

Tiunu 2018



TE IPUKAREA SOCIETY

*Caring for our Environment
Taporoporo i to tatou Ao Rangi*

On the 21st June our Suwarrow team returned to Rarotonga after spending six weeks on the atoll, which is also our country's only National Park. The team carried out a rat eradication on selected islets and carried out bird surveys throughout all the islets on Suwarrow. See below for more:

Part 1: Suwarrow Is For The Birds

The team from Te IpuKarea Society reported in by satellite phone from Suwarrow, to send this article, where they were hard at work in a very labour intensive exercise to eradicate the rats from Suwarrow once and for all. The TIS team consisted of Alanna Smith, Mary McDonald, Mia Samuel and Kelvin Passfield. They were joined by a volunteer from Pacific Islands Conservation Initiative, Ashley Cota, and Steve Cranwell, the invasive species programme manager from Birdlife International based in Suva. National Environment Service rangers Harry Papai and John Samuel also provided much appreciated support.

This is the third attempt to remove these persistent invasive rodents from the atoll since 2003. The last baiting was in 2013, and at that time rats were successfully removed from Anchorage, the main motu (islet) where the National Environment Service (NES) rangers are based, and also where the visiting yachts anchor. Unfortunately a few rats survived on Motu Tou, and these had increased to the maximum carrying capacity for the motu.



The TIS and NES Suwarrow Team after landing on Suwarrow.

One of the reasons it was thought that the 2013 operation on Motu Tou had failed was because of the very high numbers of coconut crabs there that love eating the rat bait. So this time, the team planned to apply more than double the amount of rat bait as last time, in the hope that there would be plenty for both the rats and the crabs. Crabs are totally unaffected by the rat bait, though it is recommended that humans do not eat the crabs for at least 6 months after a baiting operation.

The team left Rarotonga on Saturday 12th May, and overnighted on Palmerston on the Tuesday the 14th, where they were very well looked after by the Marsters family. They finally arrived in Suwarrow on Thursday 17th May, along with the National Environment Service rangers. After a full day of unloading the cargo on the beach at Anchorage Island, including 188 buckets of rat bait, totalling

nearly 2 ton, the team overnighted on Anchorage. They slept in a variety of available exclusive accommodations, none of which you will find on Booking.com. These ranged from the old house and the newer cyclone shelter (the garden view units), to a few hammocks hanging between coconut trees on the beach (the lagoon view accommodation).

Next day most of the gear was loaded into 2 boats (the team boat and the NES boat) and transported to Motu Tou to set up base for the rat baiting. Based on information received from the rangers, we hoped Motu Tou was the only motu that had rats remaining. That day the team also started to cut through the thick island vegetation to establish a reference line through the Motu along the East-West long axis of the islet. The following day the reference line cutting was completed and the team started cutting the baiting tracks across the motu in a North South direction. After 6 back breaking and exhausting days, and numerous wasp stings, the cutting of the tracks was completed. Thirty one parallel tracks in all, 25 m apart.

During this period rat traps were also set on the 2 small motu (Kena 1 and 2) next to Motu Tou, to see if any rats had made it across to these islets. Much to the team's disappointment, rats were trapped on both motu, meaning more track cutting for a 7th day so that these motu could also be baited. Several trips were also made back to Anchorage to collect half of the rat bait buckets for the first round of baiting.

The next step was to mark baiting points at 25m along each track. In the end we had 301 points marked in a grid across all 3 motu. The reason for the 25m grid point system is to allow a person to stand at each bait point and throw bait in a circle around them out to a distance of approximately 12.5m, achieving a 100% coverage of the motu. This should, in theory, leave no small pockets where rats might possibly miss out on their fair share of the bait! Once the baiting points were all marked, the team were at last ready to do the actual baiting.

The first round of baiting finally occurred on Friday 25th and Saturday 26th of May, and the team returned to the luxury of Anchorage, where they had showers with a bit more than a 2 litre teapot of water per person! The weather turned out to be in favour of a successful operation, with no significant rain for 4 days after the baiting. Rain is not good as the bait deteriorates much faster, and also the rats tend to be less active in heavy rain. This was also a possible factor in the failure on Motu Tou last time, as there was heavy rain one day after the baiting occurred.



Mary during a rat baiting exercise. Featuring a discarded FAD in the background.

After this first round of baiting the team had to wait another 10 days before doing a second round of baiting on Motu Tou and the 2 Kena Motu. During this time they conducted bird surveys right around the atoll. See part 2 for more.

