American Samoa Territorial Bottomfish Fishery Management Plan

Preliminary Draft

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Table of Contents

Table of Tables

Table of Figures

1. Precis

The American Samoa Archipelago is a Designated Fishing Community under the Magnuson-Stevens Fishery Conservation and Management Act (MSA) with high economic, subsistence, and sustenance dependency on fish resources, including culturally valued bottom fish. American Samoa is unique in the Western Pacific Council region in that the cultural value of certain bottomfish species may be as important, if not more important, than the economic and subsistence value, making substitution difficult. While never formally designated, Manu'a and perhaps even each village should legitimately be considered a fishery dependent community requiring special attention to the avoidance of adverse community impacts from management regulations in accordance with MSA Section 301, National Standard 8. American Samoa has a long history of fishing both nearshore and offshore species (Armstrong et.al., 2011). American Samoa has both traditional conservation practices and community-based fishing regulations that are village-based and can apply effectively in nearshore waters.

There is a significant body of literature supporting the need for community-based management of marine resources and recognizing that top-down approaches to management are less likely to be effective than approaches that are based in a clear understanding of cultural patterns and needs that include input from local level communities. American Samoa is widely recognized throughout the Pacific region as having been able to perpetuate fa'a samoa (i.e., "The Samoan Way", custom and practice) despite significant economic and cultural change. The foundation of fa'asamoa is the title system at the village and higher levels, and the title system is both sustained and signified by the production and presentation of food and other goods at a variety of important cultural ceremonies. Fish, including both deep and shallow water bottomfish play an important role in presentations at culturally important events. Hence, there is a need for access, even if intermittent, to bottomfish to help sustain fa'asamoa and its role in maintaining community stability and sustainability.

This Fishery Management Plan for American Samoa bottomfish should be based in and supported by fa'asamoa, and it will be more effective in using and sustaining bottomfish resources both nearshore and offshore than a plan imposed from above.

2. Purpose and Need for the Management Plan

A. Scope of Management Plan

This Territorial Bottomfish Fishery Management Plan (FMP) covers the conservation and management of the bottomfish stock at 0-3 nm from shore. The plan also adopts the 11 species of Bottomfish Management Unit Species currently under federal Fishery Ecosystem Plan (Table 1). These 11 species represent the bottomfish fishery in the Territory: four species (*Lutjanus kasmira*, *Lethrinus rubrioperculatus, Aphareus rutilans* and *Aprion virescens*) for shallow-bottomfish assemblage (< 150 m) and seven species (*Caranx lugubris, Etelis carbunculus, Etelis coruscans, Pristipomoides flavipinnis, Pristipomoides zonatus, Pristipomoides filamentosus,* and *Variola louti*) for the deep-bottomfish assemblage (> 150m). This plan complements the federal American Samoa Fishery Ecosystem Plan (FEP) and the American Samoa Bottomfish Management Unit Species Rebuilding Plan produced by the Western Pacific Regional Fishery

Management Council (the Council). The conservation and management measures apply to territorial waters with some elements that apply to federal waters.

Current local regulations governing the American Samoa bottomfish fishery are described later in this plan (see Section 2.B.ii), and include information on the annual proclamation, licensing and permitting, gear restrictions, species prohibitions, spatial management, and the community-based fisheries management program. Territorial regulations often work in conjunction with federal regulations, and there are additional requirements for the territory contained in the American Samoa Archipelago FEP (see Section 2.B.iii).

Table 1. List of bottomfish management unit species that are identified in the relevant Fishery Ecosystem Plan and that are used for the bottomfish assessment for American Samoa

Species name	Common name	Samoan name
Aphareus rutilans	Rusty jobfish	palu-gutusiliva
Aprion virescens	Green jobfish	asoama
Caranx lugubris	Black trevally	tafauli
Etelis carbunculus[1]	Ruby snapper	palu malau
Etelis coruscans	Flame snapper	palu-loa
Lethrinus rubrioperculatus	Redgill emperor	filoa-paomumu
Lutjanus kasmira	Bluestripe snapper	savane
Pristipomoides flavipinnis	Yelloweye snapper	palu-sina
Pristipomoides zonatus	Oblique-banded snapper	palu-ula, palu-sega
Pristipomoides filamentosus	Pink snapper	palu-ʻenaʻena
Variola louti	Lyretail grouper	papa, velo

B. Vision, Mission and Guiding Principles

The American Samoa Territorial Bottomfish Management Plan has the following vision, mission statement and guiding principles:

Vision: Healthy marine ecosystem with sustainable fisheries to support the people and future generations of the Samoa archipelago

Mission: The American Samoa Department of Marine and Wildlife Resources will effectively work together with partners and other stakeholders to manage marine resources to promote ecologically healthy, socially and culturally equitable, and sustainable use of marine resources. Our mission statement defines our purpose, ambition, and values.

Definition of Healthy:
Marine ecosystems are healthy when they provide for sustained biological productivity and essential ecological processes, and the maintenance of biotic communities, native species, and genetic and demographic diversity. From a more human-centered perspective, healthy oceans provide sustainable yield of fish, shellfish, wildlife, and many other species they depend upon; as well as sustainable flows of other valued goods and services, such as marine recreation, and pollution assimilation. - James W. Good

Healthy nearshore marine environment is defined as an environment where ecological and genetic diversity is maintained, reef fish populations are at levels that can be sustainably harvested for recreational, commercial, subsistence, and cultural use. All trophic groups and size classes are adequately represented, and the impacts to the habitat are minimized allowing for an increase in standing stock and recruitment. – Hawaii Fishery LAS

Definition of Effective Management:
Effective management balances stakeholder use, including extractive activities, cultural practices, economics (tourism, ecosystem services, etc.), and conservation, and prohibits destructive and indiscriminate fishing methods. Resource management decisions are supported by the public (including fishermen), considerate of traditional values and based on science, enforceability, and results. – Hawaii Fishery LAS

The following ***Key Guiding Principles*** inform the development and the implementation of this plan:

- Recognize and engage diverse users for their various and unique roles and responsibilities in coastal fisheries, co-management, and capacity building, as well as the motivation and empowerment of communities.
- Promote and strengthen partnership and networking with all stakeholders of the coastal fisheries at the federal, regional and sub-regional levels, and with international players.
- Uphold and promote ecosystem-based approaches to fisheries management (EAFM) to ensure a holistic approach to decisions taken with respect to the management and development of coastal fisheries.
- Promote good governance, best practice and accountability in coastal fisheries management and sustainable development.
- Recognize the dual importance of culture and customary governance in tandem with science for fisheries management.

Plan Development Process
DMWR conducted two bottomfish consultation meetings: last Aug. 6, 2021 in Tutuila Island and last Sept. 2 in Fitiuta, Tau Island in Manua. Fifteen fishermen were invited for the Tutuila meeting and fourteen were invited from both Ofu-Olosega and Tau Islands in Manua. Seven fishermen attended the Tutuila meeting while 14 fishermen attended the Tau meeting. The results of the consultation meetings were presented during the 187th virtual Regular Council Meeting on Sept. 22 during the American Samoa reports.

Threats

DMWR identified the following as major threats and issues affecting bottomfish fishery in the Territory during the review of available data and during the consultation meetings:

Priority Threats/Issues:

- Data-limited status
- Limited understanding of the biology and ecology of shallow and deepwater assemblages
- Limited understanding of factors that drive fisheries dynamics
- Limited awareness among fishing community about the issues related to the fisheries

The following have also been identified as management issues:

- Need for research and monitoring
- Need for community involvement in fishery management
- Need to collect social and economic information in fishery
- Need for education and awareness on fishery management and mesophotic coral reefs
- Need for effective communications of research results for management
- Need for enhanced collaborative work among local agencies

C. Goals and Objectives of the Management Plan

Fishery Theme

Improve the description and characterization of the fishery status of the stocks through improvement in data collection and application of appropriate data-limited assessment methods.

The Territorial Bottomfish FMP will improve the monitoring of BMUS catch in American Samoa utilizing existing data collection platforms in tandem with a newly-developed electronic reporting system. Improvement in data collection is crucial moving forward to supplement the future benchmark stock assessment and ensure that its results accurately reflect the nature of the American Samoa bottomfish fishery. Documenting the potential sources of error and bias in the current data collection framework will help inform processes that need to be improved to ensure the long-term applicability of the local data collection program.

Goal 1: Review bottomfish creel data collection program.

Goal 2: Explore data-limited stock assessment and management approaches for bottomfish.

Objective 2.1: Explore data-limited approaches using FishPath (1-2 years).

Biological Theme

To provide scientific basis to achieve a healthy bottomfish stocks through monitoring and research

Goal 1: Conduct studies to identify physical and biological parameters influencing bottomfish assemblages and their habitats.

Objective 1.1: Determine population genetic connectivity for two shallow and two deep-water bottomfish BMUS in the Samoa Archipelago in 3 years.
Objective 1.2: Determine bottomfish species distribution model for 1 shallow and 1 deep-water BMUS in 3 years.

Goal 2: Conduct studies to better understand the biology and ecology (including habitats) of important fish and invertebrates.
Objective 2.1: Determine the life history of 2 deepwater BMUS in 3 years.
Objective 2.2: Conduct mapping BMUS habitat distribution in 3 years.

