Preliminary Responsible Development Plan for the American Samoa Longline Fishery

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American Samoa Longline Fishery

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List of abbreviations and terms used in this report.

alia = locally built, aluminum, fishing catamaran, 26 to 44 ft in length.
ASEAC = American Samoa Economic Advisory Commission
ASG = American Samoa Government
CDPP = Western Pacific Community Development Project Program
CEDS = Comprehensive Economic Development Strategy
CCM = Commission Members, Cooperating Non-members and participating Territories
CMM = Conservation Management Measures
DBAS = Development Bank of American Samoa
DMWR = American Samoa Department of Marine and Water Resources
DOC = U.S. Department of Commerce
EDA = U.S. Economic Development Administration
EEZ = 200 mile Exclusive Economic Zone
EPA = U.S. Environmental Protection Agency
FAD = fish aggregating device, can be anchored or drifting
FAO = Food and Agriculture Organization of the United Nations
FMP = Fishery Management Plan
ft = feet
GMPs = Good Manufacturing Practices
HACCP = hazard analysis critical control point
IUU = Illegal, unregulated, unreported
MCP = American Samoa Marine Conservation Plan
MSA = Magnuson-Stevens Fishery Conservation and Management Act 2006
mt = metric ton
NOAA = National Oceanic and Atmospheric Administration
PIRO = NOAA Pacific Islands Regional Office
RFA = Responsible Fisheries Assessment against the FAO Code of Conduct
RLF = Revolving Loan Fund
ROP = Regional Observer Program
TPC = Territorial Planning Committee
VMS = satellite/GPS based vessel monitoring system
WCPFC = Western and Central Pacific Fishery Commission
WCPO = Western and Central Pacific Ocean
WPRFMC = Western Pacific Regional Fishery Management Council
WTO = World Trade Organization

EXECUTIVE SUMMARY

Why is a preliminary Responsible Fisheries Development Plan needed?

American Samoa's domestic longline fishery faces an uncertain future because of recent changes in American Samoa's tuna canning industry and in the management framework for western and central Pacific tuna fisheries. The Western Pacific Regional Fishery Management Council (WPRFMC) selected PacMar Inc. to prepare a "Preliminary Responsible Fisheries Development Plan for the Domestic Longline Fishery in American Samoa" in order to 1) coordinate and link projects listed in various fisheries and economic development plans, 2) set the context for future development and management of the Territory's domestic longline fishery and 3) demonstrate that the present fishery and possible new directions with supporting projects constitute responsible development. As a participating territory in the Western and Central Pacific Fisheries Commission (WCPFC), development of the American Samoa domestic longline fishery must proceed in a responsible manner.

How was the Responsible Fisheries Development Plan completed?

Existing fishery development plans and proposals were reviewed and previously proposed projects were summarized. Possible new directions for longline fishery development described by previous industry assessment reports were reviewed. Key standards of responsible fisheries development were reviewed and applied to the existing longline fishery. Then, each proposed project was screened for potential contribution to the new development directions. After this, each project was assessed for compliance with the responsible fisheries development criteria. This process resulted in a list of previously proposed projects screened by contribution to new development directions for the fishery within the framework of responsible fisheries development.

The preliminary Responsible Fisheries Development Plan is intended to 1) integrate previously proposed fisheries development plans and proposals; 2) establish a method for prioritizing development projects and 3) identify gaps that may exist in overall responsible fisheries development planning. It is "preliminary" in the sense that it is a consolidating step in the development planning process that will facilitate more detailed feasibility evaluation and design of specific projects.

What is the present status and possible future of American Samoa's longline fishery?

Commercial fishing for tuna by domestic vessels is a relatively recent endeavor in American Samoa. The domestic longline fleet, numbering 27 large vessels (>50 ft) and one small *alia* (locally built fishing boat <50 ft) in 2008, faces an uncertain future.

The domestic longline fishery is regulated under the American Samoa longline limited entry program established through Amendment 11 to the Fishery Management Plan (FMP) for Pelagic Fisheries of the Western Pacific Region. Detailed requirements are described in the Small Entity Compliance Guide for this program (revised March 7, 2008) published by

National Oceanic and Atmospheric Administration (NOAA) Fisheries Pacific Islands Regional Office (PIRO 2008). In addition to capping the number of American Samoa longline permits at 60, divided among 4 vessel size classes, the regulation includes logbook reporting requirements for all permitted fishing, vessel monitoring system (VMS) and shipboard observer requirements for larger vessels. Longline vessel operators must complete a NOAA Pacific Islands Regional Office protected species workshop every year and are required to follow specific procedures to handle, resuscitate and release sea turtles that are accidentally hooked or entangled. Separate regulations prohibit vessels longer than 50 ft from fishing for pelagic fish in specific areas, generally to 50 nautical miles offshore of Tutuila, Manu'a Islands, Rose Atoll and Swains Island.

New directions for development are needed for the domestic longline fishery because a major buyer of the fleet's albacore catch, Chicken of the Sea's Samoa Packing Co. cannery, is scheduled to close in September 2009. Secondary effects of this closure will be major layoffs, decline in local consumer buying power, as well reduction of transportation links to overseas markets.

What criteria exist for Responsible Development of fisheries?

International concern about the need for "responsible" and "sustainable" fisheries is affecting the management framework for longline and other tuna fisheries in the western and central Pacific. Standards for responsible fisheries have been established at the international level (FAO 1995) and U.S. national level (Magnuson-Stevens Fishery Conservation and Management Act National Standards). Additional criteria for responsible fisheries are embedded regionally in the conservation and management measures and resolutions of the WCPFC and locally in the American Samoa Constitution (Section 3).

What new directions are there for developing the longline fishery?

American Samoa seafood marketing potentials were assessed by TEC, Inc. (2007). Three scenarios for new development directions identified by TEC represent points along a spectrum of possible futures for American Samoa's longline fishery. New Direction 1 emphasizes the potential for fresh export, particularly of high quality bigeye tuna, via air cargo to Hawaii. New Direction 2 emphasizes processing of fresh swordfish and other non-albacore species (now bycatch) into value-added products for freezing and export via ocean cargo. New Direction 3 emphasizes close cooperation through a longline fishermen's association or cooperative to process and market canned or pouched albacore products in oversea markets under an American Samoa brand.

What development plans and proposed projects exist?

Six fisheries and economic development plans were reviewed to identify projects that could advance the possible new directions in the domestic longline fishery. In many instances, projects were similar enough or overlapped to the extent that they could be combined. This exercise produced a total of 17 projects forming four general groups: 1) longline fishery support infrastructure; 2) longline fishery support services; 3) studies and research that could

affect the domestic longline fishery; and 4) resource management actions that could affect the domestic longline fishery.

How does the American Samoa longline fishery measure up against standards for responsible development?

New fishery directions and supporting projects are evaluated to predict which could increase, decrease or have no effect on the baseline compliance of the existing longline fishery with responsible development standards. American Samoa's domestic longline fishery was found to be compliant with most of the standards and criteria for responsible fisheries contained in the FAO Code of Conduct for Responsible Fisheries, National Standards of the Magnuson Stevens Fishery Conservation and Management Act (MSA), conservation and management measures and resolutions of the Western and Central Pacific Fisheries Commission and the American Samoa Constitution (Section 3).

The few deficiencies are related to relatively high finfish bycatch by larger longline vessels (FAO Code of Conduct principle 6.6, WCPFC Resolution 2005-03, MSA National Standard 9); lack of a berthing and service dock that integrates domestic longline vessels into Pago Pago Harbor activities (FAO Code of Conduct principle 6.9); and duty-free access to the U.S. market by tuna canned in American Samoa that serves as a free trade barrier (FAO Code of Conduct principle 6.14).

The pre-screened list of proposed development projects.

The following projects emerged as priorities (not listed in any rank order of importance) based on evaluating project relevance to 1) advancing new fishery directions; and 2) improving compliance with standards for responsible fisheries.

A. Domestic fishing vessel dock
B. Expand domestic fishing vessel support, fish processing and storage capacity
C. *Alia* repair/service dock, rehabilitation
F. Acquire tender vessels to support *alia* fishing, catch transshipping
H. Value-added fish processing services
I. Organize, plan local fishermen's organization or cooperative
J. Development bank financial extension services
K. Improve air and sea transport for fish exports
L. Proper fish handling/safety training
M. Cost-benefit analysis of protected species bycatch reduction measures
O. Bigeye tuna limit utilization program
P. Minimize protected species bycatch
Q. Consultations between ASG and neighboring island resource managers
R. Provide for disposal of waste streams from new fish processing facilities

The highest priority development projects/proposals from the perspective of advancing new domestic longline fishery directions are Projects A, B, C, F, H, I, J, K, L, M, P, Q, and R.

The highest priority projects from the perspective of improving compliance with standards for responsible fisheries are Project C, followed by Projects B, F, I then Projects A and O.

A major unresolved issue, not identified in any previous fisheries or economic development plans reviewed, is the great difficulty of liquid and solid waste disposal from fish processing (New Directions 1, 2 and 3) considering present U.S. EPA and ASG policies. No project was proposed in earlier plans to overcome this obstacle to new fish processing operations in the Territory. Project R is proposed above to address this need.

High priority projects are often connected around a nexus project and do not stand alone. Section 5 of this plan provides examples.

To become operational, each project/proposal will require its own detailed planning, funding and implementation. Many projects, however, share prerequisites, such as the need for site selection, architectural and engineering design and government permits for construction, possible changes in government regulations or policies relating to natural resources and the environment, or private investment for new businesses. Table 5.1 lists high priority projects and identifies general prerequisites for their implementation.

Conclusion: Next steps in development planning

Exactly which projects are selected for more detailed technical, economic and/or business planning depend on 1) private sector interest in and commitment to business development and 2) the public sector role and commitment to overcoming hurdles and reducing risk for private sector development.

Private initiative is needed to channel resources for industry development. Three possible new directions have been identified, but exactly which type of businesses and industry development occurs in the future will rely on business entities' assessment of the opportunities and associated risks. The business ventures will also need to work with the public sector for assistance in resolving critical unresolved issues identified in this study.

1. BACKGROUND AND PURPOSE

The Western Pacific Regional Fishery Management Council (WPRFMC) selected PacMar Inc. to prepare a "Preliminary Responsible Fisheries Development Plan for the Domestic Longline Fishery in American Samoa." At its 144th meeting (March 2009), the WPRFMC approved the Marine Conservation Plan (MCP) provided by the American Samoa Government, which includes several fisheries development projects. Other fisheries and economic development plans and proposals also exist that need to be evaluated and integrated into a consolidated development plan. The plan should demonstrate that as a participating territory in the Western and Central Pacific Fisheries Commission (WCPFC), American Samoa is undertaking "responsible development" of its domestic longline fishery. For these reasons, a responsible development plan for American Samoa's domestic longline fishery is needed.

The Terms of Reference (TOR) for the plan require the consultant to:

- Assess key existing fishery development planning documents;
- Compile and summarize the list of development projects;
- Describe the current management framework and development context;
- Determine how each of the proposed development projects addresses or demonstrates compliance with the general principles of the FAO Code of Conduct for Responsible Fisheries and the Magnuson Stevens Fishery Conservation and Management Act (MSA) National Standards;
- Prioritize the list of development projects; and
- Identify any gaps in complying with the general principles of the Code and the National Standards for responsible fishery development.

Recent changes in American Samoa's tuna canning industry and in the management framework for western and central Pacific tuna fisheries set the context for future development and management of the domestic longline fishery.

This plan is organized as follows:

Section 1 defines the terms of reference for the plan, changes in American Samoa's tuna canning industry and the status and possible futures of the domestic longline fishery. The references that are used as standards for responsible fisheries are also described.

Section 2 traces the history of commercial fisheries in American Samoa and possible new directions for the domestic longline fishery. Seventeen projects and proposals from six previous fisheries and economic development plans are summarized and the possible

contributions of these projects to three possible new directions for the longline fishery are assessed.

Section 3 evaluates compliance of American Samoa's existing domestic longline fishery with standards for responsible fisheries at the international level (FAO Code of Conduct for Responsible Fisheries) and national level (Magnuson Stevens Act National Standards), as well as criteria for responsible fisheries embedded in Western and Central Pacific Fisheries Commission mandatory conservation and management measures and non-mandatory resolutions and in Section 3 of American Samoa's Constitution.

Section 4 examines relationships between 17 previous projects and proposals with three possible new directions for American Samoa's domestic longline fishery and whether these projects and proposals increase, decrease or cause no change in the fishery's compliance with responsible fisheries standards. The projects and proposals are scored according to how many possible fishery directions they are likely to support and how many specific standards for responsible fisheries they are likely to improve.

Section 5 identifies a major and high priority gap not covered by the 17 projects and proposals (waste disposal from new fish processing facilities) and suggests logical connections of high priority projects around nexus projects. This section also lists general prerequisites for high priority projects. Unresolved issues are discussed, with a recommendation for a more comprehensive responsible fisheries assessment of the domestic longline fishery. This assessment would address detailed provisions of the FAO Code of Conduct for Responsible Fisheries instead of just its general principles.

Section 6 stresses the importance of private sector initiatives as the next logical step in longline fishery development. The role of government is to build public infrastructure and otherwise reduce risk for private investment.

1.1 Changes in the Tuna Canning Industry

Of the fisheries resources offshore of the American Samoa islands, only pelagic fish offer significant commercial potential (TEC Inc. 2007). Despite a 50-year history of tuna canning in American Samoa by offshore interests, commercial fishing for tuna by domestic vessels is a relatively recent endeavor. Whereas long-range fishing fleets once supplied nearly all of the tuna for canning, an American Samoa domestic longline fishery, established in the late 1990s, has recently accounted for a small percentage of white meat tuna finished products of the local canneries.

American Samoa's economy grew rapidly since 1975, driven by a 400 percent expansion of tuna cannery employment. As a consequence, the local economy increased its dependence on fish processing and its sensitivity to fluctuations in cannery production. The injection of $80 million per year into American Samoa's economy by the canning industry directly and indirectly supports approximately half the jobs in the territory (McPhee & Associates 2008).

Chicken of the Sea (COS)'s Samoa Packing Co. is scheduled to close in September 2009. Any useable equipment at the Samoa Packing plant will be moved, although much of what exists is not useable at other plants (e.g., old retorts, scows, cookers etc.). COS will maintain cold storage and a buying station in Pago Pago for the near term but the long-term future is uncertain.

The closure is expected to cause long-lasting economic distress in American Samoa. Severe declines in local employment, incomes and tax revenues are predicted (McPhee & Associates 2008). Information obtained in 2007 through communications with the canneries indicated that their continued operation in American Samoa was tied to repeal of the 50-cent annual increase of the hourly minimum wage in American Samoa mandated by the federal government in Public Law 110-28; continuation of significant tax incentives from the American Samoa Government; some form of federal tax credit; and the need to reduce costs for fuel and electricity. Lacking substantial relief on these matters, the canneries indicated that they would begin planning for a transfer of production from American Samoa to more favorable locations and that once a decision is made to transfer from the territory, action would probably soon follow and it would probably be very difficult to reverse the action (McPhee & Associates 2008).

Canneries have accounted for 46 percent of all jobs in the territory, taking into account the multiplier effect. Every cannery job supports the equivalent of 0.47 jobs elsewhere in the economy. If StarKist Samoa were also to close down or scale back operations, American Samoa would face economic disaster. Associated with severe loss of jobs and income in all economic sectors would be widespread closure of locally-owned businesses, weakening of local consumer buying power, downsizing of utilities and transportation services for which the canneries are large customers, and a precipitous decline in local government revenues and ability to cope with the crisis (McPhee & Associates 2008).

A long period of economic and social dislocation would ensue. Even if new industries are established and create new employment opportunities, it would take many years before the American Samoa economy could recover (McPhee & Associates 2008).

Eighty percent of the employees in fish processing are foreign workers, mostly from independent Samoa. They would not have good options for relocation. Citizens of independent Samoa are not free to emigrate to the U.S. Those with weak attachments to American Samoa may return home if they lose their jobs, or they may be sent home by their American Samoan sponsors. Many citizens of independent Samoa have lived in American Samoa for many years and have children who are U.S. nationals, having been born in American Samoa. While the independent Samoans working in the territory are legally considered foreign workers, in fact they are the same people, by culture, history and family ties.

No one knows how many unemployed foreign workers will seek to remain in the territory and somehow get by while waiting for new jobs to materialize (McPhee & Associates 2008). To put food on the table, unemployed families are likely to engage in subsistence activities, including harvesting of reef resources.

1.2 Status and Future of American Samoa's Domestic Longline Fishery

The domestic longline fishery is a relatively recent development. Prior to 1995, American Samoa's domestic pelagic fishery largely consisted of trolling. Horizontal longlining was introduced by a single fisherman who adapted methods used in independent Samoa.

Initially, the domestic longline fleet was comprised of *alia*, locally built, twin-hulled (wood with fiberglass or aluminum) vessels about 30 feet in length, powered by 40 hp gasoline outboard engines. Larger monohull vessels capable of extended longline trips joined the fleet starting about 2000. In 2008, the larger vessels (50 ft or greater; 27) dominated the domestic longline fishery, with only one *alia* still active (WPRFMC, unpubl.).

To avoid gear conflicts between small and large longline sectors and to prevent overcapacity in the domestic longline fishery, the Western Pacific Regional Fishery Management Council recommended two precautionary measures that were approved and implemented by National Oceanic and Atmospheric Administration (NOAA) Fisheries Service.

Framework Measure 1 of the Pelagic Fishery Management Plan (FMP), which became effective March 1, 2002 (67 FR 4369), prohibited fishing for pelagic species by vessels greater than 50 ft in length within Exclusive Economic Zone (EEZ) waters to 50 nautical miles offshore of the islands of American Samoa. An exception was made for vessels that landed managed pelagic species in American Samoa under a Federal longline general permit prior to November 13, 1997. This measure was intended to prevent localized depletion of nearshore stocks by large fishing vessels, as well as to prevent gear interactions between large and small fishing vessels in nearshore waters.

Amendment 11 to the FMP, which became effective August 1, 2005, established a limited entry program for pelagic longlining in EEZ waters around American Samoa. Initial entry criteria were based on historical participation in the fishery and limited vessel upgrades were allowed. Longline vessel operators were required to obtain federal permits, to complete federal logbooks, to carry and use vessel monitoring systems installed, owned and operated by NOAA Fisheries Service on vessels greater than 40 ft. in length, to carry federal observers if requested by NOAA Fisheries Service on vessels longer than 50 ft. in length, and to follow sea turtle handling, resuscitation and release requirements when these protected species are incidentally caught (70 FR 29646). The objectives of this amendment were to stabilize the fishery and prevent overcapacity, as well as allow the opportunity for substantial fishery participation by residents of American Samoa.

American Samoa's domestic longline fishery has an uncertain future. New directions are needed because the COS Samoa Packing Co. cannery closure will cause downsizing of local markets for longline catches, as well as reducing transportation links to overseas markets. American Samoa seafood marketing potentials were assessed by TEC, Inc. (2007).

Scenarios were generated by TEC, Inc. (2007) for three possible new directions for future fisheries ventures in American Samoa: 1) emphasis on non-albacore fresh fish exports, 2) emphasis on non-albacore value-added processing for local and export markets, and 3)

albacore processing by a local fishermen's cooperative to develop an American Samoa brand in the event that both canneries close. These scenarios were constructed with consideration to a study conducted by the DevFish Project (Forum Fisheries Agency and Secretariat of the Pacific Community) (Philipson 2006) to assess and compare the economic benefits of development options for Pacific islands' longline fisheries.

