Tonga. The result is that much of the cannery payroll is remitted overseas.

The closure of the Chicken of the Sea (COS) cannery in 2009 resulted in the loss of 2000 jobs or just over one third of the direct employment at the canneries (5,538 jobs). The remaining StarKist cannery has reduced its workforce to 1,200, or about 22 percent of the direct cannery employment and 40 percent of the peak employment at this cannery of 3,000 jobs in 2008[5]. Recently, Tri Marine, a major global tuna supply and fishing company has acquired the old COS cannery.

On September 29, 2009, a submarine earthquake of magnitude 8.0 triggered a tsunami which made landfall in several Pacific island locations including the Samoa Archipelago of Independent Samoa which has about 220,000 people, and American Samoa, with a population around 65,000. Four tsunami waves 15 to 20 feet (4 to 6 meters) high arrived ashore on American Samoa about 15 minutes after the quake, reaching up to a mile (1.5 kilometers) inland, officials said. In Pago Pago, streets and fields filled with debris, mud, and overturned cars and boats. Several buildings in the city situated only a few feet above sea level were flattened. Power was expected to be out in some areas for up to a month and officials said some 2,200 people were in seven shelters across the island. American Samoa suffered much damage including damage and destruction of the floating docks and boat ramps in Pago Pago, and likely elsewhere. Major boat docks were unusable because of the many derelict vessels around them and other boats left sitting on the dock.

The first floor of the American Samoa Department of Marine and Wildlife Resources (DMWR) office building was swamped by the rising sea waters and was without electricity for more than a week. Several DMWR vehicles, boats, equipment, and the floating docks were damaged. The Community Development Project Program-funded facility for the Pago Pago Commercial Fishermen Association project located in Pago Pago was destroyed and washed to sea, including some recently purchased equipment. The shipyard dry-docking facilities were damaged with the last purse seiner serviced and released the day before the tsunami. There were relatively minor damages to the cannery facilities. Inside Pago Pago bay area, huge amounts of trash and layers of oil pollution were observed. More than half of the alia vessels berthed at the docks behind DMWR were damaged, destroyed, or floated out to sea including the only one actively involved in longlining. Recreational boats were also damaged and destroyed (W. Sword, Council member, pers. comm.). Longline, foreign distant water fishing (DWF) and purse seine vessels supplying the canneries that were inside Pago Pago harbor may have sustained some damages. The Community Development Project Program-funded facility for the *Pago Pago Commercial*

[5] Recent information on cannery employment obtained from Agence France Presse news article dated May 13, 2010.

Fishermen Association project located in Pago Pago was completely destroyed and washed to sea, including some recently purchased equipment.

It is understood that the ASG has received funds from the Federal Emergency Management Agency (FEMA) and is currently rebuilding damaged infrastructure around Tutuila. In 2010, the ASG has also requested disaster relief funds to replace damage fishing vessels and fisheries infrastructure from the Department of Commerce pursuant to Sections 312 and 315 of the Magnuson-Stevens Act and the Inter-jurisdictional Fisheries Act, but to date, ASG has not received fisheries disaster relief funding from the federal government.

7.1.1 U.S. EEZ Waters around American Samoa

The EEZ waters around American Samoa comprise 390,000 square kilometers and are truncated by the EEZs around the other nearby island nations (Figure 1).

The islands of American Samoa are in an area of modest oceanic productivity relative to areas to the north and northwest. To the south of American Samoa, lie the subtropical frontal zones consisting of several convergent fronts located along latitudes 25° – 40° N and S often referred to as the Transition Zones. To the north of American Samoa, spanning latitudes 15° N – 15° S lies the equatorial current system consisting of alternating east and west zonal flows with adjacent fronts with the southern branch of the westward flowing South Equatorial Current (SEC) from June - October and the eastward-flowing South Equatorial Counter Current (SECC) from November through April.

Domokos et al. (2007) have investigated the oceanography of the waters surrounding American Samoa and noted the impact of the SEC and SECC on the productivity of the longline fishery. They note that the American Samoa fishing ground is a dynamic region with strong mesoscale eddy activity and temporal variability on scales of less than one week. Seasonal and interannual variability in eddy activity, induced by baroclinic instability that is fueled by horizontal shear between the eastward-flowing SECC and the westward-flowing SEC, seems to play an important role in the performance of the longline fishery for albacore.

Mesoscale eddy variability in the EEZ around American Samoa Exclusive peaks from March to April, when the kinetic energy of the SECC is at its strongest. Longline albacore catch tends to be highest at the eddy edges, while albacore catch per effort (CPUE) shows intra-annual variability with high CPUE that lags the periods of peak eddy activity by about 2 months. When CPUE is highest, the values are distributed toward the northern half of the EEZ, the region affected most by the SECC. Further indication of the possible importance of the SECC for longline performance is the significant drop in eddy variability in 2004 when compared with that observed in 2003 – resulting from a weak SECC – which was accompanied by a substantial drop in albacore CPUE rates and a lack of northward intensification of CPUE.

From an ecosystem perspective, evidence to support higher micronekton biomass in the upper 200 m at eddy boundaries is inconclusive. Albacore's vertical distribution seems to be governed by the presence of prey. Albacore spend most of their time between 150 and 250 m, away from the deep daytime and shallow nighttime sonic scattering layers, at depths coinciding with those

of small local maxima in micronekton biomass whose backscattering properties are consistent with those of albacore's preferred prey. Settling depths of longline sets during periods of decreased eddy activity correspond to those most occupied by albacore, possibly contributing to the lower CPUE by reducing catchability through rendering bait less attractive to albacore in the presence of prey.

7.2 American Samoa-based Pelagic Fisheries

The harvest of pelagic fish has been a part of the way of life in the Samoan archipelago since the islands were first settled some 3,500 years ago (Severance and Franco 1989). In 1995, small-scale longline fishing began in American Samoa following training initiated by the Secretariat of the Pacific Community (SPC; Chapman 1998). Commercial ventures are diverse, ranging from small-scale vessels having very limited range to large-scale vessels catching tuna in the EEZ and beyond, and distant high seas waters, then delivering their catches to the cannery based in American Samoa. Currently the pelagic fisheries of American Samoa are based on supplying frozen albacore, and small amounts o f other pelagic fish directly to a large cannery in Pago Pago. These fisheries include small and large-scale longlining; and a pelagic trolling fishery. All American Samoa limited access longline vessel owners and operators are required to obtain a federal permit and to submit logbooks containing detailed data on each of their sets and the resulting catch. Boat-based creel surveys, a Commercial Purchase System, and Cannery Sampling Forms also are used to collect fishery information for all fishing activity. Additional historical and current detailed statistical data can be found in the Council's 2008 Pelagic Fisheries Annual Report (WPRFMC 2010).

More than $10.3 million worth of pelagic species were landed in American Samoa during 2009 (WPRFMC unpublished 2009 Pelagics Annual Report module). Longline fishing dominated (99.6%) the value of pelagic landings during 2009. Over 8.6 million dollars worth of albacore dominated (83%) the value of longline caught pelagic species during 2009 followed by yellowfin (~ $800,000), bigeye (~$378,000), and skipjack (~$206,400) tunas. Wahoo (~$181,000), blue marlin (~$52,800), swordfish (~$41,000) and mahimahi ($57,270) were the top-value non-tuna species during 2009.

Small-Scale Longline and Troll

Historically, most participants in the small-scale domestic longline fishery had been indigenous American Samoans with vessels under 50 ft in length, most of which were alia; locally-built fiberglass or aluminum catamaran boats under 40 ft in length. In the mid-1990s American Samoa's commercial fishermen shifted from troll gear to longline gear largely based on the fishing success of 28' alia that engaged in longline fishing in the EEZ around Samoa. Following this example, the alia fishermen in American Samoa began deploying short monofilament longlines, with an average of 350 hooks per set from hand-operated reels. Their predominant catch was albacore tuna, which was marketed to the tuna cannery (DMWR 2001). By 1997, 33 alia vessels received general longline permits from NMFS to fish in federal waters around American Samoa, although only 21 were reported to have been actively fishing on a monthly basis at that time. However, in recent years the pelagic longline alia fleet has been greatly reduced with only two vessels active in 2007, and one active since 2008 (Table 3).

Troll fishers land relatively small amounts of PMUS with just over 5,000 lb reported in 2009. The average number of vessels participating in the troll fishery from 1982-2009 is 29 only ten in 2009 (WPRFMC unpublished 2009 Pelagics Annual Report module).

Large-Scale Longline

In 2000, the American Samoa longline fishery began to expand rapidly with the influx of large (>50 ft) conventional monohull vessels similar to the type used in the Hawaii-based longline fishery, including some vessels from Hawaii. These vessels were larger, had a greater range, and were able to set more hooks per trip than the average alia vessel. The number of permitted longline vessels in this sector increased from three in 2000 to 30 in 2002 (DMWR, unpublished data). Of these 30 permitted vessels, ten permits were believed to be held by indigenous American Samoans as of March 21, 2002 (P. Bartram, pers. comm., March 2002). Economic barriers, such as the capital needed to purchase and operate a large vessel, is believed to have prevented more substantial indigenous participation in the large-scale sector of the longline fishery. During 2009 there were 25 large vessels engaged in the American Samoa longline fishery (see Table 3).

Vessels over 50 feet can set 1,500 to over 4,000 hooks and have a greater fishing range and capacity for storing fish (8–40 metric tons) as compared with (0.5–2 metric tons) small-scale vessels. During 2002-2007, WPacFIN[6] reports the fleet used an average of 2,487 hooks per set with a steady increase over this same time period. The current fleet uses an average of 3,006 hooks per set, based on 39 observed trips from April 2006 through December 2009 (Table 8). Large vessels are outfitted with hydraulically powered reels to set and haul mainline, and with modern electronic equipment for navigation, communications, and fish finding. All are presently being operated to freeze albacore onboard, rather than to land chilled fish. Large that vessels have participated in the American Samoa longline fishery came from diverse ports and fisheries, including the U.S. West Coast (six), Gulf of Mexico (three), Hawaii, and foreign countries (four now under U.S. ownership; O'Malley and Pooley 2002).

Table 8: Average, and when available, standard deviation and range (in parentheses) of longline gear attributes from the American Samoa longline fishery

Variable	Observed sets (n≈1,296) ~3.9 mil hooks	Observed sets (n=988) in Bigelow and Fletcher 2009	Observed sets with valid TDR data (n=320) ~988,160 hooks
Line shooter (nm/h) **Line shooter (m/s)**	**≈8** * **≈4.1** *	8.1±2.3 (4.2–16.5) 4.2±1.2 (2.1–8.5)	7.7±1.7 (4.4–14.4) 4.0±0.9 (2.3–7.4)
Hooks per set	**3,006** (391–4,126); Class C- 2,843; Class D- 3,072	3,058±446 (420–4,126)	3,088±414 (420–4,126)
Hooks between floats	**31.5** (25–36)	31.6±2.5 (25–36)	32.2±2.0 (28–36)
Floats per set	**≈100.3** *	100.7± 16.7 (16–138)	99.5±15.2 (16–137)
Float line length (m)	**25.99,** (18.4–36.5)	26.1± 4.0 (18.4–36.5)	25.8±3.4 (18.4–36.5)

[6] Found at: http://www.pifsc.noaa.gov/wpacfin/index.php

Variable	Observed sets (n≈1,296) ~3.9 mil hooks	Observed sets (n=988) in Bigelow and Fletcher 2009	Observed sets with valid TDR data (n=320) ~988,160 hooks
Branch line length (m)	**10.3** (6.8–15.1)	10.4± 1.5 (6.8–15.1)	10.4±1.8 (6.8–15.1)
Main line length (km)	**≈75 (40.5 nm) ***	75.7± 18.4 (9.2–120.4)	73.7±16.2 (9.3–100.0)
Length (m) between floats	**≈759 ***	766± 202 (431–1,511)	744±145 (463–1,218)
Length (m) between hooks	**≈23.25 ***	23.6± 6.4 (13.6–48.7)	22.5±5.5 (13.6–32.9)

Sources: Bigelow and Fletcher 2009; NMFS unpublished. * = weighted mean
Note: Data are from 39 observed trips departing from April 2006 to October 2009, and from Bigelow and Fletcher (2009); 988 observed longline sets and a subset of 320 sets monitored with temperature-depth recorders (TDR) in the American Samoa-based fishery from 2006 to 2008.

Twelve of the American Samoa longline limited access permit holders also hold Hawaii longline limited access permits for the Hawaii-based fisheries (W. Ikehara, NMFS, pers. comm., Nov. 2010). The Hawaii longline fisheries are currently subject to an annual catch limit of bigeye tuna of 3,763 mt stemming from a 2008 conservation and management measure from the Western and Central Pacific Fishery Commission (CMM 2008-01) for the years 2009-2011. In the administration of this catch limit (74 FR 68190, December 23, 2009), NMFS regulations provide that bigeye tuna caught by longline gear may be retained on board, transshipped, and landed if the fish are caught by a vessel registered for use under a valid NMFS-issued American Samoa longline limited access permit, if the bigeye tuna have not been caught in the Hawaiian EEZ (50 CFR 300, Subpart O). When NMFS has determined the 3,763 mt bigeye tuna catch limit is reached, all vessels holding a Hawaii limited entry longline permit will no longer be able to land bigeye tuna in Hawaii, regardless of whether it was caught on the high seas, except under authorized limited conditions. However, vessels with a valid American Samoa limited entry permit, as well as a valid Hawaii longline limited access permit (dual-permitted), would still be able to retain and land bigeye tuna into Hawaii and American Samoa as long as the fish was not caught in the U.S. EEZ around Hawaii (74 FR 63999, December 7, 2009).

7.2.1 Effort and Catch

Effort
Since 2001, the number of American Samoa troll and longline vessels landing pelagic species has decreased from a high of 80 vessels to 36 in 2009 (Table 9). Effort is currently dominated by large longline vessels (Class D) as there is only active small longline vessel in 2010 and the troll fleet continues to decrease in numbers of vessels and trips.

Table 9: Number of Vessels Using Different Fishing Methods, 1982-2009.

Year	Number of Boats Using		
	Longlining	Trolling	Total
1982	0	22	22
1983	0	35	35
1984	0	50	50
1985	0	47	47
1986	0	49	49
1987	0	32	32
1988	4	42	46
1989	1	44	45
1990	0	37	37
1991	2	27	29
1992	0	26	26
1993	4	33	37
1994	5	40	45
1995	5	41	46
1996	12	37	49
1997	21	32	53
1998	26	24	50
1999	29	36	65
2000	37	19	56
2001	62	18	80
2002	58	16	74
2003	50	20	70
2004	41	18	59
2005	36	9	45
2006	31	9	40
2007	29	19	48
2008	28	16	44
2009	26	10	36

Source: WPRFMC unpublished 2009 Pelagics Annual Report module

Fishing power[7] is clearly distinct between the different size classes of vessel and separate catch statistics are compiled. The alia vessels use manually powered mainline drums that hold about four miles of monofilament line. The boats make single day trips with a crew of three, setting around 300 – 350 hooks per set and keep their catch on ice. The large monohull vessels are similar and in some cases the same vessels that have engaged in the Hawaii longline fisheries. These boats are typically steel hulled vessels of around 20 – 25 m operating hydraulically driven mainline reels holding 30 – 50 miles of monofilament, setting around 3,000 hooks per day with

[7] Fishing power provides a measure of vessel efficiency. Full explanation may be found on FAO website at: http://www.fao.org/DOCREP/003/X2250E/x2250e0f.htm

crews of 5 – 6. They are also likely to be well equipped with marine electronics and have refrigeration systems to freeze catch onboard for extended trips. Therefore, the larger vessels can range out to the outer portions of the EEZ and some have, in the past, negotiated fishing access with neighboring states.

Recent fishing effort has occurred in EEZ waters surrounding American Samoa, excluding existing large vessel closed areas; some foreign EEZ waters surrounding American Samoa where vessels have fishing access agreements, including the Cook Islands, Samoa, Tokelau, and others, as well as all four high seas areas (NW, NE, E, and S) giving an operational area roughly 155° W to 180°, and from 3° to 32° S from 2000 through 2009 (NMFS 2010c) (Figure 3).

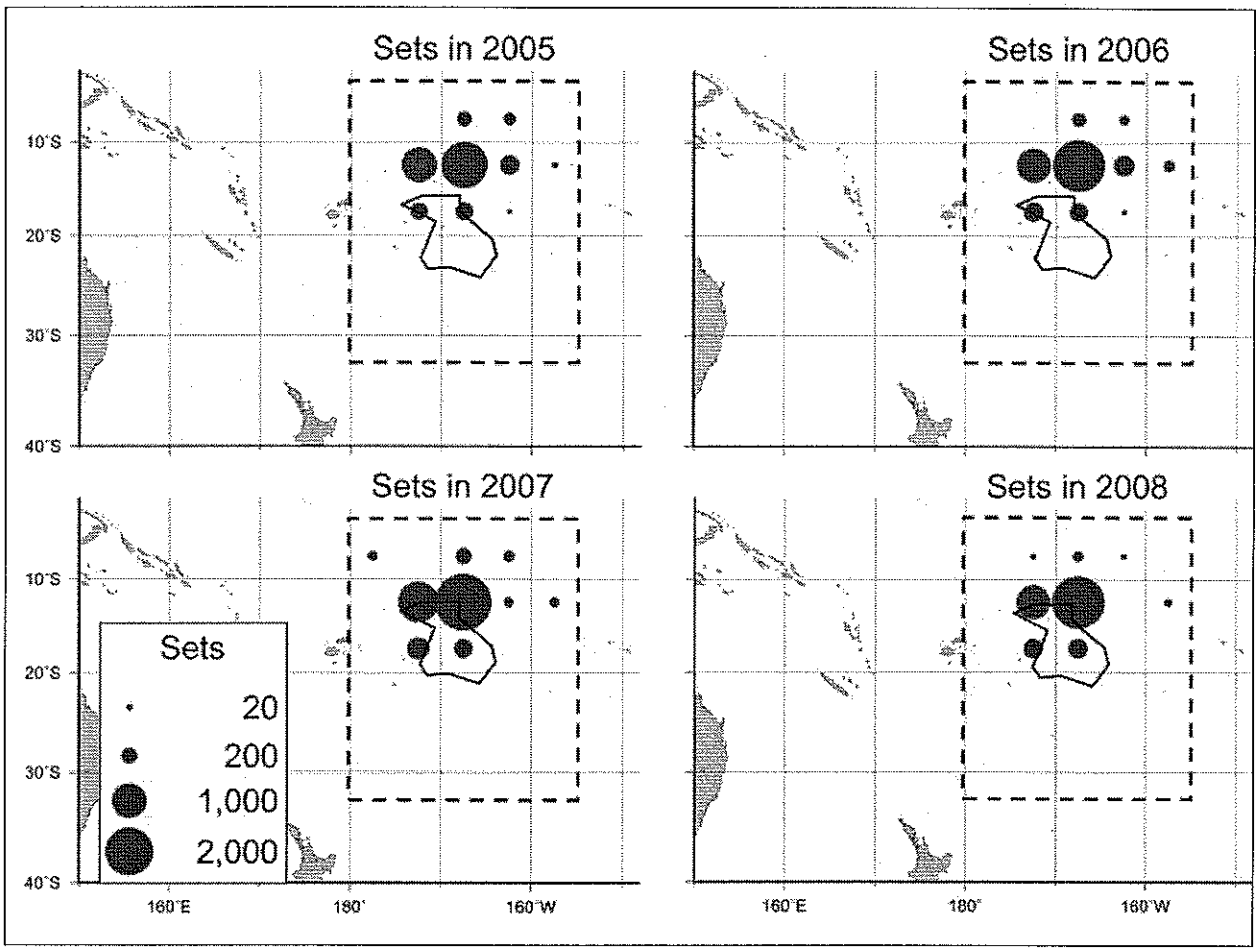

Figure 3: Area of operations of the American Samoa longline fleet within and beyond the American Samoa EEZ (black line).
Source: NMFS 2010c.
Note: Fishing in 2009 also occurred within the area bounded by the rectangle. The fishery made fewer than 20 sets annually between 3° and 5° S and 20° and 32° S so confidentiality restrictions prevent their locations from being shown in the figure.

Individual vessels have negotiated access agreements with the neighboring countries surrounding American Samoa. Most agreements have been made with the Cook Islands, which has a special

arrangement with the United States, whereby U.S. vessels fishing in the Cook's EEZ do not have to re-flag their vessels to the Cook Islands. A limited number of permits exist for these arrangements in the Cook Islands. Since 2001, American Samoa-based longline vessels have fished in several foreign EEZ waters surrounding American Samoa, such as Samoa, Tokelau, and others. Fishing effort in these countries ranges from a couple thousand hooks per year to over 2.7 million hooks set in the Cook Islands in 2006.

The number of hooks set by the American Samoa-based longline fleet has varied considerably over time (Figure 4). Preliminary data for 2009[8] show approximately 15 million hooks were set by 26 American Samoa-based longline vessels during 2009, down from a high of 17.5 million set in 2007 (WPRFMC 2010, WPRFMC unpublished 2009 Pelagics Annual Report module). Table 10 shows landing and effort statistics for the longline fishery.