Social Theme
Improve the enforcement and enhance education and outreach

To develop social, cultural, and economic initiatives that enhance opportunities for American Samoa's communities to participate in management and conservation activities, thereby encouraging a communal "sense of guardianship" of the environment

Goal 1: Promote and enhance public participation through capacity building on fishery management with a specific focus on the priority threats identified herein.
Objective 1: Conduct annual fishers' workshop in Tutuila and Manu'a on fisheries catch trends and fisheries regulations and management.

Objective 2: Conduct annual PLA for the bottomfish fishing community to update them on their fishery and management plans;

Management Theme
Establish conservation and management measures for the bottomfish fishery

The Territorial Bottomfish FMP will establish conservation and management measures utilizing the best scientific information available. The management measures will include monitoring of performance metrics and enforcement strategies. The measures in the FMP will be codified into regulations as part of Title 24 Chapter 9.

Goal 1: Establish conservation and management measures to effectively manage the bottomfish fishery complementing the federal management measures

Objective 1: Develop input and output control management measures supported by operational measures to monitor the performance of the management objectives
Objective 1.1: Establish size limits for priority fish species in 2 years.
Objective 1.2: Establish seasonal closures of priority species.
Objective 1.3: Establish limited entry for bottomfish.
Objective 1.4: Establish catch limits for the bottomfish fishery
Objective 1.5: Establish license and reporting requirements for fishers & dealers.
Objective 1.6: Establish vessel registration and notification procedures

Objective 2: Draft regulations to codify the conservation and management measures in the American Samoa Codes Annotated.

3. Background

A. Description of Fishery and its Setting

1. Physical Setting and Attributes

American Samoa is an unincorporated territory of the United States within the Samoa Archipelago and is located in the Southern Pacific Ocean over 4,000 km south of Hawaii (The World Factbook). The territory consists of five volcanic islands (i.e., Tutuila, Aunu'u, Ofu, Olosega, and Ta'ū) with steep, mountainous terrain and high sea cliffs in addition to two atolls (i.e., Swains Island and Rose Atoll) (WPRFMC, 2020). The total land area of American Samoa is around 200 km^2, which is accompanied by a coastline of 116 km and a surrounding Exclusive Economic Zone (EEZ) of approximately 390,000 km^2 (The World Factbook; WPRFMC, 2009). Tutuila Island, the largest (137 km^2) and most populous island in the territory, is characterized by a large amount of erosion, an extensive shelf area, offshore banks, and barrier reefs, with Aunu'u located just over a kilometer to the southeast. Pago Pago Harbor on Tutuila is one of the most sheltered natural deepwater harbors in the Southern Pacific (WPRFMC, 2009). Ofu and Olosega (13 km^2) are twin volcanic islands separated by the narrow and shallow Āsaga Strait in the reef flat between the two islands. Ta'ū (45 km^2) is the easternmost island in the territory and with relatively steeper slopes in the surrounding bathymetry; together, Ta'ū, Ofu, and Olosega comprise the Manu'a Islands group approximately 100 kilometers east of Tutuila. Swains Island (2.43 km^2) is an atoll that is not permanently inhabited with a central lagoon of 1.16 km^2. Rose Atoll (0.214 km^2) is an uninhabited island and a marine national monument with ~5 km^2 of lagoon and reef flats.

The climate of American Samoa is warm and tropical, with southeast trade winds that bring regular rainfall (WPRFMC, 2009). Due to its geographic location in the Southern Pacific Ocean, the territory also experiences tropical cyclones on one- to 13-year intervals, with several severe cyclones impacting American Samoa in recent history (WPRFMC, 2020) and the most recent being Tropical Cyclone Gita in 2018. Additionally, American Samoa has experienced several tsunamis due to its proximity to the geologically active Tonga Trench, with the most recent being in 2009 (WPRFMC, 2020).

2. Brief History of Fishery Development

Prior to Western contact in the 18th century, deepwater bottomfish in American Samoa were traditionally caught by indigenous residents for subsistence using canoes, hand-woven sennit lines with stone sinkers, and hooks from pearl shells (WPRFMC, 2009; WPRFMC, 2019; WPRFMC, 2020). By the 1950s, the fishery had transitioned to using vessels with outboard engines, steel hooks, and linen and monofilament fishing lines (WPRFMC, 2019). American Samoa's commercial bottomfish fishery began in the early 1970s with the assistance of a subsidy funded by the American Samoa Office of Economic Opportunity called the Dory Project. The subsidy established a boat building program that provided local fishermen with gasoline and diesel-powered wooden dories 24 feet in length capable of fishing in offshore waters with

bottomfish handlines using skipjack as bait. In 1978, an SPC master fisherman from their Deep Sea Fisheries development Project visited American Samoa to train local fishermen. Prior to his visit, local bottomfishing concentrated on the shallow-water snapper and emperor fishery using simple handlines. He introduced the FAO wooden hand reel and demonstrated how to anchor on the edge of the reef slope and scope out to the desired depth. These gears and techniques were quickly adopted allowing access to the deep-water snapper resources of the Territory for the first time. However, by 1980, a range of issues, including mechanical difficulties, caused the dory fleet to decline to a single vessel (Itano, 1996; WPRFMC, 2009; WPRFMC, 2019; WPRFMC, 2020).

The fishery showed signs of recovery in both fleet size and landings in the early 1980s. Light, outboard powered aluminum "Alia" catamarans 28 feet in length designed by the United Nations Food and Agriculture Organization were imported from Apia, Western Samoa that became the mainstay of the fishery. Local boatbuilders became active in modifying or constructing similar vessels and larger diesel powered mono-hull vessels began to exploit the deepwater snapper resources. These vessels allowed larger crews of fishermen make longer trips to increase catching power and allow for harvesting the higher value deep-water snapper species on the offshore banks and seamounts (Itano, 1996). Gears including grapnel anchors, polypropylene anchor line, and depth sounders were regularly used on boats around this time, and the introduction of the FAO wooden hand reel made deepwater snapper resources on the outer reef slopes of Tutuila and on the offshore banks accessible to fishermen (Itano, 1996). Fishery growth was supplemented by the government initiating subsidized fisheries development projects to train fishermen in the proper handling and export of deepwater snapper to Hawaii (Itano, 1996; WPRFMC, 2019). In the mid-1980s, the American Samoa bottomfish fishery had a maximum of 50 vessels landing over 100,000 pounds of bottomfish annually, accounting for nearly half of total catch of the territory's commercial fisheries (WPRFMC, 2019).

In 1988, bottomfishing in American Samoa began to decline again as skilled commercial fishermen shifted focus from bottomfish to trolling and small-scale longlining for albacore using manual reels fished from alia catamarans (WPRFMC, 2020). Offshore fishing banks gradually became more depleted and fuel prices continued to rise, resulting in additional declines of bottomfish landings in the late 20th century (WPRFMC, 2020). The average price of bottomfish declined due to imported bottomfish from Western Samoa and Tonga that competed with local supply (WPFMC, 2009; WPRFMC, 2020). The American Samoa bottomfish fishery also suffered due to effects from several large tropical cyclones impacting the territory over the past several decades (WPRFMC, 2020). A tsunami that impacted American Samoa in 2009 further exacerbated other recent declines in the bottomfish fishery, causing a fishery failure to be declared (WPRFMC, 2020). The deepwater snapper resources of the offshore banks and seamounts have not been commercially targeted since the fishery development decade of the 1980s.

The United States Congress allocated $1 million to help revive the fishery by repairing boats damaged by the tsunami, maintaining the floating docks used by alia boats, and building a boat ramp (WPRFMC, 2020). In 2019, NMFS released an environmental assessment for two related construction projects: building a boat ramp and ice house in Pago Pago Harbor (84 FR 32888). In 2014, the American Samoa government implemented an additional subsidy program

to provide financial relief to fishermen associated with rising fuel prices but discontinued the program after 2017 (WPRFMC, 2020).

Currently, the American Samoa bottomfish fishery is relatively small compared to the 1980s but still of importance to the local economy, as well as from socio-cultural and food security standpoints (WPRFMC, 2009; WPFMC, 2020). Fishing for bottomfish still primarily occurs from aluminum alias less than 32 feet in length using wooden hand reels that fish a vertical mainline with single or multiple baited hooks set near the seafloor, though a portion of finfish landings also come from spearfishing in mesophotic reefs and trolling in offshore waters (WPRFMC, 2009; WPRFMC, 2020; NOAA Fisheries, 2019a). Although the average price of bottomfish has generally increased over the past few years, the total trip costs for bottomfishing have increased over the same period (WPRFMC, 2020). Additionally, the recent Amendment 4 for the American Samoa Fishery Ecosystem Plan (FEP) reduced the number of species in the bottomfish management unit species (BMUS) complex from 17 to 11 (WPRFMC, 2018). The three species that are currently harvested most frequently in the fishery are bluestripe snapper (savane; *Lutjanus kasmira*), redgill emperor (filoa-paomumu; *Lethrinus rubrioperculatus*), and flame snapper (palu-loa; *Etelis coruscans*) (NOAA Fisheries, 2019b).

3. American Samoa Cultural Considerations

Dependence on Fishing/Historical Importance

With population increase through the 1990s and early 2000s, there has been a general decline in fishing effort as wage labor and the availability of imported foods has become prevalent in Tutuila but not in Manu'a (Levine and Allen, 2009; Levine and Sauafea-Le'au, 2013; Grace-McCaskey 2015). These general statistical patterns may mask the continued importance of access to fish at the village level, particularly for intermittent village-level ceremonies where formal presentation of fish continues to be significant and bottomfish continue to be desirable in the fa'asamoa context.