No matter what economic model is followed and what future direction is taken by American Samoa's domestic longline fishery, there is little to no possibility that the jobs lost as a result of COS Samoa Packing Co.'s closure would be replaced with new jobs in the local fishing industry.

1.3 Criteria for Responsible Fisheries

International concern about the need for "responsible" and "sustainable" fisheries is affecting the management framework for longline and other tuna fisheries in the western and central Pacific. Standards for responsible fisheries have been established at the international level (FAO 1995) and U.S. national level (Magnuson-Stevens Fishery Conservation and Management Act National Standards) (http://www.nmfs.noaa.gov/msa/2007/). Additional criteria for responsible fisheries are embedded regionally in the conservation and management measures and resolutions of the WCPFC and locally in the American Samoa Constitution (Section 3) (Anon. undated).

1.3.1 FAO Code of Conduct

Adopted by the United Nations Food and Agriculture Organization (FAO) in 1995, the Code of Conduct for Responsible Fisheries is widely recognized as the most complete operational reference for fisheries management, combining the aims of sustainable fisheries management with environmental conventions and instruments.

The Code is a voluntary agreement that sets out principles and international standards of behavior for responsible practices to ensure conservation, management and sustainable development of living aquatic resources, with due respect for ecosystem and biodiversity. The Code reinforces the obligation of all those engaged in fisheries to be responsible, not only for biological aspects of fisheries but also the technological, economic, social, environmental and commercial facets as well. Whereas some of the Code's provisions have clear fisheries objectives, others have wider objectives, including satisfaction of social and economic needs and improvement of institutions and technologies. The Code recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and the interests of all those concerned. Governments, fishers, processors, consumers and others are all accountable to act responsibly (Roheim and Sutinen 2006).

Although voluntary, the Code has many provisions based on relevant rules of international law, including those reflected in the 1982 United Nations Convention on the Law of the Sea. The Code also includes certain provisions that are binding, notably the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 1993 (FAO 2001).

The general principles (Article 6) of the FAO Code of Conduct for Responsible Fisheries are paraphrased below:

- *Principle 6.1 Conservation actions by states and users are required.*

  Principle 6.2 Management of fishery resources for present and future generations and conservation of not only target species but also associated and dependent species belonging to the same ecosystem are required.

- *Principle 6.3 Prevention of overfishing and excess fishing capacity and rebuilding of overfished populations are required.*

- *Principle 6.4 Fishery management using best available science and promotion of research and data collection to improve scientific knowledge are required.*

- *Principle 6.5 In the absence of best scientific information, the application of the precautionary approach is imperative.*

- *Principle 6.6 Elimination of destructive fishing gear and development of selective and environmentally safe practices are encouraged to minimize waste and adverse impacts on non-target and associated or dependent marine species.*

- *Principle 6.7 Controls in the harvesting, processing and distribution of fishery products should maintain food safety, quality and nutrition, as well as avoid waste.*

- *Principle 6.8. The degradation of critical fisheries habitats should be prevented.*

- *Principle 6.9 Integration of fisheries and conservation with coastal zone management is encouraged.*

- *Principle 6.10 Effective monitoring of fishing activities and enforcement of domestic and international regulations are required.*

- *Principle 6.11 Nations are encouraged to effectively control fishing vessels that fly their flag to ensure to ensure adherence to conservation and management measures.*

- *Principle 6.12 Cooperation of nations in promoting effective and compatible fisheries conservation and management measures across the entire range of resource distribution is encouraged.*

- *Principle 6.13 Fishery management should ensure transparent and timely decision-making with consultation and participation of fishing industry and other stakeholders.*

- *Principle 6.14 Adherence to the World Trade Organization agreement in fishery trade policy is encouraged.*

- *Principle 6.15 Conflict resolution, in accordance with applicable international agreements, is encouraged.*

- *Principle 6.16 Nations are encouraged to facilitate effective participation, education and training so that fishers are involved in determining conservation and management policies and laws.*

- *Principle 6.17 Maintenance of safe, healthy and fair working environments that meet international standards is encouraged*

- *Principle 6.18 Protection of those engaged in artisanal and small-scale fisheries is encouraged.*

- *Principle 6.19 Environmentally and socially responsible aquaculture development should be considered. (This principle is not currently applicable to American Samoa's domestic longline fishery, which harvests wild pelagic fish.)*

1.3.2 Western and Central Pacific Fisheries Commission (WCPFC)

The Western and Central Pacific Fisheries Commission (WCPFC) is a treaty-based organization that commenced operations in late 2005. Its purpose is to conserve and manage tuna and other highly migratory fish stocks across the western and central Pacific Ocean. It was established by the Convention for the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean, which came into effect in 2004.

American Samoa participates in the WCPFC as a Pacific territory of the U.S.

The following conservation and management measures (CMMs) and resolutions that could potentially affect American Samoa's domestic longline fishery were in effect following the December 2008 meeting of the WCPFC:

- *CMM-2005-02 Conservation and management measure for South Pacific albacore*

- *CMM-2006-04 Conservation and management measure for striped marlin in the South West Pacific*

- *CMM-2006-01 Conservation and management measure for the regional observer programme*

- *CMM-2007-02 Commission vessel monitoring system*

- *CMM-2007-03 Conservation and management measure to establish a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the WCPO*

- *CMM-2007-04 Conservation and management measure to mitigate the impact of fishing on highly migratory fish stocks on seabirds*

- *CMM-2008-01 Conservation and management measure for bigeye and yellowfin tuna in the Western and Central Pacific Ocean*

- *CMM-2008-03 Conservation and management for sea turtles*

- *CMM-2008-05 Conservation and management of swordfish*

- *CMM-2008-06 Conservation and management measure for sharks in the Western and Central Pacific Ocean*

In addition, the WCPFC has adopted conservation and management measures for marking and identification of fishing vessels and boarding and inspection procedures and has adopted the following resolutions, which, unlike CMMs, are not mandatory:

- *Resolution-2005-02 Resolution on the reduction of overcapacity*

- *Resolution-2005-03 Resolution on non-target fish species*

- *Resolution-2008-01 Resolution on aspirations of small island developing states and territories*

The latter resolution is particularly important because WCPFC conservation and management measures do not constrain developing territories like American Samoa to the same degree as industrial fishing nations in the Pacific. For example, in CCM-2008-01, paragraph 34 states that "…(longline) limits for bigeye tuna (for the years 2009-2011) shall not apply to small island…participating territories in the Convention Area undertaking responsible development of their domestic fisheries" (WCPFC 2008).

1.3.3 Magnuson-Stevens Fishery Management and Conservation Act National Standards

U.S. fisheries in the Exclusive Economic Zone (EEZ) are managed through fishery management plans prepared by regional councils under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (MSA). American Samoa's domestic longline fishery is managed under the Fishery Management Plan for Pelagic Fisheries of the western Pacific Region prepared and amended as necessary by the Western Pacific Regional Fishery Management Council. All measures proposed by the Council must comply with 10 national standards specified in the MSA before they are submitted for review, approval and rule-making by NOAA Fisheries Service:

Conservation and management measures shall comply with these 10 national standards:

1. *Prevent overfishing while achieving optimum yield.*

2. *Be based upon the best scientific information available.*

3. *Manage individual stocks as a unit throughout their range, to the extent practicable; interrelated stocks shall be managed as a unit or in close coordination.*

4. *Not discriminate between residents of different states; any allocation of privileges must be fair and equitable.*

5. *Where practicable, promote efficiency, except that no such measure shall have economic allocation as its sole purpose.*

6. *Take into account and allow for variations among and contingencies in fisheries, fishery resources, and catches.*

7. *Minimize costs and avoid duplications, where practicable.*

8. *Take into account the importance of fishery resources to fishing communities to provide for the sustained participation of, and minimize adverse impacts to, such communities (consistent with conservation requirements).*

9. *Minimize bycatch or mortality from bycatch.*

10. *Promote safety of human life at sea.*

1.3.4 American Samoa Constitution (Section 3)

The leading chiefs of Tutuila Island ceded their lands to the U.S. in 1900 and the Manu'a islands were ceded in 1904. The Deeds of Cession (Anon. undated) speak of the promotion of peace and welfare of the Samoan people, the establishment of a good and sound government and the preservation of Samoan rights, lands and culture. A central premise of ceding eastern Samoa to the U.S. was to preserve the rights and property of the islands' inhabitants.

Many aspects of the culture have changed in contemporary times but Samoans have retained a traditional social system that continues to strongly influence and depend upon the culture of fishing (Severance et al. 1999). Despite increasing commercialization, the pelagic fishery makes a significant contribution to the cultural identity and social cohesion of American Samoa (Severance et al. 1999). The role of pelagic fish in meeting cultural obligations is at least as important as the contributions made to nutritional or economic well-being of island residents (Severance et al. 1999).

In the context of American Samoa's culture and Constitution, a responsible pelagic longline fishery would:

"… protect persons of Samoan ancestry against alienation of their lands and the destruction of the Samoan way of life and language, contrary to their best interests. Such legislation as may be necessary may be enacted to protect the land, customs, culture and traditional family organization of persons of Samoan ancestry and to encourage business enterprise by such persons" (American Samoa Constitution, Section 3, cited in TPC/Dept. of Commerce, 2000).

2. HISTORY OF AMERICAN SAMOA COMMERCIAL FISHERIES AND REVIEW OF PREVIOUS DEVELOPMENT PLANS AND PROPOSALS

Section 2 traces the history of fisheries development in American Samoa (2.1) and examines possible new directions for American Samoa's domestic longline fishery built around three scenarios for the future of American Samoa fisheries (2.2). American Samoa fisheries and economic development plans and proposals dating back to 1984 are then reviewed (2.3). Projects described in various plans were often similar enough or overlapped to the extent that they could be combined. Section 2.4 combines similar projects, resulting in a total of 17, with consideration given to which of the possible new directions for the domestic longline fishery would be supported by each project. The same combinations of projects and new fishery directions are considered again in Section 4, which evaluates if they would increase, decrease or have no effect on the extent of compliance with established international, regional, national and local standards for responsible fisheries.

2.1 History of Fishery Development

Commercial fishery development in American Samoa began with the construction, in 1948, of a tuna cannery on U.S. Navy property at the head of Pago Pago Harbor. This cannery closed in 1950 but the facilities became part of the base of cannery production that remains in American Samoa today. In 1954, Van Camp Seafood Company erected its Chicken of the Sea cannery in American Samoa. StarKist built the adjacent cannery in 1963. It was not until the mid-1980s, however, that the two canneries underwent major expansions to process the large volumes of tuna that resulted from the relocation of much of the U.S. purse seine fleet from the Eastern Tropical Pacific to the Central and Western Pacific.

Since the 1970s, there have been numerous attempts to develop fisheries, seafood marketing and training programs in American Samoa. These have included boat building projects, low interest boat loan incentives, anchored fish aggregating device (FAD) deployment programs and training in small craft navigation, marine electronics and outboard engine repair. Specific training and surveys with pelagic fishing techniques have included skipjack live bait pole-and-line fishing, live bait assisted trolling, *ika shibi* handline fishing, *palu ahi* handlining, dead bait trolling, vertical longlining and flying fish netting. The introduction of a technically simple, manually-operated wooden hand reel has gained the widest acceptance with the local small-boat fleet (Itano 1991). Figure 2-1 provides a timeline of significant events in fisheries development in American Samoa since 1970.

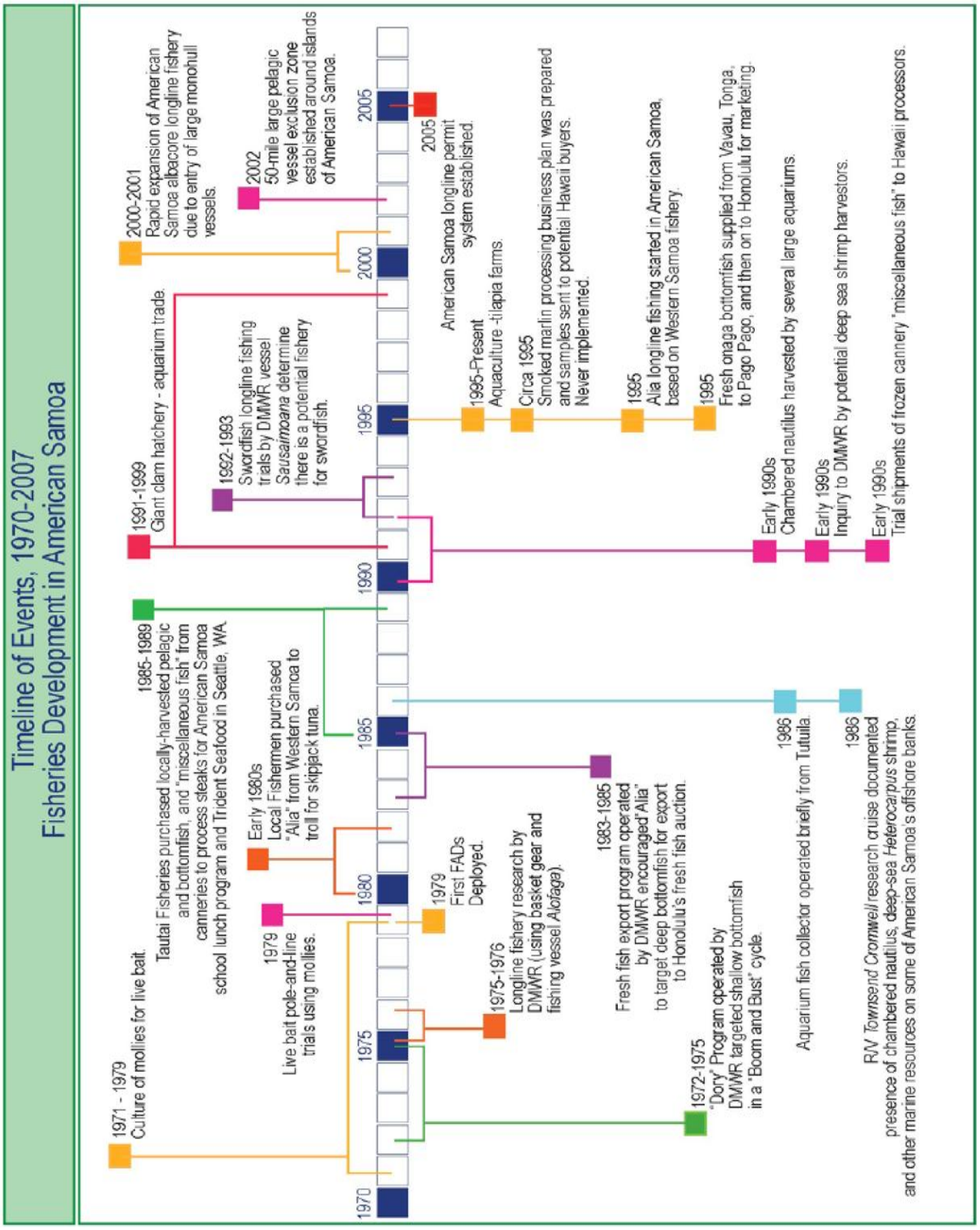

Figure 2-1. American Samoa Fisheries Development Timeline (TEC Inc. 2007)

Modern artisanal fisheries in American Samoa had their beginning in the "Dory Project" of 1972-1975. Fishermen were provided subsidized boats and training in bottomfish fishing techniques. As the Dory Project was winding down, the Department of Marine and Wildlife Resources (DMWR) experimented with longline fishing using basket gear, but this too was not sustained.

The development of offshore fisheries began in earnest during the early 1980s. It was at this time that the FAO-designed *alia* catamaran was introduced into the islands. The number of small vessels participating in commercial pelagic and bottomfish fisheries quadrupled between 1980 and 1985. During this period, almost all of the commercial catch of pelagic species was taken by trolling. Most pelagic fishing occurred near banks and seamounts where seabird flocks feed (thus indicating the presence of baitfish that tuna may also be feeding upon), or at fish aggregation devices (FADs) anchored around Tutuila Island. Anchored FADs were introduced to American Samoan coastal waters in 1979 and proved to be a popular way to increase the catch rates of widely dispersed pelagic fish (Craig et al. 1993). FADs attracted and retained schools of fish and made it easier for vessels to locate concentrations of tuna.

The *alia* bottomfish program (1982-1985) was designed to overcome the constraints of the Dory Project by using simpler vessels with outboard engines and exporting fish to Hawaii. However, new problems arose that ended this program (McGuire 1985).

The development of a domestic tuna longline fishery was among the early proposals for fishery development (Marr 1961) but the stimulus for American Samoan fishermen to shift from troll or handline gear to longline gear in the late 1990s was the fishing success of 28-34 ft *alia* catamarans equipped with longline gear operating in the Exclusive Economic Zone (EEZ) around Independent Samoa.

Following the example of the Independent Samoa fleet, the fishermen in American Samoa typically deployed about 10 miles of monofilament mainline with 250-350 hooks from a hand powered reel. The predominant catch was albacore tuna, which was marketed to the local tuna canneries. Less than ten percent of the boats carried a depth finder, fish finder or global positioning system (Severance et al. 1999). In the early years of the small-scale longline fishery, the *alia* made one-day fishing trips to areas less than 20 nm from shore (WPRFMC 2000). This sector of the fishery has greatly declined due to the limited range and highly variable catch rates of *alia*, with only one such vessel continuing to longline in 2008.

Going back to the time when the canneries were originally established, fish species caught incidentally to the target species for canning have been used by crewmen as gifts or barter for other goods and services. In the process, this supply channel saturated a good portion of the home-consumption market and depressed prices for landings of the local *alia* fleet. Known as miscellaneous fish, or *sakana*, this mix of mostly large bigeye tuna and billfish was recognized by some businessmen as an underutilized resource.

For example, an estimated 5,400 tons of miscellaneous fish were landed by foreign longliners in 1981. Foreign brokers purchased the fish for export to Japan. Miscellaneous fish were sold and bought as a lot so there was no possibility of a local fish dealer purchasing only selected species or fish of a certain minimum quality. The possibility of low quality fish in the lots made the venture potentially tenuous. In 1981, the value of miscellaneous fish for export may have reached $8 million. Taiyo leased cold storage space at the cannery then operated by Van Camp and shipped the frozen fish in carrier vessels to Japan. StarKist provided cold storage without charge to longline vessel owners and arranged miscellaneous fish sales in Asia on behalf of Korean and Taiwanese longline fleets. Annual sales of miscellaneous fish (chiefly large-sized bigeye tuna) to local restaurants and the school lunch program totaled about 150,000 pounds (AECOS 1983a).

There was also interest around this time by Japanese investors in building a freezing facility or at least staging reefer containers at the Tafuna Industrial Park. Target markets were California for swordfish and Japan for marlins and sharks with shipments planned every other month (AECOS 1983a).

