



TĀWHARANUI OPEN SANCTUARY SOCIETY INC.

Newsletter N^o. 64. March 2018



A korimako (bellbird) surveys the day from a harakeke (flax) bush on Tokatu Peninsula.



In the absence of predators goldfinches thrive at Tāwharanui . They are often seen in big flocks, feeding on seeds.

Tāwharanui Open Sanctuary is a joint project with Auckland Council.



Coming events

Sunday in the Park (wear sturdy shoes/gumboots; bring a bottle of water) BBQ lunch provided:

- * 1 April
- * 6 May
- * 3 June

In this issue:

* Research update	3
* The dotterel season	4
* Takahē success	5
* Got to get out	7
* Duvaucel's Gecko	8
* Pateke paradise	8
* Flora report	10
* Crayfish in the Park	12

Volunteer Days

Tuesdays 9am The nursery team meets at the Tāwharanui nursery.

If you would like to join this dedicated team,

Contact: Ray Blackburn 425 4995. magsandray@gmail.com

Thursdays 9am A small group of volunteers meet at the Vol Hole for interesting track and maintenance work.

Contact: Roger Williams 425 9127. ropeworth@gmail.com

Volunteer checking (to be done in your own time) See page 11.

Chair's Comments

Every year Tāwharanui's ecology gets even better thanks to the work of TOSSI volunteers and the Auckland Council staff. It really is a privilege to be involved with such a splendid project.

One gets visceral rewards for volunteer hours on the Park, e.g. a morning out with Manu Barrie handling and measuring velvety Duvaucel's geckos; a nest of three large rosella chicks squawking from a rocky root crevice of a pohutukawa tree as I tried to shelter, already dripping wet, from a summer deluge; soft torch light on a gaggle of grey-faced petrel clumsily flopping about on a grassy Tokatu slope having been called in for banding; the mystical silent flight of a ruru (morepork) at night cruising a bush track as an access corridor; the eerie call of kiwi duetting across Mangatawhiri wetland after dark when all is still and quiet; the gleaming colours of takahē when the sunlight catches them; an uplifting sunset one evening when layers of angry cumulous clouds turned blazing reds and golds reflected in the lagoon; or fluffy NZ dotterel chicks, having learnt dotterel language, responding to an adult's warning cry by scurrying to cover and freezing well before the black-backed gull glided over head. I have seen the letter three times this season.

As well as the joy of knowing and seeing all the threatened species that have been returned to Tāwharanui, there is the fulfilment of seeing all the plantings over the years thriving and providing more habitat for more birds.

Yes, we are making a difference!

As a result of our efforts the TOSSI Committee is moving to a phase of education. An *Education, Awareness and Appreciation Strategy Plan* has been produced. Now that we have a unique Open Sanctuary established, we need to share knowledge about the special birds and trees that once thrived throughout New Zealand. Tāwharanui has 160,000 visitors a year, many being first-time visitors and travellers from overseas. Four brochures have been produced including: *Information about the Ecology Walk*; *Birds most likely seen at Tāwharanui*; *The Sand Dune Vegetation*; and *Pests and Weeds removed from Tāwharanui*. These brochures have proven to be very popular and the holders at the Sanctuary Hut have to be constantly re-filled.

Also, a mobile education and information trailer is being designed and its construction is almost underway. It is planned that this will be used on busy summer weekends at the Anchor Bay beach access. We are unable to build at this site as it has Maori Heritage status. The mobile trailer has advantages as we can also use it for large school groups in the campground, as well as in the winter on tree-planting days. With a little luck we may find volunteers who are happy to tow it off the park to be displayed at the Warkworth Kowhai Festival or take it to local schools. So watch out for a mobile education trailer with some graphic diorama displays of predators consuming chicks and eggs! The message being, "Our precious native plants and birds need our help if they are going to survive their battle with all the pests that humans brought here. Tāwharanui is an example of what pest-free New Zealand could be." Thank you to everyone for supporting Tāwharanui .

Alison Stanes



Open Sanctuary Senior Ranger Update

Written on behalf of Matt Maitland.

Unfortunately Matt hasn't had time to write an update for this edition because he's been busy trying to catch takahē! He spent three days last week trying to catch them. Three were caught the first day and then none on two later days. Takahē are using up more of his time than he expected.



The takahē need annual health checks and be weighed; some need blood samples taken for sexing, DNA testing, blood genetics; some need a booster vaccination; faecal samples are required; some need new transmitters. Our takahē chick needed to be caught for having colour bands put on, and everything else.... (see photo on page 6)
So Matt has his hands full!

Matt Maitland can be contacted at matt.maitland@aucklandcouncil.govt.nz or 09 426 1200

Research update

The native gloxinia – how is it doing and who cares anyway?