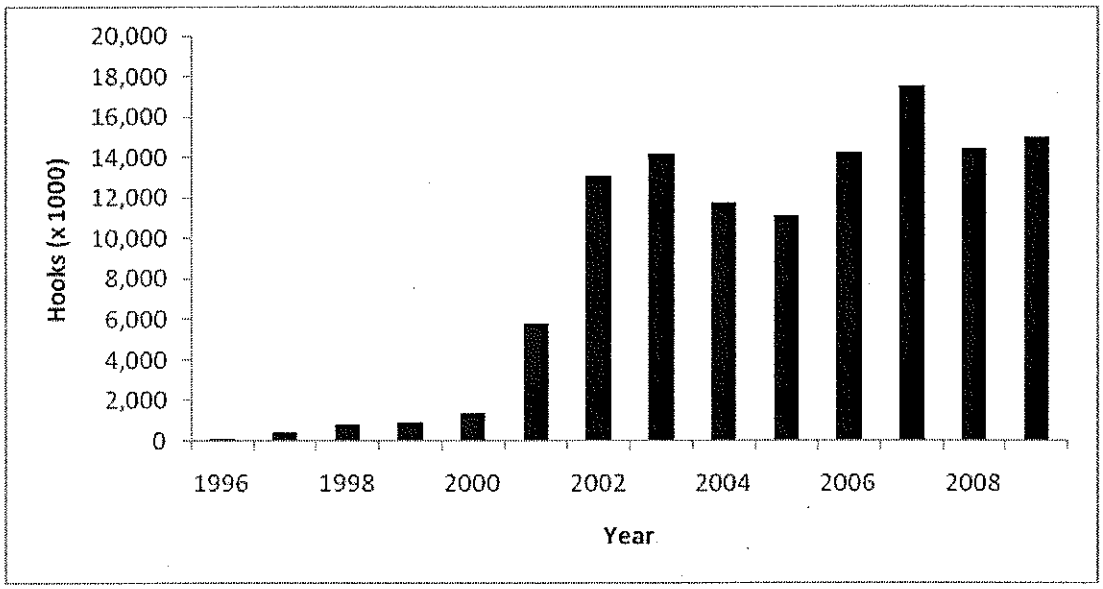

Figure 4: Longline Hooks Set by the American Samoa Fleet, 1996-2009
Source: WPacFIN data

Table 10: American Samoa Longline Fishery Landings and other Statistics, 2002-2009

Item	2002	2003	2004	2005	2006	2007	2008	2009
Active Vessels	58	49	41	36	30	29	28	26
Hooks set (millions)	13.1	14.2	11.7	11.1	14.3	17.5	14.4	14.9
Trips	NA	650/282*	430/193*	223/179*	331	377	287	177
Sets Made	6,872	6,220	4,850	4,359	5,069	5,919	4,741	4689
Total Landings (mt)	7,138	5,173	4,079	3,999	5,401	6,586	4,347	4,787

[8] Includes all logbook reports submitted before January 28, 2010
http://www.pifsc.noaa.gov/wpacfin/pdf_file/AmsamAnnual2009.pdf

Item	2002	2003	2004	2005	2006	2007	2008	2009
Bigeye Landings (mt)	196	253	226	132	199	199	124	146
Yellowfin Landings (mt)	485	517	890	516	493	620	336	155
Albacore Landings (mt)	5,996	3,931	2,488	2,919	4,104	5,329	3,456	3,910
Catch Composition (in percent)								
Albacore	84%	76	61	73	76	81	82	82
Other tunas	13%	17	33	20	17	15	14	14.4
Miscellaneous	3%	7	6	7	7	4	4	4
Total Ex-vessel Value (adjusted) ($ millions)	$14.1	$10.7	$9.1	$8.0	$11.5	$13.7	$9.4	$10.4

*The first number is trips by alia and the second is by larger monohull vessels
**Numbers of fish.
Source: WPRFMC 2010 and WPRFMC unpublished 2009 Pelagics Annual Report module

Catch

More than 10.6 million lb of pelagic species were landed in American Samoa during 2009 (WPRFMC 2010). Tuna species account for about 94% of the total landings and albacore dominates (85%) tuna landings and accounts for 80% of the total pelagic landings. Albacore landings this year increased (10%) to about 8.6 million pounds from about 7.8 millions in 2008. Non-tuna and other PMUS total about 500,000 pounds. Wahoo dominated (61%) the non-tuna landings, and barracudas dominate the other pelagic fish species. Of the total landings, about 10.5 million pounds account for commercial landings which were landed by the large Class D vessels. More than 27,000 lbs of swordfish is estimated to have been landed in American Samoa in 2009 from longline gear only. The 2006 swordfish landing is the highest in the 14 year time series (Table 11).

In the future, the fleet may also diversify into other fish products in response to uncertainties about the long term continuity of the Pago Pago-based canneries (TEC, Inc. 2007); however, currently the fleet only targets tuna using deep-set longline gear. Albacore is the major species landed (over 8.6 million lb; 81% of landings). Yellowfin, skipjack, and bigeye tunas and wahoo contribute the bulk of the non-albacore landings (18%). The 2007 American Samoa tuna landings were the second highest recorded in the 28-year data record; 91.8 percent of the highest annual landings estimate from 2002. Estimated non-tuna pelagic management unit species (PMUS) landings had generally been increasing overtime with two peaks in 2002 and 2007 (Figure 5). Since 2007 total landings and tuna landings have both decreased from the recent 2007 peak. Albacore average weight-per-fish has been steadily increasing since 2005, the average size

of bigeye has been increasing since 2004, average size of wahoo has been gradually declining since 2002, and yellowfin tuna average size appears to fluctuate on an inter-annual basis from samples taken by the cannery (WPFMC 2010).

Table 11: American Samoa 2009 Longline Swordfish Landings

Year	Pounds
1996	893
1997	701
1998	3,716
1999	2,259
2000	2,056
2001	13,091
2002	32,710
2003	32,231
2004	20,195
2005	16,491
2006	83,615
2007	28,287
2008	14,889
2009	27,361
Average	**19,893**
Std. Dev.	**21,055**

Source: WPRFMC 2010 and WPRFMC unpublished 2009 Pelagics Annual Report module

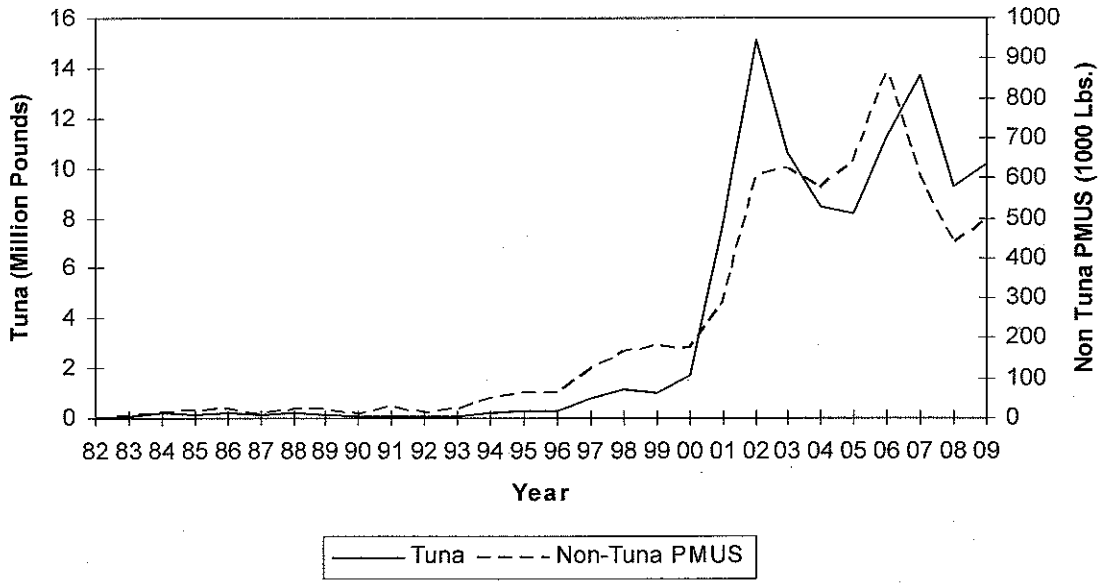

Figure 5: American Samoa Pelagic Landings 1982–2009.
Source: WPRFMC 2010 and **WPRFMC** unpublished 2009 Pelagics Annual Report module.

7.2.2 Catch-per-unit effort

The CPUE of albacore, the main target species, reached a peak in 2001 at 33 fish per 1,000 hooks and decreased to approximately 15 fish per 1,000 hooks in 2009 (Table 12, Figure 6). The

CPUE for all valuable PMUS harvested by all longline vessels shows a downward trend from 2006 to the most recent catch data (2009; Table 12).

Table 12: CPUE (catch/1,000 hooks) for all American Samoa Longline Vessels, 2006-2009

Species	2006 All Vessels	2007 All Vessels	2008 All Vessels	2009 All Vessels
Skipjack tuna	3.2	2.3	2.4	2.3
Albacore tuna	18.4	18.3	14.2	14.8
Yellowfin tuna	1.6	1.9	1.0	1.1
Bigeye tuna	0.9	0.9	0.5	0.6
TUNAS SUBTOTALS	24.2	23.5	18.2	18.8
Mahimahi	0.4	0.1	0.1	0.2
Blue marlin	0.2	0.2	0.2	0.2
Wahoo	1.5	1.0	0.7	1.0
Sharks (all)	0.5	0.4	0.4	0.4
Swordfish	0.1	0.0	0.0	0.0
Spearfish	0.1	0.0	0.1	0.1
Oilfish	0.5	0.5	0.4	0.5
Pomfret	0.0	0.1	0.1	0.1
NON-TUNA PMUS SUBTOTALS	3.3	2.4	2.0	2.5
Pelagic fishes (unknown)	0.0	0.2	0.1	0.2
OTHER PELAGICS SUBTOTALS	0.0	0.2	0.1	0.2
TOTAL PELAGICS	**27.5**	**26.0**	**20.3**	**21.5**

Source: WPRFMC unpublished 2009 Pelagics Annual Report module

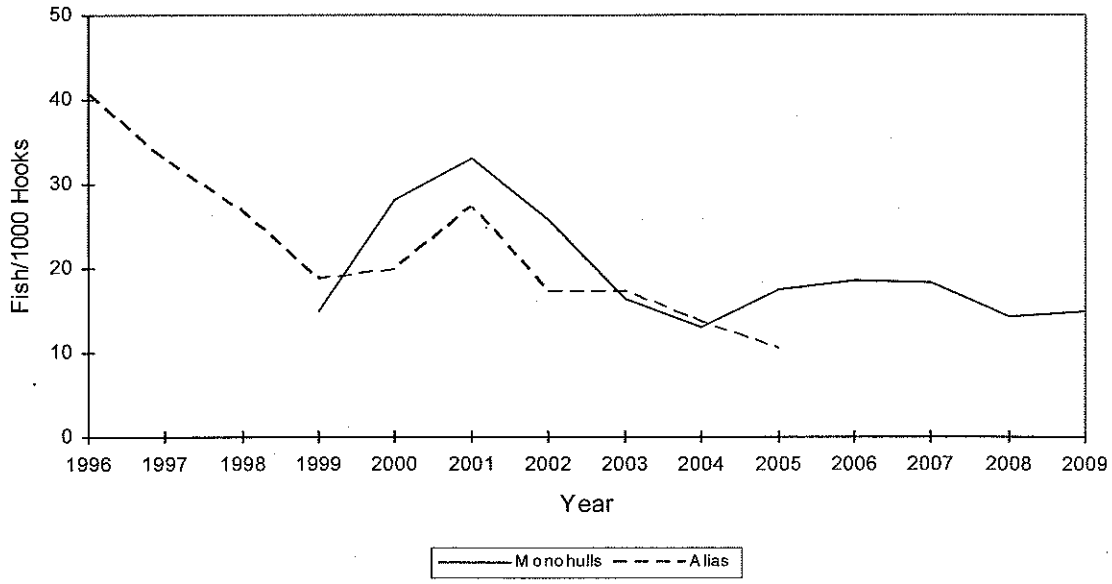

Figure 6: Albacore catch per unit effort (per 1000 hooks) in the American Samoa longline fishery

7.2.3 Bycatch

Table 13 shows the number of fish kept and released in the American Samoa longline fishery during 2009. Overall nearly 12 percent of the total catch was released with skipjack tuna having the highest number released. Nearly all sharks and approximately 96 percent of oilfish were also not retained. Fish are released for various reasons including quality, size, handling, and storage difficulties, and marketing problems. However, it is expected that catch rates and total catches of epipelagic MUS such as the billfishes and mahimahi would be reduced by fishing with gear deeper than 100 meters, which will soon be required under FEP regulations.

7.2.4 Observer Program

NMFS funds fishery observer recruitment, training, and support in the western Pacific region including its observer program in American Samoa. NMFS is in the process of increasing observer coverage in the American Samoa longline fishery. In early December 2010, annual coverage was about 25%, with >40% coverage in the final quarter of the year. Prior to beginning the observer program in American Samoa, NMFS conducted a pilot program from August through October 2002. The pilot program observed 76 sets on one Class C and two Class D vessels which set 197,617 hooks and there were no sightings of, or interactions with any protected species including sea turtles, marine mammals, or seabirds (NMFS 2003).

Table 13: Number of fish kept and released in the American Samoa Longline Fishery, 2009

Species	Number Kept	Number Released	Percent Released
Skipjack tuna	26,866	7,517	21.9
Albacore tuna	221,315	673	0.3
Yellowfin tuna	15,585	911	5.5
Bigeye tuna	8,118	570	6.6
Tunas (unknown)	11	15	57.7
TUNAS SUBTOTALS	271,895	9,686	3.4
Mahimahi	1,629	1,602	49.6
Black marlin	2	26	92.9
Blue marlin	675	2,691	79.9
Striped marlin	116	224	65.9
Wahoo	10,776	3,670	25.4
Sharks (all)	37	5,926	99.4
Swordfish	215	90	29.5
Sailfish	64	612	90.5
Spearfish	145	1,210	89.3
Moonfish	128	584	82.0
Oilfish	326	7,014	95.6
Pomfret	141	1,249	89.9
NON-TUNA PMUS SUBTOTALS	14,254	24,898	63.6
Barracudas	48	360	88.2
Rainbow runner	8	1	11.1
Dogtooth tuna	0	10	100
Pelagic fishes (unknown)	11	2,909	99.6
OTHER PELAGICS SUBTOTALS	67	3,280	98.0
TOTAL PELAGICS	286,216	37,864	11.7

Source: WPRFMC unpublished 2009 Pelagics Annual Report module

Mandatory observer placement to monitor protected interactions on American Samoa longline vessels first began in April 2006, to monitor protected species interactions. Since inception of the American Samoa Observer Program in April 2006 through December 2009, observers monitored 40 out of 550 trips (or approximately 7.2 percent), which included 1,382 sets. Although direct observation is the most accurate method, unless observer coverage of the fleet is complete, estimation of bycatch from observer data requires sampling of the fleet and then extrapolating from the samples (i.e., the observations) to the entire fleet using statistical estimators. This risk of overestimating interactions is proportionately increased as observer coverage is reduced (or set too low to reduce the standard error and account for the rareness of the event) as in this fishery. With only a few years of observer coverage at less than 20 percent each year, caution must be taken in extrapolating to the entire fishery. As noted earlier, NMFS is in the process of increasing American Samoa longline observer coverage. In the fourth quarter of 2010, annual coverage exceeded 40%

Between April 2006 and December 2009, eight green sea turtle interactions and a total observed effort in excess of 4.1 million hooks were reported in PIRO Observer Program status reports for American Samoa longline fishery for a mean interaction rate of approximately 0.002 turtles per 1,000 hooks. Since this time, five additional interactions were monitored in 2010 (Table 14).

The sea turtle interaction rate in the American Samoa longline fishery from 2006-2009 ranged from 0.001-0.004 turtles per 1,000 hooks, with a mean of 0.002 turtles per 1,000 hooks. The Hawaii deep-set longline fishery, which fishes at the same or greater depths than the American Samoa fishery, had turtle interaction rates over the same period ranging from 0.0004-0.002 turtles per 1,000 hooks, with a mean of 0.001 turtles per 1,000 hooks or half the American Samoa longline fishery average.

Also, from April 2006-December 2009, three out of four years reported zero marine mammal interactions; only in 2008 a total of three marine mammal interactions (two false killer whales, one rough-toothed dolphin) were observed and one seabird interaction (unidentified shearwater in 2007) was reported[9] by observers as shown in Table 14. Some gear configuration data as observed by the American Samoa Observer Program through 2009 is summarized in Table 15.

Table 14: Number of Longline Fishery Protected Species Interactions, 2006-2010

Year	2006	2007	2008	2009	2010*
Number of sets observed	287	410	379	306	NA
Observer coverage (percent)	8.1	7.1	6.4	7.7	16.4
Green sea turtles, released dead	3	1	1	2	4
Green sea turtles, released injured	0	0	0	0	1
Marine mammals, released injured	0	0	2	0	NA
Marine mammals, released dead	0	0	1	0	NA
Seabirds, released dead	0	1	0	0	NA

Source: NMFS PIRO Observer Program 2006-2009 Status Reports.
* Through September 2, 2010. NA= Data not yet available.

Table 15: American Samoa Longline Fishery Gear Configuration, 2006-2009
Source: NMFS PIRO Observer Program 2009.

	Minimum	Average (mean)	Maximum
Hooks used	13/0 circle	14/0 circle	16/0 circle
Hooks between floats	25	31.5	36
Hooks per set	391	3,006	4,126
Float line length (meters)	18.4	26.0	36.5
Branch line length (meters)	6.8	10.3	15.1
Line shooter used	Yes	Yes	Yes

Note: Based on 39 observed trips departing from April 2006-October 2009; ~3.9 million hooks observed.

7.2.5 Recreational Fishing

Levine and Allen (2009) provide an overview of fisheries in American Samoa, including subsistence and recreational fisheries. Citing a survey conducted in American Samoa by Kilarski

[9] Found on NMFS PIRO website at: http://www.fpir.noaa.gov/OBS/obs_qrtrly_annual_rprts.html

et al. 2006, Levine and Allen noted that approximately half of the respondents stated that they fished for recreation, with 71 percent of these individuals fishing once a week or less. Fishermen also fished infrequently for cultural purposes, although cultural, subsistence, and recreational fishing categories were difficult to distinguish as one fishing outing could be motivated by all three reasons.

Boat-based recreational fishing in American Samoa has been influenced primarily by the fortunes of fishing clubs and fishing tournaments. Tournament fishing for pelagic species began in American Samoa in the 1970s, and between 1974 and 1998, a total of 64 fishing tournaments were held in American Samoa (Tulafono 2001). Most of the boats that participated were alia catamarans and small skiffs. Catches from tournaments were often sold, as most of the entrants are local small-scale commercial fishermen. In 1996, three days of tournament fishing contributed about one percent of the total domestic landings. Typically, 7 to 14 local boats carrying a total of 55 to 70 fishermen participated in each tournament, which were held two to five times per year (Craig et al. 1993).

The majority of tournament participants operated 28-foot alia, the same vessels that engage in the small-scale longline fishery. With more emphasis on commercial longline fishing since 1996, interest in the tournaments waned (Tulafono 2001) and pelagic fishing effort shifted markedly from trolling to longlining. Catch-and-release recreational fishing is virtually unknown in American Samoa. Landing fish to meet cultural obligations is so important that releasing fish would generally be considered a failure to meet these obligations (Tulafono 2001). Nevertheless, some pelagic fishermen who fish for subsistence release fish that are surplus to their subsistence needs (S. Steffany, personal communication to P. Bartram, Akala Products Inc., September 15, 2001, Amendment 11).

A summary of the species composition of fishery tournaments held between 1974 and 2010 is shown below in Table 16. The data do not document every tournament held in the four decades since records were kept but cover 55 individual competitions. Of the 136,000 lb of fish landed in the tournaments, almost two thirds of the catch comprised equal amounts of skipjack and yellowfin tuna, while blue marlin, wahoo, mahimahi, and sailfish made up the majority of the remaining catch.

Table 16: Species composition of fishery tournaments held in American Samoa between 1974 and 2010.

Species	Weight (lb)	Percent
Skipjack tuna	40,655.85	29.93%
Yellowfin tuna	39,458.34	29.05%
Blue marlin	21,102.25	15.54%
Wahoo	11,807.25	8.69%
Mahimahi	11,035.20	8.13%
Sailfish	3,215.00	2.37%
Sharks (unknown)	2,805.75	2.07%
Dogtooth tuna	1,786.05	1.32%
Others	3,951.75	2.91%
Total	135,817.44	100.00%

Source: American Samoa Dept. of Marine and Wildlife Resources

More recently, recreational fishing has undergone a renaissance in American Samoa through the establishment of the Pago Pago Game Fishing Association (PPGFA), which was founded by a group of recreational anglers in 2003[10]. The motivation to form the PPGFA was the desire to host regular fishing competitions. There are about 15 recreational fishing vessels ranging from 10 feet single engine dinghies to 35 foot twin diesel engine cabin cruisers. The PPGFA has annually hosted international tournaments in each of the past five years with fishermen from neighboring Samoa and Cook Islands attending. The recreational vessels use anchored fish aggregating devices (FADs) extensively, and on tournaments venture to the various outer banks which include the South Bank (35 miles), North East Bank (40 miles NE), South East bank (37 miles SE), 2% bank (40 miles), and East Bank (24 miles East). Several recreational fishermen have aspirations to become charter vessels and are in the process of obtaining captains (6 pack) licenses. In 2010, PPGFA will play host to the 11th Steinlager I'a Lapo'a Game Fishing Tournament, which is a qualifying event for the International Game Fish Association's Offshore World Championship in Cabo San Lucas, Mexico.

There is no full-time regular charter fishery in American Samoa similar to those in Hawaii or Guam. However, Pago Pago Marine Charters[11] which is concerned primarily with industrial work such as underwater welding, construction, and salvage, also includes for-hire fishing among the services it offers.

Estimation of the volume and value of recreational fishing in American Samoa is not known with any precision. An approximation of the volume of boat based recreational fishing is generated in the Western Pacific Council's Pelagics Annual Report, based on the annual sampling of catches conducted under the auspices of WPacFIN[12]. Boat-based recreational catches have ranged from 2,100 to 6, 100 lb between 2006 and 2008, comprising primarily pelagic fish (WPRFMC 2007, WPRFMC 2010). These catches are unsold, but based on the 2008 average price for pelagic fish ($2.19/lb) (WPRFMC 2010) this would be worth $4,600 - $18,360. An additional volume of fish is caught recreationally by fishing tournaments mounted by the PPGFA but these landings are not monitored by WPacFIN.

There is no information on any protected species interactions associated with recreational fishing.

