



FISHERIES DEPARTMENT ANNUAL REPORT 2020



WTD 2020 Winning Drawing/Colouring: Year 6

Name: Vineta Kaitumana



Tuvalu Fisheries Department
Ministry of Fisheries and Trade
Government of Tuvalu

Annual Report 2020

Prepared by:
The staff of Tuvalu Fisheries Department

Funafuti, Tuvalu

March 2021

Acronyms and Terms

| | |
|----------------|---|
| AUD, AU\$ | Australian Dollar |
| AWP | Annual Work Plan |
| BDM | Bech de Mer or Sea Cucumber |
| BSc. | Batchelor of Science Degree |
| CFC | Community Fisheries Centre |
| COVID, COVID19 | Corona Virus of December 2019 |
| EEZ | Exclusive Economic Zone |
| FAD | Fish Aggregating Device |
| FAME | Fisheries Aquaculture and Marine Ecosystems Division (of SPC) |
| FAO | Food and Agricultural Organisation of the United Nations |
| FC | Fish carrier |
| FCA | Funafuti Conservation Area |
| FFA | (Pacific Islands) Forum Fisheries Agency |
| FFC | Forum Fisheries Committee |
| FIMS | Fisheries Information Management System (of PNA members) |
| FOFA | Fishermen on Funafuti Association |
| FRFSP | Funafuti Reef Fisheries Stewardship Plan |
| FSHIL | Fiji Shipbuilding and Heavy Industries Ltd. |
| FSMA | Federated States of Micronesia Arrangement |
| GAO | General Administrative Orders (of the Tuvalu Government) |
| GPS | Global Positioning System (receiver) |
| HMTS | Her Majesty's Tuvaluan Ship |
| HOF | Heads of Fisheries (SPC meeting) |
| HSBI | High Seas Boarding and Inspection |
| HSP | High Seas Pocket |
| IATTC | Inter-American Tropical Tuna Commission |
| IT | Information Technology |
| IUU | Illegal, Unreported and Unregistered (fishing) |
| JICA | Japan International Cooperation Agency |
| JV | Joint Venture |
| KOFCC | Korea Overseas Fisheries Cooperation Centre |
| LL | Longline |
| LMMA | Locally Managed Marine Area |
| MCS | Monitoring Control and Surveillance |
| MFAT | Ministry of Foreign Affairs and Trade (of New Zealand) |
| MFT | Ministry of Fisheries and Trade |
| MOA/MOU | Memorandum of Agreement/Understanding |
| MOC | Management Options Consultation (of FFA) |
| MPA | Marine Protected Area |
| MSC | Marine Stewardship Council (certified) |
| MT | Metric Tonne |
| NAFICOT | National Fishing Corporation of Tuvalu |
| O & D | Operation and Development Section (of the Fisheries Dept.) |
| OFCF | Overseas Fisheries Cooperation Foundation (of Japan) |

Tuvalu Fisheries Department – 2020 Annual Report

| | |
|-----------|---|
| OIDC | Outer Island Data Collector |
| PAE | Party Allowable Effort (under the PNA Vessel Day Scheme) |
| PICT | Pacific Island Country or Territory |
| PNAO | Parties to the Nauru Agreement Office |
| POA | PNA Observer Agency |
| PROP | Pacific Regional Oceanscape Programme (World Bank) |
| PS | Purse seine |
| R2R | Ridge to Reef Project |
| RGA | Revenue Generating Activity |
| RIMF | Regional Information Management Facility (of FFA) |
| ROCW | Regional Observer Coordinators' Workshop |
| RV | Research Vessel |
| SAR | Search and Rescue |
| SC | Scientific Committee (of WCPFC) |
| SDA | Seventh Day Adventist Church |
| SFO | Senior Fisheries Officer |
| SMC | Senior Management Committee (of the Fisheries Department) |
| SOE | State of Emergency |
| SPC | (Secretariat for the) Pacific Community |
| SRP | Sub-regional pooling (of certain PNA members for vessel days) |
| TA | Technical Assistance |
| TAE | Total Allowable Effort (under the PNA Vessel Day Scheme) |
| TCC | Technical and Compliance Committee (of WCPFC) |
| TEC | Tuvalu Electricity Corporation |
| TFD | Tuvalu Fisheries Department |
| TFSP | Tuvalu Fisheries Support Programme (NZ funded) |
| TMTI | Tuvalu Maritime Training Institute |
| TOR | Terms of Reference |
| TTFH | Tuvalu Tuna Fong Haur (Joint venture with Ching Fu) |
| TUSA | Tuvalu Sajo Joint Venture |
| USD, US\$ | United States Dollar |
| UST | US Treaty (on Fisheries) |
| VDS | Vessel Day Scheme (of the PNA + Tokelau) |
| VHF | Very High Frequency (radio) |
| WCPFC | Western and Central Pacific Fisheries Commission |

Table of Contents

| | | |
|-------|--|----|
| 1 | Background | 1 |
| 1.1 | The Tuvalu Fisheries Sector | 1 |
| 1.2 | Purpose of this report | 1 |
| 1.3 | Vision..... | 1 |
| 1.4 | Mission..... | 2 |
| 1.5 | Objectives | 2 |
| 1.6 | Organisation..... | 2 |
| 2 | Fisheries Department Resources | 3 |
| 2.1 | Staffing..... | 3 |
| 2.2 | Assets and facilities | 5 |
| 2.3 | Asset Management..... | 5 |
| 2.4 | Office Maintenance | 6 |
| 2.5 | Budget..... | 6 |
| 2.6 | Internal management, monitoring and reporting | 7 |
| 3 | Administration Section Activities | 7 |
| 3.1 | General..... | 7 |
| 3.2 | COVID response | 7 |
| 3.3 | Tropical Cyclone Tino..... | 7 |
| 3.4 | Fishery Access Negotiations | 7 |
| 3.5 | Joint ventures and domestic vessels | 8 |
| 3.6 | NAFICOT | 8 |
| 3.7 | Regional meetings..... | 9 |
| 3.8 | Staff training and workshops | 9 |
| 3.9 | Legal Services..... | 9 |
| 3.10 | Information Technology..... | 9 |
| 3.11 | Fisheries Economist..... | 10 |
| 3.12 | Fisheries Adviser | 10 |
| 3.13 | Public Information and Awareness Program | 10 |
| 3.14 | World Tuna Day | 11 |
| 4 | Coastal Section | 11 |
| 4.1 | General..... | 11 |
| 4.2 | Resource Assessment and analysis..... | 12 |
| 4.2.1 | Ciguatera sampling (GTX monitoring)..... | 12 |
| 4.2.2 | Ciguatera cases | 15 |
| 4.2.3 | Other Activities – Niutao Lagoon Water Quality | 15 |

| | | |
|-------|---|----|
| 4.2.4 | Funafuti Conservation Area (FCA) | 17 |
| 4.3 | Outer Island Support Programme | 18 |
| 4.3.1 | Creel (Outer Island Data Collectors)..... | 18 |
| 4.3.2 | Creel Data Entry | 19 |
| 4.3.3 | Outer Islands Quarterly Visit..... | 19 |
| 4.3.4 | Community Based Fisheries Management Plan..... | 19 |
| 4.3.5 | Awareness Program | 19 |
| 4.3.6 | Metronome Trips..... | 19 |
| 4.4 | Funafuti Coastal Management | 20 |
| 4.4.1 | Introduction..... | 20 |
| 4.4.2 | Marking the Funafuti Conservation Area with buoys and beacons..... | 20 |
| 4.4.3 | FCA Hut..... | 20 |
| 4.4.4 | Fish Size Limit Study | 20 |
| 4.4.5 | Funafuti Bye Laws | 20 |
| 4.4.6 | Outreach Program..... | 21 |
| 4.4.7 | Reviewed FRFSP | 21 |
| 4.4.8 | Creel survey | 21 |
| 4.4.9 | Cleaning Up Campaign FCA | 21 |
| 4.5 | Training and regional meetings | 21 |
| 4.6 | Challenges | 22 |
| 4.7 | Recommendations | 23 |
| 5 | Operation and Development..... | 24 |
| 5.1 | General..... | 24 |
| 5.2 | Objective | 24 |
| 5.3 | Major Tasks..... | 24 |
| 5.3.1 | Task One: Livelihoods..... | 24 |
| 5.3.2 | Task Two: FAD program..... | 26 |
| 5.3.3 | Task Three: Enhanced Safety at sea program..... | 28 |
| 5.3.4 | Task Four: Vessel Operation | 30 |
| 6 | Oceanic Section | 33 |
| 6.1 | General..... | 33 |
| 6.2 | Fishing licenses issued..... | 33 |
| 6.3 | Catch by the Tuvalu national fleet..... | 34 |
| 6.3.1 | Domestic fleet..... | 34 |
| 6.3.2 | Purse seine Catch..... | 35 |
| 6.3.3 | Longline catch | 36 |
| 6.3.4 | Catch and effort distribution for tuvalu flagged vessels (ps & ll)..... | 36 |

| | | |
|--------|---|----|
| 6.4 | Catch taken by foreign fishing fleets in Tuvalu EEZ..... | 37 |
| 6.4.1 | Annual catch from Purse Seine | 37 |
| 6.4.2 | Annual catches from foreign LONGLINE fleets | 38 |
| 6.5 | Fisheries revenues..... | 38 |
| 6.5.1 | Fishing licenses and fees | 38 |
| 6.5.2 | Observer Levy | 39 |
| 6.5.3 | Transshipment levy | 40 |
| 6.6 | Compliance Unit..... | 42 |
| 6.6.1 | Transshipment..... | 42 |
| 6.6.2 | Transshipment Challenges | 43 |
| 6.6.3 | Fisheries Surface Patrol Operation | 44 |
| 6.6.4 | Surface Patrol Operation Challenges..... | 45 |
| 6.6.5 | Fisheries Aerial Patrol Operation | 45 |
| 6.7 | Tuvalu National Observer Program..... | 45 |
| 6.7.1 | Twentieth Regional Observer Coordinators Workshop – Funafuti..... | 45 |
| 6.7.2 | Observer TA..... | 46 |
| 6.7.3 | Repatriation of observers | 46 |
| 6.7.4 | Observer Placements, Trips and Sea days..... | 47 |
| 6.7.5 | Observer Training | 48 |
| 6.7.6 | Observer Short term contract | 49 |
| 6.7.7 | Summary of general observer data..... | 49 |
| 6.8 | Vessel Monitoring System | 50 |
| 6.9 | Vessel Day Scheme..... | 50 |
| 6.10 | Other Projects..... | 51 |
| 6.10.1 | Japan Trust Fund | 51 |
| 6.10.2 | Chinese Taipei Trust Fund..... | 51 |
| 7 | Conclusion..... | 52 |

1 Background

1.1 The Tuvalu Fisheries Sector

Tuvalu is situated in the South Pacific Ocean between latitudes 2 and 13 degrees South and longitudes 172 degrees East and 177 degrees West, encompassing an Exclusive Economic Zone (EEZ) of 900,000 square kilometres and a land area of 26 square kilometres. The islands of Tuvalu, all low lying atolls, are homes to around 11,000 persons with over half living on the capital Funafuti.

Subsistence activities dominate Tuvalu's fisheries sector. A wide variety of techniques are used throughout the group to collect fish, crabs and shellfish which are consumed, shared or informally bartered. In the past Fisheries Centres were established on most outer islands with the intention of providing fishers with income earning opportunities, but most of these are no longer functioning. On the main island, Funafuti, artisanal fishing is limited to a small fleet of 4-5 meter outboard powered skiffs which mostly fish by trolling for tuna and by line fishing for reef fish.

More than half of the fish landed in Tuvalu are ocean species, predominantly two species – skipjack and yellowfin. The remainder is made of reef and lagoon species, with smaller amounts of bottom fish from deep slope areas. The most recent household income and expenditure survey (2015/16) shows that 55% of households participate in fishing for subsistence and cash, although this rises to 75% in the outer islands. This is a reduction from previous surveys, and suggests a growing dependence on wages and salaries. Just under 10% of households regularly fish to sell their catches for cash. Fish consumption was estimated by this same survey at 72 kgs/person/year (90 kgs in the outer islands and 55 kgs for Funafuti). Although this is still one of the highest consumption rates in the world, it also shows a decline over the past decade.

Tuvalu waters are important for the two key industrial tuna fisheries of purse seine and longline. Fishing is generally undertaken by foreign vessels operating under access agreements and skipjack tuna make up the bulk of the catch. Fisheries licensing is now the major source of Government revenue based on the combination of license fees, selling of vessel days, transshipment fees, observer fees and joint venture dividends. The industry normally provides employment opportunities for observers, port monitors and stevedores, and it had also been planned to start placing crew in 2020. The COVID pandemic and border closures curtailed these opportunities and plans.

1.2 Purpose of this report

This report describes the objectives, activities and results of the Tuvalu Fisheries Department (TFD) within the Ministry of Fisheries and Trade (MFT) during 2020. The year has been dominated by the COVID 19 pandemic. Although Tuvalu has remained COVID-free, the border closures impacted on many aspects of the Department's work. However, in spite of this, there were a number of important achievements.

2020 represents the first year of the new Corporate Plan (2020-2022) of the Fisheries Department. During the year, the Government also developed a new 10-year sustainable development strategy "Te Kete", which sets some high level goals that are similar to those of the Corporate plan. Where possible, activities are reported against the thematic areas identified in the 2020 AWP, based on this Corporate Plan.

1.3 Vision

The guiding vision of the Department can be stated as:

- ✿ Bountiful inshore fisheries supporting livelihoods and providing healthy local food
- ✿ Sustainable oceanic fisheries providing sustainable and consistent revenue, jobs and other economic opportunities.

The physical and economic health of the Tuvalu population depends upon the health of its inshore and oceanic fisheries, which can be managed by Tuvalu. The health of oceanic fisheries cannot be managed by Tuvalu alone but requires regional and sub-regional co-operation.

1.4 *Mission*

The Department's mission is:

- ❖ *To maximise social and economic returns to the people of Tuvalu through the sustainable management and wise use of Tuvalu's living marine resources.*

On behalf of the people of Tuvalu, the Government, through its Fisheries Department, will act as a responsible custodian of oceanic or designated inshore fishery resources and fisheries rights so that they generate national revenues and sustainable employment opportunities. The Department will also support Kaupule / Falekaupule to manage inshore fisheries to support livelihoods and provide local food security.

1.5 *Objectives*

The primary objectives of the Department are as follows:

- i. Sustainable management of oceanic fisheries resources through regional cooperation and compliance with regional commitments; a strong and innovative Monitoring Control and Surveillance (MCS) programme; and effective systems for collection and analysis of data.
- ii. Maintaining and where possible increasing economic benefits from the tuna fishery by maximising a sustainable and consistent flow of access fee revenue, while developing other economic opportunities including employment.
- iii. Improved management of coastal fisheries, for sustainable inshore resources, through comprehensive data collection and analysis, and working closely with island communities to improve management of the resources and the broader ecosystem.
- iv. Supporting sustainable development of small-scale fisheries for livelihoods, food security and healthier diets through training, FAD deployment, safety at sea initiatives and building a larger class of vessel for offshore fishing.
- v. Improvement and maintenance of TFD infrastructure and facilities through improved asset management and maintenance; further building on the fisheries site; and upgrading facilities.
- vi. Development of staff capacity and systems to ensure that training and staff management meet the requirements for the work; efficient implementation of development projects; and exploring the transition to a Fisheries Authority.
- vii. Promoting public awareness and education on fisheries issues including materials for schools and recording traditional knowledge.

Some of these objectives are supported by ongoing activities of the Department; others require new initiatives.

1.6 *Organisation*

The TFD organisational structure, shown in **Error! Reference source not found.**, reflects the establishment approved for 2020, although recruitment for new posts was frozen and some positions are only being filled in early 2021. The Department comprises:

- An Administration Section, comprising the Director and Deputy Director, several professionals with cross-cutting responsibilities (Legal Officer, Economist and Librarian/ Public Relations Officer, Fisheries IT Officer) and the Executive staff. The Administration group is responsible, among other things, for recommending fishery policy initiatives, negotiating fishery access arrangements, securing assistance through

development projects and establishment of new commercial initiatives in which the Tuvalu Government has an interest;

- An Oceanic Fisheries Section, responsible for industrial fishery vessel licensing, managing the sale of fishery access rights, compliance with Tuvalu's obligations under international fishery treaties and conventions, and monitoring, control and surveillance of fishing activities within the exclusive economic zone;
- A Coastal Fisheries Section, responsible for inshore fishery resource assessment, monitoring, and providing support to kaupule, fishers associations and other stakeholders in the management of coastal fishery resources and the marine environment, both in Funafuti and the outer islands;
- An Operation & Development Section, responsible for the running of the TFD vessels *Manau'i and Tala Moana*, construction and deployment of fish aggregation devices, vocational training of fishers and fishing vessel crew, and other development-oriented activities. The new Corporate Plan calls for this Section to expand its activities to promote food security.

2 Fisheries Department Resources

2.1 Staffing

The organisational structure of the TFD Public Service establishment at January 2020 was as shown in **Error! Reference source not found.** There are a number of anomalies in the grading of positions, with qualified and experienced staff still stuck at the bottom of the pay scale. Correcting these issues is a priority of the Department.

In addition to the public service establishment, several externally-funded activities continued to operate in 2020 and employed staff who work as part of the organisation. These included:

- Up to nine contract-employed officers and crew of the RV Tala Moana whose posts are funded through charters and cost recovery on the operations of the vessel (noting that some resigned during the year);
- A Project Coordinator, Project Accountant and Project Officer for the World Bank-funded Pacific Regional Oceanscape Programme (PROP);
- Part time data collectors in each of the outer islands to gather information on fish catches, mainly funded under the PROP project;
- Several temporary positions in the Department, to provide relief for staff undertaking training overseas.

A Fisheries Adviser funded by the New Zealand Aid Programme, worked throughout the year. The adviser from OFCF completed his assignment early in 2020; a replacement has been recruited but was not able to travel to Tuvalu during the year to take up his post. A Project Assistant funded by FAO was recruited during the year to deal with requirements for FAO national and regional projects.