In 1996, a Samoan High Chief noted that “fish is culture” and that fish were central to the practice of fa'asamoa (Severance, 2010). In the 1980s and 1990s, certain larger bottomfish species including filoa (emperors), gatala (groupers), malauli (uluas) and palu sina and palu loa (eteline snappers) were still being formally cut with named parts and ceremonially distributed in order of rank of the people present in some Samoan villages (Severance and Franco, 1989; Severance et al., 2013). It is not clear whether such ceremonial cutting before presentation continues in some villages presently, but such events are intermittent, mostly village-based, and unlikely to be observed by visiting social researchers conducting interviews.

It is clear that the deepwater snappers and ulua are still highly valued, not only for taste, but for the prestige accruing to the extended family when they are presented to elders at family level fa'alavelave (i.e, ceremonies with food and gift presentations and exchange) (Suafo'a, 2020).

Continued access to bottomfish, even if intermittent and managed for cultural take around village or district wide cultural events, provides support for the expression and continuation of Fa'a Samoa, which is the primary symbol and ideology behind the social fabric and resilient cultural system in American Samoa (Kleiber and Leong, 2018).

Village/Matai System

Fa'asamoa is widely regarded throughout the Pacific as a rather unique form of cultural continuity and social stability in the face of massive colonial influence and economic change.

The key to understanding fa'asamoa and its immense cultural and social importance, along with the role of bottomfish in perpetuating fa'asamoa, begins at the village level with the aiga (bilateral extended family), the matai (elected family head and titled chief), the communal land tenure system, the village fono (council of chiefs), and the title system which includes matai titles and higher level titles. The system is mirrored to some degree by a complex system of higher titles at the district level (High Chiefs), and district-wide ceremonial events are of great importance. In addition, there is the larger fono (i.e., legislature) at the archipelago wide level that operates partly on fa'asamoa and partly as a western style legislature.

Almost all land in American Samoa is communally held by the aiga and managed by matai who manages both production and consumption of food and other resources, including the allocation of house sites to smaller families. It is a flexible, adaptive, and competitive system, and ceremonial display of food and other goods continues to be important at a variety of ceremonial occasions including weddings, funerals, title investitures, returns from overseas travel, etc. These ceremonial occasions can be at aiga level (i.e., the village level) or at higher, district wide levels. Also important are the faife'au (village pastor) and the pulenu'u (village mayor) who generally need to be asked permission by outsiders to access the beaches and shoreline, as they have the authority, along with the fono, to restrict and even close fishing on the reefs, reef slopes, and lagoons of the village.

Several villages have formalized a traditional system of effort controls through the DMWR supported system of community-based fishery management areas, which have measures that can range from species and gear restrictions to total closure. Village fono can fine other villages for resource violations made by their village members because the responsibility to care for the resources is both communal and effective.

American Samoans traditionally fished well offshore in specialized canoes and rowing vessels for skipjack tuna and other pelagics, including sharks. They had a general familiarity with all the bottomfish species, and some tautai (i.e., master fishermen) would have been able to target the deep slope snappers along the shelf edge that is almost entirely in territorial waters. It is, however, likely that the more distant offshore banks were not widely known until the attempts at commercial development of bottomfish fisheries beginning with the dory project.

There is a widely cited Samoan proverb that “the road to title is through tautua (i.e., service)”. Untitled men and women are organized into groups that function in producing food and other gifts, including bottomfish, that enter a complex and flexible exchange system where these items may be presented to matai. The matai may then present these gifts to higher level titleholders in the village or at larger events linking a cluster of villages, a district, or even the Eastern and Western Districts. Prestige accrues to the title holders (i.e., matai and higher) who can manage the support to produce foods and materials that are then presented and shared at a variety of intermittent and not always predictable ceremonial events.

Presentation of larger fish at a great variety of ceremonies increases the prestige of the aiga and increases the ability of an effective matai to seek higher level titles, which then enables him to provide greater support for his aiga. Hence, at least intermittent and perhaps culturally

managed access to fish, including bottomfish and especially redfish, remains important to the perpetuation of fa'asamoa and the social solidarity and cultural continuity it provides.

Upcoming ceremonial events require considerable organization and planning and can be conceived as effort triggers, since higher titled men may have the resources to maintain alias and other vessels and send them out when fish are needed for cultural events (Severance et al., 2013). The more recent social science literature focuses more on participation and statistics for the recorded catch and less on the important cultural significance of event-driven fishing and post-harvest distribution of fish flow into the community that are redistributed in ways that increase the prestige of the title-holders organizing the event. A Samoan member of a research team (Severance et al., 2013) created the valuable method of backtracking fish from the event through the distribution chain to the source, thus highlighting the cultural significance of individual fish for fa'asamoa. This creates an opportunity to develop a Samoan based management strategy that would allow Samoans to rank events and provide for a managed and limited cultural take that is monitored by the titled men of the district or community. This would be competitive, but that competitiveness is part of the nature of fa'asamoa.

B. Current State of Fishery Data Collection and Management

1. Data Collection

Shore- and Boat-Based Creel Surveys

Boat-based creel survey data collection focuses on the main docks or boat ramps in Fagatogo, Pago Pago, Vatia, and Faga'alu, while surveys are done opportunistically at Ofu-Olosega, and Ta'ū. Boat-based creel surveys follow a random stratified design, with stratification by survey area, weekday/weekend, and time of day, and the surveys involve two phases. The first phase measures the amount of participation on survey days by counting the number of boats "not on the dock", the presence of trailers, and identifies the type of gear being used. The second phase involves interviewing fishermen to document catch composition, catch per unit effort (CPUE), length-weight information, catch disposition, and some socioeconomic information while also measuring the length and weight of each fish identified to the species level. Surveys are scheduled for a minimum of 12 weekdays and two weekend days per month, with an "AM" and "PM" survey shift for each scheduled survey day.

Shore-based creel survey data collection follows the same general stratification scheme as the boat-based creel surveys, and randomly selects eight-hour periods and locations four to five times per week to conduct necessary runs. Survey locations include western Tutuila from Vailoa to Amanave, central Tutuila from Aua to Nu'uuli, and eastern Tutuila from Lauli'i to Tula, while Manu'a routes are relatively more complicated. Like the boat-based surveys, the shore-based surveys are divided into two phases, the participation phase and the catch interview phase. The participation run attempts to estimate the amount of participation by counting the number of fishermen along the shoreline and recording gear type, number of gears, and number of fishers. The catch interview phase occurs after the participation run, and documents catch composition, CPUE, length-weight information, catch disposition, and some socioeconomic information while also measuring the length and weight of each fish identified to the species level.

Complete documentation of the methodologies for both creel surveys in American Samoa are available in Oram et al. (2011a) and Oram et al. (2011b). The creel survey data are transcribed weekly into the Pacific Islands Fisheries Science Center (PIFSC) Western Pacific Fisheries Information Network (WPacFIN) database. Catch expansion is done at a stratum level through a simple algorithm to estimate total catch, effort, and CPUE. Expanded boat-based creel survey data summaries from WPacFIN are reported in the Annual Stock Assessment and Fishery Evaluation (SAFE) Report for American Samoa (WPRFMC, 2020) produced by the Western Pacific Regional Fishery Management Council.

Commercial Receipt Book Program

In accordance with the American Samoa Code Annotated (ASCA) § 24.0305, entities that sell any seafood products are required to report their sales to the DMWR. This is done through a receipt book system collected on the fifteenth day of every month. Information required to be reported are: (a) the weight and number of each species/species group of fish or shellfish received; (b) the name of the fisherman providing the fish or shellfish; (c) boat name and registration number, if applicable; (d) the name of the dealer; (e) the date of receipt; (f) the price paid per species; (g) the type of fishing gear used; (h) whether the fish or shellfish are intended for sale are in fresh, frozen, or processed form; (i) which fish or shellfish were taken within/outside of territorial waters; and (j) other statistical information that the DMWR may require.

Electronic Reporting

At the request of the bottomfishers in a fishing community meeting on October 2019 to enable them to self-report their fishing information, the Council developed an electronic reporting system called Catchit Logit to support the small boat fishing community. The Catchit Logit application suite is comprised of an administrative application that manages the user accounts, a fisher application that collects the fishing information, and a vendor application that connects the fish catch and sales information to determine the amount of fish that enters commerce and collect economic data. This electronic reporting platform removes the need to rely on expansions of creel survey data as long as all boat-based fishermen consistently report their catch, effort, and sales information. The platform also makes the data collection near-real time. The electronic reporting can also serve to validate the information collected in the creel surveys.

Other Data Streams

Other sources of information are available to help monitor the American Samoa bottomfish fishery. An annual boat inventory is being conducted by the DMWR to track down fishing boats and determine their ownership to provide information on how many boats are potentially available to engage in the fishery (WPRFMC, 2020). PIFSC also conducts several forms of data collection relevant to the bottomfish fishery. Every five years, PIFSC administers a socioeconomic survey to small boat fishermen in American Samoa consisting of about 60 questions regarding fishing experiences, market participation, vessels and gear, demographics and household income, and fishermen perspectives (WPRFMC, 2020). Visual surveys generating fish biomass estimates are conducted by the PIFSC Ecosystem Sciences Division (ESD) as part of the Pacific Reef Assessment and Monitoring Program (RAMP) (WPRFMC, 2020). Additionally, the PIFSC Bio-Sampling Program collects samples like otoliths and gonads from priority species in the bottomfish fishery to generate information on life history (WPRFMC,

2020). Finally, PIFSC provides various climate variables deemed relevant for data integration analysis on their potential impact to the fishery.

