



TE IPUKAREA SOCIETY

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

Kia Orana e te katoatoa. Teia te nuti no Aperia 2020. Welcome to the April 2020 edition of our newsletter.

Become a TIS member for 2020!



It's that time of year again when we seek your support for our work, by joining or renewing your membership with us and getting involved in our Society.

We understand it is a difficult time for families and businesses with the impacts of COVID19 being felt widely. But we believe that now, more than ever, we need to strive to fight for nature and our environment, through our continued and concerted efforts in the Cook Islands.

We have a golden opportunity to reshape our Cook Island tourism industry to be more sustainable. Diversification of the economy is necessary, but we must also take care not to move from one negative impact scenario to another. This is especially where it involves

exploitation of our precious resources such as seabed minerals and commercial fisheries.

A very big Meitaki maāta to the members and corporate sponsors who were quick to renew their support already this year. We appreciate it very much!

Our memberships start at \$5 for students, \$20 for individuals and \$50 for families. Plus our 4 levels of corporate membership. Check out our [webpage](#) for details on the range of corporate memberships available, or [contact us](#) for a chat!



Join us and become a member of TIS today!

Fridays in the Field

The TIS team have been making use of our Friday mornings this month on local field trips to learn more about ecosystems in Rarotonga, particularly in a time of low tourist numbers due to COVID19.

A quick dive at low tide at Avaavaroa Passage led by TIS intern and free diver Charlee Mclean, provided an opportunity to see how the popular passage ecosystem was looking without the impact of tourism.



A Green turtle (Chelonia Mydas) rests in Avaavaroa Passage

Several turtles were spotted during the dive and didn't seem too phased by the curious TIS snorkelers. A fever of eagle rays was also seen as well as numerous large trochus which could be seen in groups of 2 – 4 throughout the dive. We were lucky to see a beautiful Spanish Dancer egg mass.



Spanish Dancer (Nudibranch) egg mass

Trochus was originally introduced to Aitutaki from Fiji in 1956 as a sustainable fisheries option to generate income for local families. It has since been translocated to most of the Cook Islands, though has not become established in all islands.



An abundance of Trochus also found in the passage

Trochus was an ideal economic resource to introduce as they reproduce quickly and were found to have low impact on the environment. From the first harvest in 1981 Aitutaki local families earned just over \$200,000 as

a result. Today the market for trochus is not as favourable so is not as frequently harvested anymore.

Another Friday morning saw the TIS team head up to the Takitumu Conservation Area with Tokerau Jim who tagged along for his first ever visit. We were pleased to find an inquisitive and thriving Kakerori (Rarotongan Flycatcher) population plus a lot of Moā Kirikiri (Pacific Fruit Bats) still very active that early in the morning.

Discover your Inner Self Isolation Bird Identity

Of about 50 birds found in the Cook Islands, we examined 10 to see just how they were taking to the new Code Yellow rules due to Covid19. Some are exhibiting some interesting self-isolation characteristics.

Rupe, the Pacific pigeon

The one who eats all the chocolate on the first day of isolation.



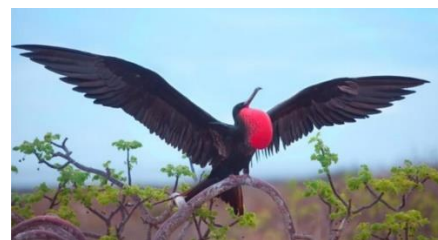
Hobbies include long scrolls down its phone, singing in the shower, PJs and Netflix all day. TikTok videos is its new thing before winding down on some fermented berries.

Ngotare, the Chattering Kingfisher



The socialite. Needs that early morning coffee catch-up with friends and is always smiling on its daily walks. Likes to be up in everyone's bubbles and always forgets that hugs or kisses are now a no-no.

Kota'a Nui, the Frigate bird



It's each bird for itself with the Kota'a.