Tuvalu Fisheries Department – 2020 Annual Report

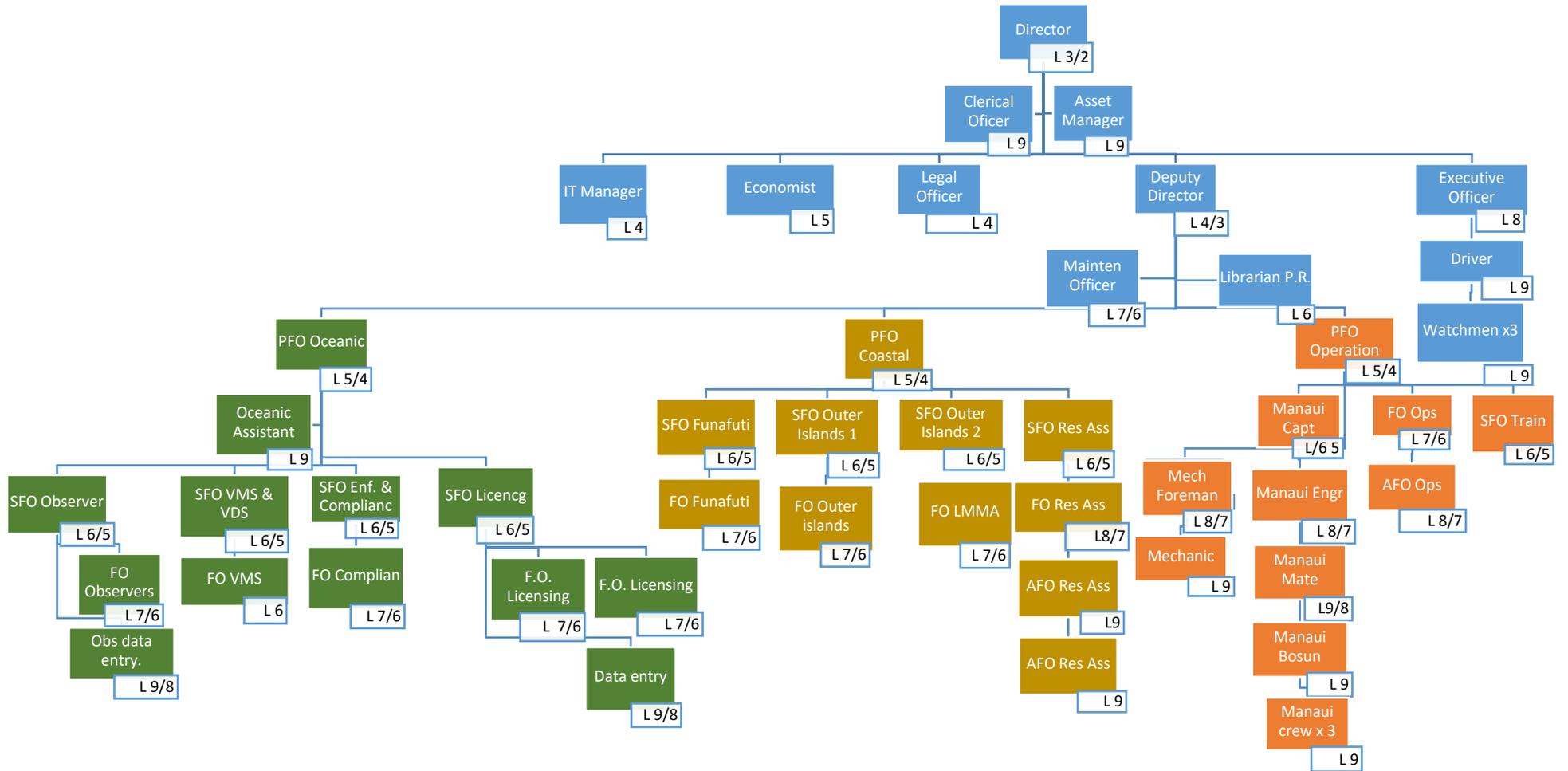


Figure 1: Tuvalu Fisheries Department Organisational Structure in 2020

In 2020 the Department managed a pool of 74 trained and qualified fishery observers. This is somewhat below the target of 80, so a new intake of 10 was approved and started their training at the end of the year.

The Principal Fisheries Officer (Operation and Development) commenced long term training overseas at the beginning of 2020, joining other senior staff; and the Deputy Director post again remained vacant throughout the year. Four staff successfully completed long term training overseas during 2020, and will return to duty in 2021.

2.2 Assets and facilities

The new office facilities, funded by the New Zealand Government, continued to provide a good work environment for the Department. Maintenance is now a priority, to ensure the building remains in good condition, and a number of airconditioning units were replaced in planned maintenance. The new photovoltaic solar power system, which meets the electricity needs of the office from renewable energy, experienced a few teething troubles during the year, but these were resolved. The defect liability period of one year has now officially come to a conclusion as of December 20th. Issues were resolved quickly thanks to the assistance provided remotely by the company. The TEC also provided staff who greatly assisted our two hard working staff – Office maintenance officer and IT officer – to sort out any problems.

RV *Manau*, the 17-metre fibreglass vessel provided in 1982 by the Japanese Overseas Fishery Cooperation Foundation (OFCF), was not operational during 2020. A generator problem developed just after annual slipping, and rewinding the armature and additional spares needed were delayed by COVID problems. A new alternator will be provided by OFCF in early 2021.

The RV *Tala Moana*, went to Fiji for biennial slipping in February, and was then caught by the COVID lockdown which greatly delayed repair work. Border closures held up the procurement of spare parts, and delays in securing the necessary finance also slowed down the whole process – resulting in further costs. Just when the vessel was finally ready to return, the Captain resigned. Sending a replacement was again delayed by border closures and quarantine requirements. However, in October the *Tala Moana* finally made it back to Tuvalu and was able to carry out charters and a surveillance patrol before the end of the year. *Tala Moana* is now more than 40 years old, and slipping in Fiji has proved to be an expensive exercise each time it has been due. TFD plans to dispose of the vessel in 2021.

The construction of *Manau II*, a new 19- metre multi-purpose Fisheries vessel donated by JICA, continued during 2020, with the new vessel launched in Japan in November. Again COVID lockdowns caused some small delays in construction; and also made it impossible for Tuvaluan crew to attend training and sea trials in Japan. It will not be possible for an engineer to travel to Tuvalu for delivery and commissioning of the new vessel. The *Manau II* will be delivered in the first half of 2021, and will effectively replace *Tala Moana*.

TFD continued to operate a range of other equipment and assets, with valuable support for maintenance and replacement provided by OFCF. The ice-machine was repaired and responsibility for ice sales handed over to NAFICOT. A new Toyota Hilux was also provided by OFCF during the year. The Department also received some new equipment in 2020, mainly funded by the World Bank PROP project, although much of this was passed on to the Funafuti Kaupule to support the implementation of their Reef Fisheries Stewardship Plan.

2.3 Asset Management

Management of these various assets is the responsibility of the Fisheries Storeman, who has been maintaining the Department's asset register during 2019. Achievements during the year included;

- Implementation and enforcing the asset policy which was endorsed in July;
- Delivering all plan activity for 2020 except for developing an asset management plan, for it requires an international expert and;

- Procurement and distribution of chest freezers and ice crushers to the outer islands as part of the government 100 days priority plan.

2.4 Office Maintenance

The Maintenance Officer was impacted by COVID as he had accompanied the *Tala Moana* to Fiji to supervise repairs to the airconditioning system and was then stuck there for nearly 10 months. Nevertheless, repair/replacement of office airconditioners that he had initiated were completed by a contractor during the year, and he was able to fix some long-running problems with the solar power system on his return.

2.5 Budget

Fisheries licensing, access fees and investments continued to generate a significant proportion of Tuvalu Government revenues: estimated income for 2020 was \$42 million – significantly more than the budget estimate despite difficult global economic conditions. This is reported in more detail later in this report. The Fisheries Department plays an active and critical role in maximising these returns through its ongoing participation in regional and bilateral fisheries negotiation, and the development of strategies intended to promote Tuvalu's economic interests.

Although the TFD's recurrent budget allocations are far less than the true cost of running the organisation, there have been some increases in recent years. However these increases stopped in 2019. For 2020 the recurrent budget allocation remained much the same as the previous year at a little under \$1 million; Development expenditure was reduced from 2019.

The Department has continued to benefit from additional funding support to the fisheries sector from several major development partners:

- The World Bank Pacific Regional Oceanscape Programme (PROP), was designed to provide a total of US \$7,910,000 over a 6-year period that commenced in September 2014. A 23 month no-cost extension of this project was agreed in 2020, although the GEF component, which has supported much of the work on coastal fisheries, ended.
- The JICA funded 'construction of the multi-purpose vessel for outer islands development' was implemented throughout the year with the construction of the *Manau II* mentioned above. This project has a budget of over AU\$5 million.
- The New Zealand-Tuvalu Fishery Support Programme (TFSP) officially ended in 2019, but a number of activities continued into 2020. A new programme, TFSP2, was approved at the end of the year and will provide NZ\$3.5 million over 5 years plus further technical assistance.
- Two small projects funded by FAO were agreed in 2020, aimed at repairing damage to the Fisheries sector caused by Tropical Cyclone Tino and the COVID pandemic. Most activities will be implemented in the first half of 2021, following procurement of materials and equipment.
- The Korean Overseas Fisheries Cooperation Centre, KOFCC, agreed to supply a range of equipment and services aimed at improving fish processing and marketing. This will also be delivered in early 2021.

Together these programmes support a wide range of activities by the Fisheries Department working in close collaboration with other partner agencies, including NAFICOT, the Maritime Wing of the Tuvalu Police Department, the Tuvalu Maritime Training Institute (TMTI), the Kaupule on each of Tuvalu's islands and the Fishermen on Funafuti Association (FOFA). Activities to be supported by programmes are fully integrated into the Department's Work Programme, under which most activities are funded by a combination of donor and recurrent budget allocations.

Additional support continues to be available through the main fisheries sector regional organisations (Forum Fisheries Agency (FFA), Secretariat of the Pacific Community (SPC), Parties to the Nauru Agreement Office (PNAO) and Western Central Pacific Fisheries Commission (WCPFC)).

2.6 Internal management, monitoring and reporting

The TFD work programme in 2020 was led through coordination of TFD senior management and key projects. This was done primarily through the Senior Management Committee (SMC), which comprises the TFD Director and Deputy Director, the three Principal Fisheries Officers, the Fisheries Legal Officer, Fisheries Economist, Fisheries Information Officer, PROP Coordinator, and the NZ-funded Technical Advisor. The SMC aims to meet monthly throughout the year to discuss and review activities and any issues arising.

The effectiveness of the SMC was further improved through regular meetings of all TFD staff, which were held to discuss the implemented activities, as well as professional and social issues within the department.

Reports were prepared on the PROP project as required by the donors. A mid-year report on progress with the work plan was prepared, as well as a number of briefs for periodic meetings with the acting Minister.

3 Administration Section Activities

3.1 General

Many of the activities of the Administration Section during 2018 were ongoing from previous years. These included recruitment of personnel, staff appraisals, and reporting on activities. Many of the Administration staff were involved in regional meetings throughout the year, although by video-conference. One of the Fisheries obligations is for the fisheries information to be shared with the public. The fisheries library and the TFD website were updated and improved during the year.

3.2 COVID response

The COVID pandemic caused a number of issues in the Fisheries sector, and Administration staff worked hard to maintain services and fisheries revenue in spite of the pandemic. Important activities included the repatriation of 24 fisheries Observers who were at sea at the time the borders were closed; development of a designated transshipment area in territorial waters but sufficiently far offshore to remove any risk of contact with vessels; and dealing with the repairs and return to Tuvalu of the RV *Tala Moana*.

3.3 Tropical Cyclone Tino

Before COVID, Tuvalu was struck by another disaster when Tropical Cyclone Tino formed near to the group. Strong winds and storm surges caused extensive damage to homes and property. Fisheries staff from the Coastal and Operations sections joined the Government's Rapid Assessment Team and prepared a comprehensive report on damage to fishing boats and facilities. Funding was secured from FAO for boatbuilding, repairs and equipment for 3 Community Fisheries Centres and other activities.

3.4 Fishery Access Negotiations

Due to COVID travel restrictions, no face to face fishery access negotiations were possible in 2020 and negotiations were therefore led by the Director using videoconferencing and email. Outcomes were generally positive, with the price of purse seine vessel days maintained; although as in 2019 the uptake of days from some bilateral partners was lower than in the past. The US and PNA pool members were unable to agree on the price of days for 2021 under this arrangement, and so for the first time in decades Tuvalu provided no days under the US Treaty. However, a new arrangement between Tuvalu, Tokelau and the American Tunaboat Association

provided fishing opportunities for US vessels. The growing domestic fleet (see below) also committed to the purchase of a good number of days.

3.5 *Joint ventures and domestic vessels*

The long-running case concerning a claim for a mortgage held against *Taumoana* by First Commercial Bank of Taiwan was finally abandoned by the Bank in mid 2020. A claim for payments due from the vessels former agent in Majuro was then negotiated. Following liquidation procedures for the TTFH joint venture, ownership of *Taumoana* passed to NAFICOT, who with the approval of Cabinet and assistance from TFD, proceeded with the sale of the vessel by tender ‘as is, where is’ in Majuro. Despite the difficulties caused by COVID travel restrictions, the sale realised US\$7 million - a very satisfactory price for Tuvalu when compared to valuations carried out in 2018. *Taumoana* has been renamed ‘*Queen Ellice*’ by the new owners and will continue to operate under the Tuvalu flag when repairs are completed in early 2021.

The second JV, TUSA, with the Korean fishing company Sajo continued operations of the Tuvalu-flagged purse seiner *Taina*, through 2020. Conditions in 2019 were challenging, with low tuna prices and a breakdown affecting vessel operations, so no dividend is expected in 2020. It is expected that 2020 operations will provide a better return, with tax and dividend payments possible in 2021.



The new Government has decided not to pursue further joint venture arrangements in the purse seine fishery, but instead directed TFD to come up with a domestic vessel arrangement that would provide for the sale of days, increased revenue and crew employment. After extensive negotiations, a package was agreed that saw two new domestic vessels join the fleet in late 2020. Two more will register with Tuvalu during 2021, plus the *Taumoana* coming back into service, bringing the total number of purse seiners under this arrangement to five.

Figure 2: Taumoana renamed Queen Ellice after re-fit in Taiwan

The winding up of Tuvalu’s longline JV – Friendly Tuna – was not implemented in 2020 as planned. This process will be completed in 2021.

3.6 *NAFICOT*

NAFICOT started the year with nearly a full team of Chief Executive Officer and the Financial Officer, although one Board position remained vacant throughout the year. Unfortunately the CEO was trapped in New Zealand for much of the year, when what should have been a short medical visit was affected by lockdowns and border closures. However the Finance Officer continued the work of developing plans and policies for the operation of NAFICOT and establishing/managing joint venture agreements. Some technical assistance was provided remotely by an FFA consultant.

Other activities during the year included:

- Termination of TTFH and Transferring Ownership of *Taumoana* to NAFICOT;
- Selling of FV *Taumoana* for US\$7,000,000;
- Settling all Safeguarding Costs of FV *Taumoana* in Majuro pending sale;
- Starting a programme of renovation to the NAFICOT office and fish market;

- Taking over from Fisheries the sale of ice to the public;
- Appointment of the Administrative Officer;
- Renting out the NAFICOT outlet at the Vaiaku Fusi under a signed agreement with the tenant;
- Claiming of US\$100,000 dividend from the TUSA joint venture 2018 accounts;
- Drafting, finalizing and approval of the NAFICOT Dividend and Reserves building Policy and NAFICOT Financial Instruction;
- Appointment of two Directors from the NAFICOT Board Mr Falasese. Tupau and Mrs Siava. Tekafa to represent NAFICOT into the TUSA JV Board. Participation in regional meetings and workshops

3.7 Regional meetings

Tuvalu successfully hosted the Regional Observer Coordinators Workshop in February – which proved to be the last regional fisheries meeting to be held as a ‘real’ meeting. After this, all other meetings were conducted through video-conference. These included: PNA official and ministerial meetings; FFC officials and ministerial meetings; WCPFC Annual Sessions, Technical Compliance Committee (TTC) and Scientific Committee (SC) meetings; the annual FFA Management Options Consultation (MOC); and other technical meetings on MCS, and issues arising from the COVID pandemic. In coastal fisheries, Tuvalu had the honour of chairing the SPC Heads of Fisheries meeting of SPC.

While participating in virtual meetings presented some challenges for Tuvalu, particularly with poor internet connections, most of the core business of these meetings was completed. In particular, the continuation of management measures for Tropical Tuna agreed in WCPFC can be seen as an important achievement for the sustainability of our main natural resource.

3.8 Staff training and workshops

As with the meetings noted above, various training workshops were either cancelled or moved into a virtual format. Training sessions on the PNA Fisheries Information Management System (FIMS) were organised, and staff who had signed up for the Fisheries Leadership Programme also participated on line. An in-country workshop on Management Strategy Evaluation, organised by SPC, was held successfully. However, many short term training opportunities and attachments had to be cancelled.

The achievement of mid-level staff who had been attending long-term training overseas also needs to be recognised. Three completed their BSc, programmes at the University of the South Pacific, while a fourth gained a Masters degree from James Cook University in Australia.

3.9 Legal Services

The Fisheries Legal Officer (FLO) is responsible for giving legal advice to the TFD and also to prepare all necessary legal documents required. FLO completed a range of tasks in 2020, which included: drafting Cabinet Papers, working COVID 19 shifts in March during the lockdown, assisted with winding up of Tuvalu Tuna FH JV (TTFH Pty Ltd. –FV Taumoana) and sale of FV Taumoana, gave advice on NAFICOT legal issues, prepared contracts of services for Observer Recruitment, prepared Fisheries Orders under the COVID 19 orders, assisted with new domestic fishing vessel arrangements, Conducted training for Mataili Police and various staff, drafted Amended Bye Law for Funafuti Kaupule to protect Turtles, prepared legal advice on Tala Moana issues, conducted a presentation on Fisheries work for the Vaitupu strategic plan and gave advice on contract of service for Tala Moana crew.

3.10 Information Technology

IT systems were maintained and improved during the year by the IT Manager, with some technical assistance funded by TFSP and PROP. This TA mainly focused on development of an Information Management System (IMS) which incorporates the old coastal fisheries database. Internet connectivity was a problem during the year, due to the failure of the cable connection

between TFD and Tuvalu Telecom. This resulted in overloading of the Speedcast link, and a reliance on mobile data. Other activities included the procurement of IT Hardwares for the Network system and MIS.

3.11 Fisheries Economist

The Fisheries Economist works under the Administration section and is responsible for the provisions of economic advice to the Director of Fisheries in the formulation of policies on different arrangements that the Department is associated with. Work in 2020 included:

- Assisting with World Tuna Day
- Assisting with the development of new arrangements for the domestic fleet.
- Assisting with the department budget preparations.

3.12 Fisheries Adviser

The Fisheries Adviser is funded by New Zealand MFAT to provide advice and support on fisheries issues, primarily to the Minister, CEO and Director of Fisheries. He also acts as manager of the TFSP project. Achievements during the year included:

- Delivery of all except one of the remaining inputs under the TFSP project (this last activity, to develop a longline training course, is not possible without international travel);
- Assisting consultants with the development of a second phase of the project, TFSP2, which was approved before the end of the year;
- Providing advice to NAFICOT on the successful sale of Taumoana;
- Assisting with the development of new arrangements for domestic vessels.

He also assisted and advised on work in other areas described elsewhere in this report.

3.13 Public Information and Awareness Program

There are five collections within the library which include: periodicals, reference, main collection, audio/visual and the Tuvalu (country) collection.

