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*Deputy Director***DMWR Report for 196th Council Meeting****1. Fisheries Creel Data Collections Programs****1. Commercial Landings Monitoring**

DMWR supplies fish sales receipts/invoices for local fish dealers as a measure to monitor commercial landings. The receipts/invoices that have been collected records fish being purchased from another vendor (Resale), imported fresh and frozen fish (Import) and by Bottomfishing, Trolling, Longlining, and Spear fishing activities. There are 74 registered vendors that purchased 37,202 lbs. of fish in the local market at the value of \$127,969.96. The following lists the popularly purchased fish from registered vendors:

- |                   |            |
|-------------------|------------|
| 1. Blue marlin    | 12,883 lbs |
| 2. Yellowfin tuna | 5,204 lbs  |
| 3. Wahoo          | 3,839 lbs  |
| 4. Swordfish      | 1,401 lbs  |

These are 2,520.38 pounds of local species purchases as reported in commercial invoices from January 2023 to June 2023 valued at \$10,937.29

**2. Creel Survey Sampling: (Tutuila & Manu'a)**

Boat-based and Shore-based Creel Surveys have continued to sample and interview all Subsistence, Commercial and Recreational fishing activities on Tutuila and Manu'a. There are four (4) DMWR data technicians based in Ta'u (2) and Ofu (2) that collects fisheries data for the Manu'a Islands.

Detailed sample data from these Creel Surveys have been entered into the FoxPro database daily and sent to WPacFIN headquarters as required by the approved WPacFIN-DMWR Cooperative Agreement project proposal. Analysis and interpretation are then performed annually utilizing the Plan Team module within American Samoa Boat-based/Shore-based Expansion System which was developed by WPacFIN in conjunction with DMWR. Reports for the Pelagic and Bottomfish Plan Team Annual Reports are generated from this data.

**(a) Boat-based (Offshore) Survey:**

There were 48 interviews conducted from 13 active alias in American Samoa this reporting period. There was a total landing of 3,847.9 pounds of fish from bottomfish, bottomfish/troll mix, troll, longlining and spearfishing activities. Dominant species caught this reporting period were from spearfishing, trolling and longline fishing activities

1. Skipjack tuna (*Katsuwonus pelamis*) 644 lbs.
2. Steephead parrotfish (*Chlorurus microrhinos*) 420 lbs.
3. Redlip parrotfish (*Scarus rubroviolaceus*) 175.2 lbs.
4. Spiny lobster (*Panulirus penicillatus*) 147 lbs.
5. Redtail parrotfish (*Chlorurus japanensis*) 107 lbs.

Source: WPacFIN/DMWR Boat-based Creel Survey Database

### **(b) Shore-based (Inshore) Survey:**

There has been an increase in fishing activities: rod and reel, spear (snorkel), gleaning and by use of the gill net. Here is a summary of the most common species caught this reporting period:

1. Bigeye scad (*Selar crumenophthalmus*) 390.91 lbs.
2. Steephead parrotfish (*Chlorurus microrhinos*) 78.01 lbs.
3. Bluefin trevally (*Caranx melampygus*) 108.95 lbs.
4. Octopus (*Octopus cyanea*) 209.98 lbs.
5. Redlip parrotfish (*Scarus rubroviolaceus*) 72.73 lbs.

Source: WPacFIN/DMWR Shore-based Creel Survey Database

### **3. Cannery Landings**

In collaboration with the local canneries, obtain and maintain a listing of longline catch landed in the American Samoa port. This work will include verification of all longliners landing their catch in American Samoa and the economic value of landed species.