Other feasibility assessments for this type of business date back to 1983 and a small-scale frozen swordfish steaking business operated for a short period in the late 1980s. AECOS (1983b) identified small business opportunities related to tuna fishing and processing, including:

- Ship chandlery
- Employment agency for skilled workers to service purse seiners and to source foreign crews
- Marine railway – employees skilled in repairing and overhauling purse seiners and longline vessels
- Boxes for canneries
- Biogas production from cannery waste
- Tuna fishing vessels – (not considered economically viable at that time)
- Local vessel support services – ice, cold storage and marketing

Despite the long history of the tuna canning industry in American Samoa, processing and marketing of pelagic fish by local enterprises has not yet developed beyond a few, short-term pilot projects.

American Samoa's domestic longline fishery expanded rapidly in 2001. Much of the recent (and anticipated future) growth is due to the entry of U.S. flag monohull vessels larger than 50 ft in length. The number of permitted longline vessels in this sector increased from 3 in 2000 to 30 by March 21, 2002 (DMWR, unpubl. data). Of these, 5 permits (33% of the vessel size class) for vessels between 50.1 ft - 70 ft and 5 permits (33% of the vessel size class) for vessels larger than 70 ft were believed to be held by indigenous American Samoans as of March 21, 2002 (T. Beeching pers. comm. to P. Bartram). To date, economic barriers (lack of capital) appear to be the primary constraint to more substantial indigenous participation in large-scale sector of the longline fishery (WPRFMC 2003).

While the smallest (less than or equal to 40 ft) vessels average 350 hooks per set, a vessel over 50 ft can set 5-6 times more hooks and has a greater fishing range and capacity for storing fish (8-40 mt as compared to 0.5-2 mt on a small vessel). Large longliners set an average of 2,900 hooks. Larger vessels are also outfitted with hydraulically-powered reels to set and haul mainline, and modern electronic equipment for navigation, communications and fish finding (WPRFMC 2003).

The status of American Samoa longline limited access permits in 2008 was: 19 permits but only one active in Class A (vessels less than 40 feet in length), 6 permits and non active in Class B (40.1-50 feet in length), 11 permits with 5 active in Class C (50.1-70 feet in length), and 26 permits with 22 active in Class D (greater than 70 feet in length) (WPRFMC unpubl.).

2.2 Possible New Directions for American Samoa Domestic Longline Fishery

The potentially feasible scenarios described below reflect the reality that pelagic fish is the resource with the most development potential in American Samoa and longline gear produces the highest quality of tuna and marketable miscellaneous fish.

The three new development directions described in this section are based on scenarios identified by TEC, Inc. (2007) as representing points along a spectrum of possible futures for American Samoa longline fisheries. The TEC scenarios for American Samoa's seafood potentials are not true business plans because no specific investors or entrepreneurs were identified to implement them. However, all the scenarios incorporate ideas, market destinations, product forms or business structures previously mentioned in planning documents and interviews. Several companies have attempted to implement elements of two scenarios (fresh fish export and value-added processing of miscellaneous pelagic fish) without lasting success.

New Direction 1 (based on TEC 2007 Scenario 1) emphasizes the potential for fresh fish export to Hawaii, if a buyer/middleman could motivate some American Samoa domestic longline vessels to land fresh bigeye tuna from their last few sets during lengthy fishing trips targeting albacore tuna for shipboard freezing. This fresh tuna export scenario could only be implemented if American Samoa's domestic longline fleet remains actively fishing in the future, with a cannery remaining open to purchase albacore tuna, the principal target of longlining. Hawaiian Airlines offers very limited and unpredictable space for transporting fresh fish exports to Hawaii on its 2-3 per week passenger flights. Except for one all-cargo

flight per week bringing mail to American Samoa, there is a lack of lift for fresh fish export to Hawaii. Until this problem is overcome, New Direction 1 will not become truly feasible.

New Direction 2 (based on TEC 2007 Scenario 2) emphasizes the potential for processing of value-added products from miscellaneous fish (species harvested incidentally by longliners that the canneries are unwilling to buy). At least one local wholesaler is already purchasing frozen at sea swordfish, marlin, wahoo, yellowfin and bigeye tuna directly from domestic longline vessels but he does minimal processing before reselling these products to restaurants and retailers. To avoid twice freezing of finished products, this new direction would depend on domestic longline vessels landing fresh miscellaneous fish from their last few sets during lengthy fishing trips targeting albacore tuna for shipboard freezing. The fresh fish would be processed into value-added finished products that would then be frozen for storage and transportation.

The American Samoa school lunch program may represent a relatively large market (up to 40 metric tons per year) for frozen fish fillets and portions that could be locally processed from miscellaneous pelagic fish species. Fish species acceptable for the school lunch program are wahoo, mahimahi, albacore and bigeye tuna. Local purchasing power is expected to decline dramatically with the closing of the COS Samoa Packing Co. As a result, demand for value-added Samoan food gifts taken on trips overseas or for local cultural obligations (e.g., *fa'alavelave*: as a noun, mutual assistance to kinsmen in times of need; as a verb, to provide assistance in times of need, often in the form of fish, Severance et al. 1999) is likely to decline.

The most feasible target for New Direction 2 would be frozen exported fish fillets or portions. Preliminary analysis by TEC Inc. (TEC Inc. 2007) identified swordfish as the most cost-effective product, with other species needing market development. Good manufacturing practices, seafood HACCP controls and product traceability will be needed to penetrate export markets for frozen pelagic fishery products. For both the local school lunch program and overseas marketing, frozen fish portions should be processed for constant portion thickness but variable portion weight. This might pose a problem if purchasing specifications are for portions of uniform weight. The new direction described in New Direction 2 could only be implemented if American Samoa's domestic longline fleet remains actively fishing in the future, with a cannery remaining open to purchase albacore tuna, the principal target of longlining.

New Direction 3 should be considered a "doomsday" scenario if there is complete closure of both canneries in the near future. Losing the principal market for domestic longline catches of albacore tuna might motivate local longline fishermen to become involved in small-scale albacore processing.

Most fish cleaner jobs associated with light meat canning would be lost in New Direction 3. The cannery work force is comprised largely of fish cleaners, mostly from independent Samoa. A substantial reduction of this job type would sharply reduce wages that are spent in the local economy and cause a local economic downturn. Fish cleaners from independent Samoa and other countries hired recently under the ASG guest worker immigration program

would have to return home if their jobs were lost. Long-time alien workers are not under an obligation to return home if they can find local sponsorship. These former cannery workers, as well as other American Samoa residents who may lose jobs because of a decline in locally spent cannery wages, are likely to turn to subsistence harvesting to provide food for their families. A substantial increase in subsistence fishing of inshore marine resources should be expected under New Direction 3. The Department of Marine and Wildlife Resources needs to develop a contingency plan to manage additional subsistence fishing effort in the event of cannery closure/downsizing and associated decline in the local cash economy.

With the economic future of both the local longline fishery and the canneries at stake in New Direction 3, there would be greater incentive for establishing an American Samoa longline fishery cooperative than at present. This scenario assumes that such a cooperative would operate as a non-profit with two principal purposes: 1) obtain cost savings for members in fuel, bait, fishing supplies and provisions; and 2) develop and promote a custom-labeled and branded (e.g., "Rainmaker Brand") canned or pouched albacore product. After cannery closures, equipment might become available to a local cooperative but is more likely that a coop would process specialty albacore products using its own small canning line (e.g., second-hand equipment available in U.S.) and its own staff trained in low-acid canned food processing. The brand would emphasize high valued canned or pouched albacore products that are line caught, raw packed (i.e., cooked one time only at the retort step) and produced by a sustainable domestic longline fishery, as assessed in the present plan. The products would be shelf stable and exported via ocean cargo.

2.3 Potential Contribution of Past Plans and Proposals to New Directions for Longline Development in American Samoa

Some of the actions recommended in previous plans and proposals for American Samoa pelagic fisheries development have been completed or have lost relevance. Others were never fully funded or implemented. The latter include capital improvements, as well as programs, that could potentially contribute to one or more of the new directions for longline fishery development previously described. Previous plans and project proposals are listed and potential contributions to new longline fishery directions are briefly described, whether supportive of New Directions 1, 2 or 3, a combination of new directions or none of the new directions. This review considers only projects identified in previous development plans. Project descriptions closely follow but are not identical to those in the original plans.

2.3.1 AECOS, Inc./Oceanic Resources, Inc. 1984. Central and Western Pacific Regional Fisheries Development Plan, Vol. 1: American Samoa. Prepared for Pacific Basin Development Council. Honolulu, HI.

Volume 1 of 4 of the Central and Western Pacific Regional Fisheries Development Plan identifies actions to be taken in American Samoa, as well as regional actions in conjunction with private, federal and other organizations, to address fishery-specific and more general constraints to development of fisheries with identified potentials. The timetable for the recommended actions is mostly 10 years. The plan states that the proper role of the island and federal governments in fisheries development is to remove or mitigate constraints and reduce some of the risk so that private industry can invest confidently. The most effective areas of government involvement are the construction of publicly-financed infrastructure, assistance in site selection, removal of regulatory impediments and provision of public utilities, tax incentives and a favorable climate for private investment. The plan cautions that national policies often neglect to consider the interests of the American-flag Pacific islands at all, and U.S. policies developed for the American Pacific territories are frequently made without adequate input from the affected island areas.

<u>Capital improvements:</u>

- Dock for domestic fishing vessels (Fagatogo area). *Contribution to New Directions: This proposal was never implemented and has been carried forward into recent development plans. It would support all three of the possible new directions for American Samoa's domestic longline fishery.*

- Fueling station and service center to support domestic fishing vessel operations (Fagatogo area). *Contribution to New Directions: This proposal was never implemented and has been carried forward into recent development plans. It would support all three of the possible new directions for American Samoa's domestic longline fishery.*

- Small fishing vessel construction, repair and storage facility (Fagatogo area). This proposal has lost much of its earlier relevance because of the downsizing of the *alia* fleet to a single vessel in 2008. *Contribution to New Directions: A recent proposal to revitalize the alia fleet as part of a domestic longline association effort to create value-added pelagic fishery products could restore relevance for possible new directions 2 and 3.*

Support programs:

- On-going government support of anchored fish aggregation devices (FAD) to enhance small-boat fishing operations (FAD design, fabrication, deployment, monitoring). *Contribution to New Directions: This proposal has been implemented by the American Samoa Government since 1979. It enhances troll and handline fisheries for pelagic species but is not particularly relevant for new longline fishery directions because anchored FADs do not aggregate albacore tuna (New Direction 3), the principal target of domestic longline fishing, or large sizes of other pelagic fish that would be the most valuable for fresh export (New Direction 1) or value-adding processing (New Direction 2).*

- Involvement of American Samoan businesses in export of frozen swordfish and other non-albacore pelagic species landed in American Samoa but not purchased for canning. Several pilot projects were attempted without long-lasting success. *Contribution to New Directions: Non-albacore fish processing and export of frozen value-added products by a domestic longline fishermen's association remains relevant for possible New Direction 2.*

- Financial extension services through local development bank. *Contribution to New Directions: These services have been provided intermittently in the past and continue to be relevant for all three of the possible new directions for American Samoa's domestic longline fishery.*

2.3.2 Transforming the Economy of American Samoa, An Economic Development Plan (ASEAC 2002).

This plan is one of the products of the American Samoa Economic Advisory Commission (ASEAC), chartered by the U.S. Department of the Interior, Office of Insular Affairs. The plan set priorities for American Samoa's economic growth, including fisheries. Within the fisheries sector, the first priority (Tier 1) is to continue support of the canneries. Tier 2 is to grow other fisheries. To do this, the Plan proposes to help local *alia* fishermen establish new or enhanced businesses so they can sell fresh fish to the canneries, local market, and eventually export to U.S. markets. Several specific actions are recommended to support such efforts.

- The ASG and members of the private sector should help organize a non-profit cooperative that would provide administrative, business and accounting services and arrange for training of these fishermen. In addition, the co-op would exercise oversight to help with the procurement of supplies, sale and delivery of fish to market, and collection and distribution of payment and payroll. *Contribution to New Directions: This proposal is relevant to possible New Directions 1, 2 and 3 for the domestic longline fishery.*

- ASG should establish infrastructure, such as a dock, loading and processing facility that includes refrigerated storage for fish as it awaits delivery to market, berthing facilities. *Contribution to New Directions: This proposal is carried forward from*

early fisheries development plans for American Samoa and augmented (processing facility with refrigerated storage). It is relevant to all three possible new directions for the domestic longline fishery.

- ASG should establish a location to repair and service *alia* boats. *Contribution to New Directions: A recent proposal to revitalize the alia fleet as part of a domestic longline association effort to create value-added pelagic fishery products could restore relevance for possible New Directions 2 and 3*.

- To ensure timely delivery of highly perishable fish, an adequate transportation system must be in place. The Plan recommended the federal government grant an exemption or partial relief from cabotage laws so sensitive cargo such as fish can move in and out of the Territory on a regular and frequent schedule. *Contribution to New Directions: This proposal is particularly relevant to New Direction 1 for domestic longline fishery development*.

- Another Tier 2 priority is aquaculture development for local market demand, although limited land availability is recognized as a constraint. *Contribution to New Directions: This proposal is not relevant to possible new directions for domestic longline fishery development (unless live baitfish were cultured cost-effectively)*.

2.3.3 Comprehensive Economic Development Strategy (CEDS) Report (DOC 2005)

This report is a requirement for consideration and approval of U.S. Economic Development Administration (EDA) funding. The Report must be filed with EDA, updated and approved on a yearly basis by the CEDS Committee. For American Samoa, the Territorial Planning Commission (TPC) carries out the function of the CEDS Committee (DOC 2005). A major task of the Commission is to establish a priority listing of projects and programs that support minority and poverty communities and people, and hold the potential to meet the seven EDA goals for a successful investment, namely projects that: 1) are marketable; 2) are proactive; 3) look beyond the immediate economic horizon, anticipate economic change and diversify the local economy; 4) maximize attraction of private investment; 5) have a high probability of success; 6) result in higher-skill and higher-wage job creation; and 7) maximize return on taxpayer investment (DOC 2005).

The Governor has identified six key economic sectors for diversifying and developing American Samoa's economy. These complement EDA's goals and provide direction for the CEDS Report's identification of EDA's funding needs for specific economic development priority projects. These target areas are: 1) e-commerce and electronic communication; 2) tourism; 3) air transportation and trans-shipment; 4) specialty agriculture, hydroponics and aquaculture; 5) local fisheries development; and 6) health care and technology services (DOC 2005).

American Samoa will continue to support existing industries, including fisheries and aquaculture. Even if industries as they now exist have uncertain futures in American Samoa, they could very well be the source of niche or related economic activities in the future.

Subsistence and commercial agriculture, including aquaculture, are important existing industries. They may hold great promise for expansion, both in the Manu'a Islands and on Tutuila Island. Specialty products, improved marketing and special training are needed for local producers to expand and for new products and markets to be developed. New product demands for the tourism industry could be an important new area of growth. American Samoa will concentrate, although not exclusively, on developing industries which produce export or new income. This is the shortest and most direct course to economic growth and income improvement. It is the only way to replace export income losses from the canneries or the federal government (DOC 2005).

With regard to fisheries, the government wishes to establish fresh or frozen processed fish as an industry targeting the export market, but the limited resource base is recognized, particularly reef fish and bottomfish. There is also interest in offshore aquaculture technologies and there has been talk of a fish hook factory (DOC 2005).

The following are American Samoa's development programs to implement EDA Goals and the Governor's priorities relevant to fisheries and seafood (DOC 2005). The Revolving Loan Fund (RLF) administered by the Development Bank of American Samoa (DBAS) is included as one of the priority projects; however, it is not a development project but is an essential development tool for financing small businesses not able to secure alternative financing. The Fund supports business loans at reasonable interest rates for businesses that meet EDA's guidelines and DBAS economic development criteria (DOC 2005).

Farmer's Market Rehabilitation

Redevelop the Farmers' Market in Fagatogo. This project is central to American Samoa's Comprehensive Economic Development Strategy. This program is especially important to farmers, fishermen and artisans who use the public market to sell their products to tourists and others to supplement their cash incomes. It is the primary commercial center in the harbor area where much of the local shopping and visitor activity occurs. This project is a cornerstone of plans to redevelop the Village of Fagatogo. The redevelopment of the Farmers' Market will consist of the replacement of the existing market structure with a new two-story building with a new fish market and seafood section for local fishermen catches; a handicraft section for sale of local handicrafts; an agricultural produce section for sale of local produce; and an area to develop, or relocate existing, restaurants. *Contribution to New Directions: This project could potentially support New Directions 2 and 3 for the domestic longline fishery. However, the closing of the Samoa Packing Co. tuna cannery by Chicken of the Sea is expected to cause widespread economic distress in American Samoa's economy and greatly reduce local consumer buying power. Hence, New Directions 2 and 3 are more likely to focus on export than on local marketing of longline fishery products.*

Small Boat Marina and Ferry Slipway

American Samoa is visited by an average of 120 small boats and yachts each year, which results in about $194,000 in expenditures in American Samoa annually. However, the visiting yachts are without the necessary facilities while they are in the territory. There is no marina with the requisite docks, showers, rest rooms and dingy dock. The Port Master Plan and the pending Pago Pago Bay Shoreline Development Plan both envision a new marina project and the relocation of the ferry slipway. This facility could also accommodate a good portion of the local fishing fleet (DOC 2005). *Contribution to New Directions: Berthing for local fishing vessels could potentially support all three possible new directions for the domestic longline fishery.*

Transportation and Trans-Shipment

Current development strategies have identified the potential for investment in air transportation and transshipment ventures. There are various development plans to improve the current conditions of the harbor for shipping, as well as improving the current conditions of the Pago Pago International Airport. There is a need to actively pursue possible arrangements with new airlines to promote competitive pricing for local consumers and exporters. *Contribution to New Directions: Proposals to improve transportation of perishable goods could most benefit New Directions 1 and 2 for future domestic longline fishery development.*

Manufacturing Retention

Government development plans support retention of cannery industries as long as possible by monitoring industry conditions, providing government services, and by promoting smooth transitions where required. *Contribution to New Directions: Replacement of Samoa Packing Co. operations with a new canning venture is unlikely. It is possible however, that dock space fronting the former cannery could become available for part-time use by the domestic longline fleet. This could potentially benefit New Directions 1, 2 and 3 in future domestic longline fishery development.*

Fish Processing

Government development plans call for support of a fresh or frozen processed fish industry, especially for export to institutional and other markets in various forms (e.g., feasibility analyses, resource analyses and financial assistance). Fish processing plants have been proposed at several locations. One facility at the head of Pago Pago Harbor is nearing completion and another has long been planned in the industrial park at Tafuna. Grants from the Administration for Native Americans and the WPRFMC's Community Demonstration Projects Program have supported some facets of these proposed facilities. Other facilities equipped with refrigeration and food processing equipment exist (one landward of the Marine Railway and a smaller commercial kitchen on the property that ASG donated to the Kingdom of Tonga in Tafuna). However, supplies of appropriate fish species and product forms depend on continuation of the remaining cannery as a focal point for fishing vessel

landings. *Contribution to New Directions: Improved capabilities for fish processing, depending on their details, could support New Directions 1, 2 and 3 in domestic longline fishery development.*

2.3.4 American Samoa Marine Conservation Plan (ASG DMWR 2008)

The most recent government plan with recommended actions for fisheries is the Marine Conservation Plan (MCP) adopted by the American Samoa Government in March 2008. The MCP provides a blueprint for allocating funds collected under any Pacific Insular Area Fishery Agreement that may allow foreign fishing or for any fisheries violations in the Exclusive Economic Zone around American Samoa during the 2009-2012 period. The plan, which was approved in March 2009 by WPRFMC and awaits approval by the National Oceanic and Atmospheric Administration (NOAA) Fisheries, sets forth ten objectives that cover a broad range of fishery conservation and management issues and initiatives. The projects listed in the MCP are designed to help achieve these objectives. Not all projects described in the MCP are included in the present review. Readers are referred to the original MCP for projects that pertain to subjects other than pelagic fisheries: inshore or bottomfish resources and fisheries, bycatch in these fisheries, sportfishing, nearshore protected species surveys, marine education, training, fisheries monitoring and enforcement proposals. The original project descriptions in the MCP are retained in this section.