The team would like to thank the Cook Islands Global Environment Facility Small Grant Programme (GEF-SGP) for providing much of the financial support for the project, along with Birdlife International for their further technical and financial support from the David and Lucile Packard Foundation and David and Sarah Gordon.

Part 2: First Baiting Round and Bird Surveys Completed

Following completion of the first round of rat baiting on the three motu (islets) known to have rats, the team from Te Ipukarea Society had 10 days before doing a second round of baiting on the same islands. During this time they conducted bird surveys for all the motu of Suwarrow. They started with the Gull Islets, just east of the passage into the lagoon. There were many greater and lesser frigate birds (Kota'a) nesting side by side in the low shrubs of Pemphis (Ngangie). The team saw both eggs and chicks. There were also several species of booby birds, and a few sooty tern (Tara) eggs.

Next day the team did the two small Kena motu, which are very close to Motu Tou. Again many Kota'a were nesting, and there were also brown booby (Kena) nests on the ground with eggs and chicks. These islets, despite their small size, also had a surprising number of nesting red-tailed tropic birds (Tavake). In the afternoon the team surveyed Motu Oneone, at the eastern extremity of the atoll. This island had mainly white-footed boobies (Toroa), and the team also spotted a Tavake, a masked booby (Lulu), and a long-tailed cuckoo (Karavia).

Over the next few days the team surveyed Entrance Island and New Island, situated at the south east of the atoll, where they found a high number of nesting Tavake. They also went to Brushwood and One Tree islets, in the north, and this is where they found very high numbers of Tara and their chicks. A few of their eggs were still evident as well, not yet hatched. Turtle Island was also surveyed, and was interesting because of the almost total absence of birds.

Manu Island in the North West was next, and true to its name, the bird island had among the highest density of birds found, mainly Tara and Kota'a. The following week the team completed the bird surveys on Gull Islets, and Seven Sisters, in the north east, where three Lulu, a number of Tara and their

chicks, and the usual Kena and Kotaa were nesting. A number of black and brown noddies (Ngoio and Rakia) were observed roosting on branches, the first of the Rakia having started to build nests. Whale Island, near Anchorage, was the last to be surveyed, and had mainly Tara and Kota'a, with a few red footed boobies (Toroa) that had just started to nest, and some black and brown noddies perched on dead tree branches of ngangie. The largest islands, Anchorage Island and Motu Tou, did not have much in the way of birds present, but an earlier presence of Rakia nesting could be seen among the towering canopy of Tou trees.

A notable find on all the motu were the high number of fish aggregation devices that were found washed up, with more than 50 being found. Many of these still had their locator beacons attached. This large number suggests that the estimate of 100,000 of these FADs, set by purse seine fishing boats and drifting around in the West and Central Pacific Ocean is no exaggeration. The team found two FADs with the remains of dead turtles entangled in the netting. Together with these more than 50 FADs was a very large amount of other abandoned fishing gear including buoys, nets, lines and ropes. Plastic bottles and other plastic rubbish was everywhere on all the motu.

Overall the team counted around 8000 Kota'a, 750 Tavake, 5 Lulu, 160 Kena, 285 Toroa, and 300 white terns (Kakaia). In addition several waders were spotted, including six of the globally threatened Bristle-thighed curlew (Teue) as well as Reef Herons (Kotuku), pacific plovers (Torea), and wandering tattlers (Kuriri). Two Karavia were seen, and several more were heard. Estimating the number of Tara was difficult, as the eggs had mostly hatched and young chicks (runners) would hide in the vegetation. On approaching the colonies tens of thousands of adult Tara would take to the air. Previous estimates of over 100,000 were supported based on these observations.



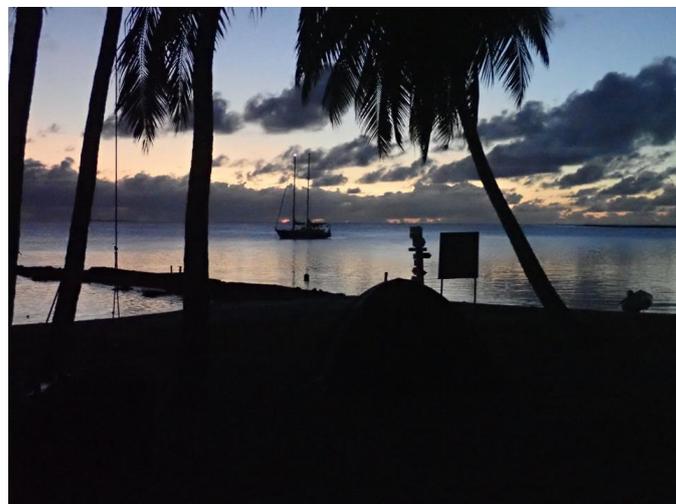
Top: A baby frigatebird waits to be fed. Middle: A pair of masked boobies spotted on Suvarrow. Bottom: A red-tailed tropicbird in flight.

The number of birds found on Suvarrow support the internationally recognised "Important Bird Area" (and Key Biodiversity Area) status of

Suvarrow, and the conservation efforts being made to protect the Atoll including ensuring it remains free of harmful invasive species such as rats, cats, ants, weeds and others.

Part 3: A Closer Look At Suvarrow

Way back in 1890, Suvarrow was described as the "most romantic island in the world" by Robert Louis Stevenson's wife Fanny after the Stevenson family visited the island. From a distance, even today, you can get a feeling of why she thought so. An aerial view of Suvarrow shows what appears to be a pristine, untouched atoll, in the middle of a beautiful blue ocean, with one or two yachts anchored peacefully in the lagoon. This is the island that was made famous by Tom Neale, who lived alone there for a number of years. His book, *An Island to Oneself* was written about his life there based on his regular journal entries. There have also been many rumours of hidden treasure on the island over the decades.



Above: the idyllic serenity of Suvarrow. Below: Daylight reveals FAD litter within a crucially important seabird habitat.

You could be forgiven for thinking that it's remote location would mean that Suvarrow is free of the marine pollution issues facing so much of the globe. And thirty years ago, you would have been correct. However, zooming in for a closer look at Suvarrow now, it is not treasure you will find, but exactly the opposite. Trash. The plastic age and the increase in

industrial tuna fishing has made its mark on this paradise



A frigate bird flies over a discarded FAD.

During our trip in May-June 2018 to Suvarrow for rat removal and bird monitoring surveys, the team from Te Ipukarea Society discovered the ugly truth about what is happening to our first ever National Park, which was declared 40 years ago this year! As we travelled around the large lagoon to each island to count the birds, we discovered an enormous amount of waste washed up on the beaches. A large amount of this, especially the larger items, was obviously from purse seine and longline fishing vessels fishing in the West and Central Pacific Ocean.

Of particular concern was the number of drifting Fish Aggregation Devices (FADs), with over 50 found washed up on beaches. These may be considered as treasure by the purse seine boats that set them adrift, especially if they get a catch of several hundred tons of tuna from setting their nets around them. But to the otherwise natural beauty of Suvarrow, they are nothing but trash. Worse still, they can be fatal to our precious marine life. At least two of them were responsible for the death of turtles, as turtle remains were found associated with these FADs. The turtles would have been tangled in the netting that surrounds these FADs, and would have died a slow horrible death from starvation.



This washed up FAD had remnants of a tangled turtle amongst it.

According to reports, there are about 10,000 new FADs deployed into our oceans every year. They can be fitted with transmitter beacons so that they can be located, or with sonar equipment that indicates the amount of fish aggregating at the FAD. If there are no fish gathering under them, the boats usually don't bother picking them up. This is a financial decision, as the boat operators would spend much more on fuel and lost fishing time than the FADs are worth. We believe this should be viewed as illegal marine pollution and should be covered under some law or international convention (perhaps the London Dumping Convention, or MARPOL).

If you consider there are about 100,000 FADs drifting in the WCPO at any one time, you can imagine how many turtles, and other marine life that gets tangled in these FADs, must be dying. We think it is time that the West and Central Pacific Fisheries Commission (WCPFC) did much more to address this problem. The current 4 month FAD fishing closure is ineffective when the FADs continue to drift throughout the whole year, or until they wash up on our islands! As a small local NGO, we can really only raise awareness about the scale of the issue, and encourage the Cook Islands Government through the Ministry of Marine Resources Cook Islands to also raise the issue at international meetings on fisheries, as well as at international Marine Protected Area meetings, because of our Cook Islands Marine Park - Marae Moana.

TIS Commemorates World Oceans Day

Our ocean provides us with oxygen, food, medicine, recreation, peace of mind, regulates our climate, and drives our global ecosystems. On World Oceans Day, we are reminded of the role the ocean plays in our lives and how we can do our part to protect it for our future generations to come. We should celebrate World Ocean's Day (This year it was on June 8) by trying to make small changes to our lifestyles so that we can improve the health of our ocean. Below are some ideas:

1. Consider Your Carbon Footprint and Reduce Energy Consumption

Reduce the effects global warming on the ocean by leaving the car at home when you can and being conscious of your energy use at home and work. A few things you can do to get started today include switching to compact fluorescent light bulbs, unplug appliances when they are not in use, and choose appliances such as refrigerators which have high energy saving ratings.

2. Make Safe, Sustainable Seafood Choices

Global fish populations are rapidly being depleted due to high demand, loss of suitable habitat, and unsustainable fishing practices. When shopping or dining out, help reduce the demand for overexploited species by choosing seafood which is sustainably harvested or comes from healthy stocks. When shopping for canned tuna, look for 'pole and line' or 'FAD-free' certification which shows it has been sustainably caught



An example of FAD free labelling on a can of tuna.

3. Use Fewer Plastic Products

Plastics that end up as ocean debris contribute to habitat destruction and entangle and kill tens of thousands of marine animals each year. To limit your impact, carry a reusable water bottle, store food in re-usable containers, bring your own cloth bag or other reusable bag when shopping, and recycle as much as possible.

4. Help Take Care of the Beach

Whether you enjoy diving, surfing, or relaxing on the beach, always clean up after yourself. Explore and appreciate the ocean without interfering with wildlife or removing rocks and coral. Go even further by encouraging others to respect the marine environment or by participating in local beach cleanups.

5. Don't Purchase Items That Exploit Marine Life

Certain products contribute to the harming of fragile coral reefs and marine populations. Avoid purchasing items such as coral jewelry, tortoiseshell hair accessories (made from hawksbill turtles), and shark products.

6. Support Organizations Working to Protect the Ocean

Many institutes and organizations are fighting to protect ocean habitats and marine wildlife, such as Te Ipukarea Society. Consider giving financial support or volunteering for hands-on work or assisting in advocacy.

7. Influence Change in Your Community

Research the ocean policies of government before you vote or contact your local representatives to let them know you support marine conservation projects. Encourage your local food vendors to only use sustainable seafood, and speak up about your concerns if you spot a threatened species on the menu or being caught at sea.



Attendees of the BIOPAMA Workshop in Apia.

8. Travel the Ocean Responsibly

Practice responsible boating, kayaking, vaka padding, and other recreational activities on the water. Never throw anything overboard, and be aware of marine life in the waters around you. If you're set on taking a cruise for your next vacation, do some research to find the most eco-friendly option.

9. Educate Yourself About Oceans and Marine Life

All life on Earth is connected to the ocean and its inhabitants. The more you learn about the issues facing this vital system, the more you'll want to help ensure its health—then share that knowledge to educate and inspire others.

Happy Oceans Day and good luck!



Liam Attends BIOPAMA Meeting in Samoa

Last week a number of Pacific Island protected area managers gathered in Samoa for the Inception Workshop of the BIOPAMA (Biodiversity And

Protected Area Management Programme) Phase Two. Liam Kokaua from Te Ipukarea Society was fortunate to be able to attend this meeting,

alongside Elizabeth Munro (National Environment Service) and Kevin Iro (Marae Moana).

What is a protected area? A protected area or conservation area is a place which is protected from potentially harmful development because of its recognised natural, ecological, or cultural value. There are many types of protected areas which have different levels of protection. Protected areas are either land-based or marine protected areas, the latter must include some area of ocean.

Protected areas are established to protect biodiversity (the variety of life on Earth). This is because they preserve important habitats for plants and animals, as well as protection from hunting and harvesting for threatened or endangered species. When areas are protected they allow ecological processes to continue where in other places they would not – For example, a marine protected area including a section of mangroves would act as a fish nursery where these young fish would grow large without allowing the fish to be netted around the mangroves or allowing the mangroves to be cut down which would result in the destruction of their habitat.

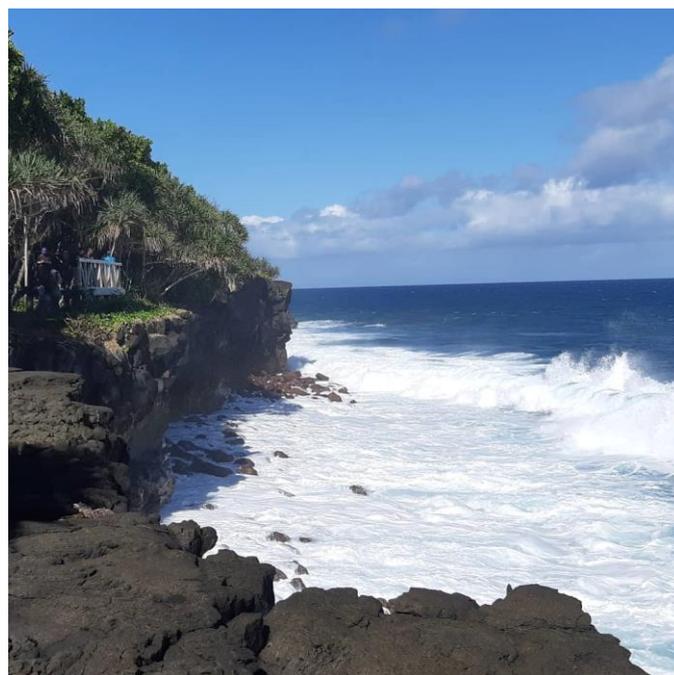
The Samoa meeting was hosted by the Secretariat for the Pacific Regional Environment Programme

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(SPREP) and the BIOPAMA project is funded by the European Union. The BIOPAMA meeting focussed on updating Pacific nations on how the project's second phase will work - its objectives, benefits to countries, expected results and main activities and involvement by countries and organisations. The meeting sought to identify general information about the BIOPAMA Action Component and identify national and local priorities that could guide decisions for investments through grant making (managed by the IUCN Oceania Regional Office in Fiji).

The meeting also focussed heavily on priority needs and opportunities for improving data gathering, assessment of data and information and capacity development for decision making and effective management and governance of protected areas. These include engaging stakeholders and partners in how to use the Pacific Islands Protected Area Portal (PIPAP) which can be accessed on <https://pipap.sprep.org/>. The PIPAP is basically a database for all information relating to protected areas in the Pacific Islands. On the PIPAP there is already a large amount of information on protected areas in the Cook Islands, including on Suvarrow National Park, the Takitumu Conservation Area, and many others.

However the PIPAP still needs updating as the Cook Islands and other Pacific islands have a number of newly-established protected areas which have not been submitted into the PIPAP. These include the Moko'ero Nui Nature Reserve on Atiu which was created in 2016. Meeting participants were asked to identify which protected areas which need updating or correcting on the database, and provided valuable information to make sure the PIPAP is more easy to use and understandable for all people who want to learn about their country's protected areas.



O Le Pupu Pu'e National Park, Upolu. The South Pacific's first National Park.

Protected areas are a great way to protect our biodiversity and nature for our future generations of Cook Islands. Through the new BIOPAMA project, funding will be available to support the creation of more protected areas as well as maintain those we already have. Technology such as the PIPAP will also be able to allow protected area managers in the Cook Islands to better manage and keep track of our protected areas for the future.

Cemetery Waste!

This is a topic which is not often discussed as perhaps as it can be a bit sensitive, however it has been found that our public burial grounds are some of the most littered spaces on Rarotonga. The pictures are of cemetery rubbish which our Project Officer Liam Kokaua collected in just 15 minutes at the Ngati Arera Burial Grounds in Takamoao.



As can be seen, at least half of the rubbish collected consists of plastic flowers which have been blown off graves, sun damaged and dirtied by being outdoors for too long. The second most common type of litter were flaking degradable (not biodegradable) plastic bags, these will continue breaking a part into smaller and smaller pieces and result in problems for our environment.

The green floral foam which people stick flowers into is not only an environmental issue but a health one – it contains many hazardous substances including formaldehyde smoke, oxides of carbon, phenol, cresols, xylenols, and sulfur dioxide

The reality is that plastic flowers and floral foam do not last long on graves before they are blown off by the wind and become rubbish. Because they are made of plastic these objects will last hundreds of years in the environment or in the landfill.



What is the alternative? If you want to leave a tribute on the grave of a loved one then why not make a fresh flower 'ei or flower bouquet? They will not last as long as plastic but because of the thought and effort put into making them they will be much more meaningful. Also, ei's with fresh flowers are organic and will eventually decompose naturally.

Another option is instead of leaving a object on the grave, spend some time cleaning the gravestone and weeding around the grave, this is a gesture which would surely be appreciated by your loved one.

Events like the Turama or "All Saints Day" are great ways to remember those who have passed on. But remember to collect your plastic lights and plastic flowers afterwards, this will keep your family's burial area tidy and save you money as they can be re-used each year.

Remember your loved one or ancestors would probably prefer a clean tidy space around them just as we do in life. Also, by considering going back to natural tributes you will be doing your part to keep our island's environment clean and beautiful.