Apart from Radio awareness, there are also other awareness activities including the ongoing maintenance of the TFD website with fisheries vacancies advertised, fisheries progress reports, uploading recent fisheries related document to the website and also printing of fisheries reports.

| DATE | RESPONSIBLE SECTION | TOPIC | SUMMARY |
|------------|---------------------|-----------------------------------|---|
| 9/1/2020 | O&D | Talamoana on Dry Dock, sea safety | A brief update on the: 1. Tala Moana 2. safety precautions when at sea. |
| 6/2/2020 | O&D | Fishing Techniques & Post Harvest | A brief update on the new methods of fishing techniques and post harvest training that would be conducted by one of the OFCF fishery expert from Japan, Mr Keizo Takahasi |
| 20/02/2020 | Oceanic | Vessel Sighting | share to the general public about vessel sighting |
| 27/4/2020 | Admin | World Tuna Day | Briefly Share to the public about activities of the World tuna Day |

| | | | |
|-------------------|---------|-------------------------------|---|
| 30/04/2020 | Admin | World Tuna events | Share to the general public about activities of the World Tuna day event |
| 14/05/2020 | O&D | Post-harvest | update on the training on handling and preserving of sea foods |
| 9/7/2020 | O&D | Grab-bags | update the general public on the importance of grab-bags to fishermen |
| 6/8/2020 | Admin | Events in the Fisheries Dept. | Update the general public on Fisheries activities mainly the administration activities |
| 3/9/2020 | O&D | FAD'S | Share to the general public information about FAD's |
| 26/11/2020 | Coastal | Metro Trip | update the general public on the purpose and activities of the metro trip to the outer islands. |
| 10/12/2020 | Admin | Work of the admin section | Brief update on work and activities under the admin sector |

Table 1: Fisheries Radio Awareness Programmes during 2020

3.14 World Tuna Day

Tuvalu celebrated World Tuna Day for only the second time in 2020, with a programme of events leading up to the day itself on 2nd May. Uncertainty over COVID restrictions left little time for preparation, but after a ban on public gatherings was lifted, the TFD team put together a bigger and better programme of activities than in 2019.

Events that had proved popular were repeated: a Futsal tournament; a raw tuna dish competition; a fishing contest; competitions in speeches, drawing, poems and essay writing on the subject of tuna; and a song competition. New events included a ladies' volleyball competition; boxing demonstrations; an eating competition; and, with more of an aquatic theme, Tuvaluan canoe racing and swimming competitions.

These awareness activities were coordinated by the TFD in order for the public to engage and to recognize the importance of Tuna to our lives individually, to our families, our communities, our islands and our country as a whole. Young people of all ages participated actively with support and assistance of pre-schools, primary and secondary schools, and the USP Centre.

The programme highlight was on World Tuna Day itself: Saturday 2nd of May. The many winners in the different activities were awarded their prizes at a closing dinner at the Lagoon Hotel, hosted by the Minister of Fisheries and with participation of the Prime Minister, Ministers, Diplomats and other dignatories. At a time when Tuvalu was coming to terms with the impacts of the COVID pandemic, it provided a welcome event and happy celebration of our most important fish.

4 Coastal Section

4.1 General

The majority of 2020 activities were follow up activities from the year 2019, however the impact of COVID-19 pandemic had put an unexpected setback to normal activities. Metronome trips to the outer islands, International consultants and meetings with regional crop agencies were greatly affected by COVID-19 pandemic. However most of the coastal fisheries work focused on the capital were virtually completed except technical assistance on fish size limits study and other outsourced consultants' work.

2020 staff were mainly staff that were recruited late 2018 and early 2019. This year Sitia Maheu was recruited as acting SFO for Funafuti coastal management, Matapua Falani was appointed as Ag SFO alongside Sione Falesene as Ag Fisheries officer for the Outer island management section. Lavata Nivaga was appointed LMMA and MPA officer and Fuivai Vaelei was recruited as acting Fisheries assistant officer for resource management.

Many expected activities for 2020 were greatly affected by the pandemic COVID-19 hence were put on hold.

4.2 Resource Assessment and analysis

The data analysis and resource assessment unit's 2020 activities under the Fisheries corporate plan 2019-2021 consist of the following activities:

- a. Ciguatera Sampling (Gtox monitoring)
- b. CFP
- c. Boat and canoe survey
- d. Creel survey analysis

However this year there were a couple of side activities that were added to the mix to complement the Coastal Fisheries management's major activities such as the FRSP and developing outer Island fisheries management plans. The additional activities included;

- a. Water quality assessment
- b. Protected area study Niutao
- c. Analysis of National BDM management plan
- d. Assist R2R in seaweed extraction

4.2.1 Ciguatera sampling (GTX monitoring)

Ciguatera Fish Poisoning (CFP) is a complex form of human illness caused by the consumption of fish that have accumulated toxins originating from bottom-dwelling toxic dinoflagellates, such as *Gambierdiscus* and other related species. These toxins, namely gambiertoxins and ciguatoxins (CTXs), are transformed into more potent forms as they move through the marine food web.

Results of ecological investigations carried out at twenty three sites (23 samples) in Funafuti Lagoon are shown for the first half of 2020 (Figure 2 & Figure 3, Figure 4 & 5) and the last half of 2020. Only the third quarter (Figure 6) has survey data but the last quarter was not surveyed due to unfavorable weather at the end of the year.

The twenty three sites were selected because they have been affected by ciguatera in the past, and as part of its work, the Tuvalu Fisheries Department (TFD) monitors those reefs to determine whether the causative organisms (toxic dinoflagellates, particularly *Gambierdiscus toxicus*, *Prorocentrum spp.* and *Ostreopsis sp.*) are present on the reefs. The aim was to identify reefs with active outbreaks, and at what densities the dinoflagellates are found on a quarterly basis. From these data, we are able to make recommendations so that fishermen can avoid toxic areas of reef and therefore try to prevent further cases of poisoning of humans and livestock.

There was also a radio program (Radio Tuvalu) warning the public on those hotspots (High number Gtoxs) so that fishermen can avoid toxic areas of reef. The Department also found out that all the CFP cases are confined to the North East of Funafuti atoll (Figure: 5) cross cutting from Papaelise to Tepuka islet. This is the area most affected by pollution.

4.2.1.1 First quarter 2020

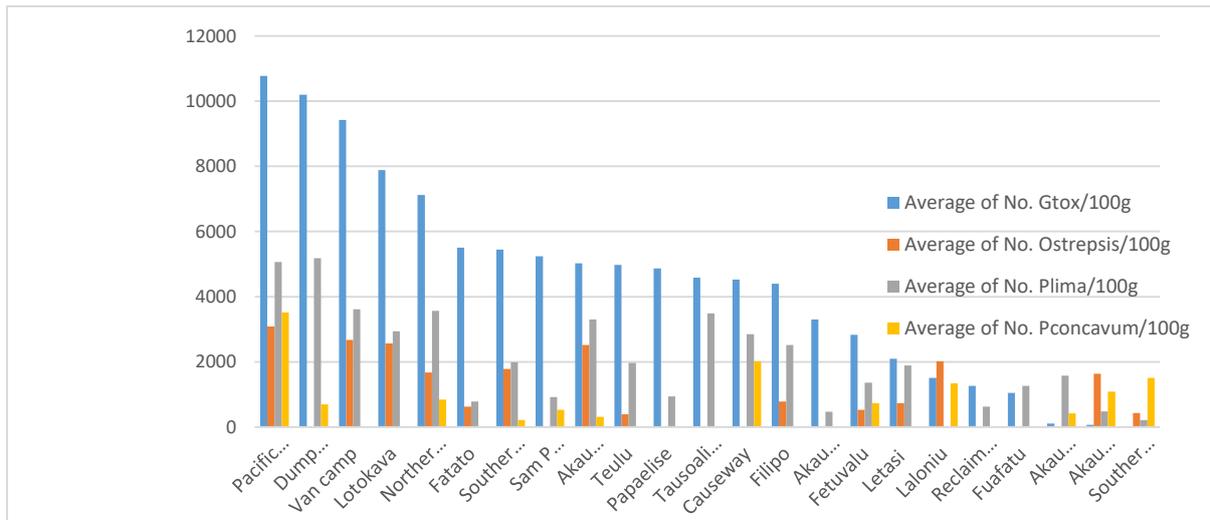


Figure 3: Results of surveys of *G. toxicus* and related toxic dinoflagellates densities in Funafuti between 24th and 25th of March 2020. The graph are average cell counts of *G. toxicus* and and other potentially toxic din oflagellates per 100g Host algae.

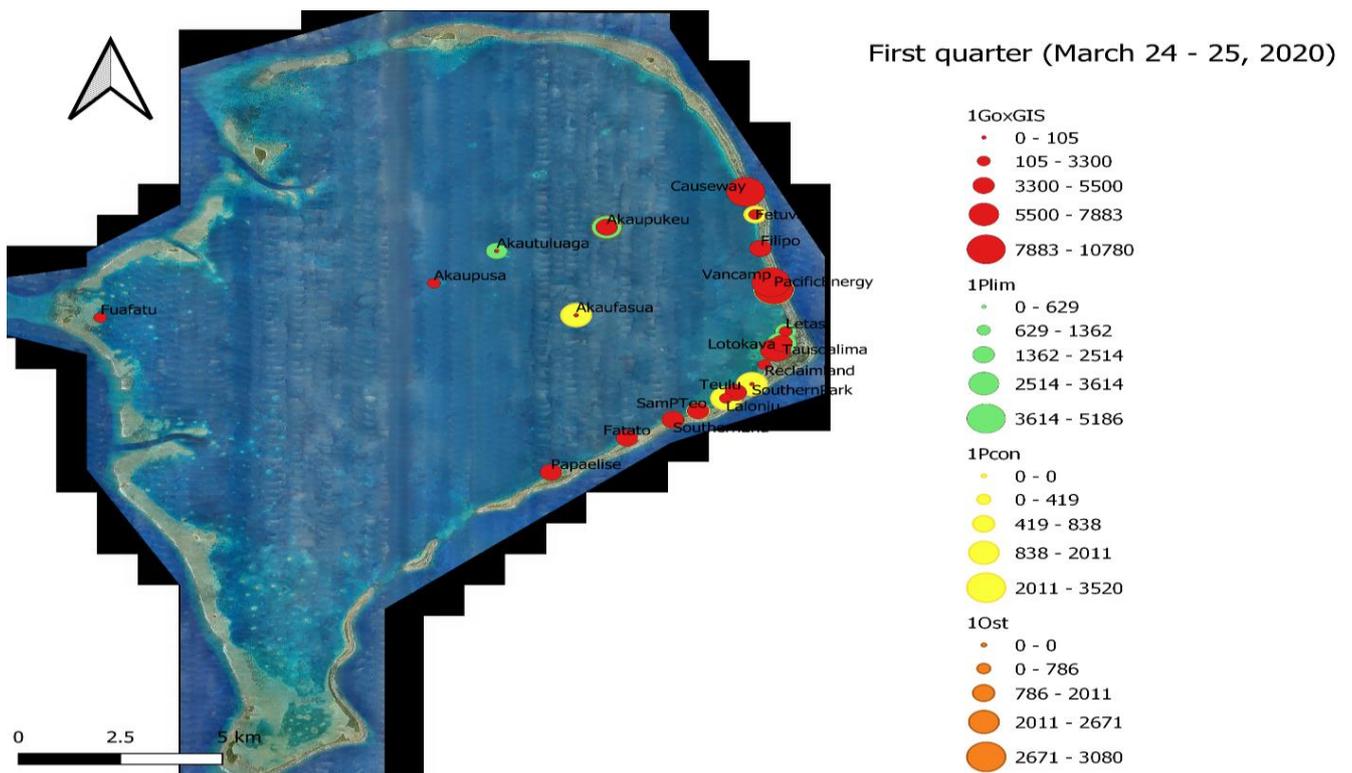


Figure 4: GIS map showing the location and density of *G. toxicus* and other potentially toxic dinoflagellates related to the above graph.

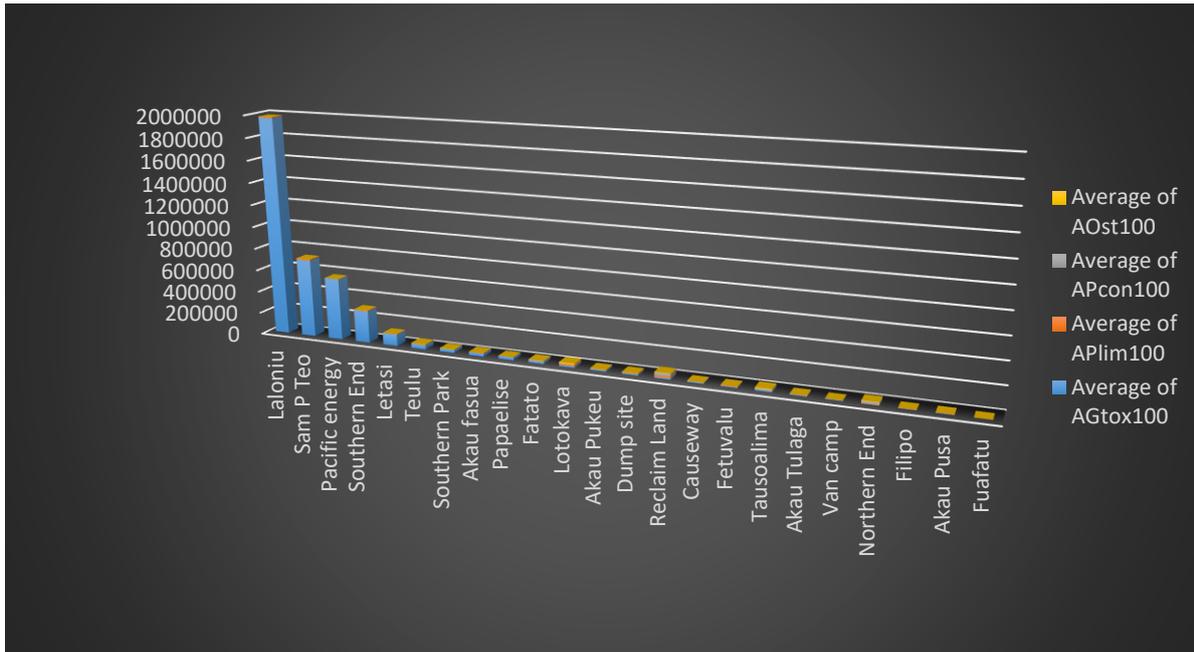


Figure 5: Results of surveys of *G. toxicus* and related dinoflagellate densities in Funafuti between 23rd and 25th of March 2020. Data are average cell counts of *G. toxicus* and potentially toxic dinoflagellates.

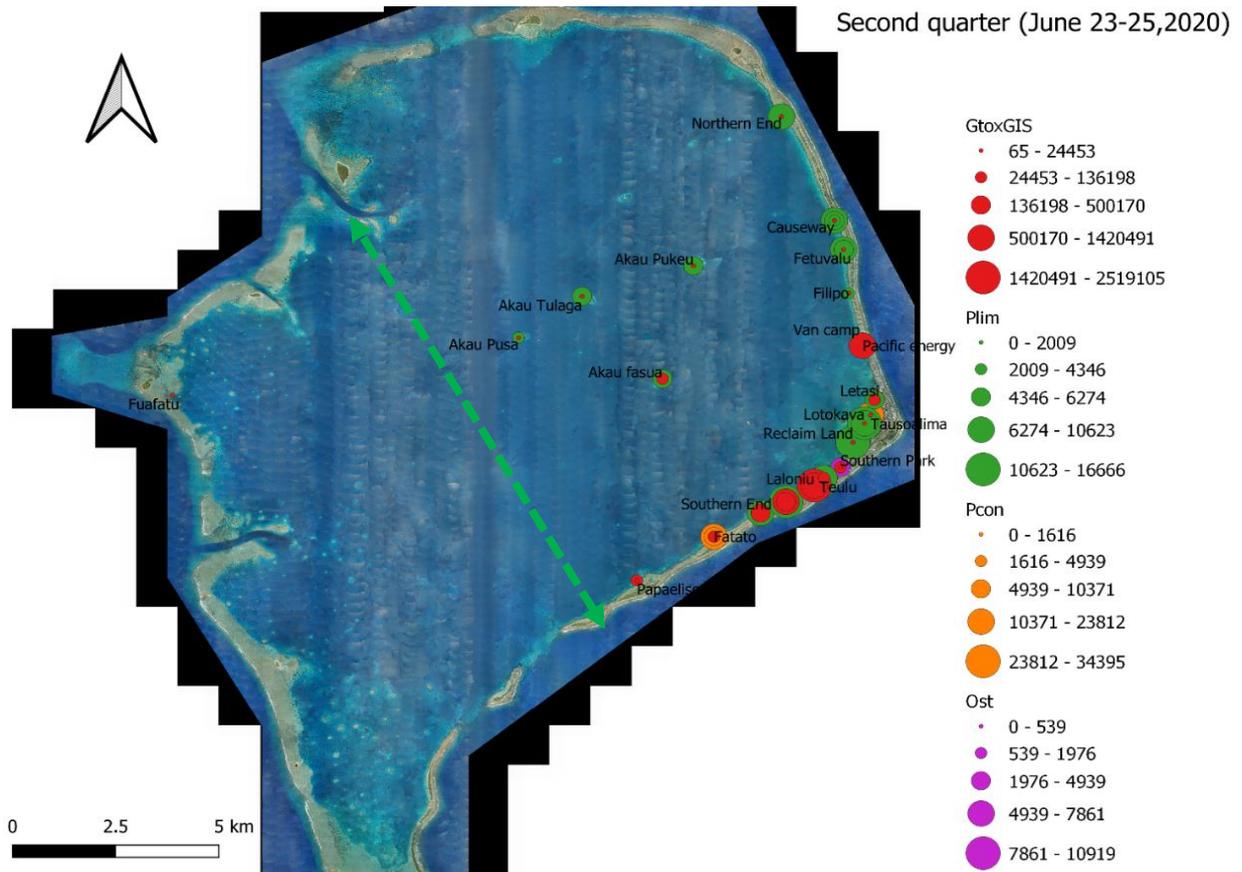


Figure 6: GIS map showing the density of *G. toxicus* and other potentially toxic dinoflagellates for second quarter 2020, related to the above graph.

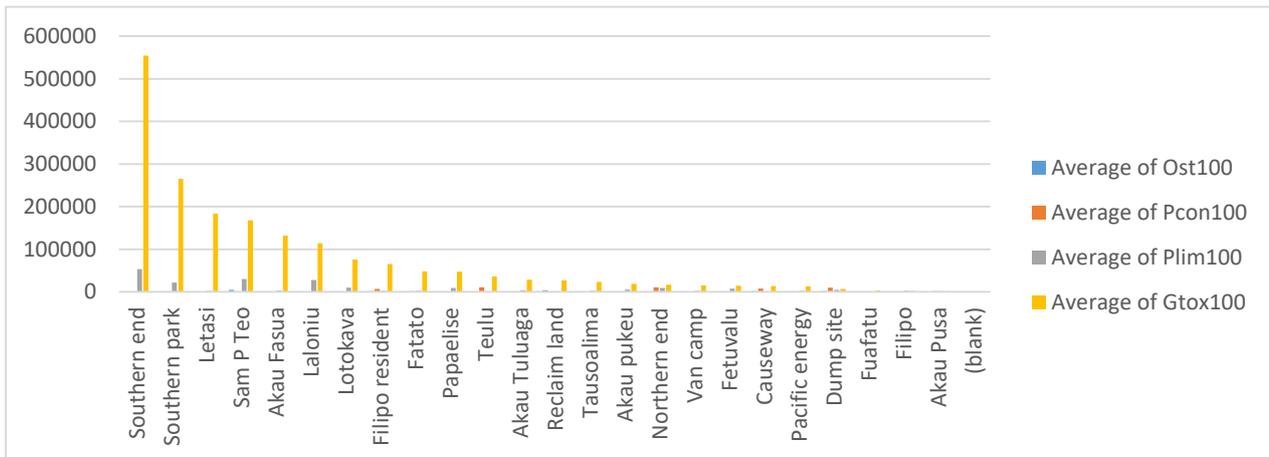


Figure 7: Results of surveys of *G. toxicus* and related dinoflagellate densities in Funafuti between 22nd and 23rd of September 2020. Data are average cell counts of *G. toxicus* and potentially toxic dinoflagellates.