OBJECTIVE 1: PROMOTE RESPONSIBLE DOMESTIC FISHERIES DEVELOPMENT TO PROVIDE LONG TERM ECONOMIC GROWTH AND STABILITY AND LOCAL FOOD PRODUCTION

Project Title: Construction of new dock and landing space for American Samoa-based longline and other small commercial fishing vessels (*alia*) in Pago Pago Harbor, build boat ramps on Tutuila and the Manua Islands, and increase fuel storage capacity and transport on the Manua and Swains Islands

Adequate docking space and landing areas are needed to support the American Samoa-based longline fishery and other fisheries such as the bottomfish fishery. Currently, American Samoa based longline vessels, which are generally between 60-85 ft, do not have dedicated docking space in Pago Pago Harbor, which results in operational challenges. For example, after landing their fish at the cannery, American Samoa-based longliners are often bumped off the loading dock to make room for other vessels such as purse seiners and cargo vessels offloading their fish to the canneries. The longline vessels then transit across the harbor and tie up at the fuel docks, where again they are often bumped off by other larger vessels. There is constant reshuffling of American Samoa-based longline vessels in Pago Pago Harbor and a dedicated pier for American Samoa-based fishing vessels would alleviate the need to move these fishing vessels around the harbor. Although fishing effort and participation by other small commercial fishing vessels such as *alia*, which fish longline for pelagic species as well as fish for bottomfish using handline-type gear, is currently at historically low levels, these vessels would also benefit from such docking and offloading space as participation increases in future years. *Contribution to New Directions: This project is carried forward from the earliest fishery development plans for American Samoa. It would support all three possible new directions for the domestic longline fishery*.

Construction of strategically-placed boats ramps on Tutuila and the Manua Islands would help fishermen access fishing grounds quicker and reduce costs associated with traveling to and from existing boat ramps. *Contribution to New Directions: This project is carried forward from earlier plans. This project is more supportive of the trailered small-boat fleet than the domestic longline fishery*.

The islands of Manua and Swains have a lack of capacity for fuel storage and transportation to support local fisheries. Fuel limitations now prohibit fleet range and expansion of the fishery. To support Manua and Swains Island fisheries, 2000 gallon fuel storage tanks and 500 gallon fuel transport tankers will be purchased. The domestic longline fishery is centered on the island of Tutuila. *Contribution to New Directions: If the fishery expands to outer islands, perhaps through New Directions 2 or 3, this project could be supportive*.

MCP Priority: High

Project Title: Construct cold storage and fish processing facilities

In order to properly store and process fish for export or local markets, adequate cold storage facilities need to be constructed. Federal government grants and funds for developing such facilities for cold storage have been distributed in the past as well as contributed by the private sector, however, such projects have yet to be completed and there is yet to be built a well-constructed cold storage facility or facilities that would be able to support fish processing for export and local fish markets. *Contribution to New Directions: This project would be supportive of all three possible new directions in domestic longline fishery development*.

MCP Priority: High

Project Title: Purchase ice making equipment that will support fresh fish fishery for local and export markets

Purpose: American Samoa's largest fishery is the longline fishery targeting albacore, which is landed frozen, for the local canneries. Fresh fish operations involve storing fish on ice. Fish would be then further processed on shore for local or export marketing as chilled or frozen products.

DMWR will purchase ice making equipment capable of producing 50 tons of ice per day as well as insulated storage containers that will allow 50 tons of ice storage available to American Samoa fishing fleets. DMWR will likely need to hire a person to oversee the ice making plant as well as provide any necessary maintenance. *Contribution to New Directions: This project would support possible New Directions 1, 2 and 3 in domestic longline fishery development*.

MCP Priority: High

Project Title: Longline permit, reporting, and bigeye tuna limit utilization program to facilitate responsible fisheries development

American Samoa is a participating territory in the Western and Central Pacific Fisheries Commission (WCPFC), which recently established longline limits for bigeye tuna in the Western and Central Pacific Ocean. As a participating territory in the WCPFC, American Samoa is afforded the right as a Small Pacific Island Developing State to utilize its limit to responsibly develop its own domestic fisheries.

Funds will be used to develop a permit and reporting program that will regulate and monitor the usage of American Samoa's quota allocations established under the WCPFC. Funds may also be used in the development of the program to identify, develop, and establish partnerships or arrangements for American Samoa bigeye tuna to be utilized by U.S. fishing vessels in exchange for funds or training assistance to develop American Samoa fisheries.

Contribution to New Directions: This project could benefit possible New Directions 1,2or 3 in domestic longline fishery development.

MCP Priority: High

Project Title: Enhance fishing opportunities by deploying anchored fish aggregation devices (FADs) dedicated to small non-longline fishing vessels and/or the deployment of community FADs

It has been reported that the there have been conflicts between small vessels and longline vessels fishing around the existing anchored FADs deployed by DMWR. Dedicating new FADs only for use by small vessels will eliminate these conflicts while supporting enhanced fishing opportunities for participants that operate small fishing vessels. Furthermore, DMWR will consider placing these FADs in areas offshore of villages/communities around American Samoa that are isolated or that have lost fishing access to their nearshore fishing areas from regulatory or other factors. DMWR will deploy an array of FADs dedicated solely for small non-longline vessels. Funds may also be used to purchase a vessel that will used to deploy and monitor FADs around American Samoa. *Contribution to New Directions: This project aims to facilitate non-longline fishing activity, so it would not directly advance any of the possible new directions for domestic longline fishery development*.

MCP Priority: Medium

Project Title: Develop fish marketing plan that includes topics on market identification, transportation, fish products, branding and ecolabeling, and other marketing issues

American Samoa has an established longline fishery that primarily targets albacore tuna but also catches a variety of palatable fish that could supply both domestic and export markets. Fisheries development in American Samoa requires a plan to appropriately identify markets as well as determine transportation needs or constraints, develop branding and ecolabeling options, in addition to other marketing issues. Seafood marketing potentials were analyzed in TEC (2007), although detailed business plans for specific fishery products were not prepared. *Contribution to New Directions: The present responsible fishery development plan is based on three possible new directions for domestic longline fishery development identified in TEC Inc. (2007*). *That study covered the topics of a fish marketing plan described in this project.*

MCP Priority: High

Project Title: Training for fish handling procedures and the development of Hazard Analysis Critical Control Point (HACCP) plans

Fish processors are accountable for assuring that fishery products sold in the U.S. meet government standards under the seafood safety system. This system requires that all seafood processors implement HACCP-based plans aimed at preventing specific seafood-related illnesses. Funds would be used for training American Samoa fishermen and fish processors in understanding potential hazards as well as devising effective control measures and monitoring protocols to ensure that seafood products are handled, processed, and stored properly so that these products are safe to eat. *Contribution to New Directions: This proposal would enhance all three of the possible new directions in domestic longline fishery development. HACCP training, however, is aimed at first processors, not fishermen*.

MCP Priority: Medium

Project Title: Support the organization of an American Samoa fishermen's cooperative

Purpose: Local small boat fishermen need assistance and training to participate in fisheries which will assist them in selling their fish catches, especially in export markets. A fishermen's cooperative would provide assistance in administrative, business, and accounting services as well as reduced fuel prices, oversight and procurement of supplies, sale and delivery of fish to markets, and collection and distribution of payment and payroll. Funds will be used to employ an individual to facilitate development of a fishermen's cooperative and to serve as its initial director/ coordinator. *Contribution to New Directions: This proposal would most benefit New Direction 3 for domestic longline fishery development but could also further New Directions 1 and 2*.

MCP Priority: Medium

OBJECTIVE 2: SUPPORT QUALITY RESEARCH AND OBTAIN THE MOST COMPLETE SCIENTIFIC INFORMATION AVAILABLE TO ASSESS AND MANAGE FISHERIES

Project Title: Conduct risk assessment study to determine impact of cannery closure on local fishery and ecosystem

A significant amount of cannery workers are expected to be displaced when the canneries close. This increases the threat of uncontrolled and illegal fishing activities. Since a number of cannery workers are from Western Samoa, Asia, and other South Pacific countries some social issues will arise whereby the economic benefit will be routed to other nationalities rather than American Samoans. The risk assessment study is urgently needed to properly prepare the fishery management agencies to the inevitable ecological impact that the cannery closure would cause on local fisheries and resources. Management regulations to prepare for increased fishing pressure are needed to protect, conserve and ensure equitable use of the resources. *Contribution to New Directions: This proposal is indirectly related to New Direction 3 for the domestic longline fishery*.

MCP Priority (prior to Chicken of the Sea closure announcement**):** Medium

Project Title: Setting additional regulations (bag and size limits) for managing fish stocks in anticipation of potential cannery closure

American Samoa manufacturing industry is dominated by the two tuna canneries. The majority of the local labor force is from the canneries comprised of workers from other island territories. Closure of the canneries and layoffs of fish cleaners who may remain in the territory brings the potential threat of uncontrolled and irresponsible fishing. This project aims to set up a management framework to lead to implementation of bag and size limits to prevent over exploitation of marine resources. The end result of this project is to come up with a scientifically sound basis for a management regulation on bag and fish size limits. *Contribution to New Directions: This proposal is indirectly related to New Direction 3 for the domestic longline fishery*.

MCP Priority (prior to Chicken of the Sea closure announcement**):** Low

Project Title: Conduct risk assessment study to determine sustainability of increased commercial fishing due to availability of cold storage and cargo transport

American Samoa is a small island system that has a finite set of resources. Ensuring balance between ecological and social needs is important to sustain the resources and maximize economic and social benefits. Plans for developing the facilities for cold storage and enhancing cargo transport of goods to other market are being considered by the private sector. A risk assessment study is warranted to ensure that the balance between economic and ecological benefits is maintained. A contractor will be hired to conduct this study. *Contribution to New Directions: The need to ensure responsible development of fisheries that balances the scale of fisheries infrastructure with a sustainable resource base is addressed in the present plan, considering three possible new directions for the domestic longline fishery identified by TEC Inc. (2007).*

MCP Priority: Medium

OBJECTIVE 3: PROMOTE AN ECOSYSTEM APPROACH IN FISHERIES MANAGEMENT, REDUCE WASTE IN FISHERIES AND MINIMIZE INTERACTIONS BETWEEN FISHERIES AND PROTECTED SPECIES

Project Title: Assessment of by-catch and interactions with protected species in local fishery

The project would implement a short term monitoring program through key informant interviews and/or focus group discussions, followed by field enumeration to determine fishing effort and level of fisheries interaction of marine turtles with hook and line fishers (sport fishers) (that engage in fishing activities regularly on the reef flats and the reef slopes) of American Samoa. Fishing hooks and lines have been recorded in previously necropsied turtles. During the duration of the project, full necropsies would be performed on all recovered dead turtles to determine probable/possible causes of death. Additional data can be taken from an on-board observer project proposed for small *alia*. *Contribution to New Directions: This proposal is related to protected species bycatch monitoring associated with domestic longline fishing operations in any new direction.*

MCP Priority: High

Project Title: Conduct a cost-benefit study on requiring fishing fleet to shift to by-catch friendly fishing methods

A cost-benefit study will be conducted to determine feasibility of adapting by-catch friendly method and technology to reduce by-catch. This work will be contracted out since DMWR has limited expertise in cost-benefit analysis. Once completed, the results will be evaluated to determine whether the fleet will be required to adapt these methods. *Contribution to New Directions: This proposal is related to protected species incidental catch controls by the domestic longline fishing operations in any new direction.*

MCP Priority: Low

OBJECTIVE 6: PROMOTE REGIONAL COOPERATION TO MANAGE INTER-JURISDICTIONAL FISHERIES

Project Title: Enhancing regional cooperation by collaborative meetings and cross site visits with other South Pacific Territories

American Samoa being a U.S. territory has been US-centric in terms of collaboration and western-based conservation approach. Very minimal interaction was focused between American Samoa and our South Pacific island neighbors. This project aims to enhance the working relationship and conservation strategies with our South Pacific island neighbors. DMWR will be collaborating with the Ministry of Natural Resources and Environment of Samoa as an initial step to plan out conservation strategies and research opportunities. Cross-site visits between projects (i.e. management plans and monitoring research) will be conducted to share in-sights and compare notes on what works and how the resources differ between the two island territories. Once a formal collaboration has been established, DMWR will be expanding its collaborative efforts with Fiji, Tonga, Tokelau, Niue, Cook Islands as well as utilizing regional organizations such as the South Pacific Regional Environmental Programme and the Secretariat of the South Pacific Community. *Contribution to New Directions: This proposal would be most supportive of New Direction 1, expanding fresh export opportunities for American Samoa's domestic longline fishery because of Independent Samoa's larger air cargo lift to potential U.S. markets. Collaboration with neighboring island nations could also further New Directions 2 and 3 by increasing quantities of fish available for value-added processing in American Samoa and assisting a domestic longline fishery association to increase regional demand for refrigerated ocean cargo service.*

MCP Priority: Medium

2.3.5 Western Pacific Regional Fishery Management Council Community Demonstration Project Program

Changes to the Magnuson-Stevens Fishery Conservation and Management Act in 1996 authorized the Western Pacific Regional Fishery Management Council to implement the Western Pacific Community Demonstration Project Program (CDPP). This program, as well as the Western Pacific Community Development Program,

- Promotes the involvement of western Pacific communities in western pacific fisheries by demonstrating the application and/or adaptation of methods and concepts derived from traditional indigenous practices;
- Promotes the development of social, cultural and commercial initiatives that enhance opportunities for western pacific communities to participate in fisheries, fishery management or conversation;
- For the benefit of indigenous communities who have not had capability for substantial participation in the fisheries or marine resource management in their native lands.

Three projects based in American Samoa have been funded under the CDPP:

American Samoa Cold Storage Installation Project:

The project was to develop and build a cold storage facility on Tutuila for the cold storage and stockpiling of fish for the local market as well as test the possibility exporting the product. This project is a continuation of an initiative of the private, non-profit organization Tautua Samoa Association that was originally funded in 1998 by a $346,000 federal grant from the Administration for Native Americans to start up a small-scale fish processing facility. According to the principal, the project is expected to result in the establishment of a facility with operations based on a business plan to procure fresh bottomfish and pelagic species landed by local fishermen and process it for local and export marketing. The facility would also process frozen "miscellaneous" fish landed by the foreign longline and U.S. purse seine vessels which supply local tuna canneries, according to the original business plan.

Portion-controlled steaks and other products would be processed for export to food service markets in Hawaii and the continental U.S. The processing facility will be located in the Senator Daniel Inouye Industrial Park on land leased from the American Samoa Government. According to the owner, the project will provide 20 to 40 full-time jobs and is expected to encourage additional investment in the local fishing industry (WPRFMC 2000). *Contribution to New Directions: If completed, this project has the potential to benefit New Directions 1 and 2 in future domestic longline fishery development*.

Niche Marketing to Reduce American Samoa Longline Bycatch:

The project proposed to develop value added products for local and export marketing from the non-albacore catch that was not utilized by the canneries. The grantee is Pago Pago Commercial Fishing, Inc., chartered in 2004 as a non-profit cooperative of approximately 120 members to train and employ Samoans in fishing and support businesses, engage in cooperative research with fisheries scientists, supply fish for community, cultural and senior citizen needs, and provide services and assistance in selling catches, including non-target fish species. A primary focus of this enterprise is to create value-added products from the miscellaneous catch of the large longline vessels that deliver albacore to the canneries. This type of venture has long been identified as a priority for economic development in American Samoa (TPC and DOC 2000). The current enterprise is designed to comply with all business licensing and food safety requirements, including HACCP. Processing would involve both fish and frozen whole fish portioning and possibly canning done under a private label agreement with a local cannery. *Contribution to New Directions: When operational, this project could benefit New Directions 1 and 2 for future development of the domestic longline fishery*.

Small Scale Longline Fishery Development for the Manu`a Islands:

This proposal is from the Olosega Council of Chiefs. Olosega is a small village on the Manu`a island of Olosega. The village has a population of 380. The Council of Chiefs has decided to create an opportunity for the village to participate in the fishery through a small scale longline operation. It is located approximately 50 miles from Tutuila and has been excluded from the territorial development and change over to a cash economy. This project is seen as an opportunity to train young Samoan men to be fishermen and to provide an incentive for Olosega villagers who have moved to Tutuila to return to village life. *Contribution to New Directions: When operational, this project could most benefit New Direction 2 in future development of the domestic longline fishery*.

2.3.6 Tautai o Samoa Longline & Fishing Association (2009)

This proposal is a concerted effort by individual vessel owners and fishermen, specifically members of Tautai o Samoa Longline & Fishing Association to revive the *alia* fleet and in general develop longline and other commercial fishing industries in American Samoa. Members of this association believe that the best alternative to address existing problems is to rehabilitate the *alia* fleet and complete the construction of a processing facility to receive and process non-albacore incidental catch, along with a dock dedicated for longliners with appropriate vessel services. *Contribution to New Directions: These proposals would most benefit New Directions 2 and 3 in domestic longline fishery development. A new dock for domestic longline vessel use would benefit all possible new directions for the fishery.*

Tautai o Samoa:

- Planning/finalizing agreements
- *Alia* fleet rehabilitation program
- Tender vessels to assist alia with fishing and transshipping catch
- Upgrade large longline vessels to store additional fish that is presently bycatch
- Processing facility planning, construction, implementation

Government:

- Dock for domestic longline vessels

2.4 Summary of Projects and Proposals

Projects reviewed in Section 2.3 pertain only to development of pelagic fisheries, particularly the domestic longline fishery, in American Samoa. In many instances, projects were similar enough or overlapped to the extent that they could be combined. A total of 17 projects and proposals were derived in this way. They are listed in Table 4.1 with cross-referencing to the new direction(s) that they could support for the domestic longline fishery. New Directions 1, 2 and 3 are based on Scenarios 1, 2 and 3 developed by TEC Inc. (2007) and summarized in Section 2.2.

Table 2-1. Major projects/programs identified in previous fisheries development plans for American Samoa and their potential contributions to new directions for domestic longline fishery development.