2. Existing Territorial Management Measures

Regulations governing fishing activities and harvest of marine resources are generally found in the ASCA, Title 24, Chapter 9. There are several instances where local regulations have nexus with federal requirements.

Annual Proclamation

Territorial regulations pursuant to ASCA § 24.0908 allows the Director of the DMWR to issue a proclamation establishing seasons, area and gear restrictions, license and permit fees, harvest limits for the taking of fish and shellfish on an annual basis.

Licensing and Permitting

Territorial regulations pursuant to ASCA § 24.0980 through 24.0981 do not require permits or licenses for non-commercial take of bottomfish in American Samoa. A commercial fishing license is required for all fishermen engaging in commercial fishing in American Samoa.

Gear Restrictions

Territorial regulations pursuant to ASCA § 24.0920 through 24.0933 prohibit the use or possession of certain fishing gears in fishing areas. Fishing with explosives, poisonous substances, and electrical devices are illegal.

Fishing using SCUBA gear is permitted only with the use of hand take or spear, and catch is limited to two fish of legal size/weight or a maximum of five pounds if more are caught. SCUBA gear may not be used at nighttime.

Fishing with hand nets is permitted if the frame opening does not exceed a diameter of three feet. Cast nets may be used for fishing if the stretched mesh size is greater than 0.75 inches. Gill nets may be used for fishing if the stretched mesh size is greater than 1.5 inches, the length of the deployed net(s) is less than 700 feet, the gill nets are not deployed within 50 feet of one another, the gill nets are not abandoned, the gill nets do not pose a hazard to navigation, the gill nets are not deployed in water greater than 60 feet deep, and the gill nets are cleared of fish at least every three hours. The use of drift gill nets is prohibited. Seines, surround nets, and drag nets are permitted if they have a stretched mesh size of at least 1.5 inches, though this restriction does not apply to traditional surround nets (lau).

Fish weirs may be used if an appropriate permit is obtained from the DMWR.

Fish traps may be used if their diameter does not exceed six feet in any linear dimension, the traps are checked at least every 24 hours, the traps do not pose a hazard to navigation, and the traps are not abandoned. Fish traps may be used commercially if an appropriate permit is obtained from the DMWR.

Species Prohibitions

Territorial regulations pursuant to ASCA § 24.0951 through 24.0964 prohibit the take of certain species of fish and invertebrates. Specifically, the take of coral, live rock (without a valid

permit), ornamental shells (without a valid permit), mangrove crabs (egg bearing and less than six inches), coconut crabs (egg bearing and less than three inches), slipper (egg bearing and speared or snagged) and spiny lobsters (egg bearing, three and one-eighth inches), sharks, humphead wrasse, bumphead parrotfish, and giant grouper is prohibited. Additionally, territorial regulations under ASCA § 24.0960 through 24.0961 prohibit the take of marine mammals and sharks in American Samoa.

Spatial Management

In conjunction with federal regulations, territorial regulations under ASCA § 24.0910 through 240912 prohibit fishing activities in Fagatele Bay National Marine Sanctuary consisting of all lands and waters of Fagatele Bay from the mean high water line seaward to a line extending from Fagatele Point to Steps Point. The National Marine Sanctuaries in American Samoa are federally managed areas within territorial waters thus the federal regulations are mirrored in the local regulations

Additional Marine Managed Areas (MMAs) by the territory itself include Pago Pago Harbor, Nu'uuli Pala Lagoon, Leone Pala Lagoon (ASCA § 26.0221), and Ofu-Vaoto Marine Park (ASCA § 18.0214) (Raynal et al., 2016). Under DMWR, this includes the American Samoa Community-Based Management Program (pursuant to ASCA § 24.1001 through 24.1029). The federal (see Section 2.B.iii), territorial, and village-based management groups oversee 35,203 km^2 of MPAs across 27 sites (Raynal et al., 2016). These various spatial management areas have different levels of protections as described by their respective management plans.

Community-Based Management Program

Pursuant to ASCA § 24.1001 through 24.1029, the American Samoa community-based management program (CFMP) was established to improve fishing and the stewardship of marine resources in villages in response to issues such as the use of destructive fishing gears and growing pressure on the marine environment due to an increasing population (Sauafea-Ainu'u, 2002). The CFMP assists villages in managing marine resources through a voluntary co-management scheme with the DMWR. Village sites are identified to establish village marine protected areas alongside village fishery management plans and monitoring (Levine and Richmond, 2014). The village establishes rules and regulations for their management plan, including restrictions to fishing and access, and the DMWR provides technical assistance, workshops, and training (Levine and Allen, 2009). Villages utilizing the CFMP as of 2014 are shown in Table 1.

Table 2. Villages involved in American Samoa's CFMP as of 2014 (from Levine and Richmond, 2014).

Village	CFMP Started	Management Status
Alofau	2001	Open for fishing 1 day/week (Saturday) by villagers only
Amaua & Auto	2003	No-take for 3 years, open again for 1 month, closed again. Currently open to villagers only to fish
Aoa	2005	No-take as of early 2008. Previously only open 1 day/week (Saturday)
Fagamalo	2003	No-take area designated in village, permanent no-take

		area designated adjacent to village waters
Matu'u & Faganeanea	2005	Closed for 3 years, open periodically (at chief's discretion) to villagers only
Amanave	2008	Closed to everyone. In the process of finishing management plan. Village largely destroyed by 2009 tsunami
Poloa	2001	Only villagers allowed to fish
Sa'ilele	2005	No-take in village waters
Tau	2011	Officially a CFMP village in 2012. A portion of their reef was designated as a no-take area for 3 years, but this is no longer in place and is under reconsideration
Vatia	2001	No-take. Reserve was opened 1.5 years ago for 3 months, then closed again.

3. Existing Federal Management Regulations

Federal regulations for fisheries management in American Samoa are governed by the MSA and are primarily established by the U.S. Fish and Wildlife Service, the National Oceanic and Atmospheric Administration, and the Western Pacific Regional Fishery Management Council. The Council developed the American Samoa Archipelago Fishery Ecosystem Plan (FEP) in 2009 consistent with the MSA and its National Standards for fishery conservation and management.

Annual Catch Limits

The following description of the ACL was adapted from the 2019 Annual SAFE Report for American Samoa (WPRFMC, 2020), originally generated using information from Amendment 2 to the American Samoa FEP (WPRFMC, 2011). The Council uses a tiered system of control rules for the specification of ACLs and accountability measures (AM) in the Western Pacific region. The process uses stock assessments, published reports, and available data and categorizes them into different tiers in the control rule, ranging from Tier 1 (i.e., most information available, typically a stock assessment) to Tier 5 (i.e., catch-only information). For Tiers 1 through 3, a Risk of Overfishing Analysis is conducted to quantify scientific uncertainties to specify the ABC by lowering a maximum sustainable yield (MSY)-based OFL. A Social, Ecological, Economic, and Management (SEEM) Uncertainty Analysis is conducted to quantify uncertainties associated with SEEM factors and lower the ABC to an ACL. For Tier 4 (i.e., stocks with MSY estimates but no active fisheries) the control rule is 91% of the MSY. For Tier 5, the control rule is a one-third reduction in the median catch. ACL specifications can be done with a variety of methods including the SEEM analysis, a percentage buffer (i.e., percent reduction from the ABC based on expert opinion), or the use of an Annual Catch Target (ACT). Specifications are done on an annual basis, but the Council normally produces a multi-year specification.

The AM for American Samoa bottomfish fisheries is an overage adjustment. The next year's ACL is downward adjusted with the amount of overage from the previous ACL based on a three-year running average.

The specified ACL for American Samoa BMUS was 106,000 lbs. for 2015 to 2018 (Table *3*). The estimated three-year average catch ranged from 13 to 17.5% of the specified ACL over this period. The ABC was equal to the ACL for each of the years an ACL was specified. There was no new ACL for American Samoa BMUS in 2019 due to new information that was presented in the recent stock assessment (Langseth et al., 2019).

Table 3. ACLs, three-year average catch estimated from boat-based creel surveys, and the proportion of the ACL harvested for American Samoa BMUS from 2015-2019

Year	ACL (lbs.)	Estimated Three-Year Average Catch (lbs.)	Harvest Extent (%)
2015	106,000	13,748	13.0
2016	106,000	18,273	17.2
2017	106,000	18,542	17.5
2018	106,000	15,352	14.5
2019	N.A.	12,614	N.A.

Gear Restrictions

The American Samoa FEP and implementing regulations under 50 CFR 665.104 prohibit the use of bottom trawls, bottom-set gillnets, poisons, explosives, and other intoxicating substances for harvesting bottomfish.