4.2.2 *Ciguatera cases*

Ciguatera Fish Poisoning (CFP) continues to be a concern in some islands but is no longer as serious as it was in the past few years. Regular CFP assessments were conducted on all islands throughout the year during each metronome trip, where information was gathered on cases of poisoning in humans. The numbers of CFP cases were normally obtained from hospitals/clinics on each island by using a data sheet, which were then all brought back to Funafuti and transferred into a database in the office.

Ciguatera Fish Poisoning cases were only found in Funafuti island with four (All male) near Papaelise islet and none from the outer islands. This is a significant decrease in the number of CFP cases from the last five years and it is good sign for the Department that the public are now well aware of the effects of Ciguatera Fish Poisoning.

4.2.3 *Other Activities – Niutao Lagoon Water Quality*

Between the 26th August to the 2nd of September 2020, 4 staff from the coastal division and 1 officer from Ridge to Reef project (R2R) were tasked to assess the enclosed lagoon (Taliua) in Niutao to the north of Tuvalu. This assessment was based upon the request of Niutao Falekaupule for the possibility to introduced new fish species into Taliua.

There were few issues raised by the community about the enclosed lagoon Taliua, therefore the community requested the Fisheries department and R2R to assesses and give recommendation.

1. The enclosed lagoon is really shallow.
2. There is too much mud.
3. The community also wish to assess the possibility to dig out the mud and gravel without affecting the island.

The assessment team managed to do a water quality survey, measured the depth of the mud and gravel and as well as marking the boundary for the proposed new Locally Managed Marine Areas (LMMA).

The coastal team returned to the Niutao community Late November 2020 with findings that were to be analyzed and discussed with the inshore TA and Fisheries Management. The

recommendations were discussed via zoom platform with Dr Ursula Kaly (Coastal Adviser) and Mr Lindsay Chapman.

An SPC report from 2012 demonstrated that aqua/mariculture is not always the best way, however an option to be Considered in Pacific Island Countries (Hambrey & Nautilus, 2012). We therefore recommend that this idea be tested before too much investment.

Our recommendations for taking this project forward are:

1. Do this as a pilot project at first to confirm its suitability for the area. Once the small scale project has shown it meets your needs, you can expand it to full scale;
2. Suggest that the initial species trialled are locally sourced juvenile mullet and juvenile milkfish from Nanumea or Vaitupu, carried up on a round trip with MV Nivaga III/ MV Manufolau or Manui. The other possible option is to introduce the Tilapia from Nanumaga which larger than the Tilapia which is currently in Taliua pond and could easily reproduce in brackish water.
3. Suggest the pilot is carried out at the small pond about 170m to the SE of the main lagoon and not at the lagoon itself (Figure 7)**Error! Reference source not found..** The reasons are:
 - a. There is a chance it has no Tilapia allowing for a full test of the conditions without the known negative impacts of Tilapia on the ranched fish;
 - b. If Tilapia are present, use of a natural temporary pesticide (fish-killing substance) is more likely to be effective than having to wall-off the larger lagoon and poison small parts of it (Tea Seed Cake).
 - c. Saves having to invest in expensive cages, at least until there is proof of concept and its worth scaling up.

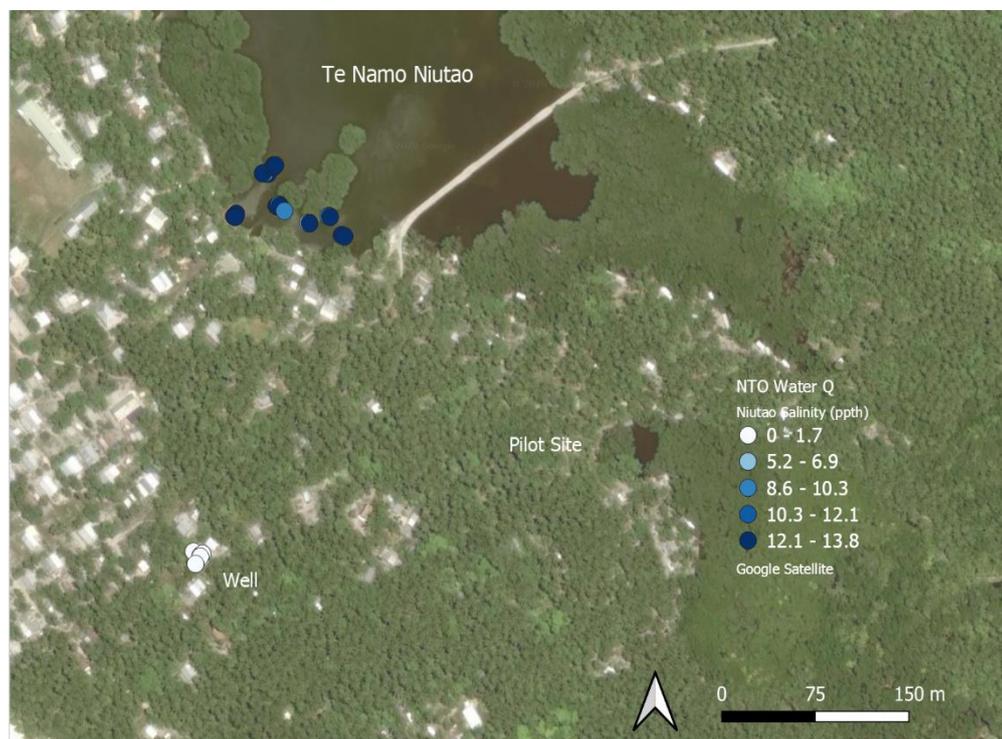


Figure 8: Map of central part of Niutao showing location of the enclosed lagoon, village and proposed Pilot site.

4. To support the use of the pilot site it is suggested that some basic information be collected by 1-2 Kaupule staff as follows:

- a. Examine the Pilot Site pond and determine whether there is any reason not to use it (like landowner does not give permission, >5 pig cages are located directly around the pond, and other signs that might be relevant);
- b. Do a field water test using taste to determine, very roughly, what the salinity is;
- c. Return the results to TFD and R2R to confirm compatibility with fish species.

4.2.4 Funafuti Conservation Area (FCA)

The Resource Assessment and Monitoring sub-division also contribute to the FCA support program under the Funafuti Kaupule.

The Coastal Resource and Monitoring sub-division assisted the Coastal sub- division under Funafuti and Funafuti Kaupule together with the Ridge to Reef project (R2R) by assembling of buoys before deployment (Figure 8) as well as clearing those spots on patch reefs for beacons to demarcate the conservation boundary on the lagoon-side (Figure 8).

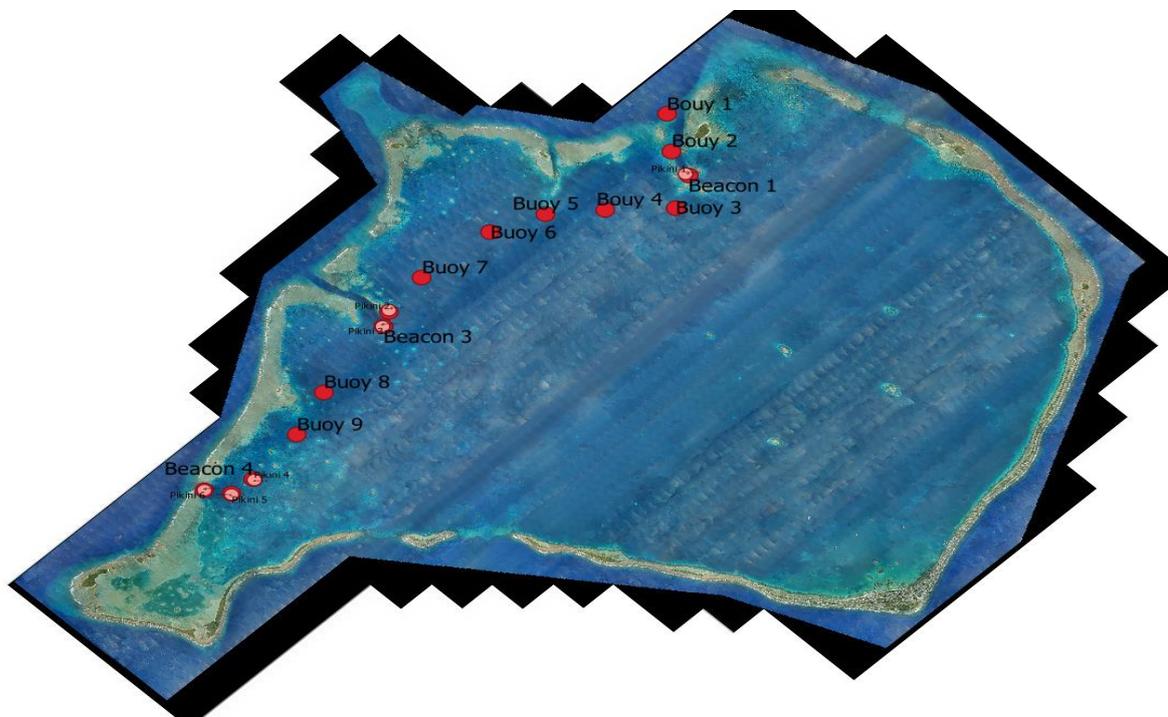


Figure 9: Funafuti Conservation Area Beacons and Buoys locations

4.3 Outer Island Support Programme



Figure 10: Metronome trip

Generally, there would be four Metronome trips annually to deliver the services provided by TFD to the outer island communities. Due to the closure of most of the outer island borders and unavailability of Fisheries research vessels throughout most of the year, the coastal team could only manage a single Metronome trip to the outer islands.

4.3.1 Creel (Outer Island Data Collectors)

The Creel survey this year has faced a great deal of complications in many areas, above all is the poor support from the Government in budgeting funds to run the creel program. The creel

program was initiated by TFD to accommodate a focal area within the Fisheries corporate plan which is to provide optimal fisheries data (creel) in regards to developing proper fisheries management plans to the outer island communities. The need for accurate data is re-stated in the new Tuvalu Sustainable Development Strategy *Te Kete*.

4.3.2 Creel Data Entry

A large portion of the data provided by the outer island data collectors had not been entered due to the malfunctioning of the coastal fisheries database server since the year 2018. The server was fixed in 2019, however in May this year all data was entered to a centralized Fisheries database system developed in cooperation with Bitsolution IT consultant. Arrangements to transfer relevant data to the SPC TAILS system were also made.

The outer island management team could not provide a proper update from the Creel Reports that covered the period of 2018-2019 due to missing reports from the outer island data collectors. The missing reports has been an issue since the initiation of the program. Delivering the reports via the normal shipping schedules seems to be a dysfunctional process. Hence the recommendation in improving the outer island internet connection in aim to direct all reports electronically.

4.3.3 Outer Islands Quarterly Visit

The quarterly visit is an activity that monitors the progress of each island states' fisheries management plans in conjunction with monitoring and updating the creel survey program. Various circumstances especially COVID-19 had hindered the program from being achieved properly.

4.3.4 Community Based Fisheries Management Plan

There was one island that need to review their management plan. Later in the year, the Inshore Fisheries Advisor advised the Outer Island sub-section to have a management plan that is focused only on Fisheries related issues. That plan that is about to be set up is known as *Outer Island Management Plan*.

The trip to the South (Metronome 15) was planned to review their Community Management Plan and see if the community are aware of what they had written on their Management Plan. However, Tropical Cyclone Tino struck Tuvalu early in the year that made the team postpone their trip until further notice.

4.3.5 Awareness Program

The Outer-Island sub-section have been involved in the awareness program from outer islands and in Funafuti. Through public and school awareness where officers present their topics related to fisheries matter.

Radio Programs were also featured where the officer shared the information on the metronome trips and informing the public about the work and purpose for the trip.

The Coastal Section recently created a Facebook Page known as "Tuvalu Coastal Fisheries" that posts updates from the coastal section about their local marine resources.

4.3.6 Metronome Trips

Only one metronome trip was successful, which was the trip to the North (Metronome 17). The two other trips were either postponed or cancelled due to CoVID-19 and unavailability of TFD vessels. The trip to the North was successful but did not cover Nanumea due to the island having closed off its borders. Trips to the South and the Central islands were not possible.

4.4 Funafuti Coastal Management

The report highlights the Funafuti Coastal Fisheries Management Section activities in the year 2020. The report summarizes the outcome of the on-going activities, those that were executed and some that are in progress due to COVID19 restrictions.

4.4.1 Introduction

The Funafuti Coastal Management Section focused particularly on Funafuti Inshore activities. Since, over 60% of Tuvalu population resides on Funafuti Island, a well manage fishery is crucial to manage the Funafuti water sustainably. A healthy marine environment will continue to provide protein for Tuvalu's future generations and a healthy life cycle for marine resources. Throughout Funafuti Coastal Section 2020 work plan, most activities have been executed. The left over activities are prioritized to be implemented in the beginning of 2021.

4.4.2 Marking the Funafuti Conservation Area with buoys and beacons

Demarcating the Conservation boundary has been a challenge over the years. In November 2020, the Fisheries Department under PROP project signed a contract with Ocean Logistic Company to deploy the buoys and beacons. R2R project was another funding partner that assisted in procuring of beacons and supported the completion of the above activity. The project took 5 days to deploy 9 buoys and install 6 beacons altogether. A total of 8 officers were included in this project. 2 officers from Fisheries Department, 1 from the R2R project and 5 from the Kaupule Funafuti.

4.4.3 FCA Hut

Strengthening the FCA by constructing a hut at Fualopa islet is another hurdle to deal with. The development of the hut was deferred last year until the Environmental Impact Assessment could be carried out. The EIA officer funded by PROP project started in late September 2020 and conducted the study late October 2020. Mr Rajneel presented his findings to the Kaupule Funafuti with his proposal to move the site of the hut to Tepuka islet due to environmental reasons. The Kaupule and Falekaupule Funafuti considered his recommendations and opted to establish the FCA hut at Tepuka islet.

The EIA Officer also recommended changes to the hut design which was also approved by the Kaupule Funafuti. The issue now lies with the designer of the hut who has not confirmed the material lists of the new hut design. He has not responded as he left for further studies in Fiji earlier this year.

The material list is required by the Fisheries Department in order to prepare the Terms of Reference for the procurement of materials under PROP funding. Now, the department awaits confirmation of the FCA hut material list from the Kaupule Funafuti and their designer, in order to move things forward.

4.4.4 Fish Size Limit Study

Under Funafuti Reef Fisheries Stewardship Plan strategy 2 is to limit sizes fished so every fish can breed at least once. The fish size limit study was supposed to carried out last year but due to COVID19 restrictions the selected consultant was unable to come over to Tuvalu. The Department still awaits for the confirmation when the study will begin.

4.4.5 Funafuti Bye Laws

The local consultant who was supposed to formulate fisheries legislation and review them was postponed due to pre-requisite arrangements. The selected consultant had to delay work until after the Fish size limits can be set. The outcome of the study will determine the new bye laws according for fish size. He/ she will also look at reviewing other fisheries legislation and assist Funafuti Kaupule in formulating their fisheries bye laws.

4.4.6 Outreach Program

In 2019, the Tuvalu Fisheries Coastal Section, Kaupule Funafuti and R2R project staff conducted an outreach program to island communities on Funafuti in elaborating the Funafuti Reef Fish Stewardship Plan. The program aimed to ensure the citizens on Funafuti are aware and understand the goals of the Funafuti fishery plan. The awareness was roll out to all island communities in Funafuti but it was found out the targeted audience - the youths - were absent at all sessions. Thus, the Department has to relook at finding ways to have a special session with them. Including the Primary and Secondary students is another goal that is under strategy 4 of the FRFSP 'Ensure everyone is involved'.

The awareness began with both SDA and Nauti Primary Form 1 students. Followed by Fetuvalu Secondary School and ended with the special youth session which was held at Tulakiiga Maneapa.

The program was a success as youths and children understood that only Funafuti Island has a fishery plan - a plan that aims to sustain the abundance of the marine resources for the benefit of the marine ecosystem and the future of Tuvalu.

4.4.7 Reviewed FRFSP

The Funafuti Reef Fisheries Stewardship Plan was launched in 2017 and began in 2018. The fishery plan is to be reviewed annually at the end of each year. In 2020, the fisheries plan was reviewed in November. The people of Funafuti, Kaupule members and the Fisheries Department staff were involved at this session. The Kaupule officers and Fisheries Officers who worked together in implementing the FRFSP present their presentations on the status of the plan and the issues faced during implementation of the plan. The session open the floor for discussion for resolution of the highlighted issues and draw out the way forward for the plan. The discussion ended with positive outcomes and feedbacks that help the operation and management of the plan in years to come.

4.4.8 Creel survey

The creel survey is an on-going activity where data collectors have to go out to landing site to search for fisherman when they return with their catch and conduct their survey. The survey includes, the measurement of the length of the fish, weighing the fish and recording the fish species names. With the new Tail plus app, it will make the data collector's job easier with just a touch by using tablet. The issue has been that the Funafuti Data Collector has no transportation to carry out his survey; however, with a new quad bike arrived at the end to sort out this issue.

4.4.9 Cleaning Up Campaign FCA

The Red Cross Society to hosted the cleaning campaign at the Conservation Area. Members from in-line stakeholders (Waste, Fisheries and Kaupule) joined the Red Cross program to clean up trash at all the Conservation Area islets. Collecting non-biodegradable waste on the islets and the coast was the aim of the program. Bins and empty sacks were filled with waste and transported back to Fongafale and dumped at the landfill. The program ended with a barbeque lunch at Tefala islet and return to Fongafale before dawn.

4.5 Training and regional meetings

HOFF 12

The 12th SPC heads of Fisheries (HoF) washeld online utilizing the 'Zoom' platform, from the 12th to the 14th May 2020, chaired by Mr Fakavae Taomia, secretary, Ministry of Fisheries and Trade, Tuvalu.

HoF is a regional meeting of the heads of SPC member country and territory fishery agencies, or their appointed deputies, covering the entire range of interests for which they have responsibility and on which the SPC Division of Fisheries, Aquaculture and Marine Ecosystems (FAME) provides advice and assistance. The HoF meeting plays a unique role in providing strategic guidance to FAME.

Given the online format of the meeting, the outcomes were circulated to, and confirmed by members, after the closure of the meeting

The meeting was opened by Stuart Minchin, Director General, SPC, in his first address to HoF as the new Director General of SPC.

The Priorities for FAME and directions for 2020 and beyond include:

- a. Reviewed and provided overall support for the FAME oceanic, coastal and aquaculture priorities and directions outlined.
- b. It was an ambitious work programme hence SPC FAME requested to further prioritise, particularly in light of the current COVID-19 context.
- c. SPC FAME to continue ensuring the priorities should be aligned to member needs.
- d. Identified the following key areas to help guide FAME's prioritisation:
 - i. Development of an overarching data governance policy covering data ownership, data sharing, integration and dissemination.
 - ii. Improved integration of the data management, analysis and reporting tools currently available from SPC for fisheries.
 - iii. Continue the capacity development work programme, including an increased focus on follow up to strengthen overall impact and the participation of women.
 - iv. Scaling up community-based fisheries management and the implementation of 'A New Song for Coastal Fisheries'.
 - v. Integrated activities to support food security.
 - vi. Aquaculture development, including evidence of what is working and what is not.