7.3 Target Tuna Stocks

7.3.1 South Pacific Albacore Tuna

A 2009 assessment of South Pacific albacore conducted by Hoyle and Davies (2009) covering the period 1960 to 2008 determined South Pacific albacore were not subject to overfishing, and are not overfished. The 2009 assessment made some changes to the model; two major sources of uncertainty were addressed and the assessment reappraised (Hoyle and Davies 2009). Hoyle and

[10] http://ppgfa.com/page/about-ppgfa.
[11] http://pagopagomarinecharters.com/
[12] http://www.pifsc.noaa.gov/wpacfin/).

Davies (2009) concluded that there is no indication that current levels of catch are not sustainable in terms of recruitment overfishing[13], particularly given the age selectivity of the fisheries (which primarily catch larger, older (7-12 yr) fish); however, current levels of fishing pressure appear to be affecting longline catch rates.

In 2006, Langley reported that recent levels of fishing effort from all South Pacific albacore fisheries combined reduced the level of biomass available to the Pacific Island nations domestic longline fisheries by approximately 30% compared to unexploited levels. He continued on with predicting that increases in fishing effort in the Pacific Islands longline fisheries would result in declines in CPUE due to a decline in exploitable biomass. Catch rates in domestic longline fisheries exhibit strong seasonal trends due to fluctuations in the oceanographic conditions and inter-annual variation in albacore catch rates are evident in most of the Pacific Island fisheries (Langley 2006).

Prior to 2001, south Pacific albacore catches were generally in the range 25,000–44,000 mt, although a significant peak was attained in 1989 (49,076 mt), when driftnet fishing was in existence. Since 2001, catches have greatly exceeded this range, primarily as a result of the growth in several Pacific Islands domestic longline fisheries (Figure 7). The south Pacific albacore catch in 2009 (66,996 mt) was the highest on record (slightly higher than the previous record in 2006 at 65,798 mt) (Williams and Terawasi 2010).

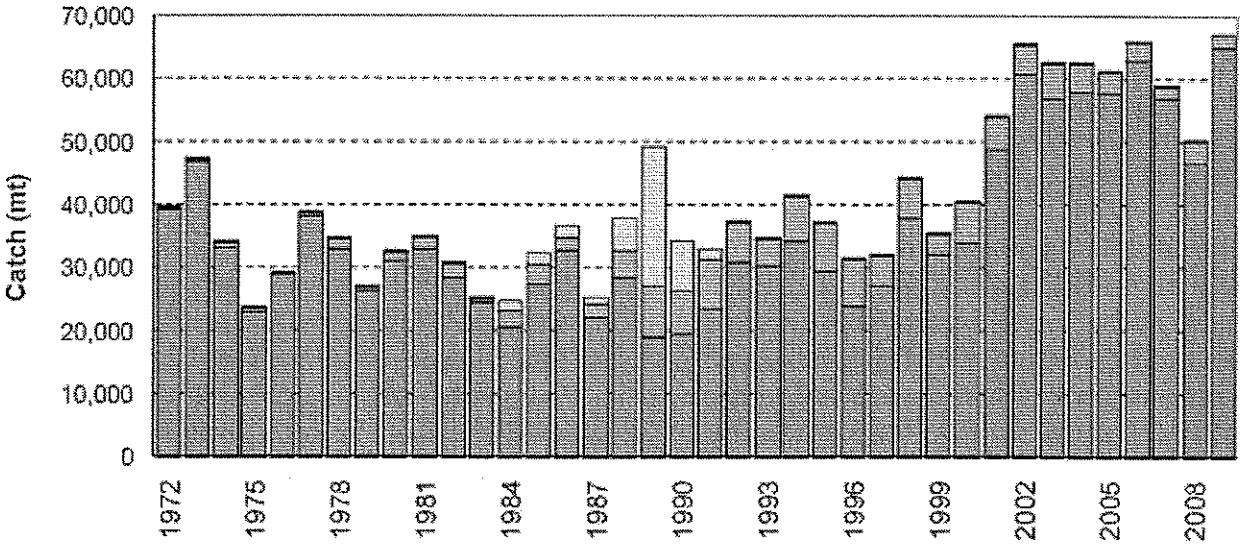

Figure 7: Catches of South Pacific Albacore by gear, 1972-2009
Note: Longline catches in green; yellow is drift gill net catches in yellow, troll catches in orange
Source: Hoyle and Davies 2009

The longline catch of albacore is distributed over a large area of the south Pacific (Figure 9, but concentrated in the west. The Chinese-Taipei distant-water longline fleet catch is taken in all three regions, while the Pacific Island domestic longline fleet catch is restricted to the latitudes 10°–25°S. Troll catches are distributed in New Zealand's coastal waters, mainly off the South

[14] Recruitment overfishing is the rate of fishing above which recruitment to the exploitable stock becomes significantly reduced.

Island, and along the SCTZ. Less than 20% of the overall south Pacific albacore catch is usually taken east of 150°W (Figure 8).

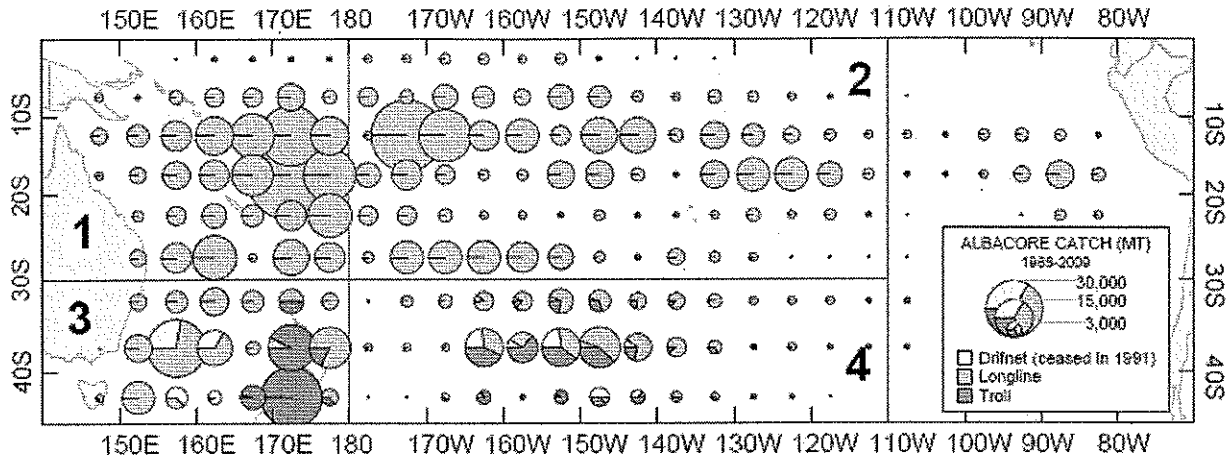

Figure 8: Distribution of South Pacific albacore tuna catch, 1988–2009
Source: Hoyle and Davies 2009

7.3.2 Skipjack Tuna

Skipjack tuna occur in the upper mixed-layer throughout the equatorial region, but the largest catches are taken from the warmpool in the western equatorial Pacific with the most successful fishing grounds is located in the vicinity of a convergence zone between the warm (>28-29° C) low-salinity water of the warmpool and the cold saline water of equatorial upwelling in the central Pacific (Lehodey et al., 1997).

The most recent assessment of skipjack tuna in the WCPO was conducted in 2010 (and included data from 1972 to 2009 (Hoyle et al. 2010). Current fishing mortality rates for skipjack tuna are estimated to be well below the F_{MSY} reference point, and therefore, overfishing is not occurring (i.e., current fishing mortality is less than F_{MSY}). The total biomass of skipjack tuna has fluctuated above the biomass based reference point B_{MSY} and recent biomass levels are estimated to be well above the B_{MSY} level. According to the authors, these conclusions appear relatively robust (i.e., scientifically valid), at least within the statistical uncertainty of the current assessment. Recruitment variability, influenced by environmental conditions, will continue to be the primary influence on stock size and fishery performance.

The American Samoa longline fishery is considered to have a sustainable catch of skipjack tuna. This species comprised about 12 percent of the total longline catch between 2004 and 2009, ranging from roughly 136 to 235 mt landed during this period (unpublished information from draft 2009 American Samoa pelagics annual report module). In 2007 and 2008, the price for skipjack showed a strong uptrend and reached record levels around mid-2008 with Bangkok benchmark skipjack prices at US$1,920 per mt and Yaizu prices at US$1,929 per mt (Williams & Terawasi 2009). As such, longline vessels in American Samoa began to retain greater amounts of skipjack in 2008. Skipjack retention rates averaged about 74 percent between 2002 and 2007, but rose to almost 90 percent in 2008 with the higher value of skipjack.

7.3.3 Yellowfin Tuna

Western and Central Pacific yellowfin tuna were determined by NMFS to be subject to overfishing in 2006 (71 FR 14837); however, based on recent stock assessments, they are no longer considered to be subject to overfishing. Langley et al. (2009) estimate MSY of WCPO yellowfin tuna between 552,000-637,000 mt and state that estimates of current fishing mortality are generally well below the fishing mortality at MSY, and any increase in fishing mortality would most likely occur with the waters of the Pacific Warm Pool, i.e., between the islands of New Guinea and the Federated States of Micronesia. Overall, spawning biomass is greater than that needed to produce MSY. There is no indication that the American Samoa longline fishery's catch of yellowfin tuna is not sustainable. No stock assessment of yellowfin tuna was conducted for WCPO in 2010.

International Stock Management
In December 2008, the WCPFC adopted a conservation and management measure (CMM 2008-01, "Conservation and Management Measure for Bigeye and Yellowfin Tuna in the Western and Central Pacific Ocean") for the years 2009-2011, applicable to bigeye and yellowfin tuna catches from the WCPO. For the U.S., the catch of yellowfin tuna is not to be increased in the longline fishery from the 2001–2004 levels. American Samoa is among the small island developing State members and participating territories to the WCPFC. As such, the catch limit for yellowfin under CMM 2008-01 does not apply to American Samoa; however, the Council may recommend, and NMFS may implement domestic yellowfin tuna catch limits for the American Samoa longline fishery through the Magnuson-Stevens Act. Yellowfin tuna are retained in the American Samoa longline fishery (Table 13).

7.3.4 Bigeye Tuna

The 2010 WCPO bigeye tuna stock assessment concluded that overfishing is occurring, and it is likely bigeye tuna is approaching an overfished state, if it is not already slightly overfished. It also concluded that MSY levels would rise if small fish mortality were reduced, which would allow greater overall yields to be harvested sustainably (Harley et al. 2010). According to NMFS, the Pacific-wide bigeye tuna stock is classified as subject to overfishing, not overfished and not approaching an overfished state. Catches of bigeye tuna in American Samoa are small, relative to Hawaii, averaging 183 mt between 2004 and 2008 (WPFMC 2010). While these catches contribute to the overall fishing mortality of bigeye in the WCPO, they are negligible in comparison to the approximately 40,000 mt caught by purse seines and 60,000 mt caught by longliners in total. Moreover, American Samoa and its longline fishery primarily operate in an area to the south of the main concentration of longline fishing (Fig. 4 in Harley et al. 2010), and is therefore, likely to be sustainable, although fishing has had an impact on the stock.

International Stock Management
As discussed above, the WCPFC adopted CMM 2008-01 for the years 2009-2011, applicable to bigeye and yellowfin tuna catches from the WCPO. The measure includes a phased reduction of bigeye tuna catches for the longline fishery from 2001-2004 or 2004 levels over three years, so that the catch would be reduced 10 percent in 2009, 20 percent in 2010 and 30 percent in 2011. For fresh fish longline fisheries catching less than 5,000 mt annually (such as the Hawaii-based

longline fleet), the reduction applies to 2009, with 2010 and 2011 catches to be maintained at the 2009 level, i.e., at a 10 percent reduction. Under CMM 2008-01, the specified bigeye tuna catch limits do not apply to the small island developing State members and participating territories to the WCPFC, including American Samoa, provided they are undertaking responsible development of their domestic fisheries. However, the Council may recommend, and NMFS may implement domestic catch limits for the American Samoa longline fishery through the Magnuson-Stevens Act. Bigeye tuna are retained in the American Samoa longline fishery (Table 13).

MSY of Target Tuna Stocks

Maximum sustainable yields (MSYs) for tuna stocks are as follows: bigeye- 73,840 mt; skipjack- 1,375,600 mt; and S. Pacific albacore- 81,580 mt. Langley et al. (2009) estimate MSY of WCPO yellowfin tuna between 552,000-637,000 mt.

7.4 Protected Species

7.4.1 Sea Turtles

All Pacific sea turtles are designated under the Endangered Species Act (ESA) as either threatened or endangered. The breeding populations of Mexico's olive ridley sea turtles (*Lepidochelys olivacea*) are currently listed as endangered, while all other ridley populations are listed as threatened. Leatherback sea turtles (*Dermochelys coriacea*) and hawksbill turtles (*Eretmochelys imbricata*) are also classified as endangered. Loggerhead (*Caretta caretta*) and green sea turtles (*Chelonia mydas*) are listed as threatened (the green sea turtle is listed as threatened throughout its Pacific range, except for the endangered population nesting on the Pacific coast of Mexico). These five species of sea turtles are highly migratory, or have a highly migratory phase in their life history (NMFS 2001). For more detailed information on the life history of sea turtles, see the Council's Draft Environmental Impact Statement on Amendment 18 to the Fishery Management Plan for Pelagic Fisheries of the Western Pacific Region (WPFMC 2008).

7.4.1.1 Green Sea Turtles

Green sea turtles are the only species documented to interact with the American Samoa longline fishery.

General Distribution

Green turtles are found throughout the world, occurring primarily in tropical, and to a lesser extent, subtropical waters. The species occurs in five major regions: the Pacific Ocean, Atlantic Ocean, Indian Ocean, Caribbean Sea, and Mediterranean Sea. These regions can be further divided into nesting aggregations within the eastern, central, and western Pacific Ocean; the western, northern, and eastern Indian Ocean; Mediterranean Sea; and eastern, southern, and western Atlantic Ocean, including the Caribbean Sea Green turtles appear to prefer waters that usually remain around 20° C in the coldest month; for example, during warm spells (e.g., El Niño), green turtles may be found considerably north of their normal distribution. Stinson (1984)

found green turtles appear most frequently in U.S. coastal waters that have temperatures exceeding 18° C.

The genus *Chelonia* is composed of two taxonomic units at the population level; the eastern Pacific green turtle (referred to by some as "black turtle," *C. mydas agassizii*), which ranges (including nesting) from Baja California south to Peru and west to the Galapagos Islands, and the nominate *C. m. mydas* in the rest of the range (insular tropical Pacific, including Hawaii). The non-breeding range of green turtles is generally tropical, and can extend thousands of miles from shore in certain regions. Hawaiian green turtles monitored through satellite transmitters were found to travel more than 1,100 km from their nesting beach in the French Frigate Shoals, south and southwest against prevailing currents to numerous distant foraging grounds within the 2,400 kilometer span of the archipelago (Balazs 1994, Balazs et al., 1994, Balazs and Ellis 1996).

Three green turtles outfitted with satellite tags on Rose Atoll (the easternmost island of the Samoan Archipelago) traveled on a southwesterly course to Fiji, a distance of approximately 1,500 km (Balazs et al. 1994). Tag returns of eastern Pacific green turtles establish that these turtles travel long distances between foraging and nesting grounds. In fact, 75 percent of tag recoveries from 1982-90 were from turtles that had traveled more than 1,000 kilometers from Michoacán, Mexico.

Pacific Ocean Nesting Distribution

Green turtles occur in the eastern, central, and western Pacific. Foraging areas are also found throughout the Pacific and along the southwestern U.S. coast (NMFS and USFWS 1998a). Nesting is known to occur at hundreds of sites throughout the Pacific, with major nesting occurring in Indonesia, Malaysia, the Philippines, Australia, Micronesia, Hawaii, New Caledonia, Mexico, the Galapagos Islands, and other sites (NMFS & USFWS 2007a). In Oceania (Polynesia, Micronesia, Melanesia, and eastern Australia) there are nearly 200 known nesting sites (Figure 9, NMFS 2010b). Conservation efforts over the past 25 years or more appear to have had some positive results. Chaloupka et. al. (2008) report that green sea turtle index rookeries at the Ogasawara Islands (southern Japan), Raine Island (northern Great Barrier Reef), Hawaii, and Heron Island (southern Great Barrier Reef) have shown significant increases in nester or nest abundance.

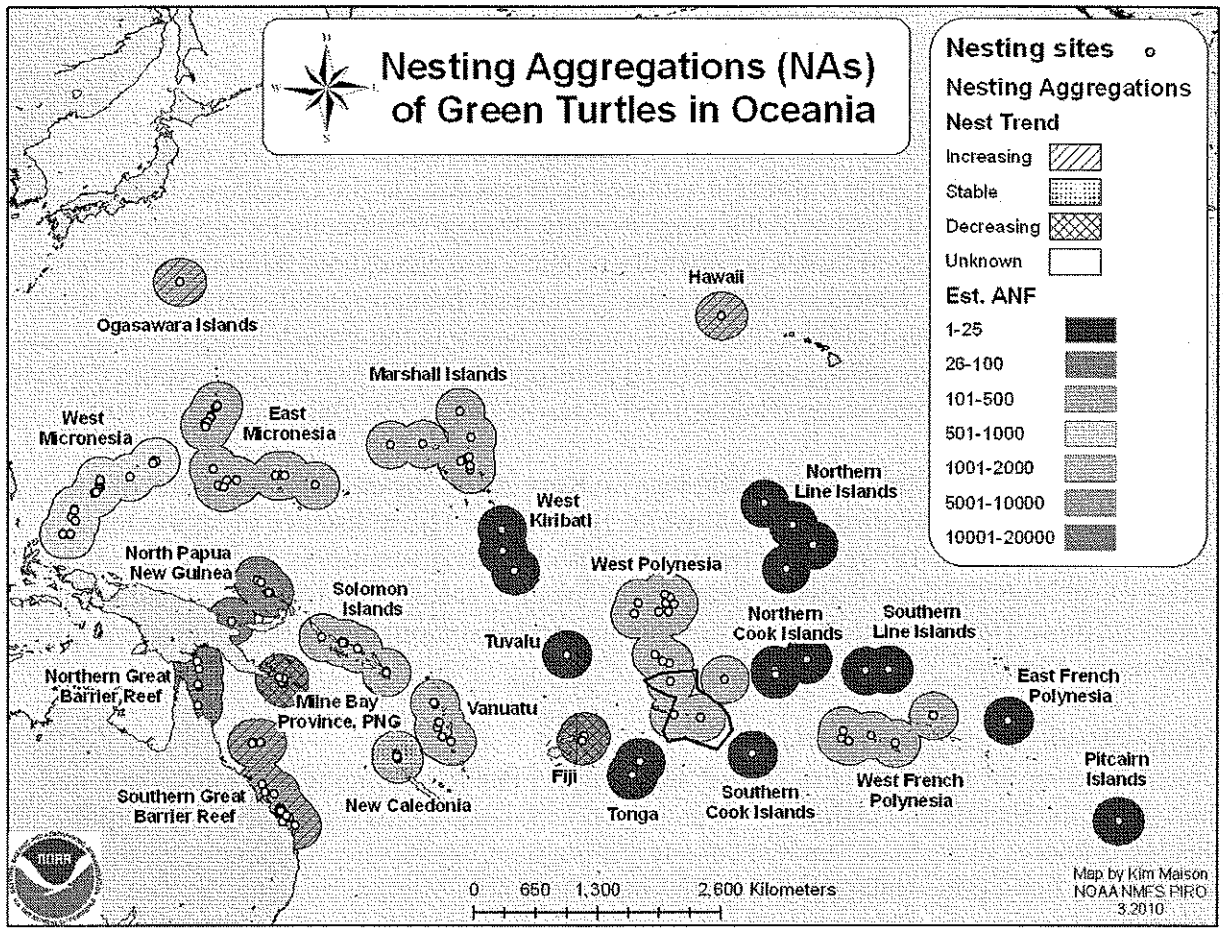

Figure 9: Green turtle nesting aggregations in Oceania (American Samoa EEZ shown in black outline; "Est. ANF" = estimated annual nesting females).
Source: NMFS PIRO Protected Resources Division

Based on the best information currently available, about 18,000 to 38,000 green turtles nest annually in Oceania (NMFS 2010b). However, about 90% of nesting takes place among two Australian nesting aggregations (Northern GBR and Southern GBR which includes the Coral Sea Platform), with over half of all the nesting occurring on a single island; Raine Island in the Northern GBR (Chaloupka et al. 2008, Limpus 2009). Nesting trends appear stable at Raine Island, and are increasing at Heron Island in the Southern GBR, as well as at Chichi-jima in the Ogasawara Islands (Chaloupka et al. 2008). However, these trends do not necessarily correlate with a stable or increasing total number of turtles because of low nesting success and hatchling production at Raine Island, where the majority of nesting for Oceania occurs (Limpus et al. 2003; Limpus 2009; Hamann et al. 2009). Also, nesting aggregations with small numbers of nesting females, like those throughout the islands and atolls of central and south Pacific, may be of greater importance than their proportional numbers indicate. Many of these nesting aggregations are geographically isolated, and likely harbor unique genetic diversity, which may be lost if these small nesting aggregations or their components become extirpated (Avise & Bowen 1994).

Sub-adult and adult green turtles occur in low abundance in nearshore waters around the islands of American Samoa. No population trend data are available, but anecdotal information suggests major declines over the last 50 years (Tuato'o-Bartley et al 1993, Utzurrum 2002). Genetics samples have been collected from stranded or foraging green turtles around Tutuila. To date, four samples have been analyzed: two samples from stranded green turtles in Pago Pago Harbor had a haplotype known from nesting green turtles in American Samoa, Yap, and the Marshall Islands. However, since many green turtle nesting aggregations in the Pacific still have not been sampled, it is possible that this haplotype occurs at more than these three sites. In addition, two samples have been analyzed from foraging green turtles at Fagaalu, but the haplotype is of unknown nesting origin (Peter Dutton, SWFSC, pers. comm.).