Permits and Fees

Currently, there are no Federal permit or reporting requirements for bottomfish in American Samoa. A special permit is required to harvest Coral Reef Ecosystem Component Species (CRECS) in federal waters pursuant to 50 CFR 665.124. A reporting requirement is imposed on those that obtained the permit to harvest CRECS in federal waters. In accordance with 50 CFR 665.126, any special permit holder subject to the requirements of this subpart must contact the appropriate NMFS enforcement agent in American Samoa, Guam, or Hawaii at least 24 hours before landing any American Samoa coral reef ECS harvested under a special permit and report the port and the approximate date and time at which the catch will be landed.

Spatial Management

Presidential Proclamation 8337 established the Rose Atoll Marine National Monument and its boundaries. According to federal regulations under 50 CFR 665.960 through 665.966, no commercial fishing is permitted in the Rose Atoll Marine National Monument consisting of emergent and submerged lands and waters extending seaward approximately 50 nm from Rose Atoll (i.e., “the Monument”). Non-commercial fishing (including sustenance and traditional indigenous fishing) is prohibited within 12 nm from emergent land within the Monument. Additionally, Rose Atoll National Wildlife Refuge was established in 1973 through a cooperative agreement between the Territory of American Samoa and the U.S. Fish and Wildlife Service (USFWS). USFWS regulations governing access and uses within National Wildlife Refuges can be found in 50 CFR Part 32.

Federal regulations under 15 CFR 992.100 through 992.107 prohibit fishing activities in Fagatele Bay National Marine Sanctuary, which was designated in 1986. Other areas managed

by the National Marine Sanctuaries of American Samoa include Aunu'u, Fagalua/Fogāma'a, Ta'ū, Swains Island, and Muliāva Management Areas (Raynal et al., 2016). Additional MPAs include those managed by the National Park Service of American Samoa (Fagasā, Ofu National Park, and Ta'ū National Park) (Raynal et al., 2016).

Large regulated fishing areas and MPAs, including Rose Atoll Marine National Monument, are shown in Figure 1.

Potential for Protected Species Interactions

Federally, the current classification on the List of Fisheries for the American Samoa bottomfish fishery is category 3, indicating remote likelihood of/no known incidental death or serious injury to marine mammals. No mortality or serious injury of marine mammals has been reported in the fishery, and the fishery is expected to have a remote likelihood of marine mammal interactions based on its similarity to the Hawaii bottomfish fishery (NOAA Fisheries, 2019a).

Additional FEP Considerations and Amendments

The American Samoa Archipelago FEP provides the framework under which the Council manages fishery resources using ecosystem-based approaches, identifies management unit species, and consolidates existing fishery regulations for American Samoa. At its 164th meeting in 2015, the Council adopted a living document approach to organizing the American Samoa Archipelago FEP, and revised goals and objectives were adopted at its following meeting in 2016. The FEP describes the management program for the American Samoa bottomfish fishery, including the application of National Standard 1.

The application of National Standard 1 to the American Samoa bottomfish fishery involves the use of overfishing criteria and control rules for the BMUS stock complex as a whole. The MSY control rule uses reference points specified in Restrepo et al. (1998) that are dependent on the natural mortality rate. A secondary set of reference points are used to evaluate stock status with respect to recruitment overfishing. The applications of these control rules are further described in the American Samoa Archipelago FEP. In the case that overfishing or a bottomfish stock is determined to be overfished, the Council will establish additional management measures, which may include area closures, seasonal closures, limited access systems, and/or catch and effort limits.

Several amendments to the American Samoa Archipelago FEP have been generated since the FEP was developed. Amendment 1 to the American Samoa Archipelago FEP (75 FR 54044) established eligibility requirements and procedures for reviewing and approving community development plans (CDPs). The intent of the amendment is to promote participation in fisheries that the island community has traditionally depended on but may not be able to support. The MSA established the Western Pacific Community Development Program, for which this FEP amendment describes alternatives for mechanisms to inform communities as well as solicit, receive, review, and approve community development plan proposals.

Amendment 2 to the American Samoa Archipelago FEP (76 FR 37285) established a mechanism for specifying ACLs in accordance with the reauthorization of the MSA using advisory guidelines under 50 CFR §600.310 (74 FR 3178) published by NMFS. ACLs are to be

specified such that overfishing does not occur, and accountability measures (AMs) are implemented to ensure adherence to the ACLs. The ACL and AM mechanism described in the FEP amendment was informed by fishery scientist, managers, policy analyses, and participants, and was designed to ensure the long-term sustainability of fishery resources. The ACL specification process is further described in Section 3.D.i.

Amendment 3 to the American Samoa Archipelago FEP (78 FR 32996) established management measures for non-commercial and recreational fishing within Rose Atoll Marine National Monument and prohibited commercial fishing within the monument in accordance with Presidential Proclamation 8337. Fishery permit eligibility was limited to residents and businesses of fishing communities local to Rose Atoll. Customary exchanged was allowed for non-commercial fishing in the monument to help preserve traditional indigenous and cultural fishing practices; the FEP amendment also more explicitly defined customary exchange. All fishing within 12 nm of Rose Atoll was prohibited.

Amendment 4 to the American Samoa Archipelago FEP (84 FR 2767) reclassified certain MUS, including some BMUS, as ecosystem component species. Pursuant to National Standard 1, ecosystem component species are stocks that are included in the FEP to achieve ecosystem management objectives, but do not require conservation or management (50 CFR 600.305(c)(5)). The reclassification of certain MUS as ECS was intended to allow the Western Pacific Regional Fishery Management Council and NMFS to better prioritize monitoring, assessment, and management resources for species in Federal fisheries while preserving the role of other species in the ecosystem. The FEP amendment reduced the number of MUS from 205 to 11 in American Samoa, all of which are BMUS. There were previously 17 BMUS in American Samoa.

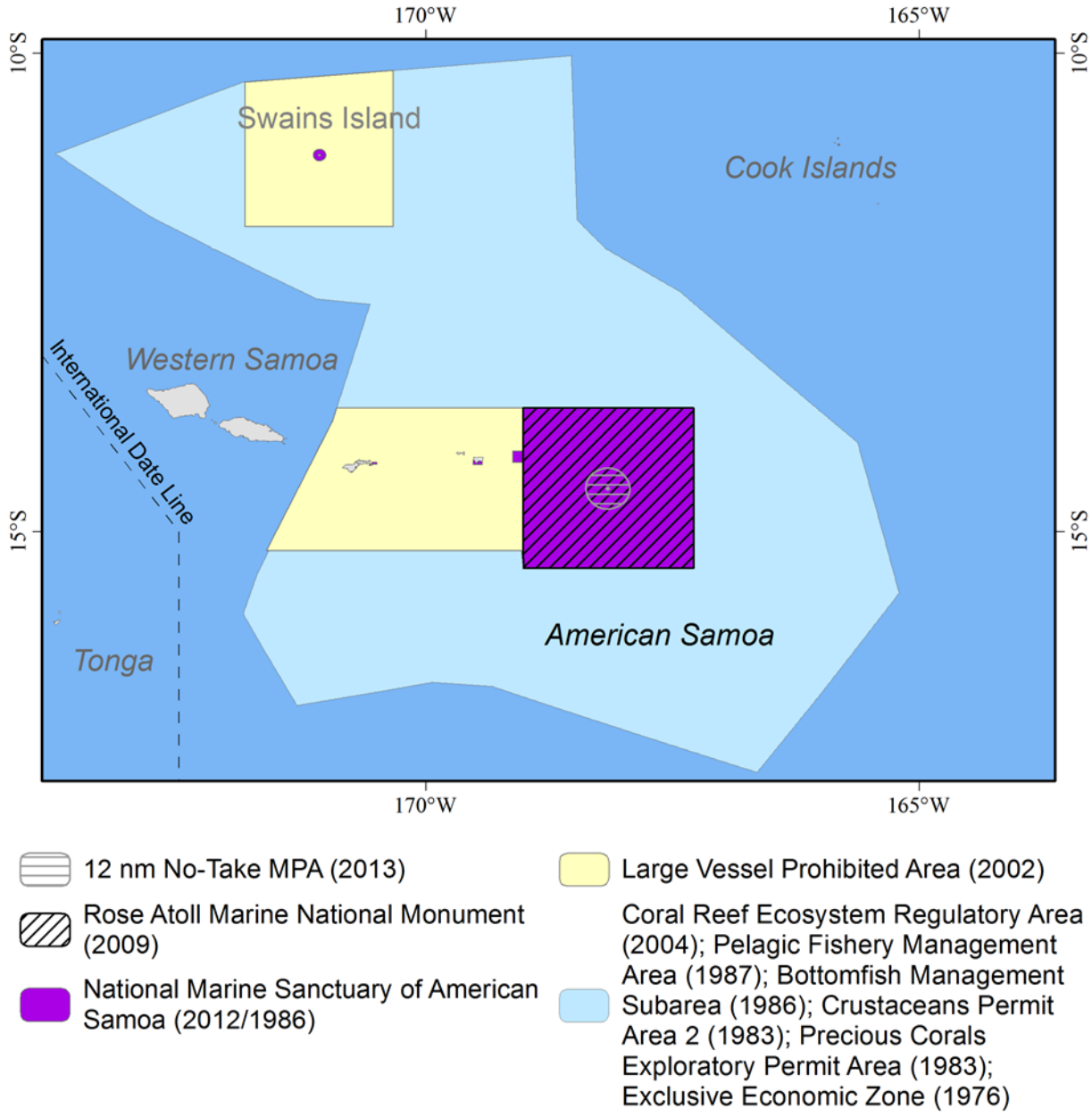

Figure 1. Large regulated fishing areas of American Samoa (from WPRFMC, 2020)

4. Current State of the Fishery and Stock Status

A. Trends in Effort and Participation

All presented data for effort and participation were taken from the 2019 Archipelagic Annual SAFE Report for American Samoa (WPRFMC, 2020). The estimated total number of bottomfishing trips in the American Samoa boat-based fishery has been increasing over the course of available data from 1989 to 2019 but had a slight decreasing trend since 2015 (Figure 2). The estimated total number of trips was 58 in 2019, a decrease from historical averages. The estimated total number of gear hours in the American Samoa boat-based bottomfish fishery has increased over time but had a notable decrease from its time series maximum in 2016 (Figure 2). The estimated total number of gear hours was 1,469 in 2019, which also represents a decrease from historical averages. The estimated number of unique vessels participating in the boat-based bottomfish fishery in American Samoa from creel survey interview data has a slight increasing trend over time, but has decreased notably over the past three years (2017-2019) to six vessels (Figure 3). The estimated average number of fishermen per bottomfishing trip in the American Samoa boat-based fishery has been relatively consistent from 1989 to 2019, with three fishers being the most frequently observed value; the overall trend shows a slight increase, however, due to the estimate of six average fishers per trip in 2017 (Figure 4).