COVID-19 impacts

Heads of Fisheries:

- a. Identified the need for further understanding on the impacts of COVID-19 among members and resulting member needs, including resources and capabilities within Pacific Island Countries and Territories (PICTs) to respond, and longer-term strategies for resource management.
- b. Identified three key initial impacts of COVID-19, these being fish production, increased importance of food security, as well as the impact on observer placement, MCS and verification of reported fishing activities.
- c. Noted the need for ongoing adaptations of FAME's oceanic, coastal and aquaculture work programmes in response to COVID-19, donor flexibility and ongoing opportunities postCOVID such as electronic meetings like online HoF and remote support to members.

4.6 Challenges

Challenges experienced in 2020 by the Coastal Fisheries Section included:

- Impacts of COVID-19 on inter-island travel
- Lack of financial support from GOT to run OIDC program.
- Breakdown of Fisheries Research vessels (Manau) and unavailability of Tala Moana for much of the year
- Poor internet connection
- Poor delivery system of reports from outer islands causing missing reports.

4.7 Recommendations

- In light of COVID-19, The TFD AWP should consider the external forces arise from COVID-19so that there is no setback with expected outcomes.
- To find solutions in boosting internet connection in the outer islands in aiming to improve the missing report issue.
- Coastal fisheries should be provided with optimal internet connectivity to use the zoom platform for meetings and consultations.
- The immediate need for MRV Manauai to be operational by the start of 2021 to minimize the issue with transportation means to the outer islands.

5 Operation and Development

5.1 General

Fisheries remains an important source of food, income and cultural identity for the people of Tuvalu. While the majority of fish consumed locally comes from coastal fisheries, production has not increased significantly in recent decades despite indications in our island communities of increasing fishing pressure. This suggests that the marine resources that support coastal fisheries in our communities are fully or over-exploited. This situation is likely further exacerbated by the impacts of climate change in coastal areas.

In order to maintain current levels of consumption of fisheries marine resources, TFD will need to develop improved fisheries management of near-shore resources as well as utilize adaptive responses that assist with the reduction in pressure and threats to marine resources. Thus, greater efforts are required to promote the contribution of small-scale fisheries to food security and nutrition at the same time as enhancing the socio-ecological resilience of our island fishing communities.

5.2 Objective

“Supporting sustainable development of small-scale fisheries for livelihoods, food security and healthier diets”

5.3 Major Tasks

The Operation and Development section is responsible for a range of activities which are divided into 4 main tasks, which includes:

- Livelihoods
- FAD Program
- Safety at sea program
- Vessel operation

5.3.1 Task One: Livelihoods

Revenue generating activities (RGAs) related to near-shore fishing are promoted and piloted in the target sites, including youth and women.



Figure 11: Post-Harvest awareness workshop and training on Nanumaga and Niutao Island communities

Activities were executed through the year; Communities’ awareness workshops and training for Post-Harvest were organized on the 1st of June 2020 to 19th June 2020 for 2 days for each Funafuti community; and for Nanumaga Island and Niutao during the metronome trip of this year. These workshops were funded under PROP assistance in line with Tuvalu Fisheries work plan for 2020

Post-harvest training was provided to the 6 target Communities on Funafuti as follows;

1. Lofeagai
2. Fakaifou
3. Vaiaku
4. TMTI
5. Papaelise
6. Kavatoetoe

Objectives of the Training workshop

- Fish Handling, Storage and Processing awareness and training
- Maintain and perpetuate the quality of fish product (appearance, texture, flavour and nutritive value)
- To protect food safety (fish products)
- And to reduce losses between harvest and consumption.

Training workshop participants from each target community on Funafuti and Nanumaga and Niutao Island included youth, women and men.

The table below shows the number of men and women participating in the training activities;

| Community | Total Female | Total Male | Grand Total |
|--------------------|--------------|------------|-------------|
| Fakaifou | 16 | 8 | 24 |
| Kavatoetoe | 15 | 4 | 19 |
| Lofeagai | 17 | 14 | 31 |
| Papaelise | 7 | 9 | 16 |
| TMTI | 5 | 16 | 21 |
| Vaiaku | 3 | 8 | 11 |
| Grand Total | 63 | 59 | 122 |

Table 2: Number of Participant from 6 target Communities on Funafuti

| Island | Gender | Total |
|------------------|--------|-----------|
| Nanumaga | Female | 10 |
| | Male | 39 |
| Sub-Total | | 49 |
| Niutao | Female | 14 |
| | Male | 20 |
| Sub-Total | | 34 |

Table 3: Number of Participants from Nanumaga and Niutao Communities

Achievement and Outcome of the training

| Expected Outcome | Remarks |
|---|--|
| Produce healthy fish products | The peoples from these communities understand the impact of fish handling and the processing period; improved understanding of hygienic handling of fish and its impact. |
| Improved knowledge on Fish handling. | Understand why we need to handle fish properly. Participants now understand why fish spoil in different ways. |
| Improving opportunities for fish product marketing | Interest in the training as it reduces loses between harvest and consumption. It develops their skills on ways to reduce losses while selling fish. |
| Improving trading of fish product between Tuvalu and the Pacific. | The training introduced some basic knowledge on packaging and labelling of fish products. This may encourage marketing and trade to boost their economy. |
| Understand different ways of preservation methods. | Participant get to know the different ways of preserving fish, and understand the importance of preserving fish for food in periods of bad weather. |

Feedback from Participants and way forward

To following feedback and suggestions were received from participants:

- Fisheries department to do a study on the price of fish on the local market: fish is healthier but more expensive than imported chicken.
- Fisheries department together with the Public Health department to work on improving the hygiene of road side fish sales.
- Condition of fish sold in the local market was often poor. Fish can be spoiled but still offered for sale. Tuvalu fisheries department should have the authority to stop the sale of poor quality fish.
- Tuvalu fisheries department to continue support the community in doing work shop training awareness will help the community boosting their skills on fish handling and preservation.
- Fishers to know the basics of fish handling, because it is very important to know the impact on the health of people if we don't handle fish properly.
- Tuvalu fisheries department together with the Trade department to work on developing an initiative to help small business in local trading and even to overseas.
- To have available information of locations in Funafuti that are most affected by ciguatera on a public notice board, or even more awareness on Tuvalu Radio.
- More materials to be provided for the training to make sure enough for everyone that takes part.
- Fisheries department to show people of the community on the smoke box layout and also to construct a smoke box for the Northern Islands CFCs
- To give enough time for the participant during the practical to learn as much as they could to build their knowledge and skills in different ways of preserving fish,

5.3.2 Task Two: FAD program

The program calls for awareness raising to be conducted to disseminate information on benefits of FADs and new fishing techniques (to be done together with the safety at sea programming). FADs will be deployed based on the adopted selection design and method in select areas to pilot new community FAD programmes. Training on FAD fishing will be given to trainers in the

fisheries administration and fisher associations (training of trainers) and as well as directly to fishers. Partnerships between experts in FAD design and deployment within Fisheries sector and Fisher’s Associations will be supported with a focus on new fishing techniques, the maintenance of FADs and on other related aspects such as safety at sea and fish handling. Technical assistance will be procured to promote innovative local governance arrangements (FAD management plan and FAD MOU) to help fishers use and maintain the FAD adequately, safely and sustainably. O&D envisioned that all FADs construction in the future will be carried out by fishermen, but O&D will assist in the deployment.

The following activities been carried out in Nanumaga and Niutao this year during the metronome trip. The visit to Nanumea Island was not allowed initiated of the COVID-19 Island policy.

| Activity/Task | Status | Comment |
|---|--------------------|--|
| Rig and Deploy FAD (9 FADs including >5n.mi offshore FAD) | Not achieved | |
| Maintenance and Repair existing FADs | Partially achieved | Nanumaga and Niutao (Niutao cannot sight the FADs) |
| Arranging for FAD Fishing specialist to come to Tuvalu | Not achieved | |
| Procure FAD Fishing gears for Training | Partially achieved | Procurement done awaiting for shipping. |
| Distribute Fishing gear to all islands | Not achieved | |
| FAD Fishing Baseline study. | Not achieved | |
| FAD fishing trials/Training undertake. | Not achieved | |
| FAD management plan development. | Not achieved | |

Table 4: List of planned activities on FADs and their achievement

Nanumaga FADs deployed in 2019 on the 23rd of July, with FADs coordinate of **(Latitude - 06’16.649 S) (Longitude - 176’18.679 E)**. The operation officers together with the help from coastal officers, the inspection and repair of the FADs made on the 19th of November 2020. The inspection and repair was successfully executed, the team inspected the main line from the buoy to the anchor and found out in good condition. After the inspection and repair, the team renewed the aggregators of the FAD with coconut leaves.



Figure 12 Inspection of FAD in Nanumaga Island

Niutao’s FAD was deployed in 2019 with coordinate of **(Latitude - 06 05.809’ S, Longitude - 177 20.655’ E)**. The team scheduled to inspect the FAD on Thursday on the 3rd of December 2020 at 1000am, but the inspection was not successful due to rough seas and they could not locate the FAD. It was believed that, the FADs was tied with heavy materials (pallet) resulting in the FAD being submerged in strong winds and currents. The team spent 2 days trying to locate the FADs, without success. The team advised the association in Niutao, to cut off those pallets tied into the buoy once the FADs float on surface.



Figure 13: Niutao Island FAD inspection

Outcomes of discussions with each Island included:

- Revised the MOU for FADs to be signed by the respective Officers from the Fisheries and each Island Pule Kaupule
- A good clarification between Fisheries and each Island Kaupule and Fishermen Association on each Island
- Agreement to develop an Anchored FAD management plan for each island
- Training on FAD Fishing Technology to be provided

5.3.3 Task Three: Enhanced Safety at sea program



Figure 14: Assessment of sites for VHF Repeaters

Assistance is planned to improve training programmes on safety at sea, prevention of accidents and support search and rescue (SAR). Training will be practical and include testing in real conditions with appropriate equipment including training of trainers through partners and

regional institutions. Large-scale awareness raising will be promoted to reach out to fishers and their communities (including women and youth), fishers are better equipped and trained to prevent or handle any incident at sea during fishing operation.

Activities executed under this component within this year were as follows;

| Activity/Task | Status | Comment |
|---|--------------------|---|
| Radio Awareness raising | Achieved | Promoted on TV and radio |
| Grab bags inspections mission | Partially achieved | Niutao and Nanumaga |
| Procurement of additional grab bags | Partially achieved | MoU delayed the procurement process |
| Bags dissemination and sea safety training for new recipients | Not achieved | Dissemination of bags, when bags arrive. |
| Procure VHF repeater materials | Partial achieved | Specification yet to be submitted |
| Secure and arrange for TA to install VHF repeater | Complete | TA is selected and available |
| VHF Repeater Installation on Funafuti (Tepuka & Funafala) | Not achieved | Installation will be excuted when borders open. |

Table 5: List of activities/tasks carried out to improve training programmes on SAR

Below are the result of the Nanumaga Grab Bags inspection;

| List of Equipment | Total Bag | Comment |
|---------------------|-----------|---|
| Spare Batteries | 7 | 7 bag inspected with no spare batteries |
| Strobe Light | 1 | 1 bag with Strobe light not working |
| Sea Rescue Streamer | 2 | 2 bag with Sea streamer in poor condition |
| GPS | 2 | 2 bag with GPS not working |
| Compass | 1 | 1 bag with compass with poor condition |
| Medical Kit | 12 | All bags inspected with medical kit items expired |
| VHF | 3 | 3 bag with VHF not working |

Table 6: Results on the inspection of grab bags in Nanumaga Island

A total number of 16 bag were disseminated to Nanumaga fishermens' association and only 12 bags inspected. The result indicated moderately good management of those grab bag by the association. The report also found out misconception between the Kaupule and the Association about the monitoring and management of those grab bag.

Below are the result of Niutao Grab Bags inspection and the result in relation to the missing or broken equipment listed in the table;

| List of Equipment missing | Total Bag | Comment |
|---------------------------|-----------|--------------------------------------|
| Spare Batteries | 8 | No spare batteries inside the 8 Bags |
| PLB | 2 | No PLB inside the Grab Bag |
| Laser Flare | 2 | No Laser flare inside the Grab Bag |
| Strobe Light | 2 | No strobe light inside the Grab Bag |
| Sea Rescue Streamer | 1 | No Sea Rescue Streamer |
| GPS | 1 | No GPS inside the Grab Bag |
| Compass | 2 | No compass inside the Grab Bag |
| Sea Anchor | 1 | No Sea Anchor inside the Grab Bag |
| Medical Kit | 1 | No Medical Kit inside the Grab Bag |
| Signal Mirror | 1 | No Signal Mirror inside the Grab Bag |
| Whistle | 1 | No whistle inside the Grab Bag |
| VHF | 1 | No VHF inside the Grab Bag |
| Life Jacket | 1 | No life jackets inside the Grab Bag |
| Thermal Blanket | 1 | No Thermal Blanket |

Table 7: Results of the Niutao grab bags

The result indicates the poor monitoring and management of Grab Bag by the Fishermen Association and Kaupule, the safety of fishermen at sea depends on Grab bag. The report also found out that, handing over of Grab Bag to active fishermen caused the missing of equipment in any Grab Bags.

Feedback and way forward

- Revised the MOA for Grab Bags and to be sign by the respective Officers from the Fisheries and each Island Pule Kaupule and the President of the Fishermen Association on each island
- Check to maintain the grab bag items yearly
- Regular training on how to utilize items in the bag

5.3.4 Task Four: Vessel Operation

TFD is operating 2 vessels (RV Manau and RV Tala Moana). Maintenance of both vessels continued to be a priority activity given their old ages. The fact is both vessels has reached the stage where breakdowns have become the norm. Therefore, keeping both vessels operational and sea worthy is of paramount importance for our section.

Despite both vessels' old age and frequent breakdowns, both vessels will continued to provide services to both the Government and the people of Tuvalu. Thus, O&D will ensure both vessels operates in safe condition and meet the Maritime standard. However, O&D will undertake the following activities to ensure both vessels provide the best and safer service to the Government and the Public, noting that a new vessel - RV.Manau II - will arrive next year.

RV. Manau:



Figure 15: RV Manau

The RV.Manau was brought down from the slip after annual slipping on the 13/03/2020 and found to have a problem to her generator and pulled back up the slip on the 24/03/2020., Rewinding of the armature was carried out in Fiji, following delays caused by closing of borders, but when this was refitted another problem was found. The outcome was that the Manau did not operate in 2020. A complete new alternator will be provided by OFCF in early 2021.

Table below show the Government budget and expenditure for RV. Manau from 2016 – 2020. Most operating costs are paid by projects:

| Year | Total Warrant \$ | Total Expenditure \$ | Available \$ |
|------|------------------|----------------------|--------------|
| 2016 | 29,569.99 | 25,124.63 | 4,445.36 |
| 2017 | 28,561.00 | 27,663.52 | 897.48 |
| 2018 | 21,561.00 | 9,707.41 | 11,853.59 |
| 2019 | 24,961.00 | 15,921.05 | 9,039.95 |
| 2020 | 8,057.16 | 4,057.16 | 4,000.00 |

Table 8: Expenditures and Government funding for the RV Manau

RV.Tala Moana:

The RV.Tala Moana departed Funafuti 28/02/2020 for Suva and arrived on the 02/03/2020. The Department initial the MOU with KAYN’s was the company representative of the Fisheries Department in Suva, Fiji in negotiate for slipping and maintenance of RV.Tala Moana in Fiji. The Department signed the MOU with the FSHIL for the maintenance of the RV.Tala Moana and overdue time according to the plan. The section encountered many difficulties in ordering spare

| | |
|--|--|
| | <p><i>Vessel Type:</i> Utility Vessel (Research Vessel) <i>Length Overall (LOA):</i> 34.14M <i>Breath:</i> 7.92M <i>CAPACITIES</i> <i>Fresh Water Capacity:</i> 45,000</p> |
|--|--|

Figure 16: RV Talamoana

parts from Singapore caused by lockdowns and border closures. Apart from spare parts, the Master of the RV.Tala Moana resigned and arrangements for a replacement,had to be made. The

Department obtained COVID taskforce approval for a Standard Operating Procedure for RV.Tala Moana Repatriation. The RV.Tala Moana departed Suva, Fiji on the 10/10/2020 and arrived Funafuti lagoon on the 13/10/2020, and then spent a further period of quarantine from 14/10/2020 – 24/10/2020. After completing quarantine, Tala Moana carried out a number of charters as follows:

| Categorizing of Trips | Purpose | Total | Charter Fee |
|----------------------------------|---|--------------|---------------------|
| Local Government | To drop off ISP team to Nukulaelae 31/10 – 01/11 | 1 | \$8,370.80 |
| Project CARDNO | Northern & Central 08/11 – 14/11 Nukulaelae – 16/11 -18/11 | 2 | \$47,525.00 |
| TEC (MTET) | To fix Nukulaelae Electricity | 1 | \$13,650.00 |
| Metronome Trip | Metronome Trip to the Northern Island except Nanumea Nanumaga/Niutao -21/11 -23/11 Niutao -03/12 -05/12 | 2 | \$43,757.51 |
| Operation and Development | Patrol Trip (Oceanic Department) 11/12 – 20/12 | 1 | |
| | Total Trips | 7 | \$113,105.31 |

Table 9: RV Talamoana Vessel summary trips

6 Oceanic Section

6.1 General

This year was unprecedented because of the COVID19 pandemic which also required readjustment of our work plan in order to respond to new emerging needs as a result of the COVID19 pandemic, in particular the repatriation of observers, ensuring observers' livelihoods are taken care of and ensuring the effective monitoring of transshipment in a new location offshore. The repatriation of observers, although somewhat delayed, went well and all the 24 observers were safely reunited with their families. The department also worked hard to ensure observers' livelihoods, due to the loss of employment, were taken care of. The relocation of the transshipment to a designated area in territorial waters offshore, the suppression of physical boarding, and the imposition of new measures to prevent the possible spread of the COVID19 to Tuvalu exerted tremendous pressure on our limited MCS capability.

The unavailability of Te Mataili and Tala Moana during most of 2020 posed significant challenges to the implementation of fisheries' surveillance patrol plan. Te Mataili, due to the SOE being in effect, was unable to be used for any other purposes during much of first half of 2020. Tala Moana on the other hand was sent for maintenance and got stuck in Fiji for many months. An aerial surveillance planned to occur early this year did not eventuate, with no further request made because of the border closure.

However, it was not all bad news and despite the COVID19, the department was able to collect a total of more than AU\$42m in fisheries revenues which was the second highest on record. This was due to a combination of factors including our ability to sell all of our 2020 PAE under PNA VDS, a good currency exchange rate (US to AU), and a high number of fishing licenses and transshipment events. Other milestone accomplishments include the recruitment of the observer TA and the hosting of the regional annual observer coordinators meeting in February.