The one who pushes to the front of the queue at CITC

and panic-buys all the corned beef and hand sanitiser. Known for stealing other birds' food, be sure to watch out for this one.

Lulu, the Masked Booby

The virtuous self-isolator at sea sea with literally kilometres of social distancing.

Moody and lonely. Misses the spouse, but won't admit to any of it.



'I'oi, the Rarotonga Starling



Solitary, introverted and rarely seen. Has been preparing for this moment its whole life.

Self-isolation is business as usual

but secretly wishes it was full lockdown. Hides from people who show up unannounced, because what kind of monster does that?

Puts up its own Covid19 orange isolation flag despite not being sick or vulnerable, it just doesn't want any visitors. Don't bank on seeing these guys out and about, unless they're out for food.

Kakaia, the White Tern

The highflier. Super organised and efficient.

Pre-orders groceries from Prime

Foods so it can spend extra time doing online Cardio Combat workouts. The first one to volunteer at the Puna and insists on delivering all the Red Cross care packages.



Kakerori, the Rarotonga Flycatcher

Great at self-isolation. Doesn't like to leave its Takitumu Conservation Area bubble.



Quite the contributor to the Rarotonga Community Facebook page. Working from home means Zoom calls for meetings but prefers the video off so it can keep busy flying around the place.

Toa Moa, the Rooster

Known for their loud bike horns that wake the neighbours.

Big panic buyer - stocking up on Rum and Heinies. Already on their second warning.



Kukupa, the Cook Islands Fruit Dove

Extreme mood swings. Just wants the kids out of the house.

Stays up all night watching romantic comedies.

Often asks what day is it? Avoids the supermarket at all costs and lives off food from the dairy. Sleeps until 1pm because "what's the point anymore?"



Kuriri, the Wandering Tattler

Timed it just right. Got the last flight in to self-isolate in the Cooks before the borders shut.

Here's to being stranded in paradise.



Ani O'Neill - It's Time To Clear The Air

Like us, TIS member Ani O'Neill is so over burning. She says that lately it has been especially bad in her village, as people prepared for Tutaka by cleaning our homes and surroundings to help stop the dengue outbreak in Rarotonga.

The unfortunate side effect of the Tutaka is an increase in fires at home where burn piles are dealt to and the burning of plastic is especially toxic. There are also a number of small to medium supermarkets, tourism accommodations, restaurants etc that have toxic burn piles for their waste.

We know the important message that 'smoking is bad for you' but when you really think about it, our whole island 'smokes' nearly every day and recently it seems like it is getting worse.



Plastic does not belong in the burn piles

We have been brought up with the idea to clean our properties with a fire, but there are other ways to deal with the leaves and green waste from our gardens. Composting and mulching are great options for us to feed our gardens and make our soil rich and turn our green waste into organic food for our gardens.

Our local Puna have done such a great job in working to keep our people healthy with the COVID - 19 Emergency Centres. Why don't we support our Puna to continue that role but with a focus on composting and returning nutrients to the soil instead of burning? With proper support, our Puna could run local workshops on how to compost and mulch.

Funding could be sought for industrial mulchers for the villages to use to chip tree branches for mulch. Perhaps

an area of land could be identified within each village for composting facilities similar to the Titikaveka Grower's operation.



Ani uses banana trunks to keep dry leaf mulch in, which keeps weeds down and moisture in

It will take all of us to address this 'burning issue'. Government, NGOs, private sector businesses and local villages working together to find a solution for this.

Fish Poisoning from Reef Fish

During these COVID19 days of reduced income from tourism, there has been an increase in people catching reef fish. Unfortunately, there has also been an increase in Ciguatera poisoning with 15 cases in the last month alone.

Ciguatera is caused by a small marine organism, a dinoflagellate called *Gambierdiscus toxicus*. This often flourishes in areas that have been impacted by cyclones, reef blasting, or even ship wrecks, as it is thought that it likes to settle on newly exposed surfaces which are common after these events.