Size and Identification

Green turtles are distinguished from other sea turtles by their smooth carapace with four pairs of lateral scutes, a single pair of prefrontal scutes, and a lower jaw-edge that is coarsely serrated. Adult green turtles have a light to dark brown carapace, sometimes shaded with olive, and can exceed one meter in carapace length and 100 kilograms (kg) in body mass. Females nesting in Hawaii averaged 92 cm in straight carapace length (SCL), while at the Olimarao Atoll in Yap, females averaged 104 cm in curved carapace length (CCL) and approximately 140 kg. In the rookeries of Michoacán, Mexico, females averaged 82 cm in CCL, while males averaged 77 cm CCL (in NMFS and USFWS 1998a).

Growth and Age at Maturity

Green turtles exhibit a slower growth rate than other sea turtles, and age to maturity appears to the longest. Based on age-specific growth rates, green turtles are estimated to attain sexual maturity beginning at age 25 to 50 years (Limpus and Chaloupka 1997, Bjorndal et al. 2000, Chaloupka et al. 2008, Seminoff 2002, Zug et al. 2002). The length of reproductivity has been estimated to range from 17 to 23 years (Carr 1978, Fitzsimmons et al. 1995 *in* Seminoff 2002).

Diet

Although most green turtles appear to have a nearly exclusive herbivorous diet, consisting primarily of sea grass and algae (Wetherall et al. 1993; Hirth 1997), those along the east Pacific coast seem to have a more carnivorous diet. Analysis of stomach contents of green turtles found off Peru revealed a large percentage of mollusks and polychaetes, while fish and fish eggs, and jellyfish and commensal amphipods comprised a lesser percentage (Bjorndal 1997). Foraging studies of 31 green sea turtles in Mexico found the turtles to have consumed primarily algae with small amounts of squid, sponges, tube worms, and other invertebrates in their diet (Seminoff et al. 1997). A later study, however, documented a number of deep water invertebrate prey in the diet of local green turtles in Bahia de los Angeles, Mexico, suggesting that green turtles forage in offshore regions as well (Seminoff et al. 2006). Seminoff and Jones (2006) suggest that green sea turtles also exhibit offshore resting activity and they cite studies in the Caribbean where greens showed predictable diel movement patterns with turtles feeding on grass flats in mid-morning and mid-afternoon and moving into deeper water during midday hours. In the Hawaiian Islands, green turtles are thought to be site-specific and consistently feed in the same areas on preferred substrates, which vary by location and between islands (Landsberg et al. 1999).

Global Status

Green turtles were listed as threatened under the ESA on July 28, 1978, except for breeding populations found in Florida and the Pacific coast of Mexico, which were listed as endangered. Using a conservative approach, Seminoff (2004) analyzed subpopulation changes at 32 index sites, and estimated that globally the number of nesting female green turtles has declined by 48 to 67 percent over the last three generations (approximately 107 to 149 years). Causes for this decline include harvest of eggs, subadults and adults, incidental capture by fisheries, loss of habitat, and disease. The degree of population change was not consistent among all index nesting beaches or among all regions. Some nesting populations are stable or increasing. A 2007 study looked at global green sea turtle seasonal nesting activity data from all reliable available long-term datasets and found that rates of nesting population increase in the six main rookeries ranged from 4-14 percent per year over the past twenty to thirty years (Chaloupka et al. 2007). In the Pacific, the only major (> 2,000 nesting females) populations of green turtles occur in Australia and Malaysia. Smaller colonies occur in the insular Pacific islands of Polynesia, Micronesia, and Melanesia (Wetherall 1993) and on six small, sand islands at French Frigate Shoals, a long atoll situated in the middle of the Hawaii Archipelago (Balazs et al. 1995).

Green Sea Turtles in American Samoa

In Samoan folklore, green sea turtles, known in Samoan as *I`a sa* (sacred fish), *laumei ena'ena* or *tualimu* were believed to have the power to rescue fishermen lost at sea (Craig 2002). The life cycle of the green sea turtle involves a series of long-distance migrations back and forth between their feeding and nesting areas (Craig 2002). In American Samoa, their only known nesting area is at Rose Atoll[14]. When they finish laying their eggs there, the green turtles leave Rose Atoll and migrate to their feeding grounds somewhere else in the South Pacific. After several years, the turtles will return to Rose Atoll to nest again. Every turtle returns to the same nesting and feeding areas throughout its life, but that does not necessarily mean that all turtles nesting at Rose Atoll will migrate to exactly the same feeding area.

Following hatching from their natal beaches, green turtle life history is characterized by early development in the pelagic zone followed by development in coastal areas where post-recruitment juveniles and adults forage in shallow coastal areas, primarily on algae and seagrasses. Upon maturation, adult greens typically undertake long migrations between their resident foraging grounds and their natal nesting areas (NMFS 2010a). From 1971-1996, 46 adult female turtles were flipper tagged at Rose Atoll with only three ever recaptured; two in Fiji and one in Vanuatu, all dead. A satellite tagging study, conducted in the mid-1990s tracked seven tagged green sea turtles by satellite telemetry from their nesting sites at Rose Atoll to Fiji (Balazs et al. 1994). Most of the recovered tagged turtles migrated westward to Fiji perhaps for better feeding opportunities in Fiji's abundant, shallow seagrass and algae habitats (Craig et al. 2004). Of 513 greens tagged in French Polynesia between 1972 and 1991, six were recovered in Fiji, three in Vanuatu, two in New Caledonia, and one each were recovered at Wallis Island, Tonga, and the Cook Islands (NMFS 2010a).

[14] See http://www.nps.gov/archive/npsa/5Atlas/partq.htm#top

Green Sea Turtle Interactions with the American Samoa-based Longline Fishery
The sea turtle interactions that have occurred in waters around American Samoa have been with juvenile green sea turtles. Because the interactions resulted in mortalities, tissue samples for genetic analysis were obtained from several of the turtle specimens. The first sample was collected in 2006, and was identified as being a haplotype consistent with the northern Australian stock that include nesting populations in the Northern and Southern Great Barrier Reef and Coral Sea and in New Caledonia. This is quite different from the haplotypes of the few samples obtained from nesting females in American Samoa (NMFS PIRO, pers. comm.). The second sample collected in 2007, is a haplotype that researchers have only found in Micronesia, the Marshall Islands and in American Samoa (NMFS PIRO, pers. comm.).

NMFS and other regional partners including the Southwest Fisheries Science Center (SWFSC) are currently working together to obtain better information on the status and stock structure of the western and central Pacific populations including the following projects shown in Table 17.

Table 17: NMFS Green Turtle Projects

Project	Collaborators	Location *	Target	Results to Date
Micronesian green turtle genetics study	SWFSC, Regional partners	CNMI, Guam, Palau, FSM, RMI	Nesting and foraging turtles	>600 samples collected for genetic analysis
Central Pacific green turtle genetics and migration studies	SWFSC, Regional partners	FSM, Palmyra, American Samoa	Nesting turtles	>100 samples collected for genetic analysis; ~1000 turtles tagged in FSM
American Samoa longline fishery observer program	PIFSC, SWFSC	American Samoa	Incidentally-caught turtles	3 samples collected from turtles caught in fishery from 2006-2008
Various PIRO-supported green turtle conservation projects	PIFSC, Regional partners	CNMI, Guam, Palau, FSM, RMI, Palmyra, American Samoa	Nesting turtles	>100 samples opportunistically collected for genetic analysis for genetic analysis during project implementation

7.4.1.2 Hawksbill Sea Turtles

The hawksbill turtle is listed as endangered under the ESA throughout its range. The primary global threat to hawksbills is habitat loss of coral reef communities. In the Pacific, the primary threat is the harvesting of the species for its meat, eggs, and shell, as well as the destruction of nesting habitat by human occupation and disruption (NMFS and USFWS 1998b). Along the eastern Pacific Rim, hawksbill turtles were common to abundant in the 1930s, but by the 1990s, the hawksbill turtle was rare to absent in most localities where it was once abundant (Cliffton et al. 1982).

Hawksbills are circumtropical in distribution, generally occurring from latitudes 30° N to 30° S within the Atlantic, Pacific, and Indian Oceans and associated bodies of water (NMFS and USFWS 1998b). Within the Central Pacific, nesting is widely distributed, though scattered and in very low numbers with the largest concentrations of nesting hawksbills in the Pacific occurring

on remote oceanic islands of Australia and in the Indian Ocean. Foraging hawksbills have been reported from virtually all of the island groups of Oceania and from the Galapagos Islands in the eastern Pacific to the Republic of Palau in the western Pacific (Witzell 1983, Pritchard 1982a, b)[15].

Research indicates adult hawksbill turtles are capable of migrating long distances between nesting beaches and foraging areas, which are comparable to migrations of green and loggerhead turtles. Hawksbills have a unique diet comprised primarily of sponges (Meylan 1985, 1988). While data are somewhat limited on their diet in the Pacific, it is well documented that in the Caribbean hawksbill turtles are selective spongivores, preferring particular sponge species over others (Dam and Diez 1997). Foraging dive durations are often a function of turtle size, with larger turtles diving deeper and longer. As a hawksbill turtle grows from a juvenile to an adult, data suggest that the turtle switches foraging behaviors from pelagic surface feeding to benthic reef feeding (Limpus 1992). Within the Great Barrier Reef of Australia, hawksbills move from a pelagic existence to a "neritic" life on the reef at a minimum CCL of 35 centimeters. The maturing turtle establishes foraging territory and will remain in this territory until it is displaced (Limpus 1992). As with other sea turtles, hawksbills will make long reproductive migrations between foraging and nesting areas (Meylan 1999), but otherwise they remain within coastal reef habitats. In Australia, juvenile turtles outnumber adults 100:1. These populations are also sex-biased, with females outnumbering males approximately 2.5:1 (Limpus 1992).

Throughout the far western and southeastern Pacific, hawksbill turtles nest on the islands and mainland of southeast Asia, from China to Japan, and throughout the Philippines, Malaysia, Indonesia, Papua New Guinea, the Solomon Islands (McKeown 1977), and Australia (Limpus 1982). The largest nesting population of hawksbills appears to occur in Australia. Approximately 2,000 hawksbills nest on the northwest coast of Australia and about 6,000 to 8,000 off the Great Barrier Reef each year (Spotila 2004). Additionally, about 2,000 hawksbills nest each year in Indonesia and 1,000 in the Republic of Seychelles (Spotila 2004)[16].

Hawksbill Sea Turtles in American Samoa

Hawksbill turtles are known in Samoan as *laumei uga or laumei ulumanu.* Hawksbills are solitary nesters, and are most commonly found at Tutuila and the Manu'a Islands, and are also known to nest at Rose Atoll and Swains Island (Utzurrum 2002). These turtles could be occasionally poisonous -- in the late 1950s, people in Aunu'u got very sick after eating one. In October, 2007, a nest was found containing a total of 167 shells, of which there were 142 live baby turtles, four of which died, and 25 unhatched eggs were located. Students from the village of Amanave where the nest was found assisted and kept the hatchlings safe overnight until DMWR staff arrived the next morning when they all let the hatchlings free at Amanave Beach. DMWR believes it is the largest group of hawksbill hatchlings to have been found in American Samoa[17]. In the Samoan Islands (Samoa and American Samoa), fewer than 30 hawksbills are estimated to nest annually, and the nesting trends are declining (NMFS & USFWS 2007b).

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[15] From NMFS website at: http://www.nmfs.noaa.gov/pr/species/turtles/hawksbill.htm

[16] "

[17] From an article by Tina Mata' afa in the Samoa News. October 2007.

7.4.1.3 Olive Ridley Sea Turtles

Olive ridleys lead a highly pelagic existence (Plotkin 1994). These sea turtles appear to forage throughout the eastern tropical Pacific Ocean, often in large groups, or flotillas. Olive ridleys generally have a tropical range; however, individuals do occasionally venture north, some as far as the Gulf of Alaska (Hodge and Wing 2000). The post-nesting migration routes of olive ridleys, tracked via satellite from Costa Rica, traversed thousands of kilometers of deep oceanic waters ranging from Mexico to Peru and more than 3,000 kilometers out into the central Pacific (Plotkin 1994). Stranding records from 1990–1999 indicate that olive ridleys are rarely found off the coast of California, averaging 1.3 strandings annually (J. Cordaro, NMFS, pers. comm., 2004). At least one olive ridley was reported in Yap, Micronesia in 1973 (Falanruw et al. 1975).

The olive ridley turtle is omnivorous, and identified prey include a variety of benthic and pelagic prey items such as shrimp, jellyfish, crabs, snails, and fish, as well as algae and seagrass (Marquez 1990). It is also not unusual for olive ridley turtles in reasonably good health to be found entangled in scraps of net or other floating synthetic debris. Small crabs, barnacles, and other marine life often reside on debris and are likely to attract the turtles. Olive ridley turtles also forage at great depths; a turtle has been sighted foraging for crabs at a depth of 300 meters (Landis 1965 *in* Eckert et al. 1986).

Olive Ridley Sea Turtles in American Samoa

Olive ridley turtles are uncommon in American Samoa, although there have been at least three sightings. A necropsy of one recovered dead olive ridley found that it was injured by a shark, and may have recently laid eggs, indicating that there may be a nesting beach in American Samoa (Utzurrum 2002).

7.4.1.4 Leatherback Sea Turtles

Leatherback turtles (*Dermochelys coriacea*) are widely distributed throughout the oceans of the world, and are found in waters of the Atlantic, Pacific, and Indian Oceans; the Caribbean Sea; and the Gulf of Mexico (Dutton et al. 1999). Increases in the number of nesting females have been noted at some sites in the Atlantic (Dutton et al. 1999), but these are far outweighed by local extinctions, especially of island populations, and the demise of once-large populations throughout the Pacific, such as in Malaysia (Chan and Liew 1996) and Mexico (Sarti et al. 1996; Spotila et al. 1996). In other leatherback nesting areas, such as PNG, Indonesia, and the Solomon Islands, there have been no systematic, consistent nesting surveys, so it is difficult to assess the status and trends of leatherback turtles at these beaches. In all areas where leatherback nesting has been documented, current nesting populations are reported by scientists, government officials, and local observers to be well below abundance levels of several decades ago. The collapse of these nesting populations was most likely precipitated by a tremendous overharvest of eggs coupled with incidental mortality from fishing (Sarti et al. 1996).

Leatherback turtles lead a mostly pelagic existence, foraging widely in temperate waters, except during the nesting season when gravid females return to tropical beaches to lay eggs. Males are rarely observed near nesting areas, and it has been proposed that mating most likely takes place outside of tropical waters, before females move to their nesting beaches (Eckert and Eckert 1988). Leatherbacks are highly migratory, exploiting convergence zones and upwelling areas in

the open ocean, along continental margins, and in archipelagic waters (Eckert 1998). In a single year, a leatherback may swim more than 10,000 kilometers (Eckert 1998).

Satellite telemetry studies indicate that adult leatherback turtles follow bathymetric contours over their long pelagic migrations and typically feed on cnidarians (jellyfish and siphonophores) and tunicates (pyrosomas and salps), and their commensals, parasites, and prey (NMFS 1998). Females are believed to migrate long distances between foraging and breeding grounds, at intervals of typically two or four years (Spotila et al. 2000). In the western Pacific, nesting peaks on Jamursba-Medi Beach (Papua, Indonesia) from May to August, on War-Mon Beach (Papua) from November to January (Starbird and Suarez 1994), in peninsular Malaysia during June and July (Chan and Liew 1989), and in Queensland, Australia in December and January (Limpus and Reimer1994).

Migratory routes of leatherback turtles originating from eastern and western Pacific nesting beaches are not entirely known. However, satellite tracking of post-nesting females and genetic analyses of leatherback turtles caught in U.S. Pacific fisheries or stranded on the west coast of the U.S. presents some strong insights into at least a portion of their routes and the importance of particular foraging areas.

Leatherback Sea Turtles in American Samoa

In 1993, the crew of an American Samoa government vessel engaged in experimental longline fishing, pulled up a small freshly dead leatherback turtle about 5.6 kilometers south of Swains Island. This was the first leatherback turtle seen by the vessel's captain in 32 years of fishing in the waters of American Samoa.

7.4.1.5 Loggerhead Sea Turtles

The loggerhead sea turtle is listed as threatened under the ESA throughout its range, primarily due to direct take, incidental capture in various fisheries, and the alteration and destruction of its habitat. In the South Pacific, Limpus (1982) reported an estimated 3,000 loggerheads nesting annually in Queensland, Australia during the late 1970s. However, long-term trend data from Queensland indicate a 50 percent decline in nesting by 1988–89 due to incidental mortality of turtles in the coastal trawl fishery. This decline is corroborated by studies of breeding females at adjacent feeding grounds (Limpus and Reimer 1994). Currently, approximately 300 females nest annually in Queensland, mainly on offshore islands (Capricorn-Bunker Islands, Sandy Cape, Swains Head; Dobbs 2001). In southern Great Barrier Reef waters, nesting loggerheads have declined approximately 8 percent per year since the mid-1980s (Heron Island), while the foraging ground population has declined 3 percent and comprised less than 40 adults by 1992. Researchers attribute the declines to recruitment failure due to fox predation of eggs in the 1960s and mortality of pelagic juveniles from incidental capture in longline fisheries since the 1970s (Chaloupka and Limpus 2001).

Loggerhead Sea Turtles in American Samoa

There are no known reports of loggerhead turtles in waters around American Samoa (Tuato'o-Bartley et al. 1993).

7.4.2 Threatened and Endangered Marine Mammals

Cetaceans listed as threatened or endangered under the ESA and that have been observed in the waters around American Samoa include the humpback whale (*Megaptera novaeangliae*), sperm whale (*Physeter macrocephalus*), and sei whale (*Balaenoptera borealis*).

7.4.2.1 Humpback Whales

The humpback whale is known in Samoan as *tafola* or *ia maanu*. These whales can attain lengths of 16 meters and winter in nearshore waters of usually 100 fathoms or less. Mature females are believed to conceive on the breeding grounds one winter and give birth the following winter. Genetic and photo identification studies indicate that within the U.S. EEZ in the North Pacific, there are at least three relatively separate populations of humpback whales that migrate between their respective summer/fall feeding areas to winter/spring calving and mating areas (Hill and DeMaster 1999). The Central North Pacific stock of humpback whales winters in the waters of the Main Hawaiian Islands (Hill et al. 1997). At least six well-defined breeding stocks of humpback whales occur in the Southern Hemisphere. In Fagatele Bay National Marine Sanctuary, southern humpback whales mate and calve from June through September. Humpbacks arrive in American Samoa from the south as early as July and stay until as late as December (Reeves et al. 1999). They are most common around Samoa during September and October. They occur in small groups of adults or in mother-calf pairs. Humpbacks have been sighted around all seven of the islands in American Samoa, but it is unknown how many spend time in the area.

The appearance of humpbacks around American Samoa is an important segment of their migration north and south in the South Pacific Ocean[18]. During the warm months of the southern hemisphere, they feed in Antarctica's waters, about 3,200 miles to the south. When Antarctic's winter sets in, these whales seek warmer waters by migrating northward, with some going towards Australia and others migrating towards Tonga. According to the Natural History Guide to the National Park of American Samoa most of this latter group remains near Tonga, but at least some migrate onward to Samoa, however, one whale seen in Samoan waters was sighted near Tahiti, so their migration patterns are not entirely predictable.[19]

The worldwide humpback whale population size is unknown. However, estimates of the number of individuals in the Northern Pacific stock have recently increased significantly. In the 1980s estimates ranged from 1,407 to 2,100 (Baker 1985; Darling and Morowitz 1986; Baker and Herman 1981), while the 2004-2006 SPLASH[20] (Structure of Populations, Levels of Abundance and Status of Humpbacks) surveys results estimate the abundance to be nearly 20,000 whales in the entire north Pacific (Calambokidis et al. 2008). The central North Pacific stock of humpback whales winters in the waters of the main Hawaiian Islands and feeds on the summer grounds of Southeast Alaska and Prince William Sound. Over 50 percent of the estimated population in the

[18] See http://www.nps.gov/archive/npsa/5Atlas/parts.htm#top

[19] Ibid

[20] SPLASH sampling is conducted by an international collaborative group of more than 50 research groups and 400 researchers coordinated by a Steering Committee that included coordinators for each of the regions sampled, as well as principals in the funding, coordination, and analysis of SPLASH.

north Pacific is thought to overwinter in Hawaiian waters (Calambokidis et al. 2008). To date, no humpback whale interactions have been observed in the American Samoa fishery.

7.4.2.2 Sperm Whales

The sperm whale is the most easily recognizable whale with a darkish gray-brown body and a wrinkled appearance. The head of the sperm whale is very large, making up to 40 percent of its total body length. The current average size for male sperm whales is about 15 meters, with females reaching up to 12 meters.

Sperm whales are found in tropical to polar waters throughout the world (Rice 1989). They are among the most abundant large cetaceans in the region. Historical observations of sperm whales around Samoa occurred in all months except February and March (Reeves et al. 1999). Sperm whales are occasionally seen seaward of Fagatele Bay Sanctuary[21].

The world population of sperm whales had been estimated to be approximately two million. However, the methods used to make this estimate are in dispute, and there is considerable uncertainty over the remaining number of sperm whales. The world population is at least in the hundreds of thousands, if not millions.

7.4.2.3 Sei Whales

Sei whales are members of the baleen whale family. There are two subspecies of sei whales recognized, *B. b. borealis* in the Northern Hemisphere and *B. B. schlegellii* in the Southern Hemisphere. They can reach lengths of about 40-60 ft (12-18 m) and weigh 100,000 lbs (45,000 kg). Sei whales have a long, sleek body that is dark bluish-gray to black in color and pale underneath. The body is often covered in oval-shaped scars (probably caused from cookie-cutter shark and lamprey bites) and sometimes has some mottling, i.e., has spots or blotches of different color or shades of color[22].

Sei whales have a worldwide distribution but are found mainly in cold temperate to subpolar latitudes rather than in the tropics or near the poles (Horwood 1987). They are distributed far out to sea and do not appear to be associated with coastal features. Two sei whales were tagged in the vicinity of the Northern Mariana Islands (Reeves et al. 1999). The International Whaling Commission considers there to be one stock of sei whales in the North Pacific, but some evidence exists for multiple populations (Forney et al. 2000). In the southern Pacific most observations have been south of 30° (Reeves et al. 1999).