Project/Proposal	**Development Plans and Proposals**					
	AECOS 1984	ASEAC 2002	CEDS DOC 2005	ASMCP 2008	CDPP 2008	Tautai o Samoa 2009
	New Direction of Domestic Longline Fishery Supported by Project/Proposal					
Domestic fishing vessel dock	1,2,3	1,2,3	1,2,3	1,2,3		1,2,3
Expand domestic fishing vessel support, fish processing and storage capacity	1,2,3	1,2,3	1,2,3	1,2,3	1,2	2,3
Alia repair/service dock, rehabilitation, Manu`a Islands *alia* development	2,3	2,3		2,3	2	2,3
Ongoing FAD program						
Value-added fish processing operation.	2		1,2,3			2
Development bank financial extension services	1,2,3					
Organize, plan local fishermen's organization or coop		1,2,3		1,2,3		2,3
Improve air and sea transport for fish exports		1	1,2			
Fagotogo market rehabilitation			2			
Bigeye tuna limit utilization program				1,2,3		
Study impact of cannery layoffs on subsistence resources and regulate reef fishery as needed				3		

Table 2-1. (continued) Major projects/programs identified in previous fisheries development plans for American Samoa and their potential contributions to new directions for domestic longline fishery development.

Project/Proposal	**Development Plans and Proposals**					
	AECOS 1984	ASEAC 2002	CEDS DOC 2005	ASMCP 2008	CDPP 2008	Tautai o Samoa 2009
	New Direction of Domestic Longline Fishery Supported by Project/Proposal					
Proper fish handling/safety training				1,2,3		
Assess levels of longline fishery interactions with protected species and minimize protected species bycatch				1,2,3		
Cost-benefit analysis of protected species bycatch reduction measures				1,2,3		
Consultations between ASG and neighboring island resource managers				1,2,3		
Upgrade longline vessels to store non-albacore fish species that are now discarded						2,3
Acquire tender vessels to support *alia* fishing, catch transshipping						2,3

3. AMERICAN SAMOA's DOMESTIC LONGLINE FISHERY: COMPLIANCE WITH STANDARDS FOR RESPONSIBLE FISHERIES

Section 3 considers the extent of compliance of American Samoa's existing domestic longline fishery with various standards and criteria for responsible fisheries. Section 4 evaluates whether the possible new directions and supporting projects for this fishery (described in 2.2 and 2.3) could increase, decrease or not change the baseline compliance described in Section 3.

The domestic longline fishery is regulated primarily under the American Samoa longline limited entry program established through Amendment 11 to the Fishery Management Plan (FMP) for Pelagic Fisheries of the Western Pacific Region. Detailed requirements are described in the Small Entity Compliance Guide for this program (revised March 7, 2008) published by NOAA Fisheries Pacific Islands Regional Office (PIRO, 2008). In addition to capping the number of American Samoa longline permits at 60, divided among 4 vessel size classes, the regulation includes a logbook reporting requirement, satellite based vessel monitoring system (VMS) requirement for vessels longer than 40 ft. and shipboard observer requirements for vessels longer than 50 ft. Longline vessel operators must complete a PIRO protected species training workshop every year and are required to follow specific procedures to handle, resuscitate if needed and release sea turtles that are hooked or entangled. Separate regulations established through Framework Measure 1 to the Pelagics FMP prohibit vessels longer than 50 ft from fishing for pelagic fish in specific areas, generally to 50 nautical miles offshore of Tutuila Island, Manu'a Islands, Rose Atoll and Swains Island.

The Western Pacific Regional Fishery Management Council is finalizing a Pelagics FMP amendment for submission to NOAA Fisheries that would require gear modifications to further reduce sea turtle incidental capture in American Samoa's domestic longline fishery.

3.1 FAO Code of Conduct for Responsible Fisheries

Whereas some of the Code of Conduct's provisions have clear fisheries objectives, others have wider objectives, including satisfaction of social and economic needs and improvement of institutions and technologies. The Code recognizes the nutritional, economic, social, environmental and cultural importance of fisheries and the interests of all those concerned. Governments, fishers, processors, consumers and others are all accountable to act responsibly.

Although voluntary, the Code has many provisions based on relevant rules of international law, including those reflected in the 1982 United Nations Convention on the Law of the Sea. The Code also includes certain provisions that are binding, notably the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 1993 (FAO 2001).

The general principles of the Code of Conduct, set forth in Article 6, urge states (meaning nations) to prevent overfishing and excess capacity; ensure compliance with and enforcement of conservation and management measures and establish effective mechanisms to monitor and control activities of fishing vessels; cooperate through sub-regional, regional and global fisheries management organizations; conduct fish trade in accordance with the principles, rights and obligations established in World Trade Organization agreements; protect the rights of fishers and fish workers, especially those engaged in subsistence, small-scale and artisanal fisheries; and promote the interests of food security, taking into account present and future generations (Roheim and Sutinen 2006).

Article 6 – General Principles

6.1 States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources.

Conservation actions by states and users are required by 6.1. American Samoa's domestic longline fishery is compliant because it operates under federal regulations that clearly define state (U.S.) and user obligations to ensure effective conservation and management of the pelagic ecosystem.

6.2 Fisheries management should promote the maintenance of the quality, diversity and availability of fishery resources in sufficient quantities for present and future generations in the context of food security, poverty alleviation and sustainable development. Management measures should not only ensure the conservation of target species but also of species belonging to the same ecosystem or associated with or dependent upon the target species.

Management of fishery resources for present and future generations and conservation of not only target species but also associated and dependent species belonging to the same ecosystem are required by 6.2. American Samoa's domestic longline fishery is compliant because it is managed by the WPRFMC through the Pelagics FMP that was developed pursuant to the MSA and National Standards. The FMP is implemented by NOAA Fisheries Service including the objective of achieving "optimum yield" (for present and future generations) and conserve essential fish habitat (ecosystem-based management).

6.3 States should prevent over fishing and excess fishing capacity and should implement management measures to ensure that fishing effort is commensurate with the productive capacity of the fishery resources and their sustainable utilization. States should take measures to rehabilitate populations as far as possible and when appropriate.

Prevention of overfishing and excess fishing capacity and rebuilding of overfished populations are required by 6.3. American Samoa's domestic longline fishery is compliant because it is managed by the WPRFMC through the Pelagics FMP that was developed pursuant to the MSA and National Standard and implemented by NOAA Fisheries Service. Amendment 11 established a longline limited entry program that effectively prevents excess fishing capacity. The FMP also includes control rules that set reference points for

overfishing, excess fishing and overfished conditions which trigger corrective actions, including rebuilding of any fish populations that become overfished.

6.4 Conservation and management decisions for fisheries should be based on the best scientific evidence available, also taking into account traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors. States should assign priority to undertake research and data collection in order to improve scientific and technical knowledge of fisheries including their interaction with the ecosystem. In recognizing the transboundary nature of many aquatic ecosystems, States should encourage bilateral and multilateral cooperation in research, as appropriate.

Fishery management using best available science and promotion of research and data collection to improve scientific knowledge are required by 6.4. American Samoa's domestic longline fishery is compliant because it is managed according to National Standards in the Magnuson Stevens Fishery Conservation and Management Act that require that management measures are based on best available science. Longline logbook and observer requirements and dedicated pelagic fisheries research provide mechanisms for improving the knowledge base. .The reauthorized Magnuson Stevens Fishery Conservation and Management Act of 2006 gives increased responsibility to the Science and Statistical Committee of the Western Pacific Regional Fishery Management Council to ensure the scientific basis of management. Committee members participate in the Scientific Committee that advises the Western and Central Pacific Fisheries Commission, which has regional management authority over highly migratory fish stocks.

6.5 States and subregional and regional fisheries management organizations should apply a precautionary approach widely to conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment, taking account of the best scientific evidence available. The absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.

According to 6.5, in the absence of best scientific information, the application of the precautionary approach is imperative. American Samoa's domestic longline fishery is compliant because a longline limited entry program was established to avoid the possibility of future overfishing and overcapacity, without waiting for scientific evidence of these conditions. The fishery is managed according to the National Standards of the Magnuson Stevens Fishery Conservation and Management Act (MSA). Although the MSA does not use the term "precautionary approach" explicitly, the concept is implicitly expressed in several provisions of that Act. In developing the guidelines for implementation of the national standards, the NOAA Fisheries Service incorporated precautionary concepts to ensure that compliance with the measures to prevent and end overfishing are satisfied. .

6.6 Selective and environmentally safe fishing gear and practices should be further developed and applied, to the extent practicable, in order to maintain biodiversity and to conserve the population structure and aquatic ecosystems and protect fish quality. Where proper selective

and environmentally safe fishing gear and practices exist, they should be recognized and accorded a priority in establishing conservation arid management measures for fisheries. States and users of aquatic ecosystems should minimize waste, catch of non-target species, both fish and non-fish species, and impacts on associated or dependent species.

Elimination of destructive fishing gear and development of selective and environmentally safe practices are encouraged by 6.6 to minimize waste and adverse impacts on non-target and associated or dependent marine species. American Samoa's domestic longline fishery is mostly compliant because it operates under federal rules and National Standards that specify allowable gear and require that impacts on non-target fish and protected species be minimized. The WPRFMC's FMP regulates bycatch mitigation in two ways: 1) nearshore waters from the seaward boundary of the territorial sea to 50 nautical miles offshore are closed to pelagic fishing by large-scale vessels (>50 ft in length), including purse seine operations that are known to have high bycatch when fishing around drifting fish aggregators; and 2) the longline limited entry program reduces bycatch indirectly because of the cap on the number of vessels permitted. Nevertheless, finfish bycatch by large permitted longline vessels remains relatively high (9.1 percent of pelagic fish catch not retained, by number of fish, in 2008, WPRFMC unpubl.).

6.7 The harvesting, handling, processing and distribution of fish and fishery products should be carried out in a manner which will maintain the nutritional value, quality and safety of the products, reduce waste and minimize negative impacts on the environment.

According to 6.7, controls in the harvesting, processing and distribution of fishery products should maintain food safety, quality and nutrition, as well as avoid waste. Processors of American Samoa's domestic longline fishery products operate under federal regulations for Good Manufacturing Practices (GMPs) and seafood safety directed HACCP systems that are compliant.

6.8 All critical fisheries habitats in marine and fresh water ecosystems, such as wetlands, mangroves, reefs, lagoons, nursery and spawning areas, should be protected and rehabilitated as far as possible and where necessary. Particular effort should be made to protect such habitats from destruction, degradation, pollution and other significant impacts resulting from human activities that threaten the health and viability of the fishery resources.

According to 6.8., the degradation of critical fisheries habitats should be prevented. American Samoa's domestic longline fishery is compliant because it is managed under federal regulations implementing the WPRFMC's Pelagics FMP and standards that protect "essential fish habitat" from fisheries and non-fisheries impacts.

6.9 States should ensure that their fisheries interests, including the need for conservation of the resources, are taken into account in the multiple uses of the coastal zone and are integrated into coastal area management, planning and development.

Integration of fisheries and conservation with coastal zone management is encouraged by 6.9. American Samoa's domestic longline fishery is <u>not fully compliant</u> because there is no dedicated berthing or service dock for this fleet in Pago Pago Harbor.

6.10 Within their respective competences and in accordance with international law, including within the framework of subregional or regional fisheries conservation and management organizations or arrangements, States should ensure compliance with and enforcement of conservation and management measures and establish effective mechanisms, as appropriate, to monitor and control the activities of fishing vessels and fishing support vessels.

Effective monitoring of fishing activities and enforcement of domestic and international regulations are required by 6.10. American Samoa's domestic longline fishery is compliant because of vessel location monitoring of larger vessels through VMS (by NOAA Fisheries) and U.S. Coast Guard patrols of the EEZ around American Samoa. Shipboard monitoring of longline trips by larger vessels when required by NOAA Fisheries is also conducted. The fishery is subject to international conservation and management measures for pelagic fishing vessel monitoring and enforcement adopted by the Western and Central Pacific Fisheries Commission, administered through the flag nation (U.S.).

6.11 States authorizing fishing and fishing support vessels to fly their flags should exercise effective control over those vessels so as to ensure the proper application of this Code. They should ensure that the activities of such vessels do not undermine the effectiveness of conservation and management measures taken in accordance with international law and adopted at the national, subregional, regional or global levels. States should also ensure that vessels flying their flags fulfill their obligations concerning the collection and provision of data relating to their fishing activities.

Nations are encouraged by 6.11 to effectively control fishing vessels that fly their flag to ensure to ensure adherence to conservation and management measures. American Samoa's domestic longline fishery, a U.S. flag fishery, is in compliance because participants must be specifically permitted under a federal limited entry program with requirements that are consistent with international law, including mandatory logbooks that provide data for each day of fishing.

6.12 States should, within their respective competences and in accordance with international law, cooperate at subregional, regional and global levels through fisheries management organizations, other international agreements or other arrangements to promote conservation and management, ensure responsible fishing and ensure effective conservation and protection of living aquatic resources throughout their range of distribution, taking into account the need for compatible measures in areas within and beyond national jurisdiction.

Cooperation of nations in promoting effective and compatible fisheries conservation and management measures across the entire range of resource distribution is encouraged by 6.12. American Samoa's domestic longline fishery is compliant because, as a U.S. flag fishery, it is subject to international agreements by the Western and Central Pacific Fisheries Commission to promote conservation and management of highly migratory pelagic fish resources across their range. American Samoa is considered a "participating territory" with its own seat at the Commission.

6.13 States should, to the extent permitted by national laws and regulations, ensure that decision making processes are transparent and achieve timely solutions to urgent matters.

States, in accordance with appropriate procedures, should facilitate consultation and the effective participation of industry, fish workers, environmental and other interested organizations in decision–making with respect to the development of laws and policies related to fisheries management, development, international lending and aid.

According to 6.13, fishery management should ensure transparent and timely decision-making with consultation and participation of fishing industry and other stakeholders. American Samoa's domestic longline fishery is compliant because it is managed under the Western Pacific Regional Fishery Management Council's inclusive and transparent process involving advisory groups and widespread participation at public meetings in the formulation and selection of alternatives.

6.14 International trade in fish and fishery products should be conducted in accordance with the principles, rights and obligations established in the World Trade Organization (WTO) Agreement and other relevant international agreements. States should ensure that their policies, programmes and practices related to trade in fish and fishery products do not result in obstacles to this trade, environmental degradation or negative social, including nutritional, impacts.

Adherence to WTO agreement in fishery trade policy is encouraged by 6.14. American Samoa's domestic longline fishery is <u>mostly compliant</u> because it is not directly protected by tariff or non-tariff trade barriers. This fishery, however, supplies albacore to a cannery that has duty-free access to the U.S. canned tuna market unlike non-U.S. competitors. Trade agreements are gradually eroding this advantage and creating more of a free market in the global trading of canned tuna. .

6.15 States should cooperate in order to prevent disputes. All disputes relating to fishing activities and practices should be resolved in a timely, peaceful and cooperative manner, in accordance with applicable international agreements or as may otherwise be agreed between the parties. Pending settlement of a dispute, the States concerned should make every effort to enter into provisional arrangements of a practical nature which should be without prejudice to the final outcome of any dispute settlement procedure.

Conflict resolution, in accordance with applicable international agreements, is encouraged by 6.15. American Samoa is a participating territory in the Western and Central Pacific Fisheries Commission (WCPFC) which establishes conservation and management measures for tuna and other highly migratory fish stocks through cooperative agreement of members. The domestic longline fishery is compliant because it is subject to these measures, agreed to after conflict resolution within the WCPFC.

6.16 States, recognizing the paramount importance to fishers and fish farmers of understanding the conservation and management of the fishery resources on which they depend, should promote awareness of responsible fisheries through education and training. They should ensure that fishers and fish farmers are involved in the policy formulation and implementation process, also with a view to facilitating the implementation of the Code.

6.16 encourages nations to facilitate effective participation, education and training so that fishers are involved in determining conservation and management policies and laws. American Samoa's domestic longline fishery is compliant because completion of annual protected species workshops by vessel captains and owners are a condition of obtaining and renewing longline limited entry permits that are required for participation in the fishery. These workshops also provide a venue for outreach and education on responsible fisheries practices and management. The Western Pacific Regional Fishery Management Council periodically holds public workshops that allow longline fishery and others to recommend changes in fishery management policy and rules.

6.17 States should ensure that fishing facilities and equipment as well as all fisheries activities allow for safe, healthy and fair working and living conditions and meet internationally agreed standards adopted by relevant international organizations.

Maintenance of safe, healthy and fair working environments that meet international standards is encouraged by 6.17. American Samoa's domestic longline fishery is compliant because fishing and processing activities are subject to U.S. labor and maritime laws consistent with international standards. It is also compliant with MSA National Standard 10 which is to promote safety of life at sea.

6.18 Recognizing the important contributions of artisanal and small-scale fisheries to employment, income and food security, States should appropriately protect the rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to traditional fishing grounds and resources in the waters under their national jurisdiction.

Protection of those engaged in artisanal and small-scale fisheries is encouraged by 6.18. The management system for American Samoa's domestic longline fishery is compliant because it establishes closed areas for preferential access by small-boat longliners and a limited entry permit program with opportunities for significant participation by small-scale fishers and indigenous people.

6.19 States should consider aquaculture, including culture-based fisheries, as a means to promote diversification of income and diet. In so doing, States should ensure that resources are used responsibly and adverse impacts on the environment and on local communities are minimized.

As 6.19 pertains to aquaculture, it is not applicable to American Samoa's domestic longline fishery, which harvests wild pelagic fish.

3.2 Western and Central Pacific Fisheries Commission Conservation and Management Measures and Resolutions

Conservation and management measures (CMMs) and resolutions of the Western and Central Pacific Fisheries Commission (WCPFC) call for specific actions by members and other participants that promote responsible fisheries for highly migratory pelagic fish stocks. But because American Samoa is often lumped with the Small Island Developing States and

Participating Territories many of these measures don't apply if undertaking responsible fisheries development.

CMM-2005-02 Conservation and management measure for South Pacific albacore

Commission Members, Cooperating Non-Members, and participating Territories (CCMs) shall not increase the number of their fishing vessels actively fishing for South Pacific albacore in the convention Area south of 20 ^{o}S above current (2005) levels or recent historical (2000-2004) levels.

American Samoa's domestic longline fishery is compliant because a) the number of participating vessels targeting albacore tuna is capped at the 2002 level under a longline limited entry program; and b) no American Samoa domestic longliners fish south of 20 ^{o}S.

CMM-2006-04 Conservation and measure for striped marlin in the South West Pacific

Commission Members, Cooperating Non-Members, and participating Territories (CCMs) shall limit the number of their fishing vessels fishing for striped marlin in the Convention area south of 15 ^{o} S, to the number in any one year between the period 2000–2004.

American Samoa's domestic longline fishery is compliant because the number of participating vessels is capped at the 2002 level under a longline limited entry program.

CMM-2006-01 Conservation and management measure for the regional observer programme

The Commission hereby establishes the procedures to develop the WCPFC Regional Observer Programme (ROP). The ROP will be adopted at the 4th regular session of the Commission in 2007.

American Samoa's domestic longline fishery is compliant because the U.S. management system requires large vessels (>50 ft) to carry observers when requested by the NOAA Fisheries Service. Observer coverage in 2008 was 6.4 percent (PIRO, unpubl.).

CMM-2007-02 Commission vessel monitoring system;

A Commission VMS system shall commence, to be activated 1 January 2008, in the area of the Convention Area south of 20°N, and east of 175°E in the area of the Convention Area north of 20°N.

American Samoa's domestic longline fishery is compliant because the larger vessels (> 40 ft in length) that fish offshore are required under U.S. management to carry and use VMS units.

