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DMWR REPORT TO 200TH COUNCIL MEETING

1. Shore-based creel program:

Shore-based Creel Survey Third Quarter Report, April to June 2024

Project 2: Determine the performance of nearshore sport fish fishery through Roadside Creel Monitoring, Fisheries Shore-based Creel Data Collection Program

Project Leader: Yvonne Mika

The Shore-based Creel Survey completed a total of 157 runs, accomplished 56 sampled surveys within 65 Weekdays and 13 Weekend/Holiday for this quarter. The monitoring team recorded 45 Participation counts and 26 Interview catch data including opportunistic interviews that will calculate an estimate of catch and effort data from April to June. The data accumulates and generates expansion totals that express the estimated fish catch landings by gear type of the near shore fishery. Note: Manu'a participation data is not included in this report reason being its fishing activities are more comprehensive than the main island of Tutuila.

Below are the results generated from the data collected this quarter; Total expanded catch with pooling for this quarter is estimated at 3,565 lbs.; the total expansion for Gear/Hr totals to 3,987lbs; and the expanded total for Catch/ Gear-Hr is .89 lbs; these results show a decrease from last quarter's report.

The expanded catch/ effort summary by gear methods:

2024	Rod and Reel	Gleaning	Spear-Snorkel	ThNet	Handline
April to June	2,384lbs	274lbs	783lbs	111lbs	13lbs

The catch summary also provides a list of species composition in total landings . The five dominant species for this quarter are listed below.

- | | |
|-----------------------------------------------------|-----------|
| 1. Black jack/ <i>Caranx lugubris</i> | 1,738lbs. |
| 2. Bluefin trevally/ <i>Caranx melampygus</i> | 629lbs. |
| 3. Sea grapes/ <i>Caulerpa racemosa</i> | 216lbs. |
| 4. Striped surgeonfish / <i>Acanthurus lineatus</i> | 210lbs. |
| 5. Octopus/ <i>Octopuses cynea</i> | 125lbs. |

Shore-based program collaborated with WPacFIN on database update and upgrades through emails and conference calls and also met during their recent visit in May 2024. We had received our new project vehicle May 29th and requested purchases of vehicle fuel, and field supplies (measuring boards, digital weight scales etc) to continue project progress. The Project Lead and a technician will conduct its quarterly visit in Manu'a in July to assess and evaluate the ongoing Shore-based project as well as the trends of fishing activities locally and discuss further needs to meet our objective requirements.

2. Key Reef Species Program:

Objectives 1: Conduct replicated fish visual surveys in 14 reef slopes and 14 reef flat sites in Tutuila Island; 6 sites in Manu'a; 4 sites in Swains; 4 sites in Rose Atoll;

Accomplishment(s): Reef Flat and Slope

1. Tutuila Reef Flat and Reef Slope survey

Staff conducted and completed reef flat survey sites. 12 Reef slopes sites

Reef flat:

1. Nu'uuli
2. Faga'alu
3. Alofau
4. Auto
5. Sailele
6. Amanave
7. Aua

Reef Slope:

1. Fagasa
2. Alega
3. Alofau
4. Amaua
5. Faga'alu
6. Fagaitua
7. Matu'u
8. Nu'uuli

Monitoring surveys have been slow due to weather permitting will continue to 4th quarter. We have 7 more reef flat and 12 more reef slopes to survey. Staff managed to encode fish Underwater visual census into fish database and practicing benthic encoding for coral net. Staff have been assisting with Giant Clam cage maintenance and measuring in Faga'alu.



Figure 1. *Acropora muricata* (left) showing early signs of bleaching from extreme heat in less than 1 meter depth water in Amanave. Fisheries Technician Ailua Tauala (middle) with the fisheries dive team surveying Nu'uuli Reef slope. Rubble substrate (right) in Aua for reef flat surveys.

Fish sample collection in Tutuila

Poseidon Research Fisheries representative conducted Life History Final Aging and Training for staff. The workshop training emphasized on aging of *Epinephelus merra* and *Lutjanus fulvus*. The team completed aging for

merra and fulvus collected and continue to collect more samples. Staff were trained on otolith grinding methodology and aging techniques. Staff were also trained on staging sex and maturity stages for the gonads collected for fish samples. The results of the research were then presented to the mayors and representatives from the Village of Faga’alu. Presented valuable information on why life-history research is important to our fisheries for a sustainable fishery.