7.4.3 Other Marine Mammals

Other marine mammals that occur in the western Pacific region and have been recorded as being sighted in American Samoa waters (SPREP 2007) are shown in Table 18.

[21] See http://sanctuaries.noaa.gov/science/condition/fbnms/history.html
[22] From: http://www.nmfs.noaa.gov/pr/species/mammals/cetaceans/seiwhale.htm

Table 18: Non ESA-listed Marine Mammals Occurring Around American Samoa

Common Name	Scientific Name	Common Name	Scientific Name
Blainville's beaked whale	*Mesoplodon densirostris*	**Melon-headed whale**	*Peponocephala electra*
Bottlenose dolphin	*Tursiops truncatus*	**Minke whale**	*Balaenoptera acutorostrata*
Bryde's whale	*Balaenoptera edeni*	**Pygmy sperm whale***	*Kogia breviceps*
Common dolphin	*Delphinus delphis*	**Risso's dolphin**	*Grampus griseus*
Cuvier's beaked whale	*Ziphius cavirostris*	**Rough-toothed dolphin**	*Steno bredanensis*
Dwarf sperm whale*	*Kogia simus*	**Short-finned pilot whale**	*Globicephala macrorhynchus*
False killer whale	*Pseudorca crassidens*	**Spinner dolphin**	*Stenella longirostris*
Fraser's dolphin	*Lagenodelphis hosei*	**Spotted dolphin**	*Stenella attenuata*
Killer whale	*Orcinus orca*	**Striped dolphin**	*Stenella coeruleoalba*

Sources: SPREP 2007 and PIFSC unpublished
Note: * these are unconfirmed SPREP records. Marine mammal survey data are limited for this region. This table represents likely occurrences in the action area.

7.4.4 ESA-listed Seabird[23]

Newell's shearwater (*Puffinus auricularis newelli*), has been documented in American Samoa and is listed as threatened under the Endangered Species Act. Newell's shearwater generally known with other shearwaters as ta`i`o in Samoan, has been identified as a 'seabird visitor' to Tutuila by the National Park Service24.

A recent publication prepared for the WCPFC 2009 Scientific committee meeting presents distribution maps of seabirds in the WCPO and shows this seabird's distribution as being north of American Samoa (Waugh et al. 2009). There is one documented case of a single bird from American Samoa. The specimen appeared to be sick (Grant et al. 1994). Local biologists have not documented any other Newell's shearwater in American Samoa (J. Seamon, NPS, pers. comm. Nov. 2009). Therefore, Newell's shearwater is very rare in the archipelago and should be considered an accidental visitor to American Samoa.

7.4.5 Other Seabirds

Other seabirds not listed under the ESA found in American Samoa are listed in Table 19.

[23] The USFWS is the primary federal agency with authority and responsibility to manage ESA listed seabirds.
[24] Bird Checklist for American Samoa found at: http://www.nps.gov/archive/npsa/5Atlas/partzj.htm

Table 19: Seabirds Occurring in American Samoa

Residents (i.e., breeding)		
Samoan name	English name	*Scientific name*
ta'i'o	Wedge-tailed shearwater	*Puffinus pacificus*
ta'i'o	Audubon's shearwater	*Puffinus lherminieri*
ta'i'o	Christmas shearwater	*Puffinus nativitatis*
ta'i'o	Tahiti petrel	*Pterodroma rostrata*
ta'i'o	Herald petrel	*Pterodroma heraldica*
ta'i'o	Collared petrel	*Pterodroma brevipes*
fua'o	Red-footed booby	*Sula sula*
fua'o	Brown booby	*Sula leucogaster*
fua'o	Masked booby	*Sula dactylatra*
tava'esina	White-tailed tropicbird	*Phaethon lepturus*
tava'e'ula	Red-tailed tropicbird	*Phaethon rubricauda*
atafa	Great frigatebird	*Fregata minor*
atafa	Lesser frigatebird	*Fregata ariel*
gogouli	Sooty tern	*Sterna fuscata*
gogo	Brown noddy	*Anous stolidus*
gogo	Black noddy	*Anous minutus*
laia	Blue-gray noddy	*Procelsterna cerulea*
manu sina	Common fairy-tern (white tern)	*Gygis alba*
Visitors/vagrants:		
ta'i'o	Short-tailed shearwater	*Puffinus tenuirostris*
ta'i'o	Mottled petrel	*Pterodroma inexpectata*
ta'i'o	Phoenix petrel	*Pterodroma alba*
ta'i'o	White-bellied storm petrel	*Fregetta grallaria*
ta'i'o	Polynesian storm petrel	*Nesofregetta fuliginosa*
-----	Laughing gull	*Larus atricilla*
gogosina	Black-naped tern	*Sterna sumatrana*

Source: WPRFMC 2003 (updated in 2009)

8.0 Impacts of the Alternatives

The following section describes the potential direct, indirect, and cumulative impacts which may from implementation of the alternatives under detailed consideration.

8.1 Topic 1: Vessel Size Classes

8.1.1 Alternative 1A: No-action

Under Alternative 1A, vessel class sizes would be maintained in the limited entry program.

8.1.1.1 Impacts to Target and non-target stocks

Under the no-action alternative the American Samoa longline limited entry program would remain unchanged and the fishery would continue to operating under the existing regulations (50 CFR § 665.18). This would maintain the current level of impacts to target and non-target species as described in section 8.2. Catches of target and non-target stocks in the longline fishery would likely remain similar to previous years. For South Pacific albacore, the 2009 assessment indicated that that the stock is neither overfished nor subject to overfishing. However, changes in the stock assessment model and parameters suggested that the biomass was closer to the MSY biomass than in previous assessments. The main component of the longline exploitable biomass of albacore resides in a relatively small area, suggesting a modest stock size, and further that, regional stock depletion has contributed to catch rate declines and localized depletion may also have been a factor in fishery declines (Hoyle and Davis 2009).

8.1.1.2 Impacts to Protected Species and Habitat

The no-action alternative is not expected to result in any changes to the fishery, and therefore, it is not expected to have any additional impacts to protected species or marine habitats not already considered. The current level of impacts to protected species is described in Section 8.4.

8.1.1.3 Impacts to Fishery Participants and Fishing Communities

Under the no-action alternative, there would be no changes to the limited entry program and therefore no new impacts to fishers or the fishing community of American Samoa. As authorized under 50 CFR § 665.816(g), prospective permit holders who were denied an initial permit in 2005 because they lacked fishing history prior to March 2002 are eligible to obtain a permit if they have more recent history of longline fishing in the EEZ around American Samoa. However, new participation in the small vessel class sizes is not expected because there have been three or less small vessels active since the start (2006) of the limited entry program.

Maintaining indigenous and community participation in the longline fishery is responsive to fishing-related values, norms, and practices that are of long-standing importance within the Samoan culture. Under the no-action alternative, small boat (Classes A and B) entrants to will continue to encounter potential barriers to participation in the fishery. It is believed that small vessel participants are most likely indigenous American Samoans. Because fishing is so intertwined with Samoan cultural history, barriers to participation represent a threat to a way of life and to the economic fabric of the Territory. Cultural aspects of commercial fishing include the sharing of bycatch amongst the community in a traditionally-prescribed manner and the opportunity for younger generations of indigenous American Samoans to engage substantially in

fishing while still operating in a modern, market-based economy. In addition to these socio-cultural issues, there are economic considerations inherent in maintaining indigenous participation in the longline fishery. Unfortunately for the wider territorial economy, fish processing has existed essentially as an industrial enclave; few linkages have developed between it and other sectors of the local economy. The multinational corporations that ran the operations supplied virtually everything except unskilled labor, including shipping services and infrastructure facilities (Schug and Galeai 1987). Even a substantial portion of the raw tuna processed by StarKist Samoa was landed by vessels owned by the parent company. Furthermore, most of the unskilled labor of the canneries is imported (many from nearby Samoa and Tonga). Therefore, the economic linkage between small vessel longline fishing, which is much more likely to be conducted by indigenous American Samoans, and the community is qualitatively different than fish processing in the Territory.

8.1.1.4 Impacts to Enforcement and Administration

The no-action alternative would not result in any changes to the limited entry program or the fishery, and therefore, would not be expected to have any additional or new impacts on enforcement or administration. The administrative burden associated with issuing permits based on four vessel class sizes would continue as would the burden of verifying minimum landings for permit holders requesting permit renewals.

8.1.2 Alternative 1B: Remove Vessel Size Classes

Under Alternative 1B, vessel size classes would be eliminated (i.e. remove Class A, B, C and D class sizes) and all those with permits currently would keep their permits without the vessel classification; i.e. their Class A, B, C, or D permits would simply become an American Samoa longline fishery limited entry permit.

8.1.2.1 Impacts to Target and non-target stocks

Under Alternative 1B the American Samoa longline limited entry program would no longer have four vessel class sizes, but be capped at a total of 60 permits. Currently, seven of the 60 permits (in Class A and B) have not been issued, but there are only 26-28 permit holders that actively fishing. Therefore, seven permits could be issued to large vessels where there has been many more vessels active in recent years and much more demand for permits by owners of large vessels. An additional seven large vessels operating in the fishery is not expected to significantly increase total catches, nor lead to local depletion, however hook density in the EEZ could increase.

In 2009, preliminary data indicates that the 26 vessels operated and landed approximately of 10.66 million pounds of PMUS. Assuming all American Samoa longline fishing vessels (except for the one small alia operating) catch similar amounts, the average catch per vessel was approximately 426,400 lb, and if seven additional large vessels were granted permits they could catch an additional 2.98 million pounds of PMUS. However, this potential increase in catches by seven additional large vessels is not anticipated to result in local depletion nor affect the status of target and non-target stocks that are for the most part consider highly migratory species and occur in large numbers in many areas of the tropical and sub-tropical Pacific Ocean. If the entire 60 permits were issued and used by active large vessels, substantial increases in hook density

would occur could lead to local depletion of PMUS in the EEZ, but unlikely to substantially affect the stock status of PMUS.

8.1.2.2 Impacts to Protected Species and Habitat

Alternative 1B could result in more large vessels operating in the fishery with would likely increase hook density and potential increases in interactions with protected species. NMFS' 2004 biological opinion concluded that Western Pacific fisheries, including the American Samoa longline fishery, was not likely to reduce the likelihood of survival and recovery of listed sea turtles, marine mammals, or seabirds. In 2008, the Council recommended a FEP amendment that requires American Samoa longline fishermen to remove the two closest hooks to floats and set their gear below 100 meters. This requirement is predicted to reduce green sea turtle interactions to levels that support survival and recovery of that species. NMFS is currently developing a new biological opinion on the fishery.

From 2006 through 2009, the NMFS American Samoa Observer Program monitored 1,382 sets and 4,124,717 hooks, and documented eight green sea turtle interactions resulting in all mortalities (PIRO Observer Program Annual Reports). Current observer data are not statistically robust enough to make an accurate expansion and to alleviate this NMFS is planning to increase observer coverage in this fishery to a level of 30 -40% coverage for a period of one to two years.

Genetic analyses done on two of eight sea turtles taken in the American Samoa longline fishery identified them as from nesting areas in Micronesia/American Samoa and northern Australia, respectively. Virtually no demographic information exists on the Micronesia/American Samoa stock (Chaloupka et al. 2004). The Australian stock, however, is reputed to be in a healthy state with a nesting beach on Raine Island in Queensland having the largest known green turtle nesting population in the world.[25] It is, therefore, unlikely that the American Samoa longline fishery would impact the robust Australian stock. However, the other stock which genetic analysis identified as from Micronesia or American Samoa nesting areas, has unknown status, and therefore, assessing the potential for impact is not currently determinable.

Seabirds

From observed trips from April 2006-December 2009, only one seabird interaction (unidentified shearwater in 2007) was reported[26] by observers. This is expected as typically longline-seabird interactions are minimal in tropical latitudes, being more or less restricted to higher sub-tropical and temperate latitudes (Molony 2004). It is difficult to extrapolate across the entire fleet with only four years of data from relatively low coverage levels, three of which reported zero interactions. Adverse impacts to seabirds are not expected under this alternative.

Marine Mammals

From observed trips from April 2006-December 2009, three out of the four years reported zero marine mammal interactions; only in 2008 a total of three marine mammal interactions (two false killer whales, one rough-toothed dolphin) were observed. It is difficult to extrapolate across the entire fleet with only four years of data from relatively low coverage levels, three of which had zero interactions. Under this alternative the fishery would continue to operate and have

[25] See http://www.seaturtle.org/mtn/archives/mtn118/mtn118p17.shtml

[26] Found on NMFS PIRO website at: http://www.fpir.noaa.gov/OBS/obs_qrtrly_annual_rprts.html

occasional interactions with a small number of marine mammals. If the amount of fishing effort increases in the EEZ there is expected a concomitant increase in marine mammal interactions.

Habitat
With regards to potential impacts to habitat, longline fishing does not harm habitat as the gear is suspended in the water column and does not make contact with bottom substrate. Unintentional gear loss does occur in very low levels, with potential for the gear to sink and get caught up on sensitive bottom substrate. If this alternative leads to great fishing effort, then there could be concomitant increase in impacts to marine habitats from unintentional and occasional gear loss.

8.1.2.3 Impacts to Fishery Participants and Fishing Communities

Under Alternative 1B the maximum number of 60 longline permits would be maintained but the four vessel class sizes would be eliminated. Potential positives of this action are that it would make the program less complex in general and may result, all things being equal, in it being easier for any interested person to get a permit (through transfer or issuance).

There are several negative potential social impacts to current and future small boat participants associated with such an action. First, with no defined class sizes, it is possible that over time most or all permits could come to be held by large vessels through leasing or sale. Such a transition may take a number of years, but it would be driven in large measure by the efficiencies typically provided by larger boats: longer range, more hold space, higher catch rates, etc. Eliminating vessel class sizes may also create competition for permits between small and large vessel participants. Though it is hoped that Program requirements will create a fairly level playing field, it is not clear how well small vessel participants would fare in such a competition. A third consideration is the fact that increased participation by large vessels would likely result in increases in hook density. Increased hook density could reduce PMUS catch-per-unit-effort, potentially leading to local resource depletion. Such depletion may disproportionately impact the small vessel fleet because it does not have the same ability as the large vessel fleet to travel long distances to follow fish.

8.1.2.4 Impacts to Enforcement and Administration

Under Alternative 1B additional impacts to enforcement or administration would not be expected. There may be reduced administrative burden with removing vessel class sizes and the minimum landing requirement.

8.1.3 Alternative 1C: Modify to Have Two Vessel Class Sizes (Preliminarily Preferred)

Under Alternative 1C, the four vessel size classes would be replaced with two vessel class sizes (small and large) whereby Class A and B vessels (less than 50 ft) would be considered "small" and Class C and D vessels (equal to or greater than 50ft) would be considered "large". All those currently possessing permits would have their permits modified into one of the two class sizes.

8.1.3.1 Impacts to Target and Non-target Stocks

Under Alternative 1C, the American Samoa longline limited entry program would no longer have four vessel class sizes; it would have two, essentially 'large' and 'small'. Currently, all Class C and Class D permits are issued, thus no significant increase in large vessel participation

would be allowed as a result of this alternative. While all 22 of the Class D permits are active, there are 11 Class C permits, with 5 Class C vessels active. There is potential for the 5 inactive Class C permits to be transferred to Class D vessels under this alternative, but the resultant level of impacts on target and non-target stocks in terms of local depletion is thought to be minimal, and in terms of stock status believed to negligible. The participation in small vessel fleet would likely remain low, unless economic constraints that currently face the small vessel fleet are minimized. With the expected level of participation under this alternative to be similar to the status quo, impacts to target and non-target stocks are expected to be the same as currently observed.

8.1.3.2 Impacts to Protected Species and Habitat

As describe above, the current level of participation by the small vessel fleet would likely be maintained unless economic constraints are minimized. There could be increases in large vessel participation if the currently inactive Class C permits are transferred to larger vessels for which there appears to be a demand to enter the fishery. This increase in effort could have an associated increased potential for protected species through incidental interactions.

Longline fishing does not typically harm habitat as the gear is suspended in the water column does not regularly make contact with bottom substrate. Inadvertent gear loss does occur in very low levels, with potential for the gear to sink and get caught up on sensitive bottom substrate.

8.1.3.3 Impacts to Fishery Participants and Fishing Communities

Under Alternative 1C, the limited entry program would be changed by reducing the four vessel class sizes to two classes – small (vessels < 50 ft) and large (≥ 50') (Figure 10). Potential positives of this action are that it would make the program less complex in general and would open up slots that are otherwise capped under existing regulations by providing for more permits under any one category. For example, instead of the Class D permits being capped at 26, there could be up to 13 permits more available in any in the current Class C permit pool become available. are currently in Class C It may especially be a positive outcome for the Class D vessel applicants as there has been a high demand for the limited number of permits that have been available in recent years. In 2010, for example, there were 13 permit applications for one available Class D permit. This alternative may also increase participation in the small vessel fleet as an individual could enter the fishery with a small boat and very easily (from a permit perspective) increase his or her vessel size up to 49.9 ft. Such flexibility may attract some potential small boat participants because there would no longer be any uncertainly that Class B permits may be available in the future.

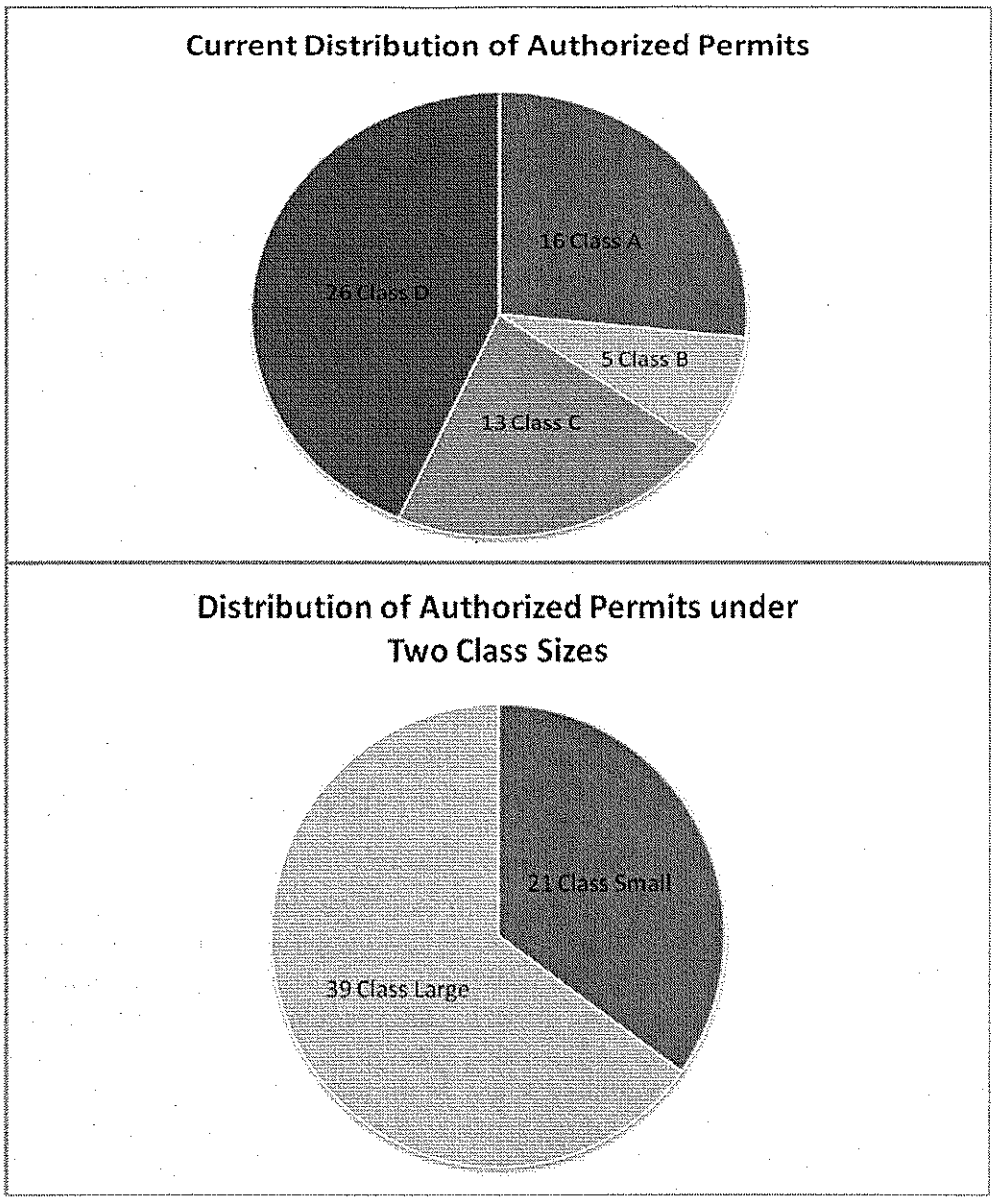

Figure 10: Number of permit under existing program and Alternative 1C

8.1.3.4 Impacts to Enforcement and Administration

Under Alternative 1C, additional impacts to enforcement would not be expected as consolidating the vessel class sizes would not be an enforcement issue. There would be some increased administrative burden to establish the two new vessel size classes and implement the modification of current permits.

8.1.4 Alternative 1D: Modify to Have Three Vessel Class Sizes

Under Alternative 1D, the two vessel size classes for small vessels, Class A and B (less than 50 ft), would be combined and the two vessel size classes for large vessels, Class C and D would be maintained.

8.1.4.1 Impacts to Target and non-target stocks

Under Alternative 1D the American Samoa longline limited entry program would no longer have four vessel class sizes; the two vessel size classes for small vessels (less than 50 ft) would be combined and the two vessel size classes for large vessels, Class C and D (50.1' and larger) would be maintained. Impacts to Target and Non-Target stocks would be anticipated to be similar to the status quo, as no new open permit slots would open up for the Class D vessels, which currently have the highest demand.