6.2 Fishing licenses issued

Tuvalu continued to issue fishing licenses to fishing vessels that wish to fish in its EEZ. Three types of fishing vessels that operate in Tuvalu are Purse seine (PS), Long Line (LL) and Pole and line (PL). The Purse seine is the dominant vessel type. In 2020, it accounted for 72% of the total licenses issued. In addition to three fishing vessel types, there are also "support vessels" which comprise Fish Carrier (FC) and Bunker (B) vessels. Although not directly involved in catching fish, they too are required to obtain a fishing license.

The total number of fishing licenses this year increased by 13% from the previous year (table below). The upward trend was driven largely by the surge in PS licenses (37% up from last year). Pole and line also increased to 16 this year compared to 14 last year. But a declining trend was very obvious in the LL fleet since a peak in 2017 with a big drop being recorded this year. This was partly a result of meeting our regional commitment of having all LL registered through the PNA FIMs platform when applying for a fishing license. Also the COVID pandemic had a serious impact on longliners targeting high value sashimi tuna. The Korean fleet, who have previously made up the bulk of the LL fleet in Tuvalu, did not send any LL vessels in 2020 to fish in our waters causing a large drop in the number.

A review of fishing licenses was also undertaken in 2020 and has led to a reduction in the bunker license from AU\$70,000 in previous years to AU\$20,000 per license. The reduction in this fee resulted in a number of requests for bunker licenses, for the first time in several years. Together with other PNA countries, Tuvalu has also implemented a ban on bunkering in the high seas as a condition of our access agreements.

| YEAR | LL | PS | PL | FC | B | Total |
|------|-----|-----|----|----|---|-------|
| 2016 | 66 | 210 | 3 | 41 | 1 | 321 |
| 2017 | 115 | 173 | 0 | 40 | 0 | 328 |
| 2018 | 77 | 187 | 0 | 45 | 0 | 309 |
| 2019 | 70 | 199 | 14 | 51 | 0 | 334 |
| 2020 | 31 | 272 | 16 | 55 | 4 | 377 |

Table 10: Number of fishing licenses issued by gear type since 2016. Note that the figure provided is inclusive of the licenses issued under the other fishing arrangements such sub-regional pooling, US treaty and the FSMA.

The figure below illustrates the actual number of licenses issued under the various fishing arrangement for 2020.

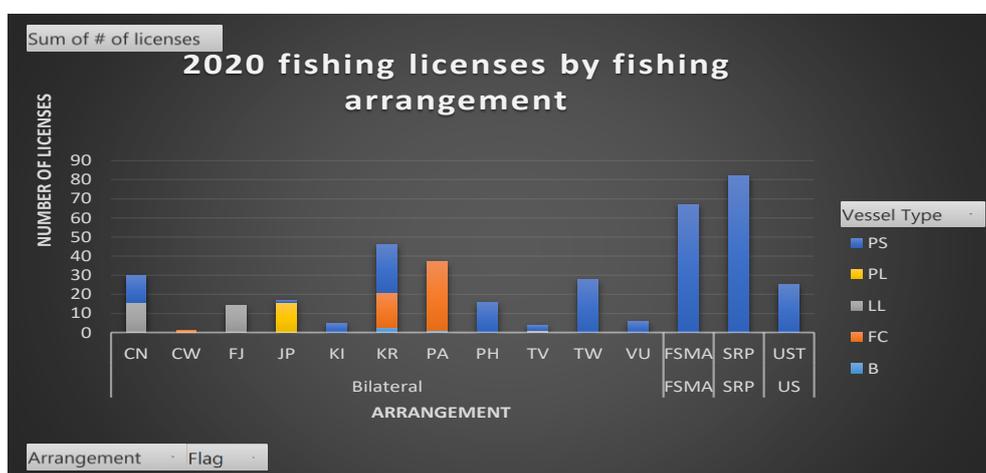


Figure 17: 2020 Fishing licenses by fishing arrangements for 2020. Note that UST and FSMA licences are issued by the administrators of those schemes but are valid for fishing in Tuvalu waters

6.3 Catch by the Tuvalu national fleet

6.3.1 Domestic fleet

The number of Tuvalu flagged vessels this year was 5 compared to 3 in the previous year. One of which (Taumoana) never fished as it was tied up in the Marshall island since 2017 after the company went into bankruptcy. The increase was due to the implementation of a new domestic fleet development arrangement agreed by the Tuvalu Government this year. The two new vessels, which joined the fleet at the end of the year, are the Caribe and Elspeth and two more are expected in 2021, when the Taumoana will also come back into service under new owners and a new name.

| VESSEL NAME | FLAG | REGISTRATION NUMBER | AUTHORITY PERIOD | VESSEL TYPE | IRCS |
|-------------|------|---------------------|---------------------------|--------------|-------|
| Pakaso | TV | 23011010 | 8 Feb 2020- 8 Feb 2022 | Longliner | T2RB3 |
| Caribe | TV | 37868220 | 17 Oct 2020 – 17 Apr 2021 | Purse seiner | TCPC5 |
| Elsbeth | TV | 37968220 | 10 Nov 2020 -5 May 2021 | Purse seiner | T2PH5 |
| Taina | TV | 34128217 | 20 Jul 2020 – 20 Jul 2023 | Purse seiner | T2BX5 |
| Taumoana | TV | 19930909 | 16 Mar 2014 – 26 Apr 2016 | Purse seiner | T2FA3 |

Table 11: Tuvalu flagged vessels. Source: WCPFC RFV

6.3.2 Purse seine Catch

The three active PS vessels landed a total catch of 8,525mt (Table) this year, the second highest for the reported period and an increase of 48% from the previous year. Skipjack tuna dominated the catch accounting for 91% of the total catch. A significant bigeye catch was also landed.

| YEAR | BET | SKJ | YFT | TOTAL |
|------|------|------|------|-------|
| 2016 | 0 | 5970 | 140 | 6110 |
| 2017 | 8 | 4551 | 1082 | 5641 |
| 2018 | 345* | 9226 | 1379 | 10950 |
| 2019 | 9 | 5559 | 200 | 5768 |
| 2020 | 394* | 7737 | 394 | 8525 |

Table 12: Purse seine catch by Tuvalu flagged vessels. Souce: SPC Tufman 2 Dorado report - Recon

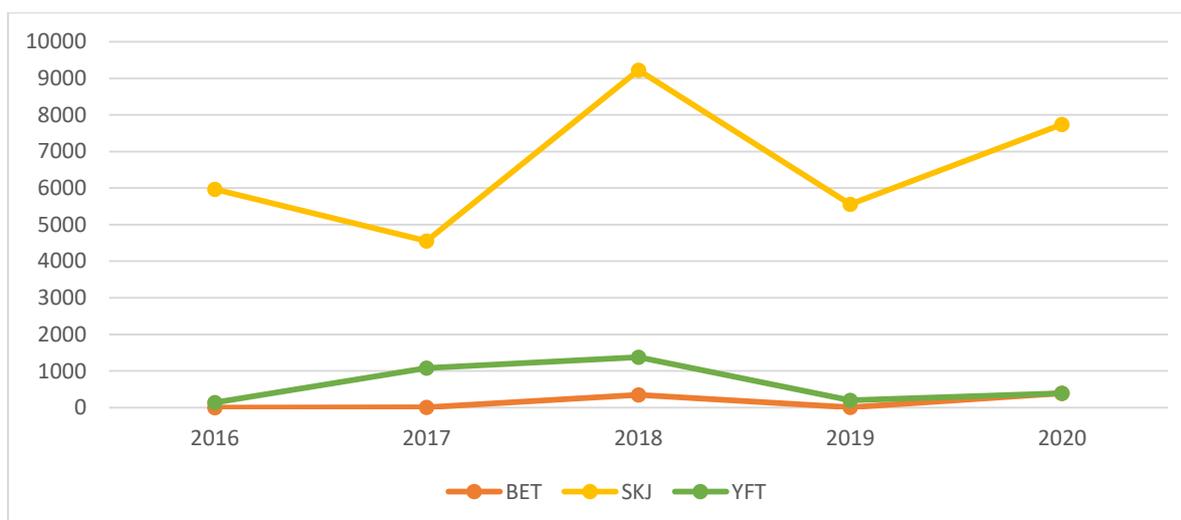


Figure 18: Catch by species. Tufman 2 Dorado report - Recon

6.3.3 Longline catch

The Pakasoa, the only Tuvalu flagged LL vessel fishing in the WCPFC convention area in 2020, landed an estimated total catch of 219mt (Table 3 & Figure 2), the lowest for the reported period. The low catch was attributed to the Pakasoa being dry docked for part of 2020. Albacore tuna constituted the bulk of the catch with 94mt, yellowfin 82mt, and bigeye 26mt. Some by-catch species were also landed and these include bill fish and skipjack contributing 5% and 2% respectively, to the total catch.

| YEAR | ALB | BET | SKJ | YFT | OTH | TOTAL |
|------|-----|-----|-----|-----|-----|-------|
| 2016 | 134 | 312 | 6 | 331 | 70 | 853 |
| 2017 | 330 | 328 | 11 | 390 | 78 | 1137 |
| 2018 | 222 | 241 | 20 | 237 | 49 | 769 |
| 2019 | 153 | 171 | 26 | 249 | 36 | 635 |
| 2020 | 94 | 26 | 5 | 82 | 12 | 219 |

Table 13: Longline catch by Tuvaluan flagged vessel(s). Tufman 2 Dorado report - Recon

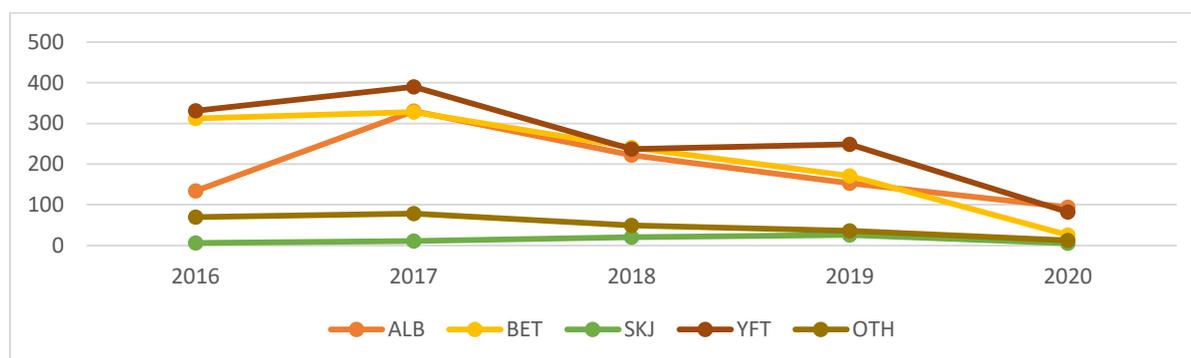


Figure 19: Catch by species composition by Tuvaluan flagged longliners 2016 to 2020. SPC Tufman 2 Dorado report - Recon

6.3.4 Catch and effort distribution for tuvalu flagged vessels (ps & ll)

Fishing by our flagged PS and LL vessels takes place in the high seas and other PICs EEZs. This year the highest catch and fishing effort by Tuvalu flagged PS occurred in the High Seas on the eastern side of Howland and the Line and Phoenix Islands (Figure 4). The longline vessel, on the other hand fished mainly on the high seas pocket (HSP 2) to the west of Tuvalu.

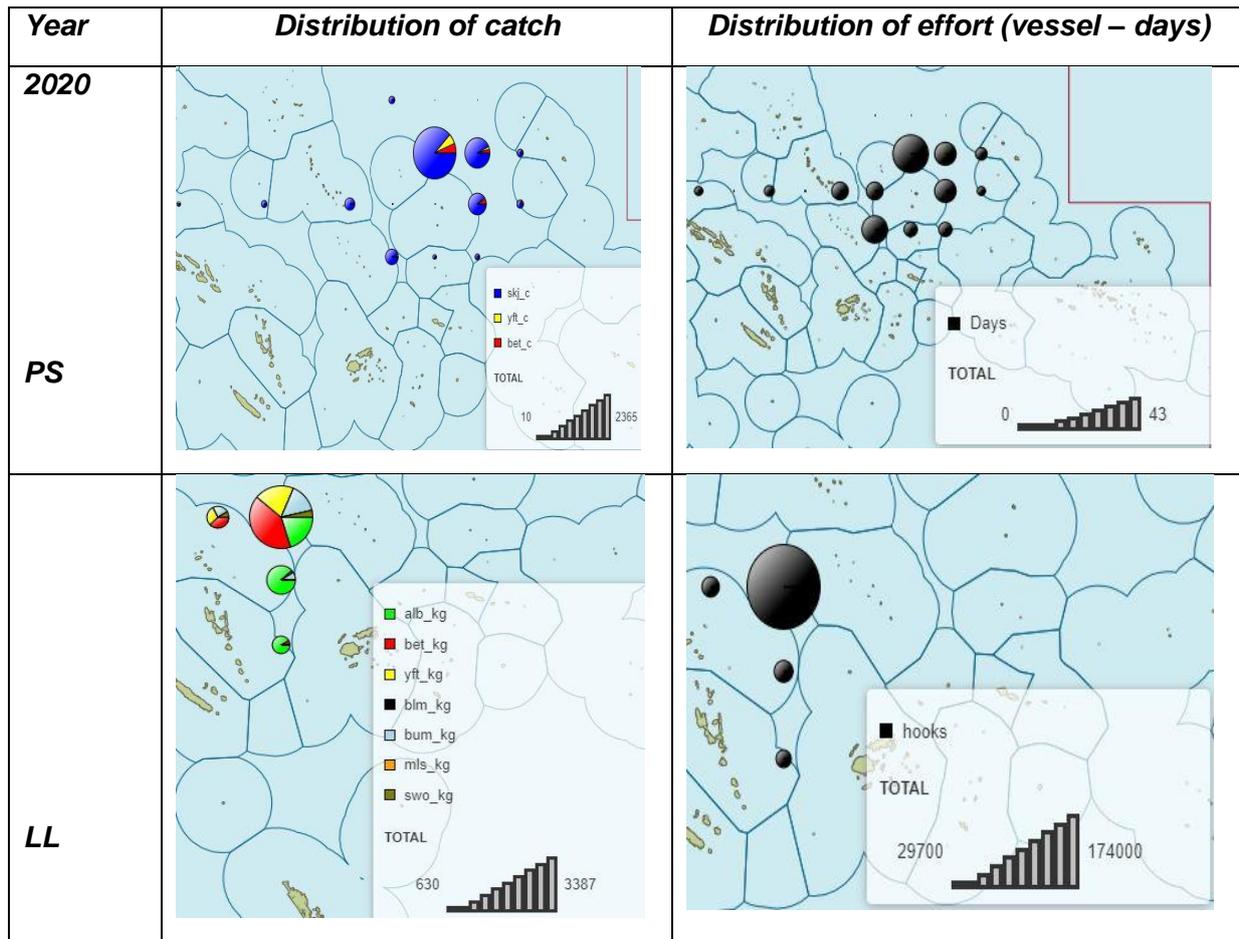


Figure 20: Fishing area of the Tuvalu flagged vessels in 2020. Source: SPC Tufman 2 Dorado report - Recon

6.4 Catch taken by foreign fishing fleets in Tuvalu EEZ

6.4.1 Annual catch from Purse Seine

This year the total annual catch taken by all foreign PS fleets in Tuvalu waters was around 150,423mt (Figure) compared to the 93,717mt reported last year. Good fishing conditions in Tuvalu waters saw vessel days transferred into our EEZ from other countries, as well as a lot of activity by FSMA vessels. The largest catch by flag was taken by Korean vessels (39%) as shown below. As always, skipjack tuna constitutes the bulk of the catch (90%) followed by yellowfin (8%) and bigeye (2%).

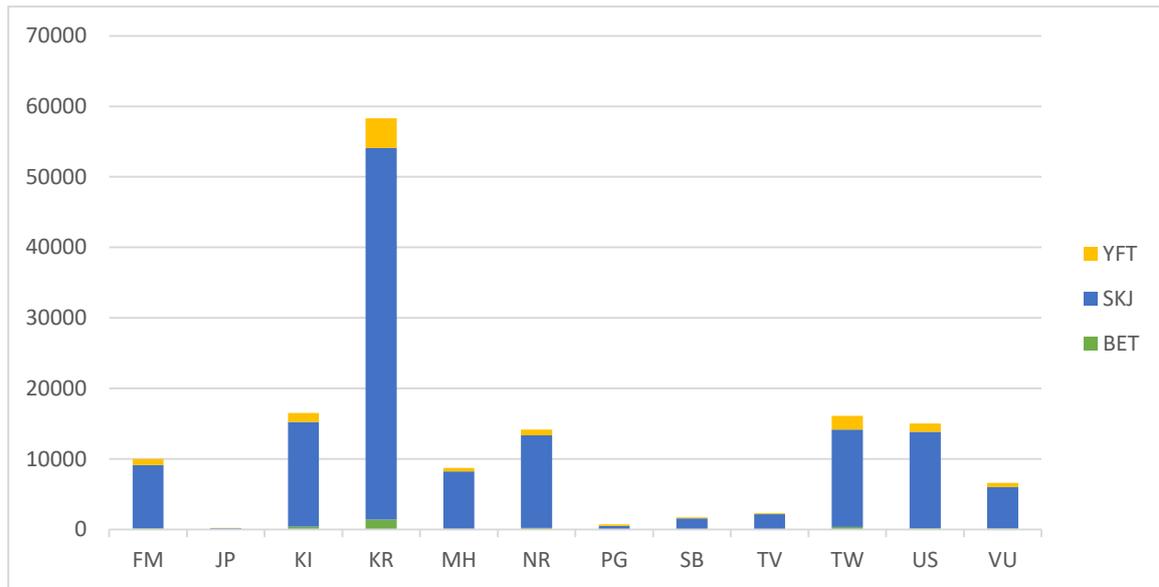


Figure 21: 2020 PS Catch composition in Tuvalu EEZ by flag. Source: Tufman 2 Dorado report - Recon

6.4.2 Annual catches from foreign LONGLINE fleets

The total catch taken by all foreign LL vessels in Tuvalu waters was 835mt (Figure). The Chinese LL caught 59% of the landed total then Fiji 40%. Tuvalu LL contributed only 1%. In terms of species, the highest catch consisted of yellowfin with 560mt (56%), albacore 319mt (32%) and bigeye with 124mt (12%).