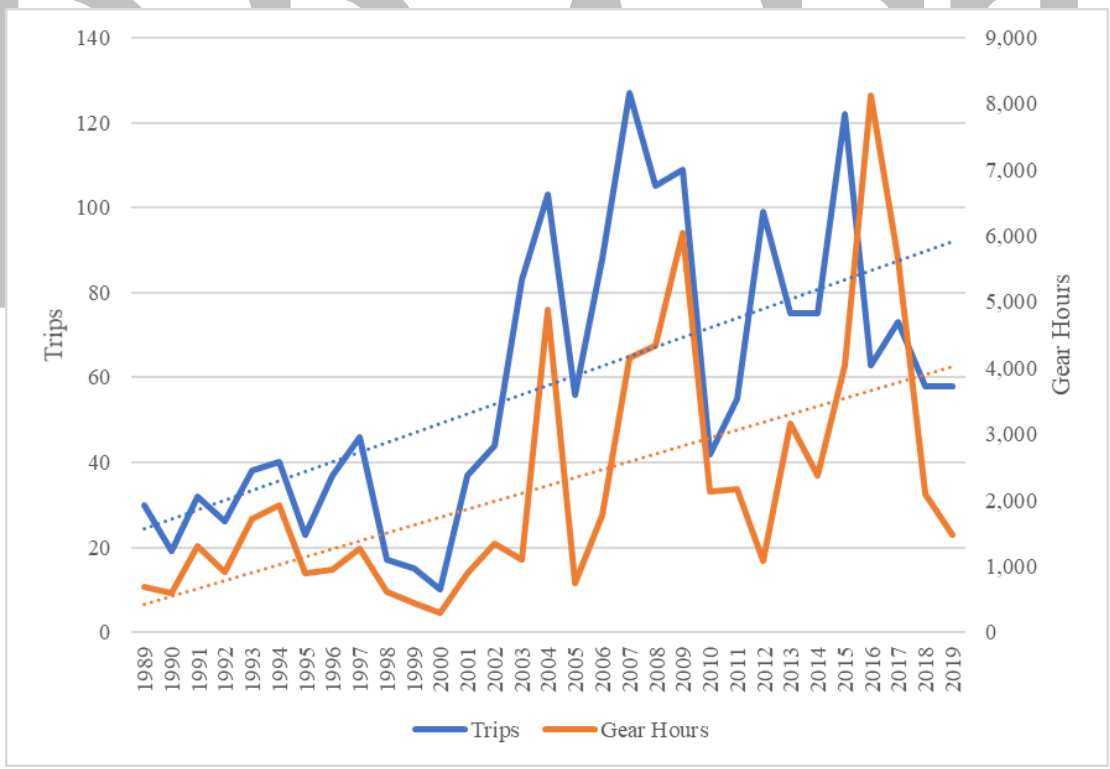

Figure 2. Estimated number of trips and gear hours for bottomfishing gears in the American Samoa boat-based fishery from 1989-2019

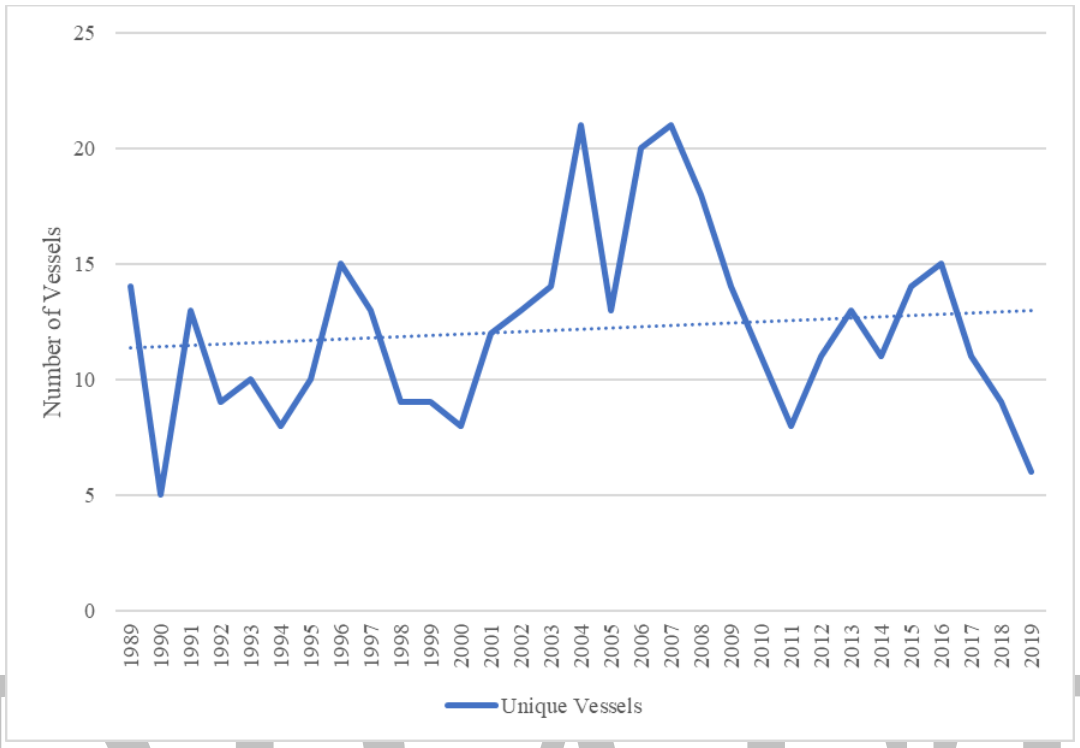

Figure 3. Estimated number of unique vessels using bottomfishing gears in the American Samoa boat-based fishery from 1989-2019

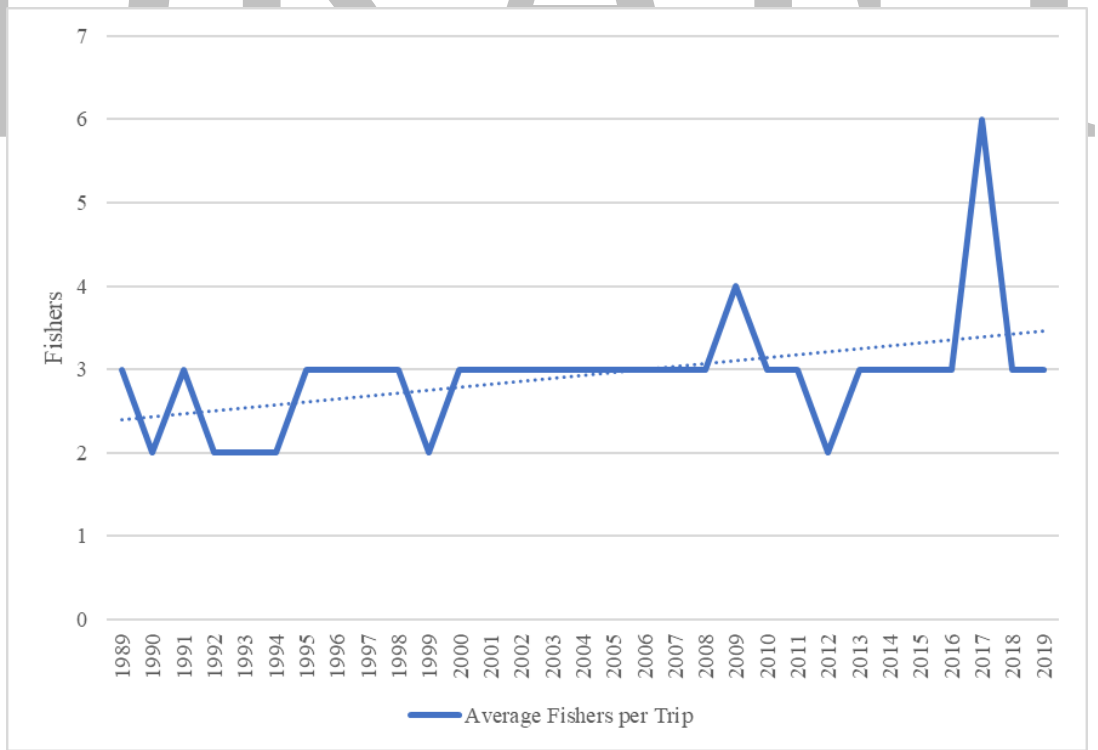

Figure 4. Estimated number of average fishermen per trip bottomfishing in the American Samoa boat-based fishery from 1989-2019