8.1.4.2 Impacts to Protected Species and Habitat

Impacts to protected species would be similar to the status quo as this alternative would maintain Class C and Class D vessel classes, which currently are representative of the active vessels.

Longline fishing per se does not typically harm habitat as longline gear is suspended in the water column and does not normally make contact with bottom substrate. Gear loss does occur in very low levels, and when lost can potentially sink and impact sensitive bottom substrate.

8.1.4.3 Impacts to Fishery Participants and Fishing Communities

Under Alternative 1D the limited entry program would be modified by combining the two small vessel class sizes (A + B). This alternative would open up additional slots in the small vessel class, which could help to sustain future community participation in the longline fishery (Figure 11). Potential positives of this action are that it would make the program less complex in general and it may also increase participation in the small vessel fleet as there would no longer be any uncertainly that Class B permits would be available/granted, thus providing flexibility for fishery participants that wish to get bigger vessels, but stay below the 50 ft limit to fish within the large vessel prohibited area. Maintaining the Class C and D structure would not reduce the existing demand for Class D permits.

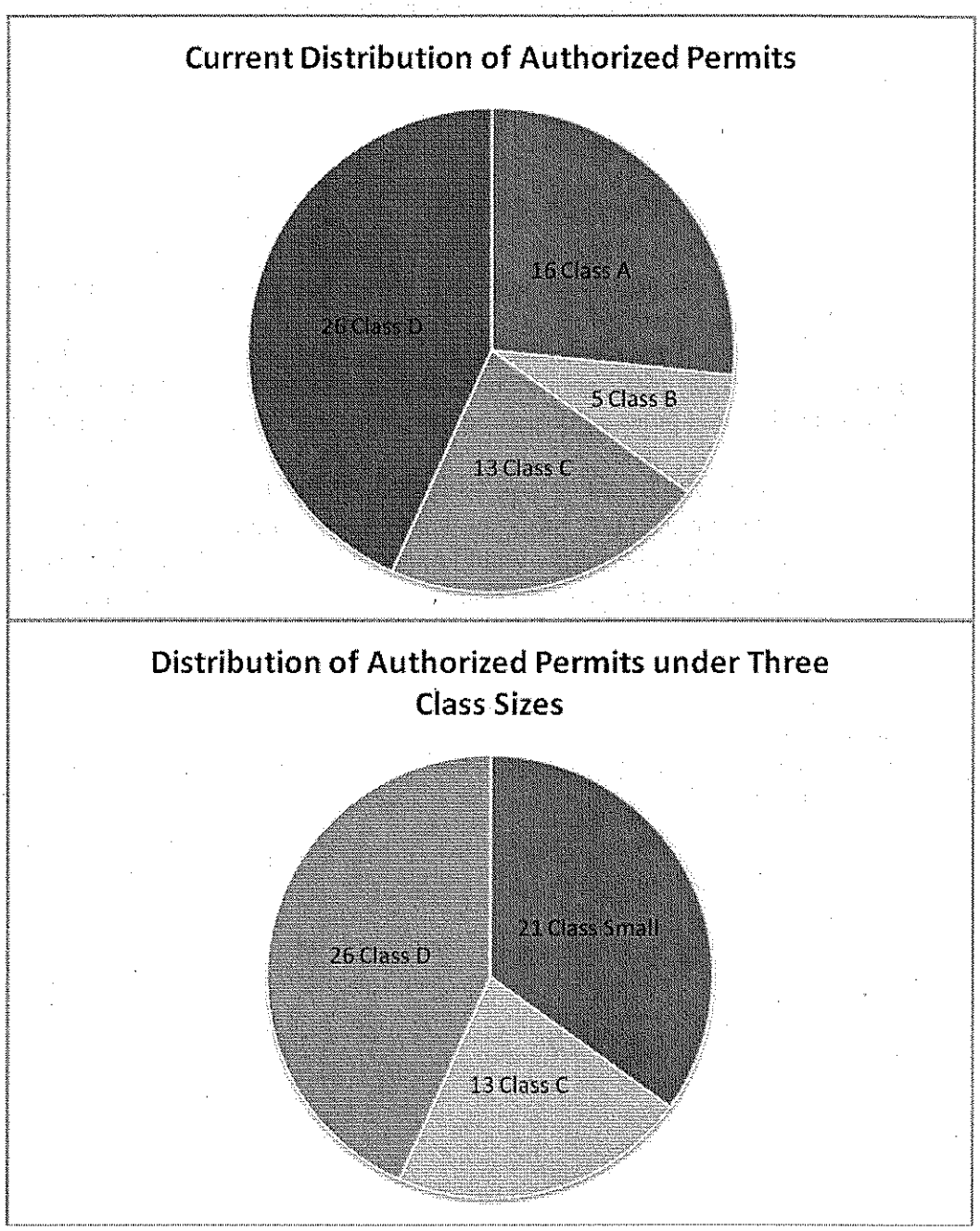

Figure 11: Number of permit under existing program vs. Alternative 1D

8.1.4.4 Impacts to Enforcement and Administration

Under Alternative 1D additional impacts to enforcement would not be expected as consolidating the two small vessel class sizes would not be an enforcement issue. There would be some increased administrative burden to establish the new combined A + B vessel size class, implement the modification of current permits and re-open the permit application process.

8.2 Topic 2: Eligibility Criteria

The initial American Samoa longline permit issuance process occurred in 2005 and included the requirement that an applicant had to be a U.S. citizen or national and provide official documentation that indicated that they owned a vessel that landed in PMUS in American Samoa waters prior to March 22, 2002. After the initial permit distribution, NMFS published a notice in 2009 in the Federal Register notifying the public that several permits were available to potential applicants that could provide official documentation that indicated that he or she participated in the American Samoa longline fishery; on any date, either as a vessel owner or crew. Priority for any available permit accrues to the person with the earliest documented participation in the pelagic longline fishery in the EEZ around American Samoa on a Class A sized vessel. The next priority accrues to the person with the earliest documented participation in the pelagic longline fishery in the EEZ around American Samoa on a Class B size, Class C size, or Class D size vessel, in that order (see 50 CFR § 665.18(g)(1).

The following four alternatives modify the eligibility criteria that would be utilized if permits become available in the limited entry program. All of the following alternatives are administrative in nature and would not be expected to change fishing practices nor fishing effort and, therefore, would not be expected to impact any biological or ecological features including target and non-target stocks, protected species, and marine habitat or ecosystems.

8.2.1 Alternative 2A: No-action

Under Alternative 2A, eligibility criteria for available permits would continue to be limited to U.S. nationals and U.S. citizens that have documented history in the American Samoa longline fishery.

8.2.1.1 Impacts of Alternative 2A

Under the no-action alternative, small and large vessel entrants to the fishery will continue to encounter potential barriers to such participation. These barriers are evidenced by the fact that during the initial permit issuance in 2005 there were several people who applied for but were denied a permit because they were unable to meet the criterion of demonstrating pre-March 2002 participation in longline fishing around American Samoa. Also, when NMFS has advertised permit availability during subsequent permit availability periods some applicants have not been able to receive permits due to eligibility issues. This situation would remain unchanged under this alternative and fishermen who are impacted by not being able to meet current eligibility criteria would remain so. There would be no impact on enforcement and no new or additional impacts on administration from this alternative.

8.2.2 Alternative 2B: Remove Eligibility Criteria Related to Documented History in the Fishery, but Include U.S. Citizenship/National Requirements (Preliminarily Preferred)

Under Alternative 2B, permit eligibility would be limited to U.S. nationals and U.S. citizens, with no other qualifying criteria. The priority ranking system to award permits would be maintained. If there is a tie between two or more applicants, permits will be awarded based on a lottery system.

8.2.2.1 Impacts of Alternative 2B

Under Alternative 2B, U.S. citizens and nationals would have the ability to qualify for a available permits within the total cap of 60 permits, but foreign nationals would not be eligible. This would allow potential applicants that have no documented history in the fishery to be eligible for available permits. This alternative could bring new fishermen into the fishery that would otherwise not be eligible to participate in it. Since there are typically fewer Class C and Class D permits available, new entrants into the fishery would likely be through participation in the small vessel classes. Limiting permit ownership to U.S. citizens or nationals would also eliminate the potential for foreign nationals currently participating in the fishery (e.g. crew) to obtain permits.

It is possible that this alternative may encourage U.S. citizens and nationals from off-island to relocate to the Territory to participate in the Program; however, owning a permit does not require the permit holder to establish residency in the Territory. The permit holder would be required to register a vessel to the permit within 120 days, and doing so, with all of its attendant costs, for the purpose of participating in a small-scale fishery that is largely perpetuated by local knowledge and connections is not likely to occur en masse. However, should it occur that permit ownership shifts away from people that reside in American Samoa, there are mechanisms in place Samoans such as the Council's Community Development Program which provides for indigenous American Samoans to be able to participate in the longline fishery even if no permits are available.

Maintaining existing regulations regarding permit transfers would limit transfers of Class B, C, and D permits to individuals that have history in the fishery or an American Samoan community or a family member in the case of Class A vessels. Allowing permit transfers to any U.S. citizen or national without document history could result in increased participation by Class A and B vessels and increased demand for Class C and D permits.

8.2.3 Alternative 2C: Remove Eligibility Criteria Related to Documented History in the Fishery

Under Alternative 2C, any person, regardless of being a foreign national or U.S. citizen/national without any prior history in the fishery would be eligible. However, the priority ranking system related to documented history to award permits would be maintained. If there is a tie between two or more applicants, permits will be awarded based on a lottery system.

8.2.3.1 Impacts of Alternative 2C

Under Alternative 2C, anyone could qualify for an available permit; however the total cap of 60 permits would be maintained. This would allow potential applicants that have no documented history in the fishery to be eligible for available permits, regardless of citizenship. This alternative could bring new participants that otherwise would have not been eligible to participate in the fishery due to a lack of prior history in the fishery. Currently, there are no Class C or Class D permits available, so new entrants into the fishery would like be through participation in the small vessel classes. Under existing U.S. Coast Guard regulations, a fishing vessel fishing in the EEZ around American Samoa must be a USCG documented vessel with a fisheries endorsement. Eligibility for a USCG fisheries endorsement requires that at least 75

percent of the vessel's ownership be held by a U.S. citizen. This requirement will maintain that there is U.S. citizenship interest in the fishing that occurs under a permit if is owned by a foreign national.

Under this alternative, a shift of participants could occur whereby the fishery could become comprised of permit holders from areas other than American Samoa as owning a permit does not require the permit holder to establish residency in the Territory. However, the permit holder would be required to register a vessel to the permit within 120 days, and doing so, with all of its attendant costs, for the purpose of participating in a small-scale fishery that is largely perpetuated by local knowledge and connections is not likely to occur en masse. However, should this shift occur there are mechanisms in place such as the Council's Community Development Program which provides for indigenous American Samoans to be able to participate in the longline fishery even if no permits are available.

Maintaining existing regulations regarding permit transfers would limit transfers of Class B, C, and D permits to individuals that have history in the fishery or an American Samoan community or a family member in the case of Class A vessels. Allowing permit transfers to anyone including foreign national without the requirement of documented history could result in increased participation by Class A and B vessels and increased demand for Class C and D permits.

8.2.4 Alternative 2D: Remove Eligibility Criteria Related to Documented History in the Fishery, but Include U.S. Citizenship or National status for Class A and Class B Permits Only

Under Alternative 2D, Class A and B permit eligibility would be limited to U.S. citizens or nationals with no qualifying criteria related to documented history in the fishery. For Class C and Class D permits, the existing criteria to have documented history (with no citizenship requirements) in the fishery to be eligible for an available permit would be maintained. The priority ranking system to award permits would also be maintained for available permits in all vessel classes. If there is a tie amongst two or more applicants, permits will be awarded based on an impartial lottery system.

8.2.4.1 Impacts of Alternative 2D

Under Alternative 2D, U.S. citizens or nationals that otherwise would have not been eligible to acquire a Class A and Class B permits due to a lack of prior history in the fishery would be eligible. New participants may result in an active small vessel fleet, which is believed important to sustain community participation in the fishery as well as to provide opportunities for indigenous American Samoans to participate in the fishery. Existing eligibility requirements for Class C or Class D permits would be maintained, which would not have any impacts because all of the Class C and D permits are currently issued.

Maintaining existing regulations regarding permit transfers would limit transfers of Class B, C, and D permits to individuals that have history in the fishery or an American Samoan community or a family member in the case of Class A vessels. Allowing Class A and Class B permit transfers to only U.S. citizens and nationals without documented history could result in increased participation by Class A and B vessels.

8.3 Topic 3: Minimum Landing Requirements

8.3.1 Alternative 3A No Action- Under alternative 3A, minimum landing requirements would be maintained at 1,000 pounds for Classes A and B and 5,000 lbs for Classes C and D.

8.3.1.1 Impacts to Target and Non-Target Species

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.1.2 Impacts to Protected Species and Habitat

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.1.3 Impacts to Fishery Participants and Fishing Communities

Under Alternative 3A, maintaining minimum landings requirements of 1,000 lbs (Classes A and B) and 5,000 lbs (Classes C and D) could result in some participants being unable to renew their permits. This would be the case if the participant could not meet the relevant requirement for because of external factors, such as the September 2009 tsunami that caused damage to small and large longline vessels. Although the minimum landing requirement for the small vessels may not seem significant, alia vessels are small and several trips may be required in order to meet the requirement. The minimum landing requirement amounts are probably not substantial for large vessels, however, as only one trip would normally be required to land 5,000 lbs (the average catch per trip for all vessels combined is ~33,000 lb).

8.3.2- Alternative 3B- Reduce Class A and Class B minimum landing requirement and maintain Class C and Class D landing requirements (Preliminarily Preferred)

Under Alternative 3B, existing minimum landing requirements would be modified to a 3-year minimum PMUS landing requirement of 500 pounds for vessel classes A and B, but the landing requirements for vessel classes C and D would be maintained at 5,000 pounds over a 3-year period.

8.3.2.1 Impacts to Target and Non-Target Species

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.2.2 Impacts to Protected Species and Habitat

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.2.3 Impacts to Fishery Participants and Fishing Communities

Reducing the 1,000 pound minimum landings requirement to 500 pounds for Class A and B vessels could result in higher permit retention rates over time for those small vessels that may be having some economic or other difficulty to meet the minimum landing requirements, as well provide additional encouragement for those thinking about entering the small boat fleet. This reduction is also timely, given the small vessel damage from the 2009 tsunami. The 2000-2005 average catch (in pounds) per longline set for alia vessels was 476 pounds (Pers. Comm. Adam

Bailey, NMFS PIRO). For alia vessels that were capable of only making on set per trip due to range and hold capacity, a 500 mt minimum landing requirement make require at least two trips per three year period. Some of the larger alia vessels were capable of multiple sets per trip, thus a 500 mt limit for these vessels could likely be made in a single trip. Modifying the minimum landing requirement for Class C and D vessels is likely unnecessary due to the high demand in permits in these vessel classes and because the 5,000 lb minimum landing required is substantially lower than average vessel landings per trip (the average catch per trip for all vessels combined is ~33,000 lb).

8.3.2.4 Impacts to Enforcement and Administration

No additional impacts to enforcement or administration would result from this alternative. NMFS would continue to review minimum landing requirements in terms of approving or disapproving permit renewal.

8.3.3 Alternative 3C- Remove minimum landing requirements for all vessel classes

Under this alternative, minimum landing requirements would be eliminated for all vessel classes.

8.3.3.1 Impacts to Target and Non-Target Species

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.3.2 Impacts to Protected Species and Habitat

Maintaining minimum landing requirements would result in impacts currently observed and described in section 8.2.

8.3.3.3 Impacts to Fishery Participants and Fishing Communities

While eliminating minimum landing requirements altogether may at first seem helpful, it may in fact be a barrier to those seeking to enter either the small or large vessel fleet. This is because Alternative 3C could result in a situation wherein permits are able to be renewed despite having zero fishing activity associated with them over the course of the permit period. If this were the case, then those seeking to obtain permit to enter the fishery could find themselves disenfranchised and unable to actually obtain them, or have to pay a very high cost to lease a permit.

8.3.3.4 Impacts to Enforcement and Administration

Elimination minimum landing requirements would alleviate NMFS' necessity to verify landings to renew permits.

8.5 Cumulative Effects

The MSA and NEPA require analysis of the potential cumulative effects of a proposed action, as well as the cumulative effects of the alternatives to the proposed action. Under NEPA, cumulative effects are defined as those combined effects on the human environment that result from the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions (40 CFR 150.8.7). The following cumulative effects

analysis is organized by the following issues: target and non-target species, protected species, fishery participants and communities.

8.5.1 Target and Non-Target Species

8.5.1.1 Past, Present, and Reasonably Foreseeable Management Actions

Pelagics FEP

The Fishery Management Plan (FMP) for Pelagic Fisheries in the Western Pacific Region was approved by the Secretary of Commerce in 1987. In 2009, the Secretary of Commerce approved the Fishery Ecosystem Plan for Pacific Pelagic Fisheries of the Western Pacific Region, which replaced the FMP and establishes the framework for an ecosystem approach to manage pelagic fisheries. The American Samoa longline fishery was first managed under the FMP through federal permit and catch reporting regulations that were in effect at the time of the FMP's approval. In 2002, the large vessel prohibited are was implemented that restricts vessels larger than 50 ft from fishing for PMUS within 50 nm around Tutuila, the Manua Islands, Rose Atoll, and Swains Island. In 2005, the American Samoa longline limited entry program was implemented and initial permits were awarded in late 2005/early 2006. Longline fisheries under the FEP are comprehensively managed through the use of observers, VMS, gear restrictions and other management measures, which allow the Council and NMFS to monitor the fishery and its impacts to target and non-target species.

In 2009, the Council recommended to amend the FEP by:

> 1) Establishing longline bigeye catch limits of 2,000 mt for the U.S. Pacific Island Territories of American Samoa, Guam, and Commonwealth of the Northern Mariana Islands; collectively, *Territories*), which is consistent with, and more conservative, than what is provided for under the Western and Central Pacific Fisheries Commission (WCPFC);
>
> 2) Providing limited authority to the Territories to assign only up to 750 mt total out of their 2,000 mt annual catch limits for use under domestic charter arrangements or similar mechanisms with FEP permitted vessels only;
>
> 3) Establishing the criteria for U.S. vessels operating under charter arrangements or similar mechanisms to do so in an integral manner with the Territory's domestic fleet.

The purpose of the recommendation is to support responsible development of fisheries in the Territories.

At the 149th Council Meeting in October 2010, the Council recommended to make adjustments the existing 50 nm large vessel prohibited area around the American Samoa archipelago. For the southern islands of Tutuila, Manua and Rose Atoll, the changes would be relatively modest; extending the eastern boundary of the large pelagic vessel area closure to be congruent with the northern and eastern boundaries of the Rose Atoll Marine National Monument. This would reduce the overall size of the area closure for large pelagic vessels by 2,500 square nautical miles, or from 22,722 sq nm to 20,222 sq nm. The same preferred alternative would also reduce

the area closure around Swains Island from 50 nm to 25 nm, or from around 8,250 sq nm to about 2,444 sq nm.

Western and Central Pacific Fisheries Commission

The Western and Central Pacific Fisheries Commission (WCPFC) was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean (WCPF Convention) which entered into force on 19 June 2004. Members of the Commission include: Australia, China, Canada, Cook Islands, European Union, Federated States of Micronesia, Fiji, France, Japan, Kiribati, Korea, Republic of Marshall Islands, Nauru, New Zealand, Niue, Palau, Papua New Guinea, Philippines, Samoa, Solomon Islands, Chinese Taipei, Tonga, Tuvalu, United States of America, Vanuatu. Participating Territories of the Commission include: American Samoa, Commonwealth of the Northern Mariana Islands, French Polynesia, Guam, New Caledonia, Tokelau, Wallis and Futuna. Cooperating non-members include: Belize, Indonesia, Senegal, Mexico, El Salvador, Ecuador, and Vietnam. The WCPFC area of competence is shown in Figure 12.

In 2005, the WCPFC agreed on a conservation and management measure for South Pacific albacore whereby Commission Members, Cooperating Non-Members, and participating Territories (CCMs) are to not increase the number of their fishing vessels actively fishing for South Pacific albacore in the Convention Area south of 20°S above current (2005) levels or recent historical (2000-2004) levels (CMM 2005-02). The conservation and management measure also includes a provision whereby the requirement to cap the level of fishing vessels described above shall not prejudice the legitimate rights and obligations under international law of small island developing State and Territory CCMs in the Convention Area for whom South Pacific albacore is an important component of the domestic tuna fishery in waters under their national jurisdiction, and who may wish to pursue a responsible level of development of their fisheries for South Pacific albacore.

WCPFC has also agreed on conservation and management measures for Southwest Pacific swordfish, bigeye and yellowfin, Southwest Pacific striped marlin, bluefin, sea turtles, seabirds, and sharks. See http://www.wcpfc.int/conservation-and-management-measures for more information.