CMM-2007-03 Conservation and management measure to establish a list of vessels presumed to have carried out illegal, unreported and unregulated fishing activities in the WCPO

At each annual meeting, the Commission will identify those vessels which have engaged in fishing activities for species covered by the Convention within the Convention Area in a manner which has undermined the effectiveness of the WCPF Convention and the WCPFC measures in force, and shall establish, and, as necessary, amend in subsequent years, a list of such vessels (the IUU Vessel List), in accordance with the procedures and criteria set out in this conservation measure.

American Samoa's domestic longline fishery is compliant because it is managed under a longline limited entry program. Each participant is specifically authorized to engage in longline fishing the Exclusive Economic Zone around American Samoa (therefore "legal") and each participant must meet logbook reporting requirements (therefore "reported"), as well as federal regulations governing the fishery (therefore "regulated").

CMM-2007-04 Conservation and management measure to mitigate the impact of fishing on highly migratory fish stocks on seabirds

CCMs shall require their longline vessels to use at least two specified seabird mitigation measures when fishing in areas south of 30 ^{o}S and north of 23 ^{o}N. In other areas, where necessary, CCMs are encouraged to employ one or more of the specific seabird mitigation measures

America Samoa's domestic longline fishery is compliant because no fishing is conducted south of 30^{o}S and no seabird nesting areas occur in proximity to the fishing grounds that would necessitate seabird mitigation.

CMM-2008-01 Conservation and management measure for bigeye and yellowfin tuna in the Western and Central Pacific Ocean

This measure requires a phased reduction during 2009-2011 in the longline catch of bigeye tuna by countries whose longline fleets were harvesting more than 2,000 mt per year during the period 2001-2004 (except 2004 for U.S., China and Indonesia). The measure also calls for the longline catch of yellowfin tuna not to be increased from 2001-2004 levels but otherwise provides no detail. The catch limits for bigeye tuna established in this measure "…shall not apply to small island developing State members and participating territories in the Convention Area undertaking responsible development of their domestic fisheries."

American Samoa is specifically identified by the Commission as a participating territory. Thus, American Samoa's domestic longline fishery is not restricted to bigeye tuna catch limits in this CMM as the Territory is committed to responsible development of its domestic fishery.

CMM-2008-03 Conservation and management for sea turtles

CCMs with longline vessels that fish for species covered by the Convention shall ensure that the operators of all such longline vessels carry and use line cutters and de-hookers to handle and promptly release sea turtles caught or entangled, and that they do so in accordance with WCPFC guidelines that are to be developed and provided to all CCMs by the Secretariat.

CCMs shall also ensure that operators of such vessels are, where appropriate, required to carry and use dip-nets in accordance with these WCPFC guidelines.

Starting on 1 January 2010, CCMs with longline vessels that fish for swordfish in a shallow set manner shall ensure that the operators of such vessels, while in the Convention Area, are required to employ or implement at least one of the following three methods to mitigate the capture of sea turtles: (Shallow-set fisheries are generally to be considered those in which the majority of hooks fish at a depth shallower than 100 meters).

1. Use only large circle hooks, which are fishing hooks that are generally circular or oval in shape and originally designed and manufactured so that the point is turned perpendicularly back to the shank. These hooks shall have an offset not to exceed 10 degrees.

2. Use only whole finfish for bait.

3. Use any other measure, mitigation plan or activity that has been reviewed by the Scientific Committee and the Technical and Compliance Committee and approved by the Commission to be capable of reducing the interaction rate (observed numbers per hooks fished) of turtles in swordfish shallow-set longline fisheries.

American Samoa's domestic longline fishery is in compliance because it is subject to U.S. regulations regarding handling and release of incidentally caught sea turtles and because it presently employs deep-set methods to target albacore tuna. The Western Pacific Regional Fishery Management Council is seeking NOAA Fisheries Service approval of a Fishery Management Plan amendment that would require further sea turtle catch reduction measures in American Samoa's longline fishery.

<u>CMM-2008-05 Conservation and management of swordfish</u>

Commission Members, Cooperating Non-Members and participating Territories (CCMs) shall exercise restraint through limiting the number of their fishing vessels for swordfish in the Convention Area south of 20 ^{o}S, to the number in any one year between the period 2000-2005 (listed in Annex 1). CCMs shall not shift their fishing effort for swordfish to the area north of 20 ^{o} N, as a result of this measure.

American Samoa's domestic longline fishery is in compliance because 1) swordfish is not targeted by this fleet; 2) fishing grounds of the fleet do not extend south of 20^{o}S; and 3) the number of domestic longline vessels cannot increase above the 2002 level because of American Samoa's longline limited entry program.

<u>CMM-2008-06 Conservation and management measure for sharks in the Western and Central Pacific Ocean</u>

CCMs shall take measures necessary to require that their fishers fully utilize any retained catches of sharks. CCMs shall require their vessels to have on board fins that total no more than 5% of the weight of sharks on board up to the first point of landing. CCMs may

alternatively require that their vessels land sharks with fins attached to the carcass or that fins not be landed without the corresponding carcass. CCMs shall take measures necessary to prohibit their fishing vessels from retaining on board, transshipping, landing, or trading any fins harvested in contravention of this Conservation and Management Measure (CMM). In fisheries for tunas and tuna-like species that are not directed at sharks, CCMs shall take measures to encourage the release of live sharks that are caught incidentally and are not used for food or other purposes.

American Samoa's domestic longline fishery is compliant because it is regulated by the U.S. Shark Finning Prohibition Act, which requires measures equivalent to those of CMM-2008-06 for U.S. fishing vessels.

Other Conservation and Management Measures

The WCPFC has adopted conservation and management measures requiring a record of fishing vessels and authorization to fish; marking and identification of fishing vessels; and boarding and inspection procedures.

American Samoa's domestic longline fishery is compliant because the longline limited entry program requires specific identification and authorization of permitted vessels. The participating vessels and longline gear must be marked with vessel identification and are subject to boarding and inspection by the U.S. Coast Guard and NOAA enforcement.

WCPFC Resolutions

The Commission has adopted the following resolutions, which, unlike CMMs, are not mandatory:

Resolution-2005-02 Resolution on the reduction of overcapacity

This Commission resolution calls for voluntary reduction of overcapacity in the purse seine tuna fishery and *does not apply to longline fisheries, including American Samoa's domestic longline fishery*.

Resolution-2005-03 Resolution on non-target fish species

Commission Members, Cooperating Non-members and participating Territories (CCMs) shall encourage their vessels operating in fisheries managed under the WCPFC Convention to avoid to the extent practicable, the capture of all non-target fish species that are not to be retained. Any such non-target fish species that are not to be retained, shall, to the extent practicable, be promptly released to the water unharmed.

American Samoa's domestic longline fishery is partially compliant because the number of vessels which could discard non-target fish is controlled under a longline limited entry program. Capture of non-target fish species is also reduced because permitted vessels make deep sets to target albacore tuna and avoid capturing more diverse shallow-water pelagic

species. When non-target fish are hauled still alive, they are usually released, but the weaker species may be dead or dying when released. Finfish bycatch, therefore, remains an issue (9.1 percent of total catch, in number of fish, by American Samoa's domestic longline fishery in 2008).

Resolution-2008-01 Resolution on aspirations of small island developing states and territories

When adopting Commission conservation and management measures the Following principles should be taken into account:

a) CCMs shall ensure that measures do not result in transferring, directly or indirectly, a disproportionate burden of conservation action onto small islands developing states (SIDS) and Territories.

b) CCMs shall implement measures, including through direct cooperation with SIDS and Territories that enhances the ability of developing States, particularly the least developed SIDS, to develop their own fisheries for highly migratory fish stocks, including but not limited to the high seas within the Convention Area.

The latter resolution is particularly important for American Samoa because it encourages responsible development of domestic fisheries in small island developing territories. For example, in CCM-2008-01, paragraph 34 states that "…(longline) limits for bigeye tuna (for the years 2009-2011) shall not apply to small island…participating territories in the Convention Area undertaking responsible development of their domestic fisheries."

American Samoa's domestic longline fishery is compliant because it is managed under a longline limited entry program that provides opportunities for more significant participation in the large-vessel (>50 ft) sector of the fishery by the small-scale indigenous fishing pioneers who have Samoan island roots. The territory is undertaking responsible development of its domestic fishery, including possible domestic arrangements with other U.S. flag longline fisheries.

3.3 Magnuson-Stevens Fishery Conservation and Management Act National Standards

American Samoa's domestic longline fishery is presently managed under a federal longline limited access system. Rules for the limited entry program were implemented by NOAA Fisheries in 2005 based on the WPRFMC's development and approval of Amendment 11 of the Pelagics FMP (Dec. 1, 2003) to the Pelagics Fishery Management Plan. In addition to capping the number of American Samoa longline permits at 60, divided among 4 vessel size classes, the regulation includes logbook reporting requirement, VMS and shipboard observer requirements. Longline vessel operators must complete a PIRO protected species training workshop every year and are required to follow specific procedures to handle and release sea turtles that are hooked or entangled. Separate regulations prohibit vessels longer than 50 ft

from fishing for pelagic fish in specific areas, generally to 50 nautical miles offshore of Tutuila Island, Manu'a Islands, Rose Atoll and Swains Island.

The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires that "Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with (ten) national standards for fishery conservation and management":

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.

According to Amendment 11, the American Samoa longline limited entry program is not expected to have a significant long-term effect on fish stocks or stock-wide optimum yield. Any short-term increase in fishing or impacts on the local albacore population is anticipated to be less than would occur under an open-access system and is offset by the economic and social benefits that will accrue as a result of the implementation of a limited entry program that has been largely developed by local community members over several years.

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

The American Samoa longline limited access system and other Federal regulations are based on scientific information collected from fishery logbooks, and other assessments of both past and current regional relationships between catch, effort, and economic returns.

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 American Samoa longline limited entry program and other federal regulations are not expected to have a significant effect on the status or management of fish stocks as a unit.

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 American Samoa longline limited entry program and other federal regulations are anticipated to promote conservation and would limit entry based on historical participation (by vessel size) rather than on state residency.

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 American Samoa longline limited entry program and other federal regulations are not expected to have a significant negative effect on efficiency.

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

As a precautionary measure, American Samoa longline fishing is managed under a limited entry program and other federal regulations that consider such variations. The fishery is not expected to have a significant long-term effect on fishery resources or total catches of target species.

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

The American Samoa longline limited entry program and other federal regulations are anticipated to minimize costs through the use of relatively simple effort controls.

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 by utilizing economic and social data that meet the requirements of paragraph (2), 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 American Samoa longline limited entry program and other federal regulations are anticipated to reduce the potential for depletion of pelagic resources upon which the American Samoa community is dependent, while providing continued opportunities for community members to participate in the domestic longline fishery.

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 American Samoa longline limited entry program is anticipated to reduce bycatch indirectly by limiting the number of larger vessels which are more prone to discarding fish than small-scale vessels. However, substantial finfish bycatch is expected because of discards by larger vessels participating in the limited entry program with currently limited marketing options for these fish.

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

The American Samoa longline limited entry program is anticipated to promote the safety of human life at sea by providing opportunities for many small-scale vessel owners to upgrade to larger, safer vessels.

3.4 American Samoa Constitution

In the context of American Samoa's culture and Constitution, a responsible pelagic longline fishery would:

"… protect persons of Samoan ancestry against alienation of their lands and the destruction of the Samoan way of life and language, contrary to their best interests. Such legislation as may be necessary may be enacted to protect the land, customs, culture and traditional family organization of persons of Samoan ancestry and to encourage business enterprise by such persons" (American Samoa Constitution, Section 3, cited in TPC/Dept. of Commerce, 2000).

The management system for American Samoa's domestic longline fishery protects persons of Samoan ancestry and their way of life and encourages their business enterprises in two ways: 1) waters extending from the seaward boundary of the territorial sea to 50 nautical miles offshore are closed to tuna fishing by large-scale vessels (>50 ft) to protect fishing opportunities for the small-scale longline pioneers; and 2) the longline limited entry program provides for substantial future participation by indigenous small-scale fishermen.

3.5 Summary: Compliance of Existing American Samoa Domestic Longline Fishery with Standards and Criteria for Responsible Fisheries

FAO Code of Conduct for Responsible Fisheries

American Samoa's existing domestic longline fishery is compliant with 15 of the 18 applicable general principles (Article 6) of the FAO Code of Conduct for Responsible Fisheries. One principle (6.19 – Aquaculture) does not apply to the fishery. The existing fishery is partially compliant with Principle 6.6. because finfish bycatch by large longliners is relatively high (9.1 percent, by number of fish caught but not retained, in 2008). It is partially compliant with Principle 6.9 because the domestic longline fleet is not yet integrated with Pago Pago Harbor facilities. No berthing or service dock space is dedicated to this fishery. It is partially compliant with Principle 6.14 because it is not directly protected by tariff or non-tariff trade barriers. However, the targeted fish is albacore, which is sold to a local cannery, whose products have duty-free access to the U.S. market.

Western and Central Pacific Fisheries Commission Conservation and Management Measures and Resolutions

American Samoa's existing domestic longline fishery is compliant with all applicable WCPFC conservation and management measures as of the December 2008 meeting of the

Commission. The fishery is also compliant with WCPFC resolutions, except for Resolution-2005-03 on non-target fish species. Finfish bycatch remains an issue (9.1 percent of total catch not retained, by number of fish in 2008) in American Samoa's domestic longline fishery because of poorly developed markets for non-albacore species.

Magnuson Stevens Fishery Conservation and Management Act National Standards

American Samoa's existing domestic longline fishery is compliant with the National Standards but reduction of finfish bycatch by large (>50 ft) permitted vessels would be desirable to further "minimize bycatch," as required by National Standard 9.

American Samoa Constitution (Section 3)

American Samoa's existing domestic longline fishery is compliant with objectives that are related to American Samoa's covenant with the U.S. (Deeds of Cession), its own constitution (section 3) and its distinctive culture.

4. POTENTIAL EFFECTS OF DEVELOPMENT PROJECTS ON NEW DIRECTIONS IN AMERICA SAMOA'S DOMESTIC LONGLINE FISHERY AND ON COMPLIANCE WITH RESPONSIBLE FISHERIES STANDARDS

The evaluation in Section 3 found that American Samoa's domestic longline fishery is mostly compliant with standards and criteria for responsible fisheries contained in the FAO Code of Conduct for Responsible Fisheries, conservation and management measures and resolutions of the Western and Central Pacific Fisheries Commission, National Standards of the Magnuson Stevens Fishery Conservation and Management Act and the American Samoa Constitution (Section 3). The major deficiencies are related to relatively high finfish bycatch by larger longline vessels (FAO Code of Conduct principle 6.6, WCPFC Resolution 2005-03, National Standard 9); lack of a berthing and service dock that integrates domestic longline vessels into Pago Pago Harbor activities (FAO Code of Conduct principle 6.9); and duty-free access to the U.S. market for tuna canned in American Samoa that serves as a free trade barrier (FAO Code of Conduct principle 6.14).

Section 4.1 links 17 fisheries development projects and proposals (identified in Section 2.3) with 3 possible new directions in the domestic longline fishery (identified in 2.2). Section 4.2 considers how implementation of the 17 projects could affect compliance with standards and criteria for responsible fisheries (increase, decrease or not change).

4.1 Association of development plans and projects with possible new directions for American Samoa's domestic longline fishery

The review of 6 fisheries and economic development plans (Section 2.3) identified 17 projects and proposals with potential to affect the domestic longline fishery. The various plans often described projects so similar or with so much overlap that they were combined in the 17 projects. These projects and proposals fall into four general groups: 1) support infrastructure; 2) support services; 3) studies and research of pelagic resources or fisheries; and 4) resource management actions related to pelagic fisheries or possible new directions in the domestic longline fishery. Table 4.1 considers how these 4 grouping of projects could affect the 3 possible new directions for the domestic longline fishery.

Table 4.1(a) Potential Contributions of Proposals to Three New Directions for Longline Fishery: Support Infrastructure

Proposals by Grouping	**How Proposal Could Affect Possible New Directions for Domestic Longline Fishery**		
Support Infrastructure	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value- added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
A. Domestic fishing vessel dock	Promotes centralized and efficient unloading and ground transport of catch, resupply and maintenance of longline vessels.	Promotes centralized and efficient unloading and ground transport of catch, resupply and maintenance of longline vessels.	Promotes centralized and efficient resupply and maintenance of longline vessels. Albacore catch would continue to be unloaded at cannery dock.
B. Expand domestic fishing vessel support, fish processing and storage capacity	Provides access to ice production and cold storage essential for shipboard and shoreside fresh fish chilling. Also provides capacity for processing, waste disposal and packing of chilled products for fresh export.	Provides access to ice production and cold storage essential for shipboard and shoreside fresh fish chilling. Also provides capacity for processing, waste disposal and freezing of finished products.	Provides capacity for processing, waste disposal and finished product storage that could facilitate branding and marketing of Am. Samoa albacore products.
C. *Alia* repair/service dock, rehabilitation	Provides centralized support for *alia*, to the extent that rehabilitation of this fleet could contribute to possible fresh exports.	Provides centralized support for *alia*, to the extent that rehabilitation of this fleet could contribute to possible value-added processing.	Provides centralized support for *alia*, to the extent that rehabilitation of this fleet could contribute to branding and marketing of specialized Am. Samoa albacore products.
D. Ongoing commercial FAD program	Promotes fuel-efficient harvest and improves catch rates by non-longline domestic fishers. Smaller size of FAD fish may deter fresh export, however.	Promotes fuel-efficient harvest and improves catch rates by non-longline domestic fishers. Smaller size of FAD fish may reduce yield of value-added products, however.	Albacore not known to aggregate around FADs, so little impact on New Direction 3.
E. Upgrade longline vessels to store non-albacore fish catch presently discarded	Enlarged shipboard capacity for storing chilled non-albacore could enhance fresh fish export.	Enlarged shipboard capacity for storing chilled non-albacore could increase supply for value-adding processing while fresh before freezing of finished products after processing.	Enlarged shipboard capacity for storing chilled fish not likely to affect the supply of frozen albacore available for branding and marketing of specialized albacore products.
F. Acquire tender vessels to support *alia* fishing, catch transshipping	Extends *alia* range, trips; improves catches and handling of chilled non-albacore, to the extent that rehabilitation of this fleet could contribute to possible fresh exports.	Extends *alia* range, trips; improves catches and handling of chilled non-albacore, to the extent that rehabilitation of this fleet could contribute to possible value-added processing.	Extends *alia* range, trips; improves catches and storage of albacore, to the extent that rehabilitation of this fleet could contribute branding and marketing of specialized Am. Samoa albacore products.
G. Fagotogo market rehabilitation	Offers new channel into local market but not likely to affect fresh exports. Sharp decline in local buying power is expected as a result of COS Samoa Packing Co. closure.	Offers new channel into local market for value-added longline fishery products. Sharp decline in local buying power is expected as a result of COS Samoa Packing Co. closure.	Local market not expected to affect branding and overseas marketing of Am. Samoa albacore products.