The southern coastal slopes of Tāwharanui are home to a pretty native flowering shrub unfamiliar to many, taurepo, the native gloxinia, *Rhabdothamus solandri* (photo, right, shows its orange petals with yellow stripes). The plant is interesting because it represents a range of native nectar-bearing shrubs, including kaka-beak, *Alseuosmia*, and *Fuschia* which require birds to visit them so that pollen is moved between plants, seeds are set and the species continue to regenerate.



The fact that they are unfamiliar to many is a tell-tale sign that these plants, which were once common and widespread but are now increasingly scarce and localised, may be in trouble. The research I have done shows that *R. solandri* needs a pollinator to set seed, as it can't self-pollinate because the male and female 'bits' are separated in time and space and the only visitors are birds. So when endemic bird populations decline, the plant struggles to reproduce, especially because the commonest birds left are usually silvereyes which rob the flowers by slitting them at the base to access the nectar without pollinating. In fact the plants we have monitored show a drastic 90% reduction in seed

output, compared with plants in predator-controlled reserves where endemic bird visitors are abundant. This would be OK if only a few of the seeds produced ever found safe sites and germinated anyway, but it seems that's not the case. If you sow more seeds, more plants come up, so seeds are definitely the limiting factor.

We've worked it out this far, but what we still don't know is whether it matters in the long term because fewer seeds – and seedlings – might just mean these (less crowded) plants grow faster and have more flowers and make up the difference that way. So on the southern slopes of Tāwharanui where there are plants and, thankfully, plenty of bellbirds and tui, we have set up plots where we have tagged all the individual plants and can come back regularly to monitor them. We've done the same at other sites where there are fewer birds so we can compare and see how things pan out. Whether it matters in the long run or whether the tortoise catches up with the hare and those few plants grow faster and reproduce more, the end result is the same. It matters, because if not, the plants that need birds are being selectively lost, and the birds that visit those plants and rely on them for food are increasingly losing out.

If you want to know the answer you'll have to check in again in a few years or come and help us measure them so we can get the numbers.

And now that you've been introduced, next time you see a gloxinia, take note of how it is: whether the flowers are slit or the pollen disc has rub marks on it to show a bird has been through; whether there are seed capsules on the plant; whether there is anyone sipping at the flowers – and let me know!

Sandra Anderson

School of Biological Sciences, University of Auckland. Sh.anderson@auckland.ac.nz

A bumper season for Tuturiwhatu (**New Zealand dotterel**) at Tāwharanui

Did the NZ dotterel know something we didn't this season? Because all the established pairs at Tāwharanui nested before November. Never before has that happened. This meant that by the time the spring tides and storms and the heat of summer came, most had mobile chicks rather than vulnerable nests. It also gave the chicks a great start towards fledging before the black-backed gulls were hunting for food to feed their chicks. As a result, to date 24 chicks have fledged with potential for another two.



One new young pair started late and were forced into a less desirable territory right in the middle of the busiest beach at Anchor Bay in a new dune planting. They soon learnt that people were not going into the fenced area and they sat it out with beach goers sunbathing all around. The two eggs eventually disappeared so they re-nested at the top of new planting right beside a busy beach access route. Here the female sat camouflaged by grasses with beach goers walking within a metre and a half of the nest. You could say they have adapted to people! On hot days she could sometimes be seen standing to give shade to the eggs, with her beak open for cooling. Next season they might nest earlier to beat the heat and the crowds.

Although the chick numbers are the highest ever, the adult-to-chick ratio was lowered by the fact that the pair numbers increased from 13 pairs to 17 pairs. Possibly some of the chicks which fledged at Tāwharanui in previous years have returned to nest. Dotterel fledglings take two seasons to nest. As juveniles they spend time at the flocking site at Omaha getting pushed about by adults protecting their nesting territories.

At Tāwharanui a unique set of records has been documented over twelve years. This has been possible because numerous birds have been given colour bands by researcher John Dowding. Also, the territories are spread out around a peninsula rather than many sites where unbanded birds are jammed together on a crowded sand spit. NZ dotterel only do well at predator managed sites. For millions of years they had the beaches to themselves, no ground mammalian predators that could sniff them out, and no people. It is only over the last thousand or so years that people have got in their way! Apart from the people, Tāwharanui might be a little like what it might have been for NZ dotterel with no ground predators. The results at Tāwharanui over the years have proven the success of a pest-free fenced peninsula. (see chart below) Prior to the pest-proof fence no chicks were fledging. A large number of hedgehogs who eat the eggs also contributed to nil fledging.

Year	Nests	Pairs	Eggs	Eggs lost	Chicks	Fldgd	Chicks