Figure 1.1 Collage of Life History Final workshop and Training with staff

1. <i>Epinephelus merra</i>	100
2. <i>Lutjanus fulvus</i>	75
3. <i>Scarus oviceps</i>	223
4. <i>Monotaxis grandoculis</i>	46
5. <i>Lethrinus amboinensis</i>	148

Project staff attended the HOF16 meeting in New Caledonia and assisted with the Malaloa Marina floating dock repairs and tire fender installation to assist fishing vessels for the fishing tournament. Staff also participated in the SPC socioeconomic training hosted by SPC and DMWR. Staff assisted with bi-weekly giant clam cage and clam maintenance with CFMP staff. In addition. Staff also assisted NOAA with boat support for the Malaloa Extension in-water survey work.

3. Sportfish Life History Program:

Staff continue to coordinate with the partner molecular laboratory, the Australian Genome Research Facility (AGRF), which is generating microsatellite population data from the samples collected from Savaii, Upolu and Tutuila (for the bottomfish *Lutjanus gibbus*, *Lutjanus kasmira*, *Lethrinus rubrioperculatus*, and for the reef fish *Acanthurus lineatus*). New microsatellite markers have been developed for *L. rubrioperculatus* and genotype profiles have been produced from fish samples collected from Tutuila in American Samoa and Upolu and Savaii from Samoa.

4. Fish Aggregation Device Program:

The overall goal of this program is to provide fishermen access to pelagic tuna fisheries through the deployment of Fish Aggregating Device (FAD). The main objective of this program is to maintain 5 deep-water FADs and conduct regular survey of their status and survey fishermen's who use these FADs. There are 5 FAD sites: FAD A off Aunuu, FAD B off the Pago harbor, FAD C off Vaitogi, FAD D off Tapu-tapu and FAD E off Fagasa. The program currently uses two FAD buoys: the catamaran buoy and the Indian Ocean design. Only FADs A and B are of catamaran buoy design. Staff conducted visual inspections of FADs in the last quarter.

The program has ordered FAD replacements from the same product provider from New Zealand. And the program is currently working with its FAD product provider in for a bigger buoy for better visibility. At present, all 5 FADs are in place in accordance with program objectives. Staff interviewed various sportfishermen for their catch and assisted preparations during the I'a Lapoa Tutuila Flag Day Fishing Tournament in April 14 to 20 and in the recent Manua fishing clinic in July. The fishing tournament in Manua was cancelled due to bad weather.

Staff is coordinating with SPC on the development and implementation of FAD stranding data collection. The meeting introduction will be in Pago from July 29 to Aug 2. The program has also received three satellite buoys that are donated by Zunibal. The program is also coordinating with Zunibal in conducting experimental fishing to refine the fish detection model.



Photos taken during the I'a Lapoa Flag Day Fishing Tournament in April

5. Boat-Based Creel Survey Program:

There were 12 active alias that contributed to the landings from longline, bottomfishing, trolling, mix bottomfishing/trolling, and spearfishing activities from April 2024 to June 2024. Throughout this quarter, these vessels have landed a total of 6,921 pounds of local fish. Surveys were conducted randomly throughout the month for at least 3 weekdays a week and 2 weekends per month. Throughout this quarter, there were 67 fishing trips with fishing efforts recorded from 22 interviews. Species landed by the local alias are reflected in the port sampling through Boat-based Creel Surveys.

The market sales of pelagic, bottomfish, and nearshore species are found in the Commercial Invoice System. Registered vendors in the Commercial Invoice System are local businesses that purchase fresh and/or frozen local fish. By A.S.A.C 24.0905, Dealers Records need to reflect all this pertinent information on the invoices provided by the department. Purchase transactions such as Resold (purchase from another business) and Imports are also reflected in these commercial invoices. Under A.S.C.A 24.0305, vendors must submit their invoices on or before the 16th of every month. The department sends a team on a courtesy visit to all vendors to ensure data quality and control. Invoices collected do not always reflect purchases made during the collection. Some invoices are collected or submitted to the department at a later date which will alter the present numbers reflected in this report. Currently, 80 vendors in the Commercial Invoice System have all been visited every month this quarter.

The numbers between creel surveys and commercial invoices will vary. Data from commercial invoices include local landings from fishermen who use their alias, miscellaneous catches from longliners, and nearshore fishing activities. Creel surveys, or port sampling, are landings only from fishermen using alias.