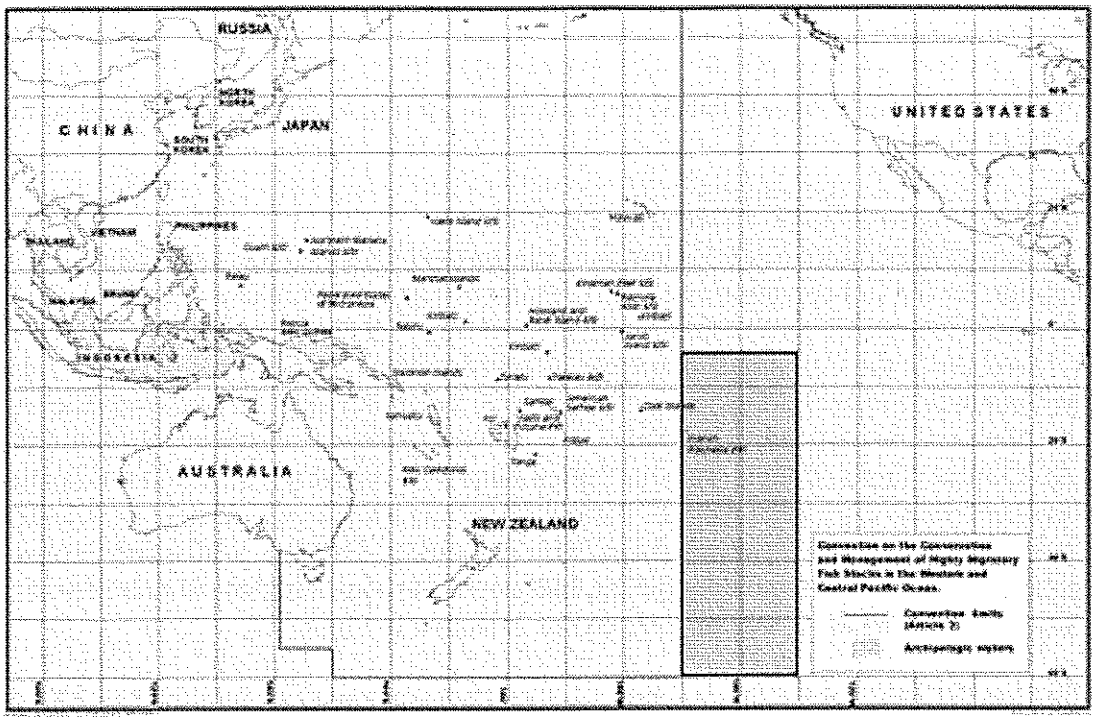

Figure 12: Map of the WCPFC Area of Competence

8.5. 1.2 Exogenous Factors Affecting Target Species and Non-Target Species

Fluctuations in the pelagic ocean environment
Catch rates of pelagic fish species fluctuate in a time and space in relation to environmental factors (e.g. temperature) that influence the horizontal and vertical distribution and movement patterns of fish. Cyclical fluctuations in the pelagic environment affect pelagic habitats and prey availability at high frequency (e.g., seasonal latitudinal extension of warm ocean waters) and low-frequency (e.g., ENSO-related longitudinal extension of warm ocean waters). Low or high levels of recruitment of pelagic fish species are also strongly related to fluctuations in the ocean environment.

The effects of such fluctuations on the catch rates of PMUS obscure the effects of the combined fishing effort from Pacific pelagic fisheries. During an El Niño, for example, the purse seine fishery for skipjack tuna shifts over 1,000 km from the western to central equatorial Pacific in response to physical and biological impacts on the pelagic ecosystem (Lehodey et al. 1997). Future ocean shifts are likely to cause changes in the abundance and distribution of pelagic fish resources, which could contribute to cumulative effects. For this reason, accurate and timely fisheries information is need to produce stock assessments that allow fishery managers the ability to regulate harvests based on observed stock conditions.

Ocean productivity related to global climate change
The global mean temperature has risen 0.76° C over the last 150 years, and the linear trend over the last 50 years is nearly twice that for the last 100 years (IPPC 2007a). Climate change effects are already being observed on a wide range of ecosystems and species in all regions of the world (Walther et al, 2002; Rosenzweig et al., 2007). There is a high confidence, based on substantial new evidence, that observed changes in marine systems are associated with rising water

temperatures, as well as related changes in ice cover, salinity, oxygen levels, and circulation. These changes include shifts in ranges and changes in algal, plankton, and fish abundance (IPPC 2007b).

The seasonal north-south movements of many large pelagics appear to track the similar peak migration of primary productivity. Using remotely-sensed chlorophyll[27] concentrations from satellite observations, Polovina et al. (2008) found that over the past decade, primary productivity in the North Pacific Subtropical Transition Zone has declined an average of 1.5% per year, and a 3% per year decline occurring at the southern limit of the transition zone. The expansion of the low chlorophyll waters is consistent with global warming scenarios based on increased vertical temperature stratification of the world's oceans in the mid-latitudes. Expanding oligotrophic[28] portions of large subtropical gyres, will in time lead to a reduction in chlorophyll density and carrying capacity in these oceanic features, which will impact the abundance of pelagic species.

A recent study using an the spatial ecosystem and population dynamics model[29] (SEAPODYM), suggests that by the end of this century, ocean temperatures in the WCPO will increase to levels that will not support bigeye populations in the WCPO (J. Sibert, PFRP, pers. comm. July 2008). An international program called CLIOTOP (climate impacts on oceanic top predators) is currently gathering information on climate change and its effects on pelagic ecosystems. Within this group, the SEAPODYM model is being applied to investigate the future management of tuna stocks and other highly migratory species in the context of climate and ecosystem variability, as well as to investigate potential changes due to greenhouse warming.
Source: Williams and Terawasi, 2010

Catches of South Pacific Albacore

As described in Hoyle and Davies (2009) distant-water longline fleets of Japan, Korea and Chinese Taipei, and domestic longline fleets of several Pacific Island countries, catch adult albacore over a large proportion of their geographic range. The Chinese Taipei fleet has targeted albacore consistently since the 1960s, though to a lesser extent since 2000. In recent years, the longline catch has increased considerably with the development (or expansion) of small-scale longline fisheries targeting albacore in several Pacific Island countries, notably American Samoa, Cook Islands, Fiji, French Polynesia, New Caledonia, Samoa and Tonga. A troll fishery for juvenile albacore has operated in New Zealand's coastal waters since the 1960s and in the central Pacific since the mid-1980s. Driftnet vessels from Japan and Chinese Taipei targeted albacore in the central Tasman Sea and in the central Pacific near the STCZ during the 1980s and early 1990s. Surface fisheries are highly seasonal, occurring mainly from December–April. Longline fisheries operate throughout the year, although there is a strong seasonal trend in the

[27] Chlorophyll is the green pigment found in phytoplankton that absorbs light energy to initiate the process of photosynthesis.
[28] Meaning waters where relatively little plant life or nutrients occur, but are rich in dissolved oxygen.
[29] The model based on advection-diffusion-reaction equations explicitly predicts spatial dynamics of large pelagic predators, while taking into account data on several mid-trophic level components, oceanic primary productivity and physical environment.

catch distribution, with the fishery operating in southern latitudes (south of 35° S) during late summer and autumn, moving northwards during winter (Hoyle and Davies 2009)

Hoyle and Davies (2009) also stated that after an initial period of small-scale fisheries development, annual catches of South Pacific albacore varied considerably and have recently been between about 60,000–70,000 mt. The longline fishery harvested most of the catch, about 25,000–30,000 mt per year on average, prior to about 1998. The increase in longline catch to approximately 70,000 mt in 2005 is largely due to the development of small-scale longline fisheries in Pacific Island countries. Catches from the troll fishery are relatively small, generally less than 10,000 mt per year. The driftnet catch reached 22,000 mt in 1989, but has since declined to zero following a United Nations moratorium on industrial-scale drift-netting (Hoyle and Davies 2009).

Hoyle and Davies (2009) point out that the fishery impact on the component of the stock vulnerable to longline fisheries has increased over the last decade, with increasing catches and reduced biomass, and is estimated to be currently (2007) between about 50% and 75% (i.e. longline-vulnerable biomass has been reduced by between 25% and 50% due to the impact of fishing) (see Figure 13). The current impact level on the component of the stock vulnerable to troll and driftnet fisheries is low (less than 5%). The difference is due to the age-specific selectivity of the longline fishery, which harvests fish in the oldest age classes. Only a relatively small component of the stock is available to the longline fishery, so increases in catch are likely to result in substantial increases in the impact on the longline exploitable biomass.
The impact on the longline exploitable biomass is higher in the longline fisheries operating in the northern regions (i.e. fisheries 1, 2 and 5) than the southern regions (i.e. fisheries 3, 4 and 6), due to a higher proportion of older fish in the catch in northern regions. Impacts also vary seasonally, with more effect on the seasons in which larger fish are taken. The fishery's impact on the exploitable biomass in the troll and driftnet fisheries has been negligible throughout the fishery's history (Hoyle and Davies 2009).

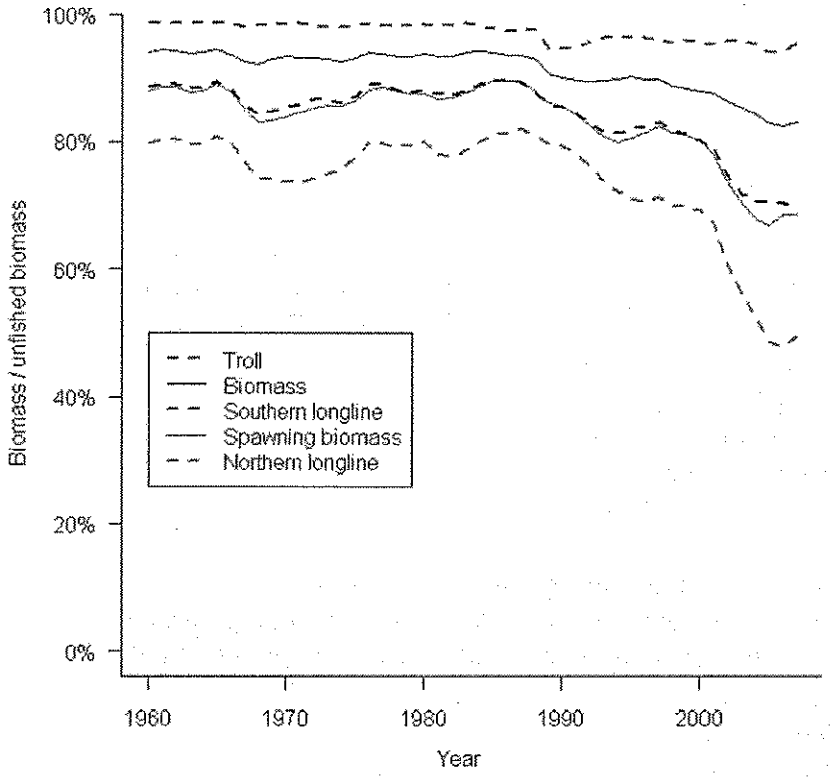

Figure 13: Decline in biomass due to the impact of fishing mortality, for exploitable biomass in the troll, southern longline, and northern longline fisheries, for total biomass and for spawning biomass
Source: Hoyle and Davies 2009

8.5.1.3 Cumulative Impacts to Target and Non-Target Stocks

The American Samoa longline fishery is capped at 60 vessels under the limited entry program, but only 28 vessels (mostly in Classes C and D) have been active. The action alternatives considered in this document are mostly administrative, but could in varying degrees increase the amount of active vessels in the fishery. However, given that the stocks of target and non-target species caught by the longline fishery are generally in good condition (with the exception of bigeye tuna and striped marlin), the small increase in effort as a result of the alternatives are negligible when considering the exogenous factors also impacting theses stocks. The potential additive impacts of the alternatives in combination with the impacts past, present, and future actions as well as exogenous factors are not expected to result to any significant cumulative impacts on target and non-target stocks.

8.5.2 Protected Species

8.5.2.1 Past, Present, and Reasonably Foreseeable Management Actions

ESA and MMPA

In the late 1970's, NMFS and the USFWS listed all five sea turtles species that occur in the U.S. EEZ as either threatened or endangered pursuant to the ESA (43 FR 32800). The ESA offers Federal protection to species that are displaying population trends that make them vulnerable to extinction.

The Marine Mammal Protection Act (MMPA) requires FMP-regulated fisheries be evaluated by NMFS for impacts on marine mammals and be designated as Category I, II, or III (with Category III having the lowest impact). The fishery classification criteria consist of a two-tiered, stock-specific approach that first addresses the total impact of all fisheries on each marine mammal stock, and then addresses the impact of individual fisheries on each stock. Under existing regulations, all fishers participating in Category I or II fisheries must register under the MMPA, obtain an Authorization Certificate, pay a fee of $25, and report any interactions with marine mammals. Additionally for Category I fisheries, fishers may be subject to a take reduction plan and requested to carry an observer (68 FR 20941). The American Samoa longline fishery is classified as Category II fishery.

Pelgaics FMP/FEP

The implementation of the Pelagics FMP and FEP has benefited protected species through the management measures applicable to the longline fishery including: large vessel prohibited area, limited entry program, observers, logbooks, and VMS requirements. In 2009, the Council also recommended to require that American Samoa longline fishing vessels when fishing in the EEZ around American Samoa follow gear modification requirements ensure that longline gear is fished at depth below 100 meters. This measure is intended to reduce sea turtle interactions (primarily green sea turtles) with the longline fishery. NMFS is preparing to implement this measure in 2011.

8.5.2.1 Exogenous Factors Affecting Sea Turtles and Marine Mammals

Existing threats that are common to all species of sea turtles include:

- human use and consumption- legal and illegal harvest of adults, juveniles and/or eggs
- sea turtle nesting and marine environments, including directed takes, predation, and coastal habitat development
- marine debris (entanglement and ingestion)
- incidental capture in fisheries (trawl, gillnet and longline);
- fluctuations in the ocean environment
- climate change

External factors affecting other marine mammals such as whales and dolphins include the following: (a) incidental take in fisheries; (b) collisions with ship traffic, ship disturbance, and ship noise, and (c) marine debris and waste disposal.

8.5.2.3 Cumulative Impacts to Protected Species

The American Samoa longline fishery is capped at 60 vessels under the limited entry program, but only 28 vessels (mostly in Classes C and D) have been active. The action alternatives considered in this document are mostly administrative, but could in varying degrees increase the amount of active vessels in the fishery. The Council has recently recommended a measure to reduce sea turtle interactions with sea turtles in the American Samoa longline fishery, ensuring that the fishery does not jeopardize the continued existence of sea turtles and marine mammals. The impacts of the alternatives when added to the impacts of past, present, and future actions, and exogenous factors are not expected to adversely affect the status of protected species.

8.5.3 Fishery Participants and Fishing Communities

8.5.3.1 Past, Present, and Reasonably Foreseeable Future Actions

See sections 8.5.1.1 and 8.5.2.1 for description of past, present, future actions.

8.5.3.2 Exogenous factors affecting Fishery Participants and Fishing Communities

There are wide-ranging factors (that change over time) that affect fishing participants as well as fishing communities. Current factors include high fuel costs, increased seafood imports, and restricted access to traditional fishing grounds. High fuel costs affect fishing participants in that it is simply increasingly expensive to go fishing. The effect is that fishery participants reduce fishing trips, switch to less fuel-intensive fisheries, or simply do not go fishing at all. These effects are believed to have resulted in the decline of the small vessel alia fishery in American Samoa.

8.5.3.3 Cumulative Impacts to Fishery Participants and Fishing Communities

The action alternatives may simplify the limited entry program as well as benefit some fishery participants in acquiring permits. The additive effect of alternatives coupled with past, present, and future actions like reducing the large vessel prohibited area may have positive impacts on active longline fishery participants. However, the alternatives would not likely overcome exogenous factors impacting fishery participants such high fuel and other operating costs.

As described in Amendment 11, and based on an economic analysis of 18 large vessels operating in American Samoa in conducted , at least 21 albacore per 1000 hooks should be maintained if the American Samoa's longline fishery (both large and small vessels) will remain viable in an albacore only market (O'Malley and Pooley, 2002). If the price of albacore remains at its current price of approximately $ 2600/mt, recent catch rates averaging 18.4, 18.3, 14.2, and 14.8 albacore per 1000 hooks in years 2006-2009 indicate that long-term economic viability of both small and large vessel fleets is in question. If the price of albacore drops significantly, the currently observed catch rates of albacore could have serious economic ramifications to existing fishery participants.

9.0 Consistency with the MSA and Other Applicable Law

9.1 Consistency with MSA National Standards

Section 301 of the Magnuson-Stevens Act requires that regulations implementing any FMP or FMP amendment be consistent with the ten national standards listed below.

National Standard 1 states that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The preliminarily preferred alternatives considered in this amendment are consistent with NS1 as they would promote optimum yield by facilitating participation in the fishery through making modifications to the limited entry program.

National Standard 2 states that conservation and management measures shall be based upon the best scientific information available.

The preliminarily preferred alternatives considered in this amendment are consistent with NS2 because the best available information, such as observer data, permit status information and fishery logbook data with other sources, was used in developing and analyzing the alternatives.

National Standard 3 states that, to the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The preliminarily preferred alternatives considered in this amendment are consistent with NS3 as they consider actions that are primarily administrative and which do not affect management of target stocks. The American Samoa longline fishery targets southern albacore tuna whose range extends throughout the western and central Pacific and is managed domestically by the Council and NMFS and subject to international management under the WCPFC.

National Standard 4 states that conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The preliminarily preferred alternatives considered in this amendment are consistent with NS4 because they do not discriminate between residents of different states, nor does it allocate or assign fishing privileges.

National Standard 5 states that conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The preliminarily alternatives considered in this amendment are consistent with NS5 in intended to promote efficiency in the American Samoa longline fishery's limited entry permit program.

National Standard 6 states that conservation and management action shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources and catches.

The preliminarily preferred alternatives considered in this amendment are consistent with NS6 in that consideration was given to variations and contingencies in fishery resources and catches. This limited entry fishery is largely targeting a highly migratory tuna resource; therefore, implementing measures to modify the limited entry permit program would equally affect all potential fishery participants. The fishery is highly monitored which allows for management responses towards changes in the fishery.

National Standard 7 states that conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

The preliminarily preferred alternatives considered in this amendment are consistent with NS7 because the proposed modifications to the limited entry permit program would not duplicate any other existing management measures in this fishery.

National Standard 8 states that conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

The preliminarily preferred alternatives considered in this amendment are consistent with NS8 in that they serve to simply the limited entry program to promote fishery participation.

National Standard 9 states that conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided minimize the mortality of such bycatch.

The preliminarily preferred alternatives considered in this amendment are consistent with NS9 in that they are primarily administrative in nature and as such would not affect fishing operations or have any effect on bycatch in the American Samoa longline fishery.

National Standard 10 states that conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

The preliminarily preferred alternatives considered in this amendment are consistent with NS10 in that it is primarily administrative in nature and as such would not affect fishing operations or pose any safety risks to fishery participants in the American Samoa longline fishery.

9.2 MSA Essential Fish Habitat Designations

The alternatives are not expected to have any impacts on essential fish habitat (EFH) or habitat areas of particular concern (HAPC) for species managed under all the Western Pacific Fishery Ecosystem Plans. EFH and HAPC for these species groups has been defined as presented in Table 20. The alternatives are largely administrative in mature and they would not lead to substantial physical, chemical, or biological alterations to the habitat, or result in loss of, or injury to, these species or their prey. For the same reason, the alternatives are not anticipated to cause substantial damage to the ocean and coastal habitats.

Table 20: EFH and HAPC for species managed under the Fishery Ecosystem Plans

SPECIES GROUP	EFH (juveniles and adults)	EFH (eggs and larvae)	HAPC
Pelagics	water column down to 1,000 m	water column down to 200 m	water column down to 1,000 m that lies above seamounts and banks.
Bottomfish	water column and bottom habitat down to 400 m	water column down to 400 m	all escarpments and slopes between 40-280 m, and three known areas of juvenile opakapaka habitat
Seamount Groundfish	(adults only): water column and bottom from 80 to 600 m, bounded by 29°-35°N and 171°E -179°W	(including juveniles): epipelagic zone (0-200 nm) bounded by 29°-35°N and 171°E - 179°W	not identified
Precious Corals	Keahole, Makapuu, Kaena, Wespac, Brooks, and 180 Fathom gold/red coral beds, and Milolii, S. Kauai and Auau Channel black coral beds	not applicable	Makapuu, Wespac, and Brooks Bank beds, and the Auau Channel
Crustaceans	bottom habitat from shoreline to a depth of 100 m	water column down to 150 m	all banks within the Northwestern Hawaiian Islands with summits less than 30 m
Coral Reef Ecosystems	water column and benthic substrate to a depth of 100 m	water column and benthic substrate to a depth of 100 m	all Marine Protected Areas identified in FMP, all PRIAs; many specific areas of coral reef habitat (see FMP)

9.3 National Environmental Policy Act

This amendment has been written and organized to meet the requirements of the National Environmental Policy Act and thus is a consolidated document including an Environmental Assessment, as described in NOAA Administrative Order 216-6, Section 603.a.2.

9.3.1 Purpose and Need

The purpose and need for this action is described in Section 4.0.

9.3.2 Alternatives Considered

The alternatives considered for this action are described in Section 6.0.

9.3.3 Affected Environment

The affected environment for this action is described in Section 7.0.

9.3. 4 Impacts of the Alternatives

The expected impacts of the alternatives considered in this action are described in Section 8.0.

9.4 Executive Order 12866

To meet the requirements of Executive Order 12866 (E.O. 12866), NMFS requires that a Regulatory Impact Review (RIR) be prepared for all regulatory actions that are of public interest. This review provides an overview of the problem, policy objectives, and anticipated impacts of regulatory actions, and ensures that management alternatives are systematically and comprehensively evaluated such that the public welfare can be enhanced in the most efficient and cost effective way.

In accordance with E.O. 12866, the following is set forth: (1) This action is not expected to have an annual effect on the economy of more than $100 million or to adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety; or state, local or tribal governments or communities; (2) This action is not likely to create any serious inconsistencies or otherwise interfere with any actions taken or planned by another agency; (3) This action is not likely to materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights or obligations of recipients thereof; (4) This action is not likely to raise novel or policy issues arising out of legal mandates, or the principles set forth in the Executive Order. Based on the information contained in this Pelagics FEP amendment, the initial findings of this action are determined to not be significant under E.O. 12866.

9.5 Administrative Procedures Act

All federal rulemaking is governed under the provisions of the Administrative Procedures Act (APA) (5 U.S.C. Subchapter II) which establishes a "notice and comment" procedure to enable public participation in the rulemaking process. Under the APA, NMFS is required to publish notification of proposed rules in the Federal Register and to solicit, consider and respond to public comment on those rules before they are finalized. The APA also establishes a 30-day wait period from the time a final rule is published until it becomes effective, with rare exceptions. This amendment complies with the provisions of the APA through the Council's use of public meetings, requests for comments, and consideration of comments. To implement this amendment, NMFS will publish a proposed rule and request public comments.