B. Trends in Status of Target Species

All presented data for catch and CPUE were taken from the 2019 Archipelagic Annual SAFE Report for American Samoa (WPRFMC, 2020). Estimated total catch of American Samoa BMUS has slightly declined over the course of available data with notable variability, and has been decreasing since 2016 (Figure 5). The estimated total catch in 2019 was 11,093 pounds from boat-based creel survey data and 1,402 pounds from the commercial purchase database, representing declines from historical averages. The time series maximum was 34,388 pounds in 2009, and the time series minimum was 2,099 pounds in 2012. Estimated CPUE measured in both pounds per trip and pounds per gear hour have declined from 1989 to 2019, though the observed decline has been greater for CPUE measured in pounds per gear hour despite a recent uptick from 2016 to 2019 (Figure 6). In 2019, the estimated CPUE in pounds per trip was 66 and the estimated CPUE in pounds per gear hour was 2.39. The time series maximum for CPUE measured in pounds per trip was 320 in 2009, and the time series maximum for CPUE measured in pounds per gear hour was 6.87 in 1989. The time series minimum for CPUE measured in pounds per trip was 54 in 2012, and the time series minimum for CPUE measured in pounds per gear hour was 0.59 in 2016.

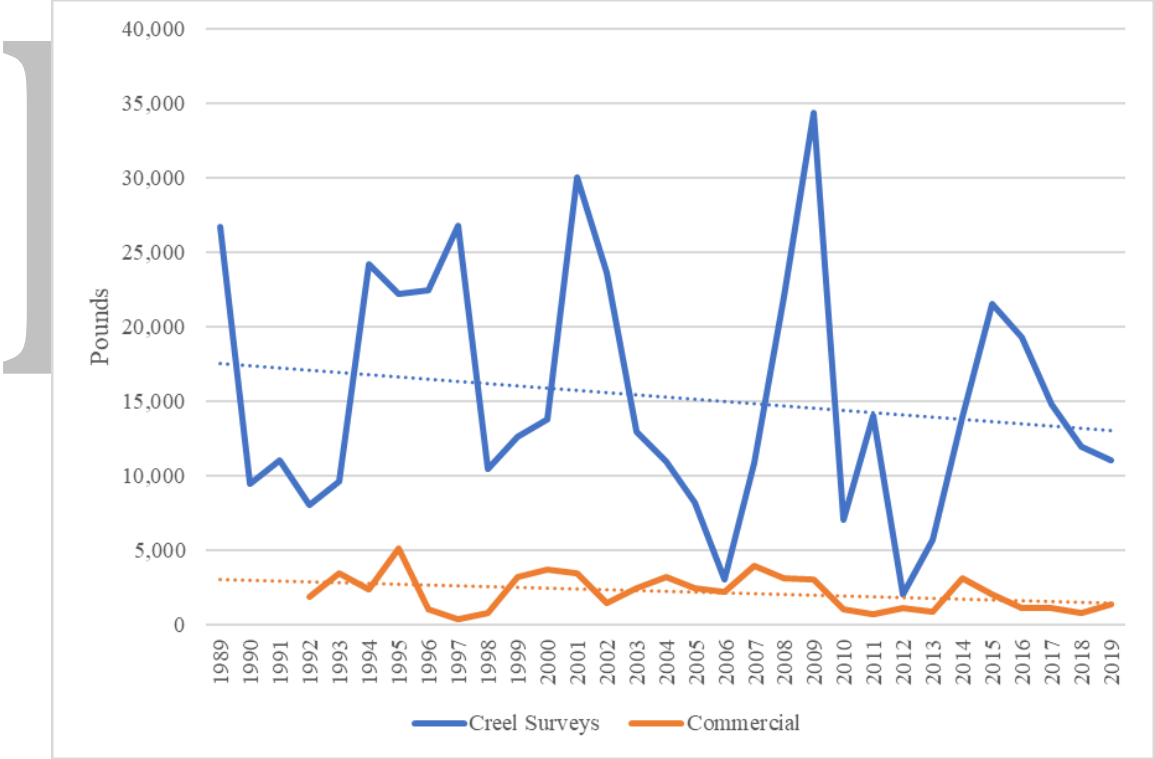

Figure 5. Estimated catch of American Samoa BMUS from expanded boat-based creel surveys and the commercial purchase database from 1989-2019

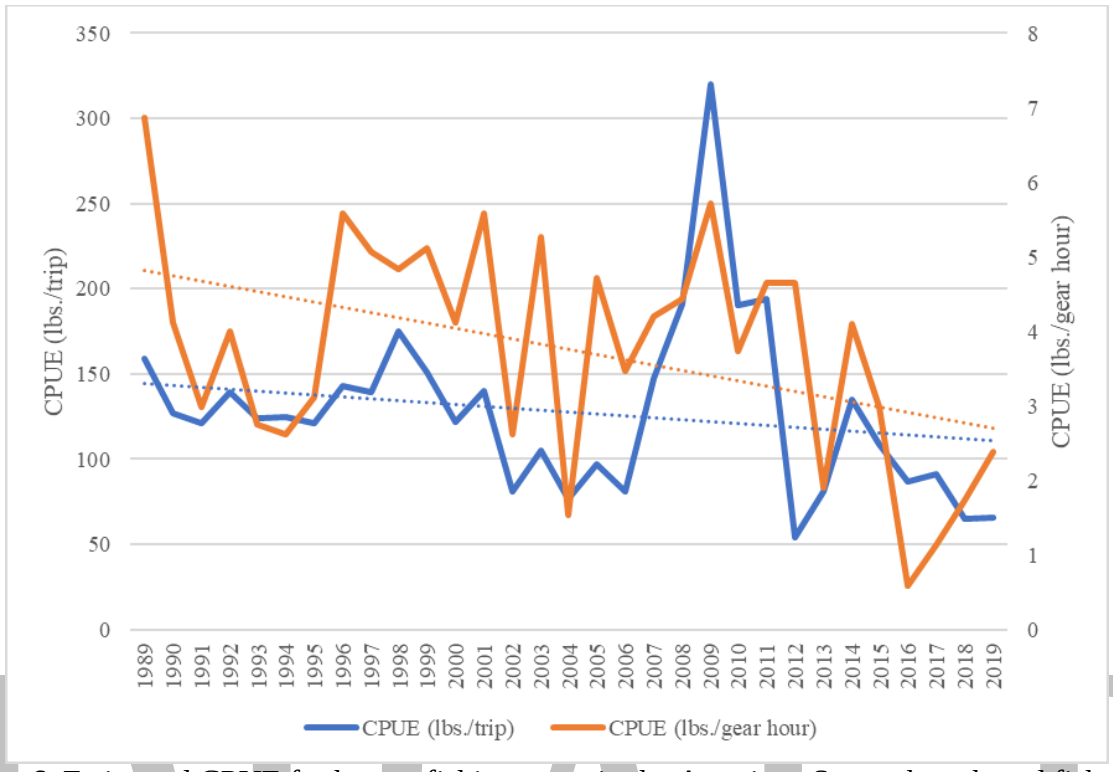

Figure 6. Estimated CPUE for bottomfishing gears in the American Samoa boat-based fishery from 1989-2019

There has been no recorded bycatch in fishery for American Samoa BMUS since 1992 (WPRFMC, 2020), and only one instance of a single fish being released in the entire bottomfish fishery over the same period (Michael Quach, pers. comm.).

C. Current Stock Status

The most recent stock assessment for American Samoa BMUS (Langseth et al., 2019) used data from the shore- and boat-based creel surveys as well as the Commercial Purchase Database program through 2017. The assessment showed that the bottomfish catch that would produce a 50% probability of overfishing in 2025 for American Samoa BMUS was 8,000 lbs., and the estimated catch in 2017 was 15,922 lbs. The assessment utilized reference points including the harvest rate associated with overfishing as determined by the harvest control rule (H_{CR}), maximum sustainable yield (MSY) and biomass at MSY (B_{MSY}). The conditions for the stock to be overfished ($B<0.7*B_{MSY}$) and experiencing overfishing ($H/H_{MSY}>1$) were shown to be met according to reference points derived from available data, so the assessment determined to American Samoa BMUS stock to be both overfished and experiencing overfishing (Table 4).

D. Best Scientific Information Available

On January 10, 2020, PIFSC issued a memorandum to PIRO making a determination on the Best Scientific Information Available for the bottomfish management unit species of American Samoa. This memo indicated that the benchmark assessment by Langseth et al 2019 is BSIA. This memo triggered a series of actions on the part of the agency and on February 10,

2020 PIRO issued a memo to the Council Chair on the change in stock status from not overfished and not subject to overfishing to overfished and subject to overfishing.

The Council is required to address the overfished and overfishing status in collaboration with the American Samoa Government since a significant portion of the fishery occurs in Territorial waters. In order to attain effective management of the stock, the federal action by the Council should be congruent with the measures described in this FMP.