The objectives of the project and corresponding activities for this reporting period are:

- 1. Monitor catches of highly migratory, species harvested within American Samoa’s EEZ through port sampling of commercial vessels and continue documentation of market sales.**

Three active fishing vessels caught 1,547 pounds of pelagic fish species this quarter. The following shows all species caught this quarter with the Skipjack tuna (*Katsuwonus pelamis*) as the most dominant fish caught.

Table 1. Pelagic catches from alia boats throughout April 2024 to June 2024:

Species	Trolling	BTM/TRL Mix	Total
Skipjack tuna	519	557	1,076
Wahoo	-	303	303
Yellowfin tuna	168	-	168
Total (lbs.)	687	860	1,547

According to commercial invoices collected, there was a \$142,681.62 purchase of pelagic species from longliners and resale purchases. The majority of these transactions were from resale purchases.

Table 2. Market sales of pelagic species recorded in invoices for this quarter:

Species	Locally caught	Resale	Total (lbs.)
Yellowfin tuna	256	107	363
Mahimahi	15	-	15
Marlin	278	33,741	34,019
Wahoo	-	4,846	4,846
Total (lbs.)	549	38,694	39,243

2. Monitor catches of Bottomfish species harvested within American Samoa’s EEZ by documenting market sales and port sampling.

There were five alias that contributed to the total landings of 4,307 pounds of bottomfish species this quarter. Redgill emperor (*Lethrinus rubrioperculatus*) was the dominant species caught this reporting period which accounts for 20% of the bottomfish species landed. The following table lists 10 dominant species caught this quarter.

Table 3. Total bottomfish landings by species from April 2024 to June 2024

Species	Bottomfishing	BTM/TRL Mix	Total (lbs.)
Ambon emperor	319	-	319
Gray jobfish	423	-	423
Humpback snapper	556	-	556
Longtail snapper	352	-	352
Redgill emperor	561	72	633
White-edged lyretail	216	13	229
Goldspot trevally	57	60	117
Red snapper	147	-	147
Blue-lined snapper	146	-	146
Silverjaw jobfish	130	-	130
Total (lbs.)	2,907	145	3,052

There was a \$667.20 purchase of bottomfish species from local fishermen in the Commercial Invoice System which only included the Bluelined snapper (Savane) and assorted Emperors.

Table 4. Total bottomfish reported by the Commercial Invoice System this quarter

Species	Locally caught
Emperors	33
Blue lined snapper	134
Total (lbs.)	167

3. Monitor catches of Spearfishing activities within American Samoa’s EEZ by documenting market sales and port sampling.

Two alias actively spearfishing this quarter landed a total catch of 1,065 pounds of nearshore marine species. There were 8 interviews were collected from 12 spearfishing trips and the most dominant species caught was the Redlip parrotfish (*Chlorurus rubroviolaceus*) which accounts for 29% of the total landings. The following table shows the 10 dominant species from this reporting period.

Table 5. Dominant nearshore fish species landed by boat-based spearfishing activities.

Species	Samoan Name	Scientific Name	Total (lbs.)
Blue-banded surgeonfish	Alogo	<i>Acanthurus lineatus</i>	94
Bluespine unicornfish	Ume	<i>Naso unicornis</i>	155
Bridled parrotfish	Fuga / Laea	<i>Scarus niger</i>	43
Dark-capped parrotfish	Fuga / Laea	<i>Chlorurus sordidus</i>	91
One-bloch grouper	Gatala	<i>Epinephelus melanostigma</i>	16
Orangespine unicornfish	Umelei	<i>Naso lituratus</i>	58
Redlip parrotfish	Fuga / Laea	<i>Scarus rubroviolaceus</i>	310
Redtail parrotfish	Fuga / Laea	<i>Chlorurus japanensis</i>	81
Spiny lobster	Ula	<i>Panulirus pencillatus</i>	40
Steephead parrotfish	Fuga / Laea	<i>Chlorurus microrhinos</i>	67
Total (lbs.)			955

Market sales of nearshore species this quarter are valued at \$15,943.47. Commercial invoices show 4,009 lbs. of nearshore species from boat-based and shore-based spearfishing activities.

Table 6. Nearshore species reported in the commercial invoice system from April 2024 to June 2024.