**Fish Received 2023 (metric tons)**

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Grand Total
Albacore	2,181.28	1,415.13	1,679.72	1,882.64	2,464.69	2,032.78	3,578.83	15,235.06
Skipjack	3,956.50	4,084.05	4,735.22	5,637.20	3,244.78	2,556.31	2,938.62	27,152.67
Yellowfin	276.04	501.12	999.39	846.20	1,073.20	523.12	1,283.85	5,502.91
Bigeye	405.08	898.44	1,373.58	1,931.95	641.40	420.96	175.71	5,847.12
Wahoo	0.42		2.80		3.95	0.32	1.39	8.88
Other				49.60	25.91		227.22	302.73
<b>Grand Total</b>	<b>6,819.32</b>	<b>6,898.73</b>	<b>8,790.71</b>	<b>10,347.58</b>	<b>7,453.93</b>	<b>5,533.48</b>	<b>8,205.62</b>	<b>54,049.37</b>

These data of fish landed (in metric tons) in the cannery have been supplied by StarKist Samoa to DMWR. As of July 2023, the cannery has received a total of 54,049 metric tons of fish: 50% or 27,152.67 metric tons was skipjack; 28% or 15,235.06 metric tons was albacore; 10% or 5,502.91 metric tons was yellowfin and 11% or 5,847.12 metric tons was bigeye. Compared to 2021 and 2022, the Jan to July 2023 has been the highest total tuna landings. However, these total landings are lower compared to 2018 to 2020 with total landings that ranged from 66,000 to 70,000 metric tons. The 2023 landings so far have been the highest for yellowfin tuna and bigeye since 2018. On the other hand, the landings for skipjack had been the lowest since 2018. The albacore landings have been variable but is the second highest to 2018. In summary, skipjack landings have declined, albacore landings variable and yellowfin and bigeye highest since 2018.

We cannot determine at this point how much albacore is being supplied by the American Samoa longliners. According to Starkist staff, the American Samoa longliners usually supply <10% of the albacore landed. DMWR is currently working with the Department of Port Administration to estimate number of foreign fishing vessels that offload in American Samoa. These data have become very important to the American Samoa government since cannery landing data are required for tax exemption purposes and in developing tuna policies to protect the local tuna economy.

## 2. Key Reef Species Program:

Staff has completed 10 reef slope sites out of 12 sites and 5 reef flat sites out of 12 up to this quarter. Staff is also extracting otoliths and gonads from 5 coral reef fish species to assist life history data collection. The five species are *Lutjanus fulvus*, *Monotaxis grandoculis*, *Lethrinus amboinensis*, *Epinephelus merra* and *Scarus oviceps*.

### Tutuila Reef Flat and Reef Slope survey

Staff conducted and completed 5 reef slope survey sites and 5 Reef flat sites. Total completed sites are seven. Dive staff are now all DAN insured.

#### Reef slope:

- |     |           |                      |
|-----|-----------|----------------------|
| 1.  | Alega     | Photo Quad run       |
| 2.  | Amanave   | Trans 1 & 2          |
| 3.  | Matu'u    | Complete             |
| 4.  | Poloa     | SPC Fish calibration |
| 5.  | Nu'uuli   | Complete             |
| 6.  | Aua       | Complete             |
| 7.  | Afono bay | Complete             |
| 8.  | Alofau    | Complete             |
| 9.  | Aoa       | Complete             |
| 10. | Sailele   | Complete             |

#### Reef flat:

- |    |         |          |
|----|---------|----------|
| 1. | Sailele | Complete |
| 2. | Aoa     | Complete |
| 3. | Alofau  | Complete |
| 4. | Auto    | Complete |
| 5. | Amanave | Complete |

Project staff completed Divers Oxygen Administer training with Erick Brown of National Parks. Staff were able to recertify and conduct hands on skills scenarios with instructor Erick Brown. Staff also participated in a Coral Net training where they were trained to utilizing this software to analyze benthic photo quadrants.

3. **Sportfish Life History Program:** New microsatellite population genetic markers specific for American Samoa have been developed for the bottomfish *Lutjanus kasmira*, *Lethrinus rubrioperculatus*, and for the reef fish *Acanthurus lineatus*. Staff is coordinating with the partner molecular laboratory, the Australian Genome Research Facility, which is generating microsatellite population data from the samples collected from Savaii, Upolu and Tutuila. Staff is organizing microsatellite data collected from the samples of *Myripristis berndti* and *Acanthurus lineatus* collected from Manua and Rose Atoll.