Table 4.1(b) Potential Contributions of Proposals to Three New Directions for Longline Fishery: Support Services

Proposals by Grouping	**How Proposal Could Affect Possible New Directions for Domestic Longline Fishery**		
Support Services	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value-added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
H. Value-added fish processing services	Provides processing and packing services to facilitate fresh export of non-albacore via air cargo.	Provides processing and packing services to facilitate freezing and export of non-albacore via ocean cargo.	Provides processing, packing and labeling services to facilitate export via ocean cargo of Am. Samoa brand albacore specialty products.
I. Organize, plan local fishermen's organization or cooperative	Fleet cooperation could increase supply of chilled non-albacore for possible fresh export via air cargo.	Fleet cooperation could increase supply of chilled non-albacore for possible value-added processing into finished products for freezing and export via ocean cargo.	Fleet cooperation could unify the domestic longline fishery to develop a specialty brand and overseas markets for American Samoa albacore products.
J. Development bank financial extension services	The financial condition of domestic longline businesses and the prospects for new business plans could benefit from professional assistance.	The financial condition of domestic longline businesses and the prospects for new business plans could benefit from professional assistance.	The financial condition of domestic longline businesses and the prospects for new business plans could benefit from professional assistance.
K. Improve air and sea transport for fish exports	Fresh fish exports are not feasible without improved air cargo service from American Samoa.	Export of frozen value-added products requires regular refrigerated ocean container service to the U.S.	Export of shelf-stable specialty albacore products from American Samoa requires regular ocean container service to the U.S.
L. Proper fish handling/safety training	Promotes quality and safety of chilled non-albacore and extends shelf life as fresh fish exports.	Promotes quality and safety of non-albacore processed as fresh fish into value-added products that are frozen for export.	Promotes quality and safety of albacore products to develop a custom Am. Samoa brand in overseas markets.

Table 4.1(c) Potential Contributions of Proposals to Three New Directions for Longline Fishery: Studies and Research

Proposals by Grouping	**How Proposal Could Affect Possible New Directions for Domestic Longline Fishery**		
Studies and Research	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2(emphasizes value-added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3(emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
M. Cost-benefit analysis of protected species bycatch reduction measures	Cost-effective measures for protected species bycatch reduction could further enhance the reputation and marketability of American Samoa domestic longline fresh exports as "sustainable seafood."	Cost-effective measures for protected species bycatch reduction could further enhance the reputation and marketability of American Samoa domestic longline value-added products as "sustainable seafood."	Cost-effective measures for protected species bycatch reduction could further enhance the reputation and marketability of American Samoa domestic longline albacore products as "sustainable seafood."
N. Study impact of cannery layoffs on subsistence resources and regulate reef fishery as needed	A small number of fish workers laid off by cannery closure might find new part-time jobs but the overall impact of fresh longline exports on local employment would be negligible. High unemployment is expected to increase subsistence fishing pressure on nearshore resources.	A small number of fish workers laid off by cannery closure might find new jobs but the overall impact on employment of value-added longline products would be minimal. High unemployment is expected to increase subsistence fishing pressure on nearshore resources.	If development and marketing of an American Samoa brand of albacore products is successful, a moderate number of fish workers laid off by cannery closure might find new jobs but these are unlikely to be the low-skill fish cleaners. High unemployment is expected to increase subsistence fishing pressure.

Table 4.1(d) Potential Contributions of Proposals to Three New Directions for Longline Fishery: Resource Management

Proposals by Grouping	**How Proposal Could Affect Possible New Directions for Domestic Longline Fishery**		
Resource Management	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value-added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
O. Bigeye tuna limit utilization program	Facilitates New Direction 1 because bigeye tuna of good quality is the species with greatest potential for fresh export via air cargo.	Facilitates New Direction 2 because bigeye tuna is one of the most discarded species by large domestic longliners. Thus, it is a good candidate for value-added processing into finished products frozen for export via ocean cargo.	Albacore tuna, not bigeye tuna, is the emphasis of New Direction 3.
P. Minimize protected species bycatch	Protected species bycatch reduction could enhance the reputation and marketability of American Samoa domestic longline fresh exports as "sustainable seafood."	Protected species bycatch reduction could enhance the reputation and marketability of American Samoa domestic longline value-added products as "sustainable seafood."	Protected species bycatch reduction could enhance the reputation and marketability of American Samoa domestic longline albacore products as "sustainable seafood."
Q. Consultations between ASG and neighboring island resource managers	Cooperation with island neighbors having air cargo capacity could improve prospects for fresh exports.	Cooperation with island neighbors could enhance demand for refrigerated ocean cargo service to export frozen value-added products.	Cooperation with island neighbors with albacore longline fisheries would enhance American Samoa's position as a regional market for this product.

4.2 Project/proposal priorities based on number of new fishery directions supported

One way to set priorities for individual projects/proposals is to assess how many of the 3 new directions for American Samoa's domestic longline fishery are supported by particular projects. A project likely to facilitate all 3 new fishery directions could be considered high priority because it addresses a broader range of possible longline fishery futures than projects that support two or fewer new directions. Project priorities based on the number of new fishery directions supported are given in Table 4.2

Table 4.2 Project priorities based on the number of new fishery directions supported

Projects by Grouping (from Table 4.1)	Number of New Directions the Project would support
Support Infrastructure	
A. Domestic fishing vessel dock	3
B. Expand domestic fishing vessel support, fish processing and storage capacity	3
C. *Alia* repair/service dock, rehabilitation	3
D. Ongoing commercial FAD program	0
E. Upgrade longline vessels to store non-albacore fish catch presently discarded	2
F. Acquire tender vessels to support *alia* fishing, catch transshipping	3
G. Fagotogo market rehabilitation	1
Support Services	
H. Value-added fish processing services	3
I. Organize, plan local fishermen's organization or cooperative	3
J. Development bank financial extension services	3
K. Improve air and sea transport for fish exports	3
L. Proper fish handling/safety training	3
Studies and Research	
M. Cost-benefit analysis of protected species bycatch reduction measures	3
N. Study impact of cannery layoffs on subsistence resources and regulate reef fishery as needed	1
Resource Management	
O. Bigeye tuna limit utilization program	2
P. Minimize protected species bycatch	3
Q. Consultations between ASG and neighboring island resource managers	3

4.3 Changes in Compliance with Responsible Fisheries Standards Expected from New Longline Fishery Directions and Associated Projects

Possible new directions in American Samoa's domestic longline fishery and associated projects that further these directions may change compliance with standards and criteria for responsible fisheries compared to impacts of the existing longline fishery. Compliance may increase, decrease or not change as a result of the fishery moving in a new direction, with implementation of supporting projects. The likely changes are summarized according to each principle of the FAO Code of Conduct for Responsible Fisheries, each applicable CMM and Resolution of the WCPFC, each National Standard of the Magnuson Stevens Fishery Conservation and Management Act and the American Samoa Constitution, Section 3 (Table 4.3). This analysis also indicates which of the 17 projects that have been reviewed (identified by letter from Table 4.1) most contribute to the anticipated change in compliance.

Table 4.3. (a) Changes in Compliance with Responsible Fisheries Standards Likely from New Fishery Directions and Associated Projects: *FAO Code of Conduct for Responsible Fisheries*

Standards for Responsible Fisheries: *FAO Code of Conduct*	**Compliance with Standards for Responsible Fisheries**			
	Existing Domestic Longline Fishery	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value- added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
Principle 6.1	Compliant	Compliant	Compliant	Compliant
6.2	Compliant	Compliant	Compliant	Compliant
6.3	Compliant	Compliant	Compliant	Compliant
6.4	Compliant	Compliant	Compliant	Compliant
6.5	Compliant	Compliant	Compliant	Compliant
6.6	Not fully compliant	Improves compliance (Projects A,B,E,H,I,K,L,O)	Improves compliance (Projects A,B,C,E,F,H,I,K,L,O)	Improves compliance (Projects A,B,C,F,I,K,L)
6.7	Compliant	Improves compliance (Projects B,G,L)	Improves compliance (Projects B,G,L)	Improves compliance (Projects B,G,L)
6.8	Compliant	Compliant	Compliant	Compliant
6.9	Not fully compliant	Improves compliance (Projects A,B,C)	Improves compliance (Projects A,B,C)	Improves compliance (Projects A,B,C)
6.10	Compliant	Improves compliance (Project O)	Improves compliance (Project O)	Compliant
6.11	Compliant	Compliant	Compliant	Compliant
6.12	Compliant	Compliant	Compliant	Compliant
6.13	Compliant	Compliant	Compliant	Compliant
6.14	Not fully compliant	Not fully compliant	Not fully compliant	Not fully compliant
6.15	Compliant	Compliant	Compliant	Compliant
6.16	Compliant	Compliant	Compliant	Compliant
6.17	Compliant	Compliant	Compliant	Compliant
6.18	Compliant	Improves compliance (Projects C,D,F,G,I,J,N)	Improves compliance (Projects C,D,F,G,I,J,N)	Improves compliance (Projects C,F,I,J,N)
6.19 (aquaculture)	Not applicable	Not applicable	Not applicable	Not applicable

Table 4.3. (b) Changes in Compliance with Responsible Fisheries Standards Likely from New Fishery Directions and Associated Projects: *Western and Central Pacific Fisheries Commission CMM and Resolutions*

Standards for Responsible Fisheries: *WCPFC*	**Compliance with Standards for Responsible Fisheries**			
	Existing Domestic Longline Fishery	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value- added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
CMM-2005-02	Compliant	Compliant	Compliant	Compliant
CMM-2006-04	Compliant	Compliant	Compliant	Compliant
CMM-2006.01	Compliant	Compliant	Compliant	Compliant
CMM-2007-02	Compliant	Compliant	Compliant	Compliant
CMM-2007-03	Compliant	Compliant	Compliant	Compliant
CMM-2007-04	Compliant	Compliant	Compliant	Compliant
CMM-2008-01	Compliant	Compliant	Compliant	Compliant
CMM-2008-03	Compliant	Compliant	Compliant	Compliant
CMM-2008-05	Compliant	Compliant	Compliant	Compliant
CMM-2008-06	Compliant	Compliant	Compliant	Compliant
Other CMMs	Compliant	Compliant	Compliant	Compliant
Res-2005-02	Compliant	Compliant	Compliant	Compliant
Res-2005-03	Not fully compliant	Improves compliance (Projects A,B,E,H,I,K,L,O)	Improves compliance (Projects A,B,C,E,F,H,I,K,L,O)	Improves compliance (Projects A,B,C,F,I,K,L)
Res-2008-01	Compliant	Compliant	Compliant	Compliant

Table 4.3. (c) Changes in Compliance with Responsible Fisheries Standards Likely from New Fishery Directions and Associated Projects: *Magnuson-Stevens Act National Standards and American Samoa Constitution*

Standards for Responsible Fisheries:	**Compliance with Standards for Responsible Fisheries**			
	Existing Domestic Longline Fishery	*New Direction 1 (emphasizes fresh export of non-albacore species via air cargo)*	*New Direction 2 (emphasizes value- added processing of non-albacore species for freezing and export via ocean cargo)*	*New Direction 3 (emphasizes domestic fishery cooperation to brand and market American Samoa albacore products for export via ocean cargo)*
Magnuson-Stevens Act National Standards				
1	Compliant	Compliant	Compliant	Compliant
2	Compliant	Compliant	Compliant	Compliant
3	Compliant	Compliant	Compliant	Compliant
4	Compliant	Compliant	Compliant	Compliant
5	Compliant	Compliant	Compliant	Compliant
6	Compliant	Compliant	Compliant	Compliant
7	Compliant	Compliant	Compliant	Compliant
8	Compliant	Compliant	Compliant	Compliant
9	Compliant	Improves compliance (Projects A,B,E,H,I,K,L,O)	Improves compliance (Projects A,B,C,E,F,H,I,K,L,O)	Improves compliance (Projects A,B,C,F,I,K,L)
10	Compliant	Compliant	Compliant	Compliant
American Samoa Constitution				
Section 3	Compliant	Compliant	Improves compliance (Projects C,F,G,I,J,N)	Improves compliance (Projects C,F,G,I,J,N)

4.4 Project/proposal priorities based on improvements to specific responsible fisheries standards

A second way to set priorities for individual projects/proposals is to assess how many of them are likely to improve compliance with specific standards for responsible fisheries. This includes 18 applicable principles of the FAO Code of Conduct for Responsible Fisheries, 10 conservation and management measures and 3 resolutions of the Western and Central Pacific Fisheries Commission (WCPFC), 10 National Standards of the Magnuson Stevens Fishery Conservation and Management Act and the American Samoa Constitution. A project/proposal could be considered high priority because it addresses a larger number of responsible fisheries individual standards than a project/proposal that addresses a lower number of individual responsible fisheries standards. Project priorities based on the number of improvements in addressing responsible fisheries standards are given in Table 4.4. Higher scores often reflect improvements in complying with individual standards that are duplicated in several sources of responsible fisheries standards. For example, projects that would be expected to reduce the discard of fish by American Samoa longliners would improve compliance with separate standards found in the FAO Code of Conduct for Responsible Fisheries, a resolution of the WCPFC and one of the National Standards of the MSA, thus achieving three points.

Table 4.4 Project priorities based on the number of improvements in addressing individual responsible fisheries standards

Projects by Grouping (from Table 4.1)	Number of Individual Responsible Fisheries Standards for which the Project would improve compliance.
Support Infrastructure	
A. Domestic fishing vessel dock	4
B. Expand domestic fishing vessel support, fish processing and storage capacity	5
C. *Alia* repair/service dock, rehabilitation	6
D. Ongoing commercial FAD program	1
E. Upgrade longline vessels to store non-albacore fish catch presently discarded	3
F. Acquire tender vessels to support *alia* fishing, catch transshipping	5
G. Fagotogo market rehabilitation	3
Support Services	
H. Value-added fish processing services	3
I. Organize, plan local fishermen's organization or cooperative	5
J. Development bank financial extension services	2
K. Improve air and sea transport for fish exports	3
L. Proper fish handling/safety training	3
Studies and Research	
M. Cost-benefit analysis of protected species bycatch reduction measures	0
N. Study impact of cannery layoffs on subsistence resources and regulate reef fishery as needed	2
Resource Management	
O. Bigeye tuna limit utilization program	4
P. Minimize protected species bycatch	0
Q. Consultations between ASG and neighboring island resource managers	0

4.5 Two Perspectives of Project Priorities

From the perspective of advancing all 3 new domestic longline fishery directions the priorities are Projects A, B, C, F, H, I, J, K, L, M, P and Q (from Table 4.3). The highest priority projects from the perspective of improving compliance with standards for responsible fisheries are Project C, followed by Projects B, F, I, then Projects A and O (scores of 4+ in Table 4.4).

5. FINDINGS AND RECOMMENDATIONS

Section 5.1 examines a major gap in American Samoa's development scheme for the domestic longline fishery – waste disposal from new fish processing operations. Section 5.2 connects high priority projects, as well as a new project (R) to address the waste disposal issue, around nexus projects and lists prerequisites for project implementation. Section 5.3 summarizes findings concerning domestic longline fishery compliance with standards for responsible fisheries, including one unresolved issue (FAO Code of Conduct principle 6.14). Section 5.4 recommends a more detailed assessment of this fishery based on provisions in Articles 7, 8, 10, 11 and 12 of the FAO Code of Conduct. This closer scrutiny of American Samoa's domestic longline fishery would resemble Responsible Fisheries Assessments conducted for Hawaii longline fisheries in 2006 and 2008.

5.1 U.S. EPA and ASG waste disposal policies

Proposals for fish processing facilities to support new longline fishery directions will be greatly constrained by the U.S. Environmental Protection Agency and American Samoa Government policies on waste disposal into Pago Pago Harbor and into the government sewer system.

According to Peter Peshut, Manager, Technical Services, American Samoa Environmental Protection Agency (ASEPA), it is not possible to get a permit to discharge wastewater into inner Pago Pago Harbor (pers. comm. to George Krasnick, TEC Inc. August 2007). The canneries have a three-mile long outfall pipe to the outer harbor where wastewater discharges at a depth of 180 feet. A Zone of Mixing was approved for that discharge. High strength waste (from fish meal processing when the product is squeezed to concentrate solids) is barged to an approved dump site five miles offshore every day. It costs the canneries $1.5M per year to dispose of the 100,000-200,000 gallons per day. StarKist is assessing the use of rotojets to squeeze the sludge to produce distilled water. The solids could then be used for fishmeal (Brett Butler, General Manager of StarKist Samoa, pers. comm. to G. Krasnick, August 2007).

According to Mr. Butler, it may be possible for a third party processor to make an arrangement to deliver liquid and solid wastes to the cannery for disposal. To add the waste stream from an independent processor to that of StarKist would first require that a Priority Toxic Pollutants Scan be done. Even if there are no high levels detected, StarKist would have to ask for a permit modification from the U.S. Environmental Protection Agency before adding an independent waste stream to their waste stream. StarKist is required to have its own Priority Toxic Pollutants Scan conducted periodically under its U.S. EPA permit for the outfall (Brett Butler, StarKist Samoa general manager, pers. comm. to J. Kaneko, June 17, 2009).

Solid wastes from an independent processor might be added to StarKist's fishmeal plant depending on how old it is. The problem would be getting solid waste into the StarKist system in an efficient manner and the amount of fish oil in the solid waste. Depending on the age and type of fish scrap, the associated fish oil might cause more problems than it is worth to StarKist (Brett Butler, StarKist Samoa general manager, pers. comm. to J. Kaneko, June 17, 2009).

If the old Chicken of the Sea Samoa Packing plant were available to a third party for value-added fish processing, it may be possible to dispose of liquid waste under the existing U.S. EPA permit for outfall discharge. However, all water from the plant, including rainwater, would have to be processed because this plant does not have a storm water permit.

A processing operation at the Tafuna Industrial Park would be faced with the same restrictions on disposal of liquid and solid wastes. The liquid wastes in particular would be problematic as either a treatment system would be required to clean them prior to discharge into the sewer system, or they would have to be hauled a considerable distance to the cannery and satisfy requirements to be added to the existing permit for outfall discharge. Disposal of offal in the trash is cause for a citation from the American Samoa Department of Public Health, which suggested cooking and freezing fish processing offal prior to collection (Mr. Pasesa, Dept. Public Health, pers. comm. to G. Krasnick, August 2007).

In either of the above scenarios, ASEPA would regulate the transport of waste from the processing facility to the cannery. All aspects of the plan for storage, operations, and transfer would have to be approved in advance (Peter Peshut pers. comm. to G. Krasnick, August 2007).

None of the previous fishery development plans include a government-sponsored project to address the waste disposal problem for new fish processing operations. Without such a project, private businesses will have great difficulty disposing of waste material generated by fish processing in support of any of the 3 new directions for longline fishery development. Therefore, the following project is added to high priority projects previously identified:

Project R: Construct new waste disposal system(s) or arrange with the cannery to add to its existing approved waste stream so that waste streams from new fish processing facilities conform with ASG and U.S. EPA rules.

5.2 Project connectivity and prerequisites

High priority projects do not stand alone. They are often connected around a nexus. Figures 5.1, 5.2, 5.3 and 5.4 provide examples of such connections with four different nexus: Project B, Project I, Project C and Project Q.