Species	Locally caught	Resale	Total (lbs.)
Groupers	194	-	194
Surgeonfishes/tangs	47	-	47
Spiny lobster	14	-	14
Blue-banded surgeonfish	1,104	-	1,104
Unicornfishes	809	-	809
Squirrelfishes	408	-	408
Parrotfishes	542	672	1,215
Reef fishes (unknown)	18	-	18
Striped bristletooth	50	-	50
Octopus	-	150	150
Total (lbs.)	3,186	822	4,009

4. Disseminate information on American Samoa's Fisheries and Data Collection Efforts

- a. There were no workshops conducted this quarter.
- b. Brochures on Local Fisheries Regulations (100) have been printed for distribution to the general public and Commercial Fishing License applicants.
- c. The program team entered commercial invoices into the Sell It Log It system and the Visual FoxPro Database. Although dedicated staff have been trained in the use of Metabase, a web-based application linked to the Sell It Log It (SILI) application which develops comprehensive reports, it hasn't been in use as priority has been given to data quality control on SILI. Constant communications with NOAA and DMWR have continued to further improve the use of Sell It Log It this quarter.
- d. Professional development trainings have been held for the Ofu Fisheries Technician that started in May 2024. Therefore, a quarterly visit to the Manu'a Islands was canceled.

5. Fund Enforcement activities related to inter-jurisdictional fish species.

- a. There were 8 applicants for Commercial Fishing Licenses, but only 4 licenses have been issued. Applicants are expected to get a clearance from the Department of Public Safety before a Regulations briefing and this has been a major factor in completing the process. Only after the application is approved by the Director, or designee, does the applicant get to acquire a license which is issued by the program team. These licenses are shared with the Enforcement Division to assist with compliance visits.
- b. Commercial Invoice Collection is scheduled on/or before the 16th of every month. There are now 80 vendors that are being visited 2 – 3 days every month.

6. Community-Based Fisheries Management Program:

The Department of Marine and Wildlife Resources signed a cooperative agreement with the village of Fagasa on Tuesday, the 4th of June 2024. The agreement solidifies the village’s consensus to join the Community-based Fisheries Management Program and the establishment of their village Marine Protected Area (MPA); a subsection of Fagatele within Fagasa village. The signing also follows several meetings with the village council and commemorates the start of a co-management approach with the Department over the marine resources in Fagasa’s village MPA. As part of the consultations, the village Fisheries Enforcement Committee (FEC) and Fisheries Management Advisory Council (FMAC) have been set up for the development of the village MPA by-laws and Fisheries Management Plan; including the monitoring and enforcement of management measures within the village MPA. The Department recognizes the leading role of Fagasa in this partnership and congratulates the village for their marine stewardship efforts. Relevant trainings and projects, biological monitoring surveys, educational outreach and awareness activities etc. continue to support the technical and advisory role of DMWR. Fagasa has declared 67,654 square yards of its Fagatele coastal waters for 5 years closure with no fishing activities allowed by village residents and outsiders, effective June 4th 2024.



April-June 2024

HIGHLIGHTS OF ACTIVITIES:

- CFMP and Key Reef Monitoring team continued monitoring activities for the giant clam cages in Faga'alu on dates as tabled below. Activities included removing trays from cages, scrubbing debris and algae off cages and clams, rearranging clams for optimum space, placing trays again in the cages and tightening fishing lines holding mesh cage together, securing the rebar shelves with tie wire and securing rebars into sand substrates. All clams were alive and well and complete in numbers. As of last measurement date on May 3rd 2024, total number of clams alive and well are at 555 with an average size of 12 cm.

Date	Activity and status
04/12/24	Clean clams and cages
04/22/24	Clean clams and cages
04/26/24	Clean clams and cages, measure clams
05/02/24	Clean clams and cages, measure clams
05/03/24	Clean clams and cages, measure clams
05/24/24	Clean clams and cages, relocate cages to bottom
06/7/24	Check on clams, alive and present



Social Scientist Carolina Garcia from the Secretariat of the Pacific Community (SPC) conducted a socio-economic survey Enumerators training with CFMP staff from the 29th March-05th April 2024. The main objectives of the training focused on important theories and practices of socio-economic surveys and on review/revision of the current CFMP questionnaire for best feedback and responses from targeted fishermen audiences. Mock trials were conducted in house with several theory presentation sessions led by recently trained CFMP staff, Warren Seva'aetasi. Mr. Seva'aetasi joined the socio-economic training in Apia with Fisheries staff of the Ministry of Agriculture and Fisheries (MAF); also conducted by Ms. Garcia in early March as detailed in CFMP second quarterly report.

CFMP staff will continue again with socio-economic surveys in the MPA villages to update information on residents' overall dependence on the reef for livelihood. Responses from the residents will also assist in assessment of various economic factors that may have led or will lead to unsustainable fishing practices in the fishing communities. Information analysis will also feed into the village fisheries management plans to support best management measures and equally tailor to the needs of the communities.