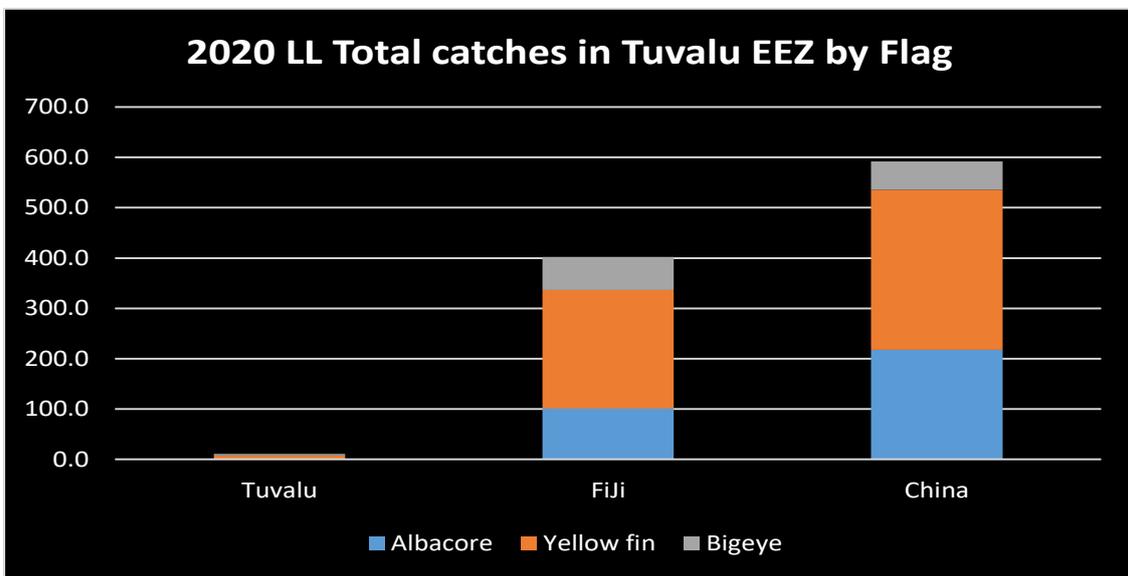


Figure 22: Catch composition from LL fleets in Tuvalu EEZ in 2020. Tufman 2 Dorado report - Recon

6.5 Fisheries revenues

6.5.1 Fishing licenses and fees

The total fisheries revenues from all sources combined (fishing licenses, VDS, pooling, transshipment etc.) exceeded \$40 million for the second time in recent years. The highest though was in 2018 when

Tuvalu received over \$50m in total. This year’s revenue also included was our 2018 share from the FSMA (\$3.4m) which the PNA office remitted just now. But even without the 2018 payment, the 2020 fisheries revenue still far exceeded the annual revenues in most previous years. The revenue this year comes mostly from the sale and trading of our fishing days under the PNA VDS scheme.

As can be seen in the figure below the highest revenue came from our bilateral partners contributing over AU\$24.6m in total. The sub Regional Pooling (SRP) contributed AUD\$6m (13%), FSMA AU\$5.8m (13%), US Treaty of AU\$2.9m (7%), Traded days of AU\$1.9m (4%), support vessels (Bunker, Fish Carrier, Pole & Line) of AU\$1.9m (4%), and transshipment of AU\$1m (2%).

A new initiative was also introduced this year which should allow more foreign vessels changing flag to Tuvalu. Vessels that come under this scheme pay a management fee and also commit to buying a certain number of fishing days from Tuvalu. This therefore creates some guarantee over the sale and use of our PAE. While it is still early in its implementation, these benefits should become obvious in the years ahead.

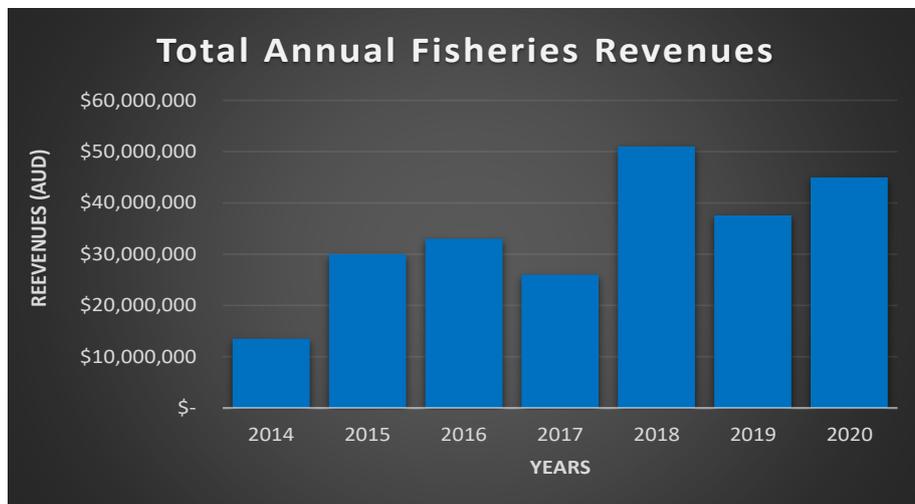


Figure 23: Annual fishing revenues in 2020 and the past six years

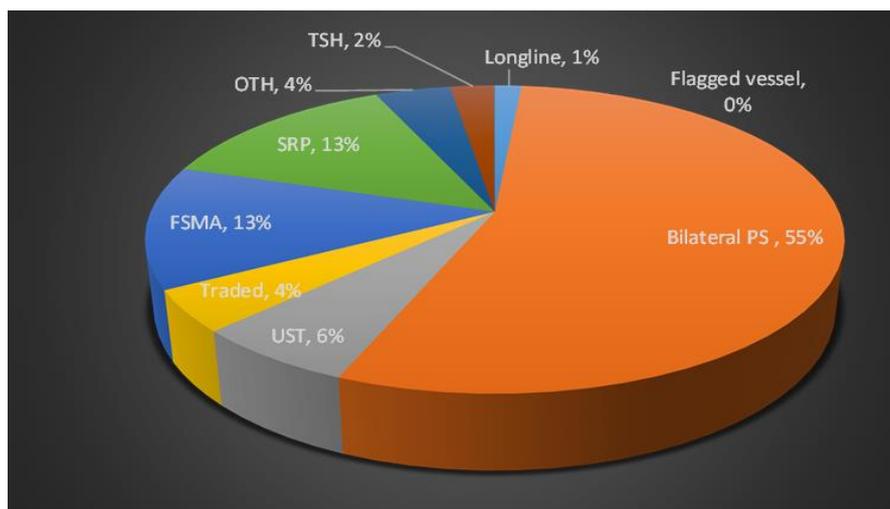


Figure 24: Fisheries revenues by licensing category in 2020.

6.5.2 Observer Levy

All vessels applying for a fishing license in Tuvalu waters are required to pay an observer levy as part of our licensing terms and conditions, the only exception being the Pole and Line vessels. As the name implies, the levy is used specifically for the running of the national observer program. This

year, the total remitted observer fee slightly surpassed the record set last year and marked the second consecutive year for the fund to collect more than AU\$1 million. This year’s peak corresponded with the high number of fishing licenses issued this year. In terms of expenses, the program only spent around AU\$367,608 for the whole year. The suspension of observer coverage on purse seine led to this low spending this year, although spending on training and other activities to employ observers was increased in the second half of the year.

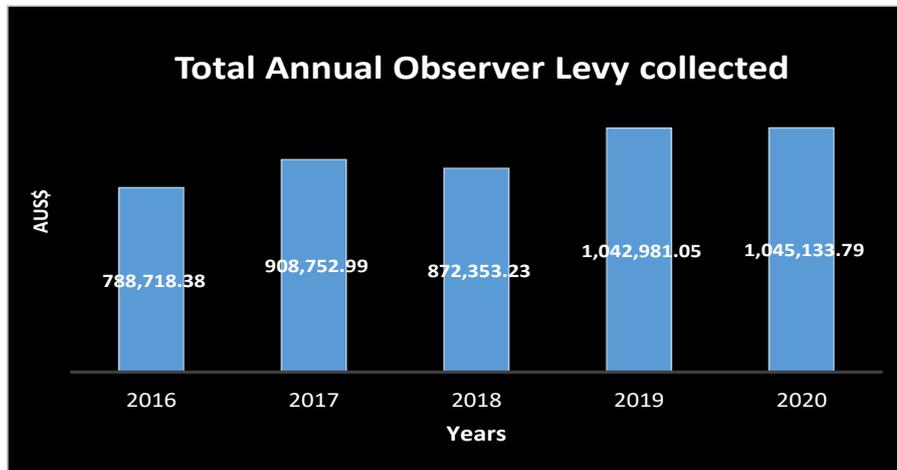


Figure 25: Annual observer levy collected for the last five years

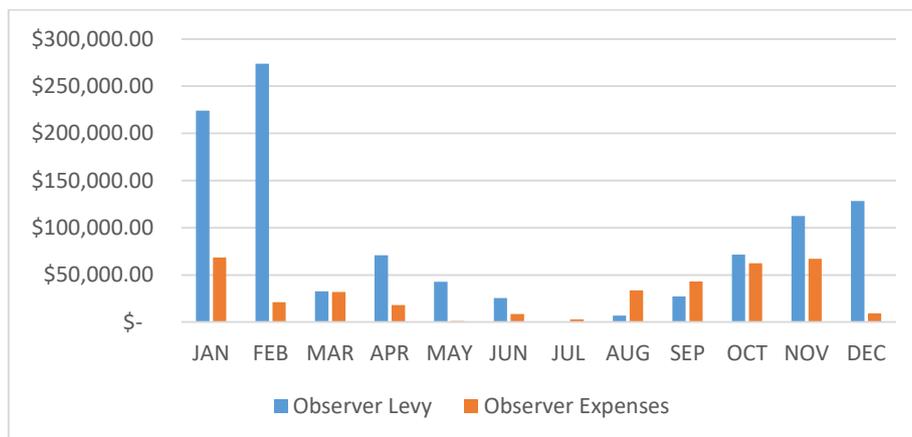


Figure 26: Monthly observer levy collected and expenditures

6.5.3 Transshipment levy

As usual, a transshipment levy must be paid for all vessels using our port for transshipment. The levy is based on tonnage and according to the type of fish cargo (brine, sashimi, MSC) being transshipped. Brine tuna is usually the common type of cargo transshipped. Initially conducted in port, transshipment was later relocated to an offshore location in early April following a brief stop following the announcement of the COVID19 SOE on March 21st. Despite the stoppage and the unfavorable sea conditions there, with several injuries sustained, the number of transshipment events actually went up by 13% from last year (table 5). This suggests that the number could have been a lot higher if transshipment in the lagoon had been allowed.

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|----------------------|------------|--------------|--------------|--------------|--------------|--------------|
| Transshipment events | 181 | 134 | 163 | 192 | 131 | 148 |
| Catch (mt) | 159377 | 119628 | 148555 | 174345 | 125335 | 127089 |
| Revenue (US) | 489,630.75 | 1,239,223.80 | 1,528,167.50 | 1,784,231.50 | 1,268,935.00 | 1,238,774.00 |

Table 14: Annual Transshipment, events, revenues and catches

The total transshipment revenue however failed to match the increase seen in transshipment events and transshipped catch this year. Instead the revenue dropped by more than \$30K compared to 2019 despite the catch this year being higher. The drop relates to a policy decision by the Tuvalu government to reduce the Brine tuna levy from \$10 to \$7 starting this year in recognition of difficulties faced in using the offshore transshipment area. With the brine tuna being the common grade this policy decision resulted in some loss of revenue, but perhaps contributed to the increased number of transshipments.

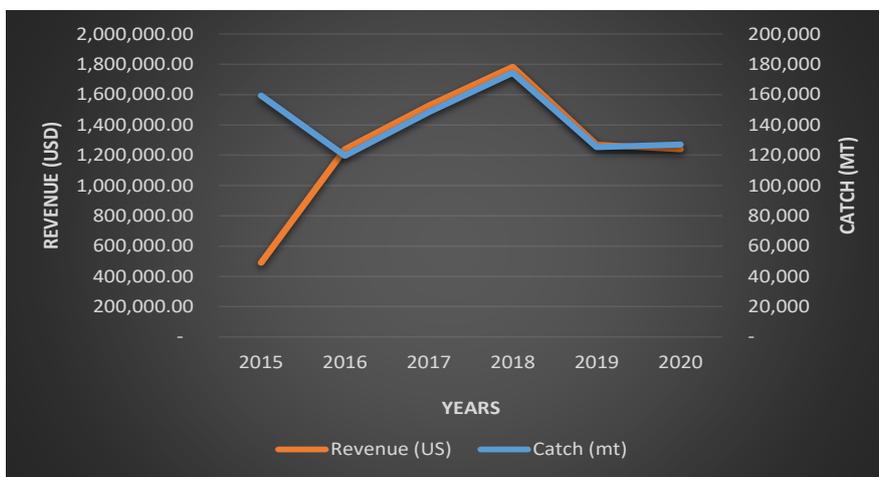


Figure 27: Annual transshipment revenue and catch

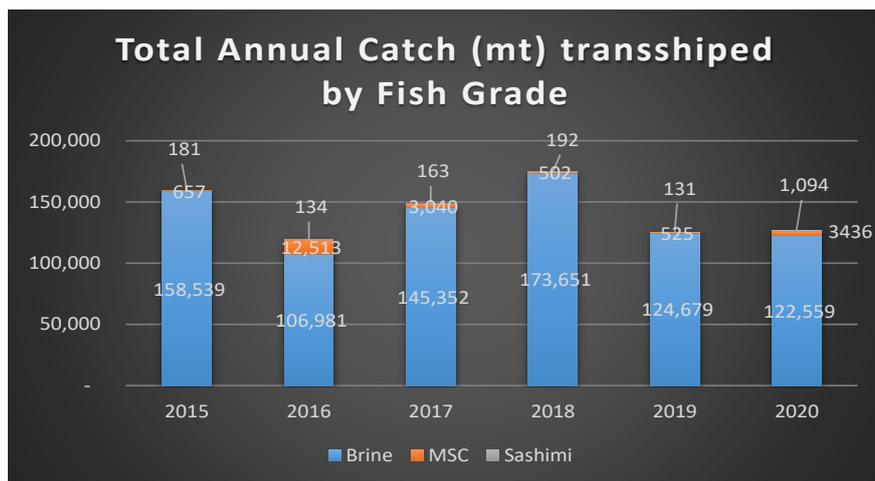


Figure 28: Annual transshipment of catch by grade

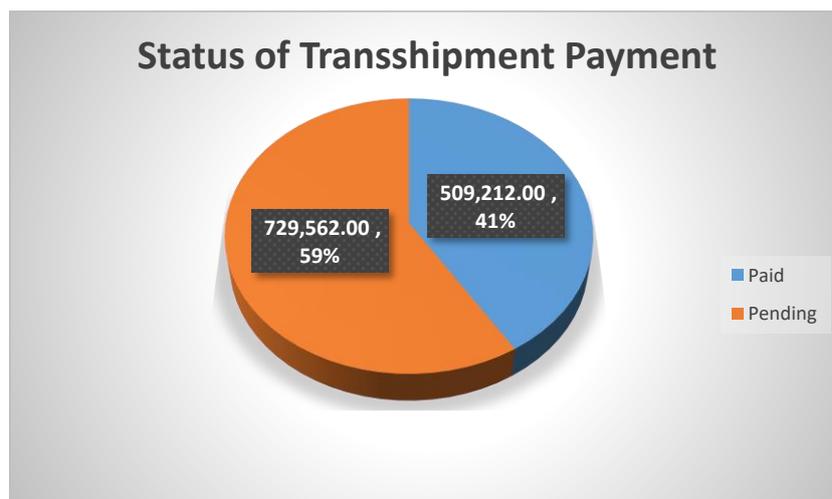


Figure 29: Transshipment payment status

Delays in transshipment remittances were also encountered this year with fishing companies putting the blame on the COVID19 pandemic. As shown in the fig. 15 a large portion (59%) of the 2020 total transshipment fee is still outstanding. The department will continue to follow up with the fishing companies to ensure their outstanding fees are paid in 2021.

6.6 Compliance Unit

The compliance unit is responsible for all monitoring, control and surveillance (MCS) activities. Much of their work evolved around the Illegal, Unreported and Unregulated issue and thus conducting fisheries surface and aerial patrols, monitoring the usage of fishing days by purse seine vessels, and transshipment monitoring are key focal areas.

6.6.1 Transshipment

Transshipment is the act or process of transferring catch from a purse seine vessel (in the case of Tuvalu) onto a Fish Carrier (FC). Monitoring transshipment is a big part of the MCS team and it normally involves doing physical inspections on vessels approved to use our ports ensuring no law was broken during fishing and while transshipping. Initially undertaken in port, due to the pandemic it was relocated offshore (April 9th). The enforcing of a 'no contact' policy with foreign crew also came into effect at the same time meaning physical inspection was stopped.

The relocation of the transshipment offshore brought new challenges to the MCS team who now, due to sheer distance, the suppression of physical boarding and suspension of observer coverage on purse seine, have to rely mostly on vessels providing true and correct transshipment documentation, especially catch records. Regional MCS platforms such as the Vessel Monitoring System (VMS), PNA FIMS, and the FFA RIMFs were useful in providing the needed information required by the local MCS team for verification and validation of information presented by fishing vessels. Moreover the local MCS team received help from the FFA MCS team who facilitated the regular sharing of information pertaining the movements of fishing vessels to and from high risk places.



The relocation caused a challenge for crew safety during transshipment. The new area, being exposed and subject to rough seas at most times, is practically unsafe for transshipment operations. A total of three medical emergency requests were received by the department this year but the government who did not want to take any risk of COVID entering Tuvalu turned down all the three requests.

Figure 30: Fishing vessels transship in the new transshipment area.

6.6.2 Transshipment Challenges

Some of the key challenges encountered in 2020 are listed below.

- **Internet reliability and speed** – our ability to effectively monitor fishing activities and to respond quickly to requests from vessels are dependent on having good access to quality internet. Internet was unreliable and slow most of the time. The department will continue to explore ways to improve reliability and speed of the internet.
- **Monitoring of transshipment in the new area** – the sheer distance of the new area from port and the COVID19 restrictions posed real challenges to effective policing and monitoring of transshipment. Until transshipment is brought back to port and COVID19 restrictions eased off, the department will continue to rely on other MCS tools available to the MCS team to ensure that the activity is done legally and safely.
- **Transshipment safety** – transshipping in the open sea is very unsafe and already three crews received injuries during transshipment last year in the new area. We cannot continue to ignore the safety of crews and that we have a responsibility to ensure their safety. Thus the fisheries department will continue to seek the possibility of bringing transshipment back into port in 2021.

6.6.3 Fisheries Surface Patrol Operation

The primary aim of surveillance operations was to deter and eliminate illegal, unreported and unregulated fishing activities (IUU) from our EEZ. A total of four (4) fisheries surveillance operations were carried out this year – two regional and two national trips. Two patrols (both national) ended prematurely due to bad weather – second and the last patrols. During the last patrol and for the first time two boats (Te Mataili and Talamoana) took part in it. Due to ‘no contact’ restrictions, physical boarding could not be undertaken and compliance checks were done through radio (VHF) communications with vessels. Surveillance patrols also covered vessels in the new transshipment area. Communicating with vessels in English via radio was a bit problematic for some vessels.