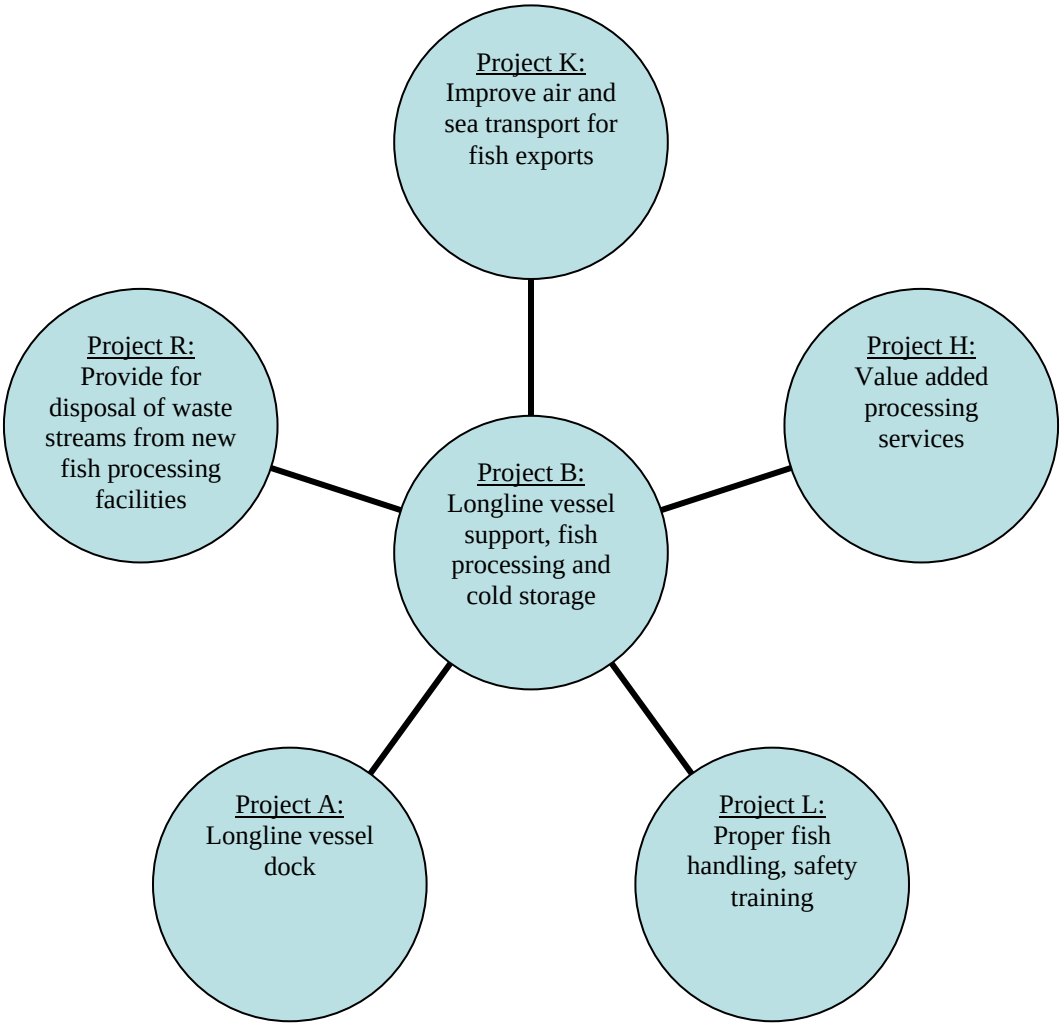

Figure 5.1 Nexus Project B: Longline vessel support, fish processing and cold storage and connected projects

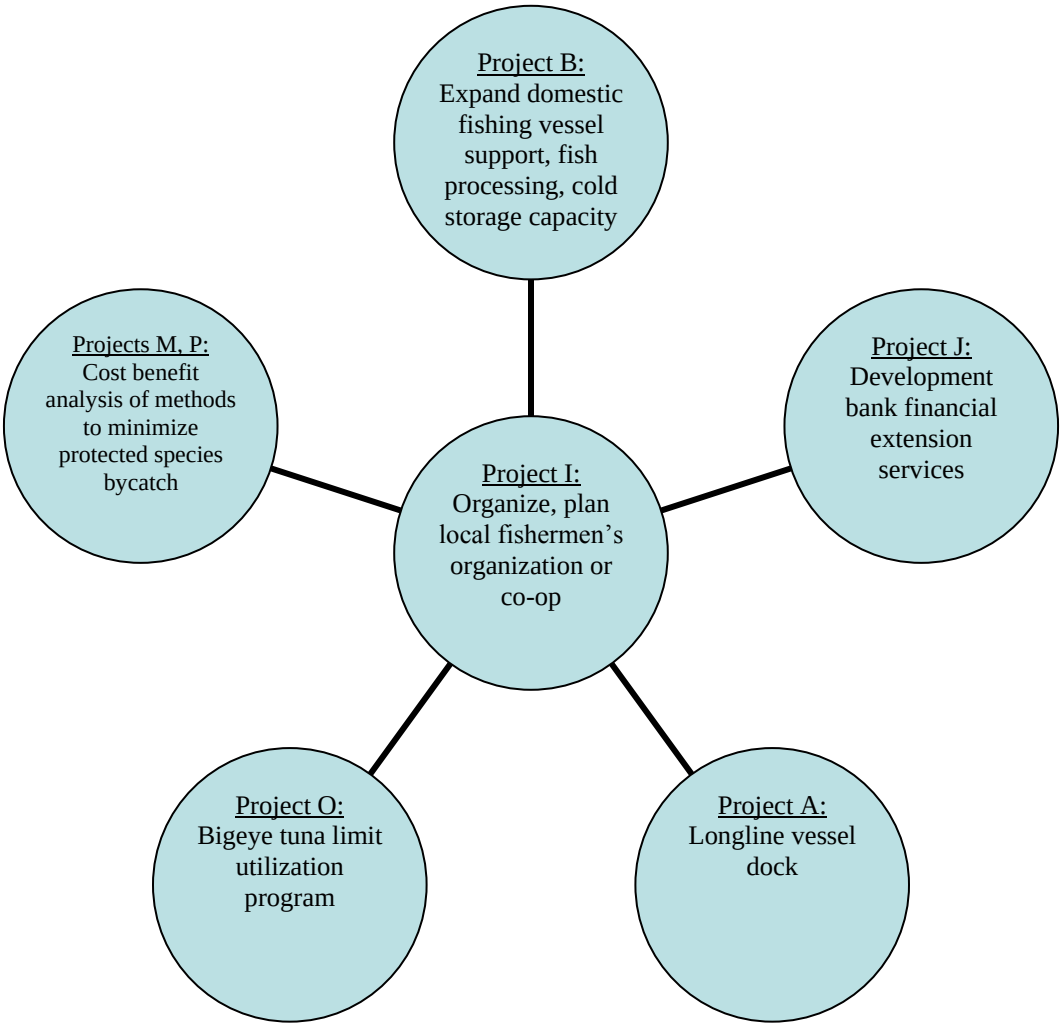

Figure 5.2 Nexus Project I: Organize, plan local fishermen's organization or co-op and connected projects

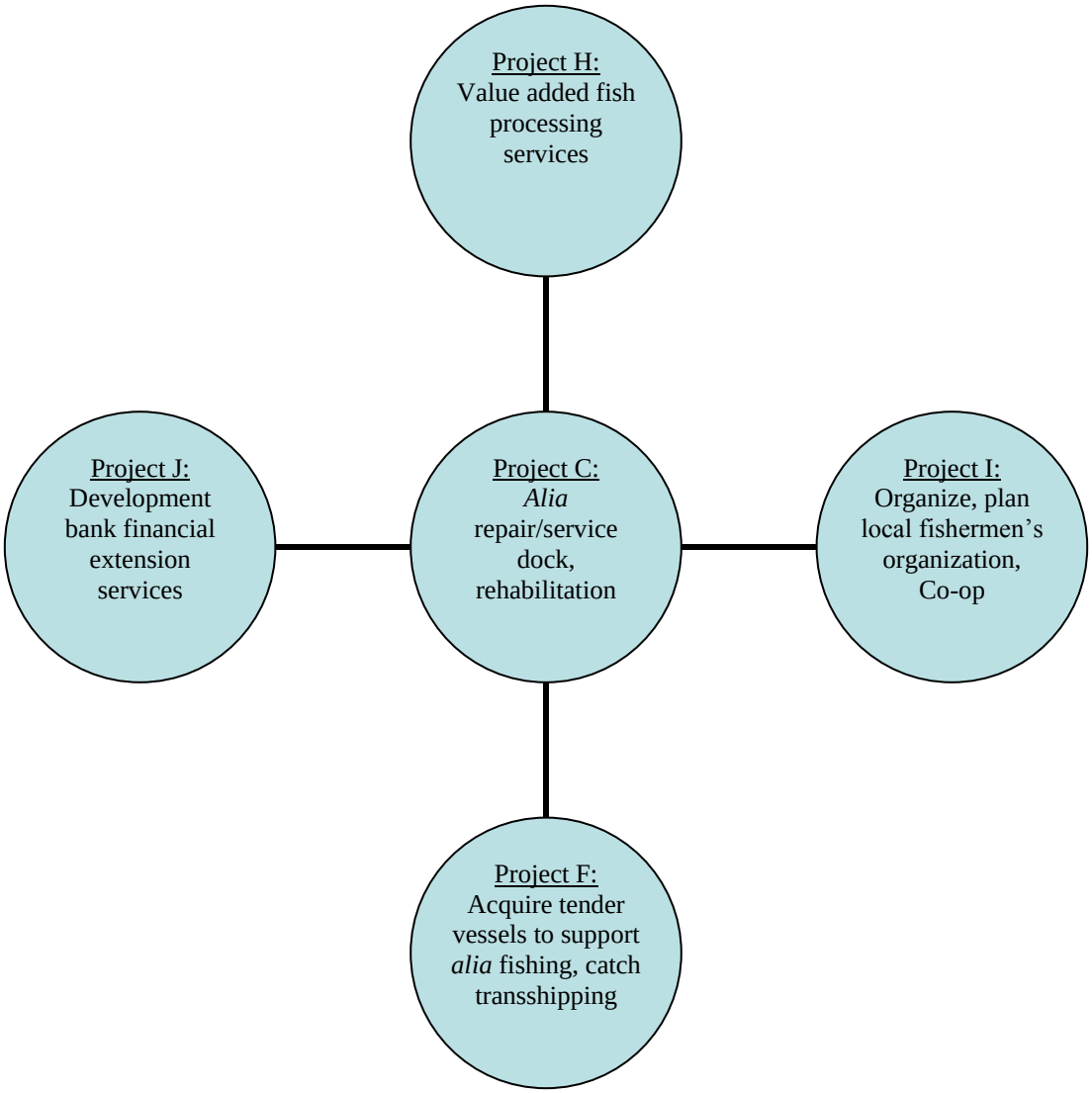

Figure 5.3 Nexus Project C: *Alia* repair/service dock, rehabilitation and connected projects

Figure 5.4 Nexus Project Q Consultation between ASG and neighboring island resource managers and connected projects

To become operational, each project/proposal will require its own detailed planning, funding and implementation. Many projects, however, share prerequisites, such as the need for site selection, architectural and engineering design and government permits for construction, possible changes in government regulations or policies relating to the environment, or private investment for new businesses. Table 5.1 lists high priority projects (as identified in Table 4.2) and identifies general prerequisites for their implementation.

Table 5.1. General prerequisites for high priority projects (from Table 4.1)

High Priority Projects (identified by letter from Table 4.1)	General Prerequisites (check marks indicate items needed for project implementation)					
	Site selection	A&E design	Permits	Private planning, organization, investment	Construction or acquisition	Government action*
A. Domestic fishing vessel dock	x	x	x		x	x
B. Expand domestic fishing vessel support, fish processing and storage capacity				x	x	
C. *Alia* repair/service dock, rehabilitation	x	x	x		x	x
F. Acquire tender vessels to support *alia* fishing, catch transshipping				x	x	
H. Value-added fish processing services			x	x	x	
I. Organize, plan local fishermen's organization or cooperative				x		
J. Development bank financial extension services						x
K. Improve air and sea transport for fish exports						x
L. Proper fish handling/safety training				x		
M. Cost-benefit analysis of protected species bycatch reduction measures						x
O. Bigeye tuna limit utilization program				x		x
P. Minimize protected species bycatch						x
Q. Consultations between ASG and neighboring island resource managers						x
R. (provide for disposal of waste streams from new fish processing facilities)		x	x	x	x	x

*Government action may include policy, regulation, research and/or investment

5.3 American Samoa domestic longline fishery compliance with standards for responsible fisheries

American Samoa's existing domestic longline fishery is mostly compliant with the general principles (Article 6) of the FAO Code of Conduct for Responsible Fisheries, Western and Central Pacific Fisheries Commission Conservation and Management Measures and Resolutions, Magnuson-Stevens Fishery Conservation and Management Act National Standards and American Samoa's Constitution. The few deficiencies relate to: 1) relatively high finfish bycatch by larger longline vessels (>50 ft); 2) lack of integration of domestic longline fleet berthing and vessel support services with Pago Pago Harbor facilities; and 3) U.S. tariff protection of tuna products canned in American Samoa from the domestic longline fishery's albacore catch.

Possible new directions for the domestic longline fishery could emphasize non-albacore fresh fish exports via air cargo (New Direction 1), value-added processing of non-albacore products for freezing and export via ocean cargo (New Direction 2); domestic longline fishery cooperation to process and market albacore products under an American Samoa "brand" (New Direction 3) in the event that both canneries close as buyers of the fishery's albacore catch; or a combination of new directions.

New Directions 1 and 2, supported by Projects A, B, C, F, H, I, K, L and O (project letters from Table 4.1) would facilitate processing of several finfish species that are generally not retained by domestic longliners targeting albacore tuna. These new directions and projects have good potential to reduce relatively high finfish catch in the large-vessel sector of the domestic longline fishery ((FAO Code of Conduct Principle 6.6, WCPFC Resolution-2005-03, MSA National Standard 9). Projects A, B and C to provide a dock and other support infrastructure for the domestic longline fleet would better integrate this fishery with coastal zone activities in Pago Pago Harbor and correct the deficiency in meeting FAO Code of Conduct principle 6.9

Incomplete compliance with FAO Code of Conduct principle 6.14 remains unresolved because of U.S. tariff protection for tuna canned in American Samoa. New Directions 1 and 2 for the domestic longline fishery emphasize fresh and value-added frozen fish. These products have no market protection because foreign fishery products of these types enter the U.S. duty free. However, New Directions 1 and 2 both assume that the remaining American Samoa based cannery remains open to purchase domestic longline catches of albacore tuna. New Direction 3 involves canning of domestic catches of albacore tuna through a domestic longline fishermen's cooperative. This product would continue to have duty-free entry into the U.S. canned tuna market. Therefore, none of the 3 new fishery directions or supporting projects would enhance compliance with free trade initiatives promoted by FAO Principle 6.14 and it is highly unlikely that they ever would.

Forces in the world economy and in the international tuna canning industry itself are eroding American Samoa's position in the industry. Trends in world trade, specifically reductions in tariffs, are weakening the advantage of American Samoa's duty free access to the U.S. market.

5.4 Responsible Fisheries Assessment

The FAO Code of Conduct for Responsible Fisheries represents the most comprehensive and internationally accepted set of standards for responsible fisheries. The preceding assessment (Sections 3, 4) is based partially on compliance of American Samoa's domestic longline fishery with the general principles of the Code of Conduct, as expressed in Article 6. Each of the 18 applicable principles typically combines several related criteria for responsible fisheries, so that compliance with each principle is evaluated based on a generalized "shotgun" approach rather than a "rifle" approach that examines each of the detailed provisions of the Code of Conduct contained in the applicable and prescriptive Articles 7, 8, 10, 11, 12. Such "Responsible Fisheries Assessments" (RFA) have been completed for Hawaii's longline fisheries and an RFA is a logical next step for American Samoa's domestic longline fishery because it would:

- Provide baseline documentation of fishery management and operations against international standards;

- Facilitate fishery monitoring to ensure a focus on improving compliance with the FAO Code of Conduct and maintaining the fishery's present responsible status; and

- Organize information needed to document that the fishery produces sustainable seafood.

The 2006 RFA for Hawaii longline fisheries was the first and most comprehensive application of the Code for the assessment of a pelagic longline fishery. The methodology was reviewed and published as a model for the application of the Code by the FAO (Caddy et al. 2007). The RFA was updated in 2008 because of significant changes in the domestic and international fishery management framework resulting primarily from the re-authorized Magnuson-Stevens Fishery Conservation and Management Act and development of the Western and Central Pacific Fishery Commission. The cumulative compliance score in 2006 was 93% and 94% in 2008 for the Hawaii longline fisheries.

6. CONCLUSION: NEXT STEPS IN DEVELOPMENT PLANNING

The preliminary Responsible Development Plan for the American Samoa longline fishery has evaluated existing fishery development plans and proposals and consolidated them into a list of potential projects. These projects were then assessed in two ways. The first was to determine how the projects might support 3 possible new directions for domestic longline fishing and seafood processing industry development in American Samoa. Then these projects were evaluated for their potential impact on compliance with different sets of standards for responsible fisheries. This process has generated a list of projects that have the potential to support new directions for industry development while complying with standards for responsible fisheries development.

Exactly which projects are selected for more detailed technical, economic and/or business planning depend on 1) private sector interest and commitment in business development and 2) the public sector role and commitment to overcoming hurdles and reducing risk for private sector development.

Private initiative is needed to shape the direction for industry development. Three possible new directions have been identified, but exactly which type of businesses and industry development occurs in the future will rely on business entities assessment of the opportunities. The business ventures will also need to work with the public sector for assistance in resolving critical unresolved issues identified in this study.

A key role for government agencies is to help resolve the handling of the liquid and solid waste stream from future fish processing ventures. The public sector will also be relied on for assistance in permitting and key aspects of infrastructure development to create a more suitable and less risky environment in which business can develop and jobs can be created to offset the significant adverse impacts resulting from the downsizing of the tuna canning industry.

The major challenge for American Samoa is to develop a complete domestic fishery system, rather than just longline fishing operations. The existence of a resource does not assure the commercial success of a fishery. The Territory lacks sufficient public and private capital and other resources to bring about sudden expansion of domestic fisheries. Investments are constrained by many of the same conditions that impede the development of other sectors of the Territory's economy. Progressive development of the domestic longline fishery can occur, however, with the potential for significant benefits, although nothing of a scale that has the potential to replace the COS Samoa Packing cannery.

There is little possibility that all of these projects will develop as initially defined or within the same time frame. It is much more likely that incremental growth of selected elements will occur as publicly-financed infrastructure is built. The logical problems and high cost of doing business will continue to pose high risk. Small-scale successes will likely provide the foundation for larger-scale development.

The process of fishery development, as with all economic development, is largely a progression from the general to the specific. No matter how purposefully the planning process is carried out, no actual development takes place until specific investment projects are operating successfully. The purpose of the project review in the present plan is to narrow the range of acceptable projects to assure that scarce financial resources are used in support of long-term economic, social and cultural objectives and in a manner that is consistent with recognized standards for responsible fisheries. The major concern in preparing this plan has been to avoid directing private investment or government assistance to projects that are unlikely to advance new directions in the domestic longline fishery or are inconsistent with standards for responsible fisheries. Comprehensive planning requires that all of the facets of a fishery system be developed in concert.

The most effective areas of government interaction are construction of publicly-financed infrastructure, assistance in site selection for private enterprise, removal of regulatory impediments and provision of public utilities, tax incentives, low-interest loan assistance and a favorable climate for private investment. To induce private investors to assume the risks associated with fishery development in American Samoa may require incentives of the type offered to infant industries throughout the U.S.

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