As part of the visit, Ms. Garcia also held a meeting with CFMP staff and other key stakeholders including AS-EPA and NOAA for the active re-engagement of SPC member countries to SEM-Pasefika. The SEM_Pasefika is a set of community-based socio-economic monitoring guidelines that focuses to improve site management of the coastal and marine areas in the Pacific region. CFMP acknowledges the importance and implementation of this work for socio-economic assessment preparations, data collection and data analysis guide, planning and research, management, monitoring, policy making etc. and will participate in efforts/updates and progress moving forward.



- DMWR Deputy Director Selaina Tuimavave and CFMP Program Supervisor Dimary Ulberg attended the Regional Workshop on Scaling up Community-based Fisheries Management in Nadi, Fiji from the 29th April to 3rd May 2024. The workshop was attended by Fisheries scientists, managers and CFMP practitioners and community members from across the Pacific, who are dedicated to improving and scaling up the program’s management and enforcement efforts within their respective jurisdictions. Among other key focus areas, American Samoa team discussed around



- identifying/finalizing and improving data monitoring and management activities to refine and finalize village fisheries management plans
- working with village councils to identify appropriate solutions to address land-based sources of pollution, issues and challenges
- prioritizing ecosystem-based approaches to resource management

Mr. David Bird also attended the workshop with the DMWR team. As a village council representative from Faga’alu Marine Protected Area (MPA) village in the program, his community representation was also valuable in the workshop along with that of other community members from other CFMP programs in the Pacific. This was followed by a scale-up “*fa’asoa session*” by CFMP team to DMWR Fisheries, Enforcement and Education staff on the 20th May 2024. This was to share outcomes of the meeting and discuss ways of scaling up community-based fisheries efforts in American Samoa, as well as discussing ways to improve sectional collaboration within the Department for best results and achievements moving forward.

- CFMP Fisheries Technicians Ailua Tauala and Blazusky Tupuola attended the Coral Restoration Foundation (CRF) Learning Exchange in the Florida Keys from the 13th-19th June 2024. Sessions included land based and water based activities that focused on:
 - review of coral restoration key concepts and high-level principles
 - importance of standardization and data management; recommendations for data management
 - restoration planning and management
 - photomosaic monitoring, dive safety and structure builds
 - multi-species coral propagation
 - structure installation
 - coral monitoring and nursery maintenance and navigation



The learning exchange is funded by the National Fish and Wildlife Foundation conservation fund and will continue to offer training opportunities for CFMP, CRAG and relevant Fisheries staff in the life of the project. This includes in-situ work in the Florida Keys and visits by CRF staff to American Samoa to assist

with site selection assessments for coral restoration activities and technical concepts. Village Marine Protected Areas in the CFMP program continue to be one of the priority sites for restoration implementations in the work plan.



- CFMP team held an on-site meeting with Fagasa village on the 23rd May 2024 to set up by-laws for their

village MPA. The meeting was attended by Chiefs of the village council and several representatives from the women's group. The Fisheries Advisory Committee was also set up to help advise on key management measures in the village MPA and to assist in the development of the village Fisheries Management Plan, including the establishment of the Fisheries Enforcement Committee for the monitoring and enforcement of these measures and by laws stipulated in the management plan.

Following this meeting was the signing of the village Cooperative Agreement with DMWR on June 4th 2024 to solidify the village's consensus to join the Community-based Fisheries Management Program. As of this date, Fagasa has declared 67,654 square yards of its Fagatele Bay for 5 years closure to fishing activities by village residents and outsiders. The Department recognizes the leading role of Fagasa in this partnership and congratulates the village for their marine stewardship efforts.



Other Notable Developments:

Two staff together with the Director attended the SPC Heads of Fisheries Meeting in Noumea, New Caledonia from April 22 to 26. The DMWR Director chaired the meeting. The annual SPC HoF meeting covers a wide range of interests, for which national fisheries agencies have responsibility, and for which the SPC, in particular through its Division of Fisheries, Aquaculture, and Marine Ecosystems (FAME), provides scientific and technical assistance, as well as capacity building support. The meeting plays a unique and critical role in providing strategic guidance to SPC FAME. Through sharing knowledge and best practices, and identifying sustainable management strategies, the SPC HoF meeting supports sustainable management of members fisheries and aquaculture resources in the Pacific region.

The department had a boat christening for R/V Puna'oaolevasa last June 18. The boat was purchased using funds from the US Fish and Wildlife Service.