Figure 31: Fisheries surveillance operation

These operations would and could not have happened without the kind support of the maritime police and crews of both vessels the Te Mataili II and Tala Moana. The table below provides further information about the four operations undertaken this year.

| OPERATIONS | PLATFORM | TYPE | VESSELS INTERCEPTED | DURATIONS | INFRINGEMENT |
|---------------------|--|----------|--------------------------------|--|---|
| ISLAND CHIEF (IC20) | HMTSS TE MATAILI II | REGIONAL | 9 | 24 th August-- 4 th September | None |
| COVID19 OPs | HMTSS TE MATAILI II | NATIONAL | 7 | 7 th -11 th July. Shortened due electrical problem. | None |
| KURUKURU20 (KK20) | HMTSS TE MATAILI II | REGIONAL | 33 | 19 th -30 th October | 1FC Breaching of license condition- Failed to raise her national flag |
| XMAS OPs | Joint Patrol by RV TALAMOANA & HMTSS TE MATAILI II | NATIONAL | Talamoana (2), Te Mataili (13) | 11-13 th December; 10 day patrol but cut short by extended bad weather. | 1FC Breaching of license condition - Failed to raise her national flag while in Tuvalu EEZ. |

6.6.4 Surface Patrol Operation Challenges

- **COVID19 Restrictions** – The restrictions undermine the ability of enforcement officers in conducting physical inspections on fishing vessel both at sea as well as in port. In the absence of physical inspection, the boarding team can only rely on VHF radio to communicate and also collect information from fishing vessels.
- **Te Mataili Availability** – The department relies on the Te Mataili's to undertake fisheries surveillance patrols. However, the Te Mataili II is under the jurisdiction of another Ministry and often times other uses (government charters, medical evacuation emergencies etc.) take priority over fisheries patrols.
- **Talamoana's availability and suitability** – Talamoana was taken for maintenance in Suva but due to the COVID19 it got stuck for many months. The extended trip resulted in fewer surveillance patrol being conducted than planned. The other problem with using Talamoana on sea patrol is in relation to its slow speed. Talamoana has a maximum speed of 10 knots which is less than the cruising speed of most fishing vessels.

6.6.5 Fisheries Aerial Patrol Operation

The department requested one aerial patrol early this year but it was postponed indefinitely due to the ongoing border restrictions.

6.7 Tuvalu National Observer Program

The work of the national observer program this year was dominated by the COVID19 pandemic. Repatriation of the twenty-four observers who were at sea when borders were closed was the center of all the attention this year. Despite the many challenges and the risk of a potential introduction of COVID19 into the country as a result of the repatriation exercise, we were able to push through with the repatriation exercise and all the twenty four were safely repatriated without a problem. Another milestone activity achieved was the hosting of the twentieth meeting of observer coordinators' in February just before travel restrictions came into effect.

6.7.1 Twentieth Regional Observer Coordinators Workshop – Funafuti

Two meetings actually took place between February 6th and 12th, 2020, the PNA coordinators and the FFA coordinators meetings.

The PNA meeting was disrupted because of the slight delay in the arrival of some participants who were taken off the flight because of newly imposed COVID19 travel restrictions. During this time, the spread of the virus had only just started and few countries in the region (including Australia) had cases of the virus and were considered high risk. Several meeting participants travelled via Australia and one was living in and traveling from Australia. All were detained and prevented from boarding on their scheduled flight to Funafuti on Thursday. Following our intervention they were all released and allowed to travel on the Saturday's flight to Funafuti.

As a result of the late arrival, the PNA meeting, originally planned for two days, was reduced to just one day which ended in the evening.

The second meeting, the FFA observer coordinators' (ROCW20), proceeded as planned and due to the non-attendance of the nominated chairperson Tuvalu was elected to assume chairmanship. Participants from all the observer programs, the four regional fisheries institutions (SPC, FFA, WCPFC & PNA) all took part in the event. The meeting ended with a picnic at the islet of Funafala. Unfortunately one coordinator had to depart early as instructed by his government because of the COVID19.

6.7.2 Observer TA

The expansion of the Tuvalu observer program over the years led to the recruitment of the TA who arrived in first week of March this year. Shortly after his arrival the COVID19 situation worsened and the attention soon turned towards the repatriation of the twenty four observers. Instead of focusing just on the duties specified in his TOR, he became heavily engaged in the repatriation and also training of the observers where he played an instrumental role. Due to redirection of attention, some of the core businesses in his TOR were left unfinished for instance the observer insurance policy. In order to complete the unfinished work, his contract needed to be extended for another year. The extension will also be beneficial to the program coordinator who has just returned home in January, 2021 after completion of studies at the USP.

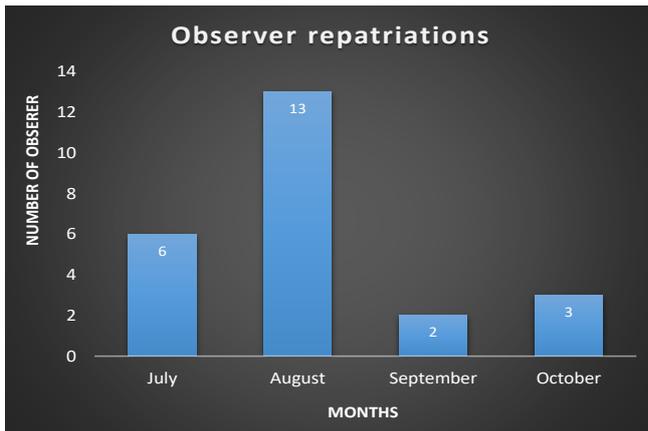
6.7.3 Repatriation of observers

The Tuvalu program like other national programs welcomed the decision by FFA, PNA and WCPFC to suspend the 100% observer coverage on fishing vessels to ensure the safety and wellbeing of observers. Repatriation of observers quickly and safely back home was a top priority. But circumstances quickly changed - flights stopped, countries were shutting down their ports including Tuvalu, new quarantine requirements emerged, setting up of the Tuvalu COVID19 taskforce, and then complete closure of the borders. All these posed real administrative and logistical challenges to the swift repatriation of our observers.

Twenty four observers were on active duty when the suspension came into effect. While some countries were able to repatriate their observers straightaway, the Tuvalu government initially was unwilling to take the risk. However as time passed, the Fisheries Department continued to work with the government and solutions were finally agreed.

The delays actually increased risks and complicated the exercise somewhat: for example Tuvaluan observer on a US Purse seine was forced to disembark into Pagopago. Two other Tuvaluan observers also had to disembark into port (Pohnpei, FSM). One vessel carrying a Tuvaluan observer had to call into a high-risk port, and so on.

After much preparations and one failed attempt, repatriation was approved with two time windows being given. The first being from July 30th to August 11th, and the second between late September and early October. The last batch include the two stranded in Pohnpei port who were so joyful to be reunited with their families after many months of being apart.



Many people contributed to the success of the repatriation exercise and their relentless support is truly acknowledged. These include vessel operators, vessel crew and masters, regional service providers (FFA and POA), vessel agencies, government officials, and fisheries staff.

Figure 32: Number of observers repatriated by month.

6.7.4 Observer Placements, Trips and Sea days

The number of placements this year plummeted as a result of the COVID19 and the consequent suspension of further observer placement. As shown in figure below, the program only took up 30 placements this year compared to usual 100+ placements in a normal year. The number of sea days per placement on the other hand was the highest this year, as most observers continued working while awaiting repatriation.

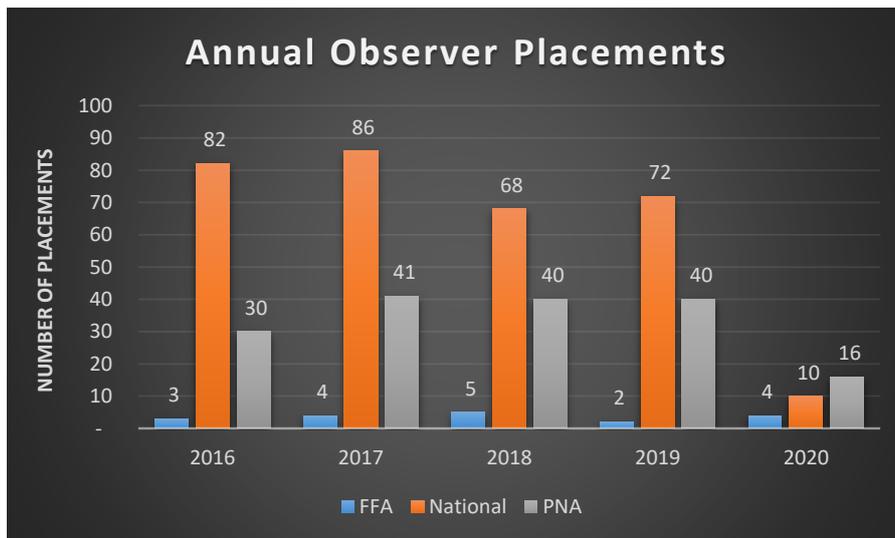


Figure 33: Annual observer placement by program

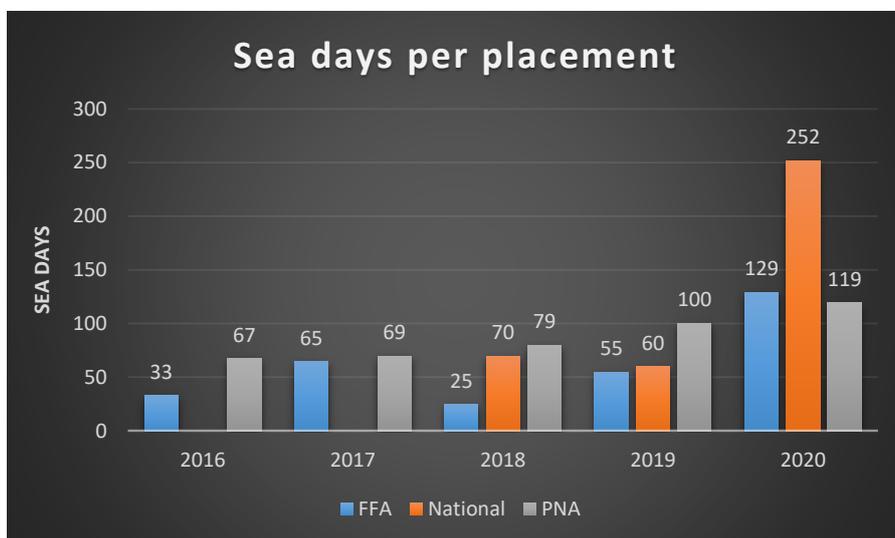


Figure 34: Annual sea days per placement across all programs

6.7.5 Observer Training

The program continued to place priority on training of observers a priority. A total of fourteen training courses were initially planned (by TA in consultation with the observer program) for delivery in 2020. But as a result of the COVID19 pandemic, the initial list was revised to reflect new emerging needs, and also due to the involvement of program staff in repatriation of observers. Below were the training courses undertaken in 2020.

| Name of Training | Dates | Number of Participants | Brief Description |
|-----------------------------|---|-------------------------------|--|
| 1. Basic Refresher Training | Aug 10-14 th | 32 | To introduce the new observer data form to all observers. |
| 2. Debrief Training* | May 25-29 th | 7 | An introduction course for those eligible to be Debriefers. This consists of three parts – Part A,B,C |
| 3. Part-A Debrief Training | Aug 24 th -Sep 4 th | 7 | Theory part of training #2 |
| 4. Part-B Debrief Training | October | 4 | Hands on part of training #2. |
| 5. Data Debrief Workshop | July 31 st | 9 | Aimed at preparing Debrief Observers currently on Funafuti so they are ready to receive the high influx of data from repatriated observers. |
| 6. E-Reporting Training** | Oct 26 th -30 th | 35 | Ensuring observers understand the use of electronic device required to collect data electronically when undertaking PNA trips. Targeted participants are those who have not done the course and present on Funafuti. |

| | | | |
|----------------------------|---|----|--|
| 7. Observer Basic Training | Nov 30 th – Dec 11 th | 10 | An introduction course for new observers only. |
|----------------------------|---|----|--|

Table 15: Trainings conducted in 2020.

**Restricted participation and selection based on those meeting certain criteria.*

***Virtual meeting facilitated by PNA (Herman Kisokau)*

The suspension of observer placement caused extreme financial hardship to observers and their families. Some observers started looking for jobs elsewhere just to earn some income to support their families. In recognition of this and for the first time, the program offered to pay a small sitting allowance for every in-country training.

The program still does not have a qualified observer trainer and three potential candidates were identified this year. As part of their training development, they were engaged by program to assist in delivery of the Observer Basic Refresher and Observer Basic trainings. All the training courses were made possible with the financial assistance of the World Bank through PROP.

6.7.6 Observer Short term contract

To make up for the loss of employment opportunities, the Tuvalu observer program initiated a short term (two weeks) contract targeting the unemployed observers. The short duration with two observers per contract was thought to be a reasonable arrangement given the limited work available and the need to give all observers an equal opportunity to earn a salary. The contract, valued at \$300, was based on the observer sea day rate. By the end of 2020 a total of ten observers had been contracted with the program and a total sum of \$3k was being spent on their salaries.

6.7.7 Summary of general observer data

The total number of observers qualified in different requirement is shown below for the past several years. The difference in number indicates either that new training was conducted or some observers have left the program.

| Qualifications | 2018 | 2019 | 2020 |
|--------------------------------------|-------------|-------------|-------------|
| Total number of active observers | NA | 77 | 77 |
| MSC Certify Observers | 70 | 70 | 70 |
| Certified Debriefers | 30 | 24 | 23 |
| Trainee Debriefers | 2 | 2 | 10* |
| Trainee Trainer | 0 | 0 | 3* |
| Certified Cross Endorsement Observer | 4 | 4 | 4 |

| | | | |
|---------------------|---|----|----|
| E-reporting | 0 | 22 | 57 |
| Debriefing Assessor | 4 | 7 | 7 |

Table 16: General observer data. **Training is ongoing

6.8 Vessel Monitoring System

With the suspension of observer coverage and in-port boarding and inspection, remote monitoring of fishing vessel activities using the Vessel Monitoring System, as well as electronic catch reporting through the FIMS system took on greater importance than usual.

Monitoring of the designated transshipment area was particularly important. This area was quite active for much of the year, but activity dropped off towards the end of the period.

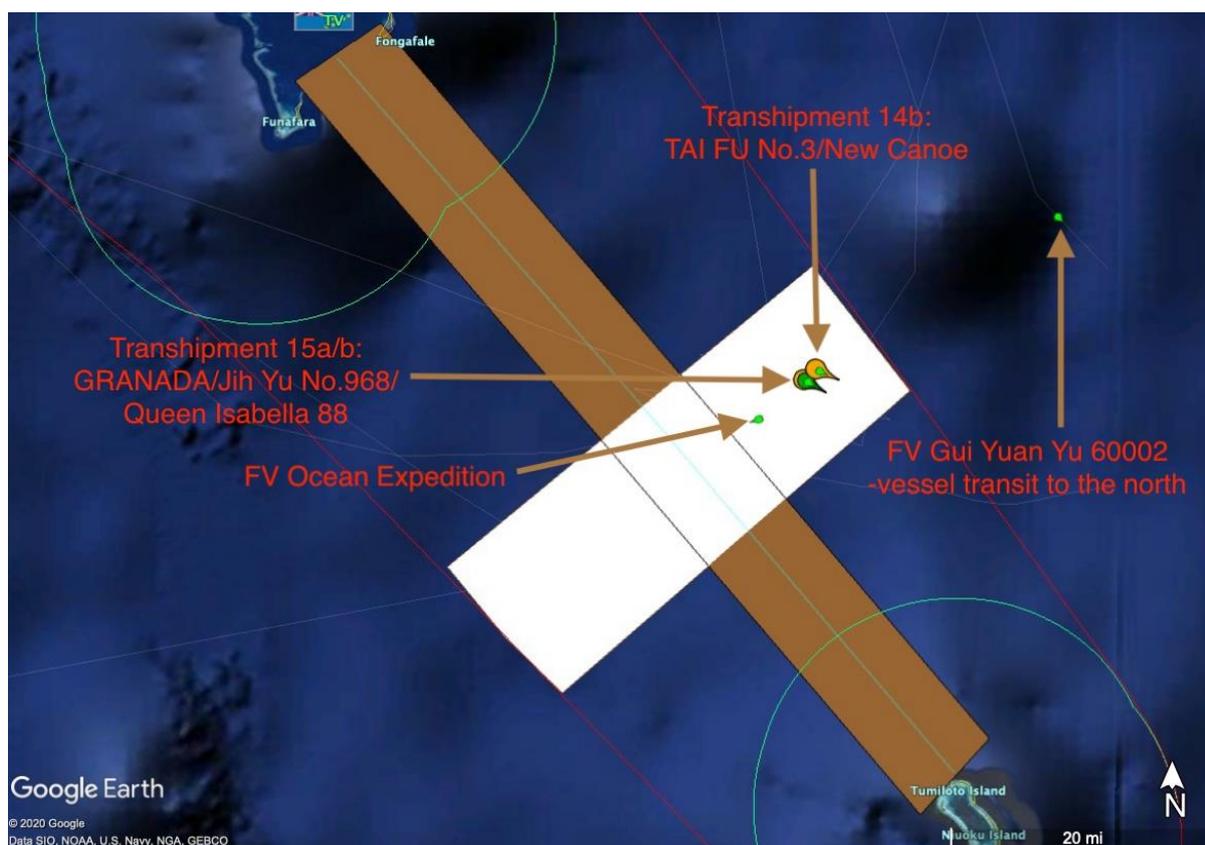


Figure 35: VMS monitoring of the Designated Transshipment Area

6.9 Vessel Day Scheme

Use of Vessel days was carefully monitored throughout the year, with a large number of transfers (in and out) requested by bilateral partners. Tuvalu participated in the US Treaty, Sub-regional pooling arrangement, and a new 'mini-pool' with Tokelau providing days to US vessels outside the treaty pool. Days were also provided to Tuvaluan vessels operating under the FSM Arrangement.

At the time this report was prepared, some utilisation of days was still to be finalised for the 31st March. The following table is therefore provisional, and will be amended in the final version of this report. However it is clear that Tuvalu, while ensuring a high level of use of days, did not exceed the PAE for 2020.

| Description | No. of days |
|------------------------------|-------------|
| Tuvalu’s PAE for 2020 | 2188 |
| Days in zone | 1472 |
| Non-Fishing Days approved | 55 |
| Days used | 1417 |
| Transferred Out | |
| US Treaty Pool | 128 |
| TV-TK Mini-pool | 25 |
| FSMA (for Tuvalu vessels) | 145 |
| Sub-regional Pool | 356 |
| Bilateral transfers | 512 |
| Transferred In | |
| Bilateral transfers | 417 |
| TOTAL UTILISATION | 2166 |
| Unused days | 22 |

Table 17: Provisional use of Tuvalu’s PAE under the Purse Seine Vessel day Scheme (note this will be modified in the final report)

6.10 Other Projects

The oceanic team was involved in other fisheries projects for the past years. A brief description and status of the various projects are provided below.

6.10.1 Japan Trust Fund

In 2018, the department sent a proposal request to the WCPFC for consideration under the Japan Grant and was successful. This enabled a national training course on High Seas Boarding and Inspection (HSBI) to be conducted that same year. After that training, a balance of AU\$16,668.61 still remained and hence the same training was planned to occur in 2020. However, due to the COVID19, this never happened and the WCPFC secretariat have been notified (through steering committee) of our intention to extend the closing date of this project

6.10.2 Chinese Taipei Trust Fund

This is another fund under the WCPFC for capacity development of small island countries in the region. This year, another proposal was approved which should see in-country training on observer cross-endorsement. The training requires the attendance of an external expert (from the IATTC) who will take the leading role in its delivery. The pandemic made implementation impossible in 2020.

7 Conclusion

2020 has been a year unlike any other in Tuvalu, and many planned activities for the Fisheries Department were affected by the pandemic. However, the team responded to the new challenges and many successes were achieved. Tuvalu has been fortunate in that fisheries revenue collection has remained strong, at a time when other national economies have faced huge problems; and that precautions taken (including in the Fisheries sector) prevented COVID19 from getting into Tuvalu during the year.