9.6 Coastal Zone Management Act

The Coastal Zone Management Act requires a determination that a recommended management measure will have no effect on the land, water uses, or natural resources of the coastal zone, or is consistent to the maximum extent practicable with an affected state's enforceable coastal zone management program. NMFS will make such a determination to the appropriate state government agencies in American Samoa for review and concurrence.

9.7 Environmental Justice

On February 11, 1994, President William Clinton issued Executive Order 12898 (E.O. 12898), "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." E.O. 12898 provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." E.O. 12898 also provides for agencies to collect, maintain, and analyze information on patterns of subsistence consumption of fish, vegetation, or wildlife. That agency action may also affect subsistence patterns of consumption and indicate the potential for disproportionately high and adverse human health or environmental effects on low-income populations, and minority populations. A memorandum by President Clinton, which accompanied E.O. 12898, made it clear that environmental justice should be considered when conducting NEPA analyses by stating the following: "Each Federal agency should analyze the environmental effects, including human health, economic, and social effects of Federal actions, including effects on minority populations, low-income populations, and Indian tribes, when such analysis is required by NEPA[30].

The preliminary preferred alternatives are anticipated to reduce programmatic barriers in the small vessel sector American Samoa longline limited entry fishery that will support continued community participation and indigenous American Samoa participation in the fishery. An active small vessel fleet is believed to be a primary pathway for community participation and participation by indigenous American Samoan is the fishery, and an active small vessel fishery is believed to provide socio-cultural and economic benefits to the American Samoa fishing community. For these reasons, the preliminarily preferred alternatives would not have a disproportionately high or adverse effect on minority or low-income populations in American Samoa, but in fact were formulated to help reduce some of these existing conditions facing these populations in American Samoa.

[30] Memorandum from the president to the Heads of Departments and Agencies. Comprehensive Presidential Documents No. 279 (February 11, 1994).

9.8 Information Quality Act

The information in this document complies with the Information Quality Act and NOAA standards (NOAA Information Quality Guidelines, September 30, 2002) that recognize information quality is composed of three elements: utility, integrity, and objectivity. National Standard 2 of the Magnuson-Stevens Act states that an FMP's conservation and management measures shall be based upon the best scientific information available. In accordance with this national standard, the information product incorporates the best biological, social, and economic information available to date, including the most recent biological information on, and assessment of, the pelagic fishery resources and protected resources, and the most recent information available on fishing communities, including their dependence on pelagic longline fisheries, and up-to-date economic information (landings, revenues, etc.). The policy choices, i.e., proposed management measures, contained in the information product are supported by the available scientific information. The management measures are designed to meet the conservation goals and objectives of this amendment to the Pelagics FEP and the Magnuson-Stevens Act. The data and analyses used to develop and analyze the measures contained in the information product are presented in this amendment. Furthermore, all reference materials utilized in the discussion and analyses are properly referenced within the appropriate sections of the environmental assessment. The information product was prepared by Council and NMFS staff based on information provided by NMFS Pacific Islands Fisheries Science Center (PIFSC) and NMFS Pacific Islands Regional Office (PIRO). The information product was reviewed by PIRO and PIFSC staff, and NMFS Headquarters (including the Office of Sustainable Fisheries). Legal review was performed by NOAA General Counsel Pacific Islands and General Counsel for Enforcement and Litigation for consistency with applicable laws, including but not limited to the Magnuson-Stevens Act, National Environmental Policy Act, Administrative Procedure Act, Paperwork Reduction Act, Coastal Zone Management Act, Endangered Species Act, Marine Mammal Protection Act, and Executive Orders 13132 and 12866.

9.9 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act (PRA) is to minimize the paperwork burden on the public resulting from the collection of information by or for the Federal government. The PRA is intended to ensure the information collected under the proposed action is needed and is collected in an efficient manner (44 U.S.C. 3501(1)). None of the alternatives establish any new permitting or reporting requirements, and is therefore not subject to the provisions of the PRA.

9.10 Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) (5 U.S.C. 601 et seq.) requires government agencies to assess and present the impact of their regulatory actions on small entities including small businesses, small organizations, and small governmental jurisdictions. The assessment is done by preparing a Regulatory Flexibility Analysis. An Initial Regulatory Flexibility Analysis will be included in the proposed rule.

9.11 Endangered Species Act

Section 7.4 of this document describes the threatened and endangered species found in the action area of the American Samoa-based longline fishery. The ESA can allow a limited take of listed sea turtles during the otherwise lawful longline fishery through a biological opinion (BiOp) prepared by NMFS pursuant to Section 7 of the ESA, as amended. NMFS' biological opinion on the Western Pacific Pelagics FMP which included the American Samoa-based pelagic longline fishery was completed in 2004 (NMFS 2004). The 2004 biological opinion concluded that continued operation of the American Samoa-based pelagic fisheries (troll, handline, pole and line, and longline) were not likely to jeopardize the continued existence of green, loggerhead, leatherback or olive ridley seas turtles. In addition, the opinion authorized the incidental take of 6 hardshell turtles, including one mortality; and take of one leatherback turtle with zero mortalities for those fisheries. Hardshell turtles are defined as including green, hawksbill, loggerhead, and olive ridley turtles. This amount of take was the annual number of sea turtles expected to be captured, injured, or killed in the pelagic fisheries based out of American Samoa.

As the expected take in terms of mortalities has been exceeded, NMFS PIRO prepared a new stand alone BiOp for the American Samoa longline fishery completed on September 16, 2010. The 2010 BiOp considers and analyzes the measures proposed in the Council's preferred alternative in this amendment, intended to reduce the potential for further interactions between longlines and sea turtles. The BiOp concluded that the annual numbers of interactions and mortalities expected to result from implementation of the proposed action for a 3-year period is incidental take of up to 45 green sea turtles over three years (average of 15 interactions per year with 41 mortalities). The occasional hooking and entanglement (no more than 1 every 3 years per species) of hawksbill, leatherback, and olive ridley turtles is also expected (NMFS 2010c). If the total number of authorized sea turtle interactions included in the incidental take statement (ITS) during any consecutive 3-year period is exceeded, re-initiation of consultation will be required (50 CFR 402.16). After implementation of the proposed action and the period of years 1 through 3 has ended, a new 3-year ITS period will begin with years 2 through 4, and so on.

Through the proposed FEP Amendment, and if approved by the Secretary, NMFS will implement measures recommended by the Council that will reduce sea turtle interactions. After gear modifications are made, the Council expects the operations of the American Samoa longline fishery will be consistent with the provisions of the BiOp and so, will not be likely to jeopardize the continued existence of any listed species or cause any adverse modification to their associated habitats.

9.12 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the take of marine mammals in the U.S. and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the United States. The MMPA gives the Secretary of Commerce authority and duties for all cetaceans (whales, dolphins, and porpoises) and pinnipeds (seals and sea lions, except walruses). The MMPA requires NMFS to prepare and periodically review stock assessments of marine mammal stocks.

Under section 118 of the MMPA, NMFS must publish, at least annually, a List of Fisheries that classifies U.S. commercial fisheries into one of three categories. These categories are based on the level of serious injury and mortality of marine mammals that occurs incidental to each

fishery. Specifically, the MMPA mandates that each fishery be classified according to whether it has frequent, occasional, or a remote likelihood of or no known incidental mortality or serious injury of marine mammals. The American Samoa longline fishery is a Category II fishery (occasional serious injury and mortality) in the 2010 List of Fisheries (74 FR 58859 November, 16, 2009) and this amendment makes no changes to allowable amount of fishing except to require deep-setting only in the American Samoa longline fishery which may deter marine mammal interactions which typically occur in the upper waters, therefore, it does not require a MMPA category redesignation or other action.

Vessel owners and crew that are engaged in Category II fisheries may incidentally take marine mammals after registering or receiving an Authorization Certificate under the MMPA, but they are required to: 1) report all incidental mortality and injury of marine mammals to NMFS, 2) immediately return to the sea with minimum of further injury any incidentally taken marine mammal, 3) allow vessel observers if requested by NMFS, and 4) comply with guidelines and prohibitions under the MMPA when deterring marine mammals from gear, catch, and private property (50 CFR 229.4, 229.6, 229.7). The MMPA registration process is integrated with existing state and Federal licensing, permitting, and registration programs. Therefore, individuals who have a state or Federal fishing permit or landing license, such as the American Samoa limited entry longline permit, are currently not required to register separately under the MMPA.

In addition, fishers participating in a Category I or II fishery are required to accommodate an observer onboard their vessel(s) upon request (50 CFR 229.7); and fishers participating in a Category I or II fishery are required to comply with any applicable take reduction plans. NMFS may develop and implement take reduction plans for any Category I or II fishery that interacts with a strategic stock.

See Sections 7.4.2 and 7.4.3 of this document for descriptions of marine mammals found around American Samoa. Section 9.0 provides an analysis of the anticipated impacts on these species under each of the alternatives considered by the Council. The Council expects that the alternatives would not adversely affect any marine mammal populations or habitat.

9.13 Executive Order 13132 – Federalism

This action does not contain policies with federalism implications under E.O. 13132.

10.0 Proposed Draft Regulations

[in prep]

11.0 Literature Cited

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11.1 Personal Communications

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Appendix I- American Samoa Longline Limited Entry Program Regulations (50 CFR §665.816)

§ 665.816 American Samoa longline limited entry program.

(a) *General.* Under §665.801(c), certain U.S. vessels are required to be registered for use under a valid American Samoa longline limited access permit. With the exception of reductions in permits in vessel size Class A under paragraph (c)(1) of this section, the maximum number of permits will be capped at the number of initial permits actually issued under paragraph (f) of this section.

(b) *Terminology.* For purposes of this section, the following terms have these meanings:

(1) Documented participation means participation proved by, but not necessarily limited to, a properly submitted NMFS or American Samoa logbook, an American Samoa creel survey record, a delivery or payment record from an American Samoa-based cannery, retailer or wholesaler, an American Samoa tax record, an individual wage record, ownership title, vessel registration, or other official documents showing:

(i) Ownership of a vessel that was used to fish in the EEZ around American Samoa, or

(ii) Evidence of work on a fishing trip during which longline gear was used to harvest western Pacific pelagic MUS in the EEZ around American Samoa. If the applicant does not possess the necessary documentation of evidence of work on a fishing trip based on records available only from NMFS or the Government of American Samoa (*e.g.,* creel survey record or logbook), the applicant may issue a request to PIRO to obtain such records from the appropriate agencies, if available. The applicant should provide sufficient information on the fishing trip to allow PIRO to retrieve the records.

(2) Family means those people related by blood, marriage, and formal or informal adoption.

(c) Vessel size classes. The Regional Administrator shall issue American Samoa longline limited access permits in the following size classes:

(1) Class A: Vessels less than or equal to 40 ft (12.2 m) LOA. The maximum number will be reduced as Class B–1, C–1, and D–1 permits are issued under paragraph (f)(5) of this section.

(2) Class B: Vessels over 40 ft (12.2 m) to 50 ft (15.2 m) LOA.

(3) Class B–1: Maximum number of 14 permits for vessels over 40 ft (12.2 m) to 50 ft (15.2 m) LOA, to be made available according to the following schedule:

(i) Four permits in the first calendar year after the Regional Administrator has issued all initial permits in Classes A, B, C, and D (initial issuance);

(ii) In the second calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first four, plus four additional permits;

(iii) In the third calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first eight, plus four additional permits; and

(iv) In the fourth calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first 12, plus two additional permits.

(4) Class C: Vessels over 50 ft (15.2 m) to 70 ft (21.3 m) LOA.

(5) Class C–1: Maximum number of six permits for vessels over 50 ft (15.2) to 70 ft (21.3 m) LOA, to be made available according to the following schedule:

(i) Two permits in the first calendar year after initial issuance;

(ii) In the second calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first two, plus two additional permits; and

(iii) In the third calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first four, plus two additional permits.

(6) Class D: Vessels over 70 ft (21.3 m) LOA.

(7) Class D–1: Maximum number of 6 permits for vessels over 70 ft (21.3 m) LOA, to be made available according to the following schedule:

(i) Two permits in the first calendar year after initial issuance;

(ii) In the second calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first two, plus two additional permits; and

(iii) In the third calendar year after initial issuance, any unissued, relinquished, or revoked permits of the first four, plus two additional permits.

(d) A vessel subject to this section may only be registered with an American Samoa longline limited access permit of a size class equal to or larger than the vessel's LOA.

(e) Initial permit qualification. Any U.S. national or U.S. citizen or company, partnership, or corporation qualifies for an initial American Samoa longline limited access permit if the person, company, partnership, or corporation, on or prior to March 21, 2002, owned a vessel that was used during the time of their ownership to harvest western Pacific pelagic MUS with longline gear in the EEZ around American Samoa, and that fish was landed in American Samoa:

(1) Prior to March 22, 2002; or

(2) Prior to June 28, 2002, provided that the person or business provided to NMFS or the Council, prior to March 22, 2002, a written notice of intent to participate in the pelagic longline fishery in the EEZ around American Samoa.

(f) Initial permit issuance.

(1) Any application for issuance of an initial permit must be submitted to PIRO no later than 120 days after the effective date of this final rule. The Regional Administrator shall publish a notice in theFederal Register,send notices to persons on the American Samoa pelagics mailing list, and use other means to notify prospective applicants of the availability of permits. Applications for initial permits must be made, and application fees paid, in accordance with §§665.13(c)(1), 665.13 (d), and 665.13 (f)(2). A complete application must include documented participation in the fishery in accordance with §665.816(b)(1). If the applicant is any entity other than a sole owner, the application must be accompanied by a supplementary information sheet obtained from the Regional Administrator, containing the names and mailing addresses of all owners, partners, and corporate officers.

(2) Only permits of Class A, B, C, and D will be made available for initial issuance. Permits of Class B–1, C–1, and D–1, will be made available in subsequent calendar years.

(3) Within 30 days of receipt of a completed application, the Assistant Regional Administrator for Sustainable Fisheries, PIRO, shall make a decision on whether the applicant qualifies for an initial permit and will notify the successful applicant by a dated letter. The successful applicant must register a vessel, of the equivalent size class or smaller to which the qualifying vessel would have belonged, to the permit within 120 days of the date of the letter of notification, and maintain this vessel registration to the permit for at least 120 days. The successful applicant must also submit a supplementary information sheet, obtained from the Regional Administrator, containing the name and mailing address of the owner of the vessel to which the permit is registered. If the registered vessel is owned by any entity other than a sole owner, the names and mailing addresses of all owners, partners, and corporate officers must be included.

(4) An appeal of a denial of an application for an initial permit shall be processed in accordance with §665.801(o) of this subpart.

(5) After all appeals on initial permits are concluded in any vessel size class, the maximum number of permits in that class shall be the number of permits issued during the initial issuance process (including appeals). The maximum number of permits will not change, except that the maximum number of Class A permits will be reduced if Class A permits are replaced by B–1, C–1, or D–1 permits under paragraph (h) of this section. Thereafter, if any Class A, B, C, or D permit becomes available, the Regional Administrator shall re-issue that permit according to the process set forth in paragraph (g) of this section.

(g) Additional permit issuance.

(1) If the number of permits issued in Class A, B, C, or D, falls below the maximum number of permits, the Regional Administrator shall publish a notice in theFederal Register,send notices to

persons on the American Samoa pelagics mailing list, and use other means to notify prospective applicants of any available permit(s) in that class. Any application for issuance of an additional permit must be submitted to PIRO no later than 120 days after the date of publication of the notice on the availability of additional permits in theFederal Register.A complete application must include documented participation in the fishery in accordance with §665.816(b)(1). The Regional Administrator shall issue permits to persons according to the following priority standard:

(i) First priority accrues to the person with the earliest documented participation in the pelagic longline fishery in the EEZ around American Samoa on a Class A sized vessel.

(ii) The next priority accrues to the person with the earliest documented participation in the pelagic longline fishery in the EEZ around American Samoa on a Class B size, Class C size, or Class D size vessel, in that order.

(iii) In the event of a tie in the priority ranking between two or more applicants, the applicant whose second documented participation in the pelagic longline fishery in the EEZ around American Samoa is first in time will be ranked first in priority. If there is still a tie between two or more applicants, the Regional Administrator will select the successful applicant by an impartial lottery.

(2) Applications must be made, and application fees paid, in accordance with §§665.13(c)(1), 665.13(d), and 665.13(f)(2). If the applicant is any entity other than a sole owner, the application must be accompanied by a supplementary information sheet, obtained from the Regional Administrator, containing the names and mailing addresses of all owners, partners, and corporate officers that comprise ownership of the vessel for which the permit application is prepared.

(3) Within 30 days of receipt of a completed application, the Assistant Regional Administrator for Sustainable Fisheries shall make a decision on whether the applicant qualifies for a permit and will notify the successful applicant by a dated letter. The successful applicant must register a vessel of the equivalent vessel size or smaller to the permit within 120 days of the date of the letter of notification. The successful applicant must also submit a supplementary information sheet, obtained from the Regional Administrator, containing the name and mailing address of the owner of the vessel to which the permit is registered. If the registered vessel is owned by any entity other than a sole owner, the names and mailing addresses of all owners, partners, and corporate officers must be included. If the successful applicant fails to register a vessel to the permit within 120 days of the date of the letter of notification, the Assistant Regional Administrator for Sustainable Fisheries shall issue a letter of notification to the next person on the priority list or, in the event that there are no more prospective applicants on the priority list, re-start the issuance process pursuant to paragraph (g)(1) of this section. Any person who fails to register the permit to a vessel under this paragraph (g)(3) within 120 days shall not be eligible to apply for a permit for 6 months from the date those 120 days expired.

(4) An appeal of a denial of an application for a permit shall be processed in accordance with §665.801(o).

(h) Class B–1, C–1, and D–1 Permits.

(1) Permits of Class B–1, C–1, and D–1 will be initially issued only to persons who hold a Class A permit and who, prior to March 22, 2002, participated in the pelagic longline fishery around American Samoa.

(2) The Regional Administrator shall issue permits to persons for Class B–1, C–1, and D–1 permits based on each person's earliest documented participation, with the highest priority given to that person with the earliest date of documented participation.

(3) A permit holder who receives a Class B–1, C–1, or D–1 permit must relinquish his or her Class A permit and that permit will no longer be valid. The maximum number of Class A permits will be reduced accordingly.

(4) Within 30 days of receipt of a completed application for a Class B–1, C–1, and D–1 permit, the Regional Administrator shall make a decision on whether the applicant qualifies for a permit and will notify the successful applicant by a dated letter. The successful applicant must register a vessel of the equivalent vessel size or smaller to the permit within 120 days of the date of the letter of notification. The successful applicant must also submit a supplementary information sheet, obtained from the Regional Administrator, containing the name and mailing address of the owner of the vessel to which the permit is registered. If the registered vessel is owned by any entity other than a sole owner, the names and mailing addresses of all owners, partners, and corporate officers must be included.

(5) An appeal of a denial of an application for a Class B–1, C–1, or D–1 permit shall be processed in accordance with §665.801(o).

(6) If a Class B–1, C–1, or D–1 permit is relinquished, revoked, or not renewed pursuant to paragraph (j)(1) of this section, the Regional Administrator shall make that permit available according to the procedure described in paragraph (g) of this section.

(i) Permit transfer. The holder of an American Samoa longline limited access permit may transfer the permit to another individual, partnership, corporation, or other entity as described in this section. Applications for permit transfers must be submitted to the Regional Administrator within 30 days of the transfer date. If the applicant is any entity other than a sole owner, the application must be accompanied by a supplementary information sheet, obtained from the Regional Administrator, containing the names and mailing addresses of all owners, partners, and corporate officers. After such an application has been made, the permit is not valid for use by the new permit holder until the Regional Administrator has issued the permit in the new permit holder's name under §665.13(c).

(1) Permits of all size classes except Class A. An American Samoa longline limited access permit of any size class except Class A may be transferred (by sale, gift, bequest, intestate succession, barter, or trade) to the following persons only:

(i) A western Pacific community located in American Samoa that meets the criteria set forth in §305(I)(2) of the Magnuson-Stevens Act, 16 U.S.C. §1855(I)(2), and its implementing regulations, or

(ii) Any person with documented participation in the pelagic longline fishery in the EEZ around American Samoa.

(2) Class A Permits. An American Samoa longline limited access permit of Class A may be transferred (by sale, gift, bequest, intestate succession, barter, or trade) to the following persons only:

(i) A family member of the permit holder,

(ii) A western Pacific community located in American Samoa that meets the criteria set forth in §305(I)(2) of the Magnuson-Stevens Act, 16 U.S.C. 1855, and its implementing regulations, or

(iii) Any person with documented participation in the pelagic longline fishery on a Class A size vessel in the EEZ around American Samoa prior to March 22, 2002.

(3) Class B–1, C–1, and D–1 Permits. Class B–1, C–1, and D–1 permits may not be transferred to a different owner for 3 years from the date of initial issuance, except by bequest or intestate succession if the permit holder dies during those 3 years. After the initial 3 years, Class B–1, C–1, and D–1 permits may be transferred only in accordance with the restrictions in paragraph (i)(1) of this section.

(j) Permit renewal and registration of vessels.

(1) Use requirements. An American Samoa longline limited access permit will not be renewed following 3 consecutive calendar years (beginning with the year after the permit was issued in the name of the current permit holder) in which the vessel(s) to which it is registered landed less than:

(i) For permit size Classes A or B: a total of 1,000 lb (455 kg) of western Pacific pelagic MUS harvested in the EEZ around American Samoa using longline gear, or

(ii) For permit size Classes C or D: a total of 5,000 lb (2,273 kg) of western Pacific pelagic MUS harvested in the EEZ around American Samoa using longline gear.

(2) [Reserved]

(k) Concentration of ownership of permits. No more than 10 percent of the maximum number of permits, of all size classes combined, may be held by the same permit holder. Fractional interest will be counted as a full permit for the purpose of calculating whether the 10-percent standard has been reached.

(l) Three year review. Within 3 years of the effective date of this final rule, the Council shall consider appropriate revisions to the American Samoa limited entry program after reviewing the effectiveness of the program with respect to its biological and socioeconomic objectives, concerning gear conflict, overfishing, enforceability, compliance, and other issues.