## 4. Fish Aggregation Device Program:

Staff deployed two FADs and one is in a new location in Taputapu, Amanave. Staff also modified the main buoys of these new FADs for fishermen to locate the FADs easier. Sportfishermen data have been regularly collected and staff regularly check the FADs. Staff also help organize the American Samoa Flag Day Tournament (April 14-15, 2023 photos, data on fish landed and fishing grounds enclosed below).



Area	Weight (lbs)
Explosive	636.6
East Bank	487.8
Unknown	226.2
South Bank	180.8
Aunu'u	146.4
FAD A	111
Leone	50.8
Alao	20.6
FAD B	14.2
Airport	7.6
Grand Total	1882

The heaviest marlin caught which was second to the current (Left photo). The Explosive Zone was the most productive fishing ground.

Species		Weight (lbs)
Makaira nigricans	Blue marlin	968.8
Thunnus albacares	Yellowfin tuna	481.2
Katsuwonus pelamis	Skipjack tuna	155.8
Istiophorus platypterus	Sailfish	87.2
Coryphaena hippurus	Mahimahi	50.4
Sphyreana barracuda	Barracuda	43.8
Acanthocybium solandri	Wahoo	43.8
Gymnosarda unicolor	Dogtooth tuna	23
Caranx ignobilis	Giant trevally	12.2
Aprion virescens	Green jobfish	11.4
Euthynnus affinis	Mackerel tuna	4.4
Grand Total		1882

Blue marlin was the top species caught followed by yellowfin and skipjack tunas.

##### 5. **Community-Based Fisheries Management Program:**

DMWR CFMP joined the Department's Exposition Day on the 15<sup>th</sup> April, held at the marina wharf in Pago Pago. The event was part of American Samoa's Flag Day activities and in celebration by the Department, a fishing tournament was held with the exposition as an outreach day for the public. The day included educational games for the kids, information booths for CFMP and other different programs in the Department, together with the National Marine Sanctuary of American Samoa (NMSAS) and the Western and Central Pacific Advisory Council (WESPAC).

CFMP also joined the American Samoa Government's annual parade held at the Veteran's stadium on 17<sup>th</sup> April with other program staff of DMWR. The day was observed as a public holiday for all public servants of American Samoa.

CFMP team attended the Community Planning workshop on May 4<sup>th</sup> and 5<sup>th</sup> at Paradise Pizza restaurant in Pago Pago, facilitated by The Nature Conservancy (TNC). The workshop's objectives focused primarily on:



- Advancing agency mandates, reduce stakeholder fatigue and catalyse government support to communities through enhanced cross-agency collaboration in community planning and outreach
- Reviewing existing community-based outreach and planning efforts to identify areas of shared interest and barriers to collaboration
- Developing improved communication/collaboration for community engagement and planning across agencies/organizations in American Samoa

The workshop provided recommendations for moving forward with community participation projects with other agencies in the Coral Reef Advisory Group, tasked to be completed over the next few months and rolled over to the next fiscal year. Prior to this workshop, TNC spent a day with the CFMP team on the 3<sup>rd</sup> May to share some regional fisheries management plan structures. This aids in the development of the village management plans for the 3 MPA villages Amanave, Sa'ilele and Faga'alu, targeted to be completed by September 2023.



CFMP and Boat-based program leads attended the Leadership course held in Fiji from the 29<sup>th</sup> May-June 9<sup>th</sup> 2023. The course provided diagnostic and strategic foundation for leading change in social and organizational settings and developing additional skills to Fisheries managers in mobilizing change in regional fisheries priorities and activities. The course assisted greatly with equipping supervisors of both programs to lead their respective teams with good management skills and values to achieve the overall goals of the Department and its mandate.

CFMP attended a virtual meeting on the 16<sup>th</sup> June 2023 on Water Quality Assessment for land-based sources of pollution (LBSP) impacts on Aua coral reefs with National





Oceanic and Atmospheric Association (NOAA). The presentation meeting focused on research findings on identifying water quality gradient at the site, linking LBSP to changes in coral reef ecology, identifying biological indicators for LBSP and identifying efforts that managers and community leaders can implement to maintain a healthy reef. The goal is to learn and apply the same research and assessment methods in the upcoming Amanave and Faga'alu watershed plans under the Community-based Fisheries Management Program. More details on the Aua watershed assessments are found with CRAG records and reports.

CFMP team attended the American Samoa Ecosystem Advisory Council meeting on the 23<sup>rd</sup> June at Sadie's by the Sea hotel in Utulei, as part of the WESPAC's 195<sup>th</sup> annual meeting in American Samoa. Discussions included the sand mining regulation in American Samoa, covered under the Community-based Fisheries Management Program regulation and the Sharks Regulation update provided by Chief Fisheries Biologist. The Coral Reef Advisory Group (CRAG) also delivered a presentation on sedimentation effects on the overall health of coral reefs using the Aua and Tafuna airport project sites. The meeting also included the 2022 brief stock assessment analysis of the bottomfish and pelagic species update. More information on this analysis could be found on the WESPAC's website at [www.wpcouncil.org](http://www.wpcouncil.org)

CFMP conducted biological monitoring surveys in the reef flats of two of the villages in the program, Amanave and Saillele on the 11<sup>th</sup> of May and 6<sup>th</sup> June 2023 respectively. Fish census and abundance, including benthic assessments were recorded in the survey areas. Data analysis will be made available for final quarter report for this fiscal year, for a full comparison of different parameters to previous biological surveys conducted in the past quarters. CFMP staff also participated in Key Reef species biological assessments on 11<sup>th</sup> May in Aoa and 25<sup>th</sup> May in Auto reef flats.

CFMP represented DMWR and attended the Project Notification and Review System of American Samoa board hearings on May 12<sup>th</sup>, June 14<sup>th</sup> and June 21<sup>st</sup> 2023. DMMR's presence in the board achieves a holistic approach to coastal environment impact discussions from various development projects conducted on island. Majority of the projects requested from the public on these hearing dates have no severe impacts on the coastal environment. Several requested projects along the coastlines include residential houses, in which the owners were advised appropriately on waste management from demolition activities.





CFMP staff also attended the PNRS three day retreat posted at Tradewinds hotel from the 30<sup>th</sup> May-June 1<sup>st</sup> 2023. The retreat looked at enhancement strategies for board agencies to further collaborate, evaluate respective roles, responsibilities, overall effectiveness and to identify opportunities for improvement as well as reviewing current regulations for any updates and follow-ups on priorities. The retreat was led by the Department of Commerce; CFMP representation at the PNRS hearings will continue every other Wednesday of this year or when specially requested by the Department of Commerce.

To ensure continuous staff knowledge and understanding in marine biological surveys, CFMP conducted an internal training on common reef species in the reef flats of American Samoa on June 23<sup>rd</sup> 2023 at DMWR conference room. Fish depths, habitats and feeding diets were among the topics discussed with major focus on visual identification of different species underwater. Fish covered in this training included angelfish of the family *Pomacanthidae* and butterfly fish of the family *Chaetodontidae*. CFMP will conduct internal trainings every other Fridays when available.

The Faga'alu first village meeting with CFMP for this fiscal year was held on June 29<sup>th</sup> 2023 at the village Fale Samoa. The meeting was called to update the village on the upcoming projects for the village and to establish the 2 village committees:

1. *Faga'alu village Fisheries Advisory Committee*- set up management measures and village by-laws in the village Marine Protected Area and help finalize the village Fisheries Management Plan.
2. *Faga'alu village Fisheries Monitoring and Enforcement Committee*- to monitor fishing operations and enforce village by-laws and management measures set for the village Marine Protected Area, as stipulated in the village Fisheries Management Plan.

Both committees have been established in the village with upcoming committee meetings for next quarter. The meeting was facilitated by CFMP team with the assistance of Aquatic Education team of DMWR.

The main objective is to finalize the village fisheries management plan and village profile by September 2023 before ongoing work proceeds with monitoring the success of the village Marine Protected Area over the next few years.



CFMP assisted CRAG in conducting the second scoping survey for the new Malaloa extension wharf site on June 30<sup>th</sup> 2023. The survey included site observation and tagging live corals for relocation before the dredging processes start by contractors. The project is led by CRAG and will continue to process with surveys at extension site and relocation sites. Monitoring plans are underway and full report will become available once completed.