Table 4. Stock assessment parameters for the American Samoa BMUS complex (table taken from WPRMFC, 2020; parameters taken from Langseth et al., 2019)

Parameter	Value	Notes	Status
MSY	28.8 (16.4-55.9)	Expressed in 1,000 lbs. (with 95% confidence interval)	
H_{2017}	0.15	Expressed in percentage	
H_{CR}	0.107 (0.044-0.228)	Expressed in percentage (with 95% confidence interval)	
H/H_{CR}	2.75		Overfishing occurring
B_{2017}	102.6	Expressed in thousand pounds	
B_{MSY}	272.8 (120.8-687.4)	Expressed in 1,000 lbs. (with 95% confidence interval)	
B/B_{MSY}	0.38		Overfished

5. Proposed Management Measures

A. Mandatory Reporting

Current regulations require commercial fishermen to obtain a commercial permit from the DMWR. This proposed measure, through enforcement of ASCA 24.0306, would require the commercial fishermen, as part of their permit, to report their catch to the DMWR through the electronic reporting application (see Section 2.B.i.c.) and also be subject to a mandatory catch interview when encountered by the DMWR data collectors. The fishermen are required to to turn in their electronic reports upon arrival to the port prior to selling their catch to vendors. The sales transaction should also be reported in the electronic reporting application. For commercial fishermen and vendors who have limited access to wifi or electronic mobile devices, DMWR shall provide a paper logbook for recording fish catch and sales. The fishermen are required to turn in the log sheets within 7 days upon returning from the fishing trip.

B. Dealer Licensing

Current regulations require the fish purchasers (with business licenses obtained from the Department of Commerce) to report their fish purchases from fishermen. This proposed measure would require the fish purchasers to register to the DMWR to obtain an account for the electronic reporting system, which will be used to link fish catch reports to fish sales tickets. This measure

would enhance the tracking of bottomfish as to whether the fish enter commerce or get consumed for non-commercial purposes including community or cultural events.

C. Vessel Registration and Notification

Current regulations require marine vessel owners to register their boats at the Department of Public Safety Marine Patrol Division. The information is shared with the DMWR to monitor active and inactive vessels. Vessel activity is also verified through the creel survey system, which records whether a vessel went out to fish. This proposed measure will require fishing vessel owners to disclose whether they intend to fish for bottomfish within the American Samoa EEZ and describe the disposition of the catch (i.e., whether it is for commercial purposes or intended to be shared to the community for a cultural event). The deepwater snappers are important for the Samoan cultural events, particularly the sharing of the different parts of the red fish to the chief(s) and members of the community.

The proposed measure would also require registered vessels to notify the DMWR that they would be fishing the offshore banks 24 hours prior to departure. The vessel shall notify the DMWR of their expected arrival time for the data collectors to capture the catch information. The vessel will be required to report their catch in the electronic reporting application or be subject to a mandatory catch interview.

D. Seasonal and Area-Based Management

Current regulations identify federal and community-based fishery management areas around American Samoa. This proposed measure would implement seasonal and area-based closures to reduce the fishing mortality. The DMWR, working with the bottomfishing community, shall determine the period and areas (including areas outside the CFMP e.g. offshore banks) upon which bottomfishing will be closed to reduce the catch.

E. Catch-Based Management

To the extent possible, catches of bottomfish within Territorial waters will be managed under a catch limit based on the best scientific information as determined by the DMWR. Catches will be monitored through the creel survey and the electronic reporting system, and the DMWR, through the Annual Proclamation, shall determine the closure date if the limit will soon be exceeded.

The territorial catch-based management may consider the federal ACLs as the basis for the quota in order to be consistent with the federal regulations. This management measure will require intensive monitoring of the bottomfish catch in order to close the fishery in a timely manner and avoid exceeding the limit. This will be done through the methods described in 3.A. and 3.F.i

DMWR acknowledges that the catch-based management would be the most restrictive measure in the FMP and the most logistically-demanding. If the federal ACL management through the rebuilding plan (WPRFMC, in prep) and the Territorial Bottomfish FMP catch-based management measures are fully implemented and enforced, the bottomfish stock in American Samoa will be rebuilt within 10 years. This is the shortest time possible that the stock will be

rebuilt but this would severely limit the catch of the bottomfish fishery thus will create a significant impact to the communities relying on bottomfish species.

The Department has authority over the management of the bottomfish stock within the territorial waters and could implement other catch-based management systems independent of the federal ACLs. The Department shall consider the needs of the fishing community first to perpetuate its cultural values where the resource is shared with the village. The Department, if a catch-based system is selected, will be determining what the level of catch would be in consultation with the fishing community.

F. Size-Limits

Size limits for priority species will be established to ensure population viability. Available species-species length estimates from the creel survey, biosampling, and the Key Reef Species Program will be used to derive the L-50 for priority BMUS species to be identified by the department. The recommended size-limits will be vetted through community meetings (ASCA 24.0304(a)(9)). The size limits will be established according to the powers and duties of the department to manage, protect, preserve and perpetuate the marine and wildlife resources in the Territory (ASCA 24.0304(a)(1)).

6. Implementation

A. Monitoring

In order to enhance the collection of fishery information, the DMWR shall be enforcing ASCA 24.0306 that every fisherman who sells fish taken from the waters of the Territory to persons not licensed to sell fish shall fill out the receipt book. In this case, the electronic reporting app will be used to report their catch. An Annual Proclamation shall be issued by the Director (ASCA 24.0908) that would require a license for fishermen fishing for bottomfish and as part of the license is a requirement to report or be subject to data collection by DMWR staff.

The monitoring of the bottomfish fishery will be done through three systems for validation purposes. The main system will be through the boat-based creel survey. DMWR staff conduct regular participation and catch interviews for all fisheries. Special attention will be given to the bottomfish fishery. The data shall be transcribed to the boat-based creel database system at the end of the work week complete with QA/QC. The data shall be compiled until there is sufficient data to generate a credible BMUS catch estimate. DMWR shall request PIFSC WPacFIN to provide the estimate of catch at a frequency determined by the department to properly monitor the performance of the bottomfish fishery. The same process will be applied to the Commercial Receipt Book Program.

The fishery performance shall be reported to the Governor during the cabinet meetings. This would also be part of the Island Report to the Council at its regular meetings.

The department, in coordination with the Council, will also be monitoring the catch using CatchIt LogIt. The department shall work with Council staff in summarizing the bi-weekly reports on catch and effort. This will be reported as part of the Island Report to the Council.

B. Review

The objectives of this bottomfish FMP will be reviewed every 3 years. Fishery performance indicators will be developed which may include but not limited to: 1) stock status; 2) commercial and non-commercial catch trends; 3) fishery ex vessel value; 4) number of fishery participants; 5) number of trips; 6) number of enforcement citations; and 7) number and type of outreach activities about the fisheries. This will be reported to the governor's office on an annual basis and as part of the Island Report to the Council.

C. Enforcement

The department shall task the Enforcement Division to enforce the provisions of the Bottomfish Fishery Management Plan. Enforcement Officers shall conduct routine inspection of catch for BMUS species on the boat ramps, ports, marinas, and docks. Officers shall inspect the fishing license and interrogate if they submitted their data through the electronic reporting system. Fishermen with a license but have no ER account will be encouraged to participate in the ER training. Their contact information will be taken and provided to the data collection staff to include in the list of fishermen for training follow up. Fishermen and vendors who are not in compliance with the FMP requirements will be fined as determined by the department.

The Enforcement Division shall be monitoring the marine managed area for bottomfishing activities during the closed season. Violators shall be subject to fines determined by the department.

Regarding vessel registration and notification, the Enforcement Division, in their regular rounds of inspection, shall verify if the vessel is registered in the DPS vessel database and whether, upon arriving, they have notified DMWR on their fishing trip. Failure to meet the requirements will be subject to a fine determined by the department.

D. Outreach and Education

Educating and informing the communities on the importance of managing the bottomfish stock is critical to get support from the fishing community and enhance compliance. The department shall hold community meetings with assistance from the Council to brief the community on the status of the bottomfish resources and the importance of providing accurate data that represents the fishery. Relevant ASG departments will be briefed on the management efforts particularly the Governor's Office and its Fisheries Task Force and the Department of Commerce and Office of Samoan Affairs.

The department shall work with the Council in developing outreach materials about the bottomfish fishery and the data collection. This will include printed, on-air, and social media.

7. Partnerships

The Territorial Bottomfish Fishery Management Plan would require partnership between DMWR, the Council, and PIFSC. Implementation of this plan include coordination on the data collection, summarization, and reporting. The department shall work with WPacFIN in terms of data summarization and report the fishery performance to the local department, community and the Council. The department shall work with PIFSC on the data workshop for the next

bottomfish stock assessment and the improvements to the data collection programs. The department shall work with PIFSC on planning and implementation of research projects in American Samoa.

The department shall work with the Council to provide the forum to discuss bottomfish issue in relation to the federal bottomfish fishery. The partnership with the Council is crucial to coordinate the actions in the territory and the federal fisheries.

DMWR will organize the American Samoa Territorial Management Plan Review Committee to review and approve the plan. The committee will be composed of fishermen from organized bottomfish communities, American Samoa Advisory Panel members and invited agencies of the territorial government. The plan will be reviewed every 3 years.

8. References

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