Pollution from land based sources such as sewage is also thought to promote the growth of these dinoflagellates. Fish that graze on these newly exposed surfaces then introduce the toxin into the marine food chain, from where it can end up inside us!

Symptoms are feeling sick and vomiting, diarrhea, headaches, numbness, dizziness, slurred speech, stumbling, falling, hallucinations, pins and needles and sensitivity to hot and cold. Symptoms usually begin 6 to 8 hours after eating the fish but can also be up to 24 hours later.

The latest case we are aware of is not in a human, but in a dog named Kusu. He was brought to the vet clinic looking very sad, unable to stand easily and with a very wobbly walk. According to the senior vet, Ellen McBryde, there is not much they can really do, apart from medicate to relieve stress. Fortunately for Kusu, he only had a mild case and is back home now.



Kusu the dog from Vaimaanga with fish poisoning.

The species of fish causing these poisoning cases are most likely those commonly caught inside the lagoon, such as parrotfish (U'u, Pakati), unicorn fish (Ume), snapper (Kiriva, Tangau), surgeon fish (Maito) grouper (Patuki, Ro'I, Taraava), squirrelfish (Ku), Trevally (Titiaara) and moray eel (A'a pata).

A great alternative of course is to eat pelagic (offshore) species such as maroro (flying fish), tuna, wahoo, marlin, ature (mackerel scad) and spearfish.

The lack of tourism also means offshore fish is almost 50% cheaper than pre virus days!. And the good news is these offshore fish do not cause ciguatera poisoning. Bon Appetit!

The Key To Making Home Gardening Fun

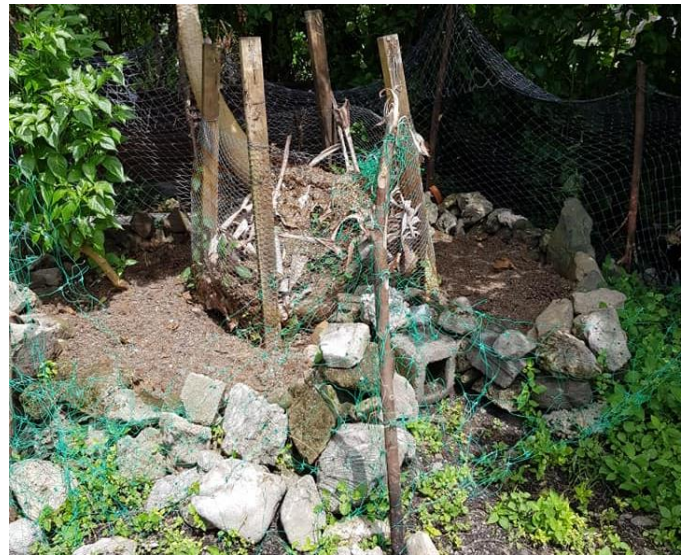
We at TIS have been making the most of the free seeds from the Ministry of Agriculture Covid19 food security package by planting new life into the office's garden. There has been an amazing interest by locals in growing their own food.



Zeb helps Alanna and Charlee build a fence to keep out those pesky chickens

Our circular rock keyhole garden has an indent in the wall allowing access to an active compost pile placed in the centre of the keyhole-shaped bed.

All the decomposing nutrients produced from the compost in the centre will disperse throughout our soil bed, enhancing the nutrient input in the garden. Chicken mesh or similar can be wrapped around the posts to act as the walls of the compost heap.



The TIS office Keyhole garden with a central compost pile

The first layer may include iron scraps such as empty tin cans, as well as broken pots and dry animal bones to help with minerals and drainage. Wood ash & seaweed can provide potassium. Make sure that every layer slopes downwards from the central compost well, so water can flow properly in the soil around it.



Tehahawai plants the seeds into egg cartons for direct transplanting

Cardboard egg cartons made for great seed starters and seedlings could then be directly transplanted.

The castings from our worm farms made for great seed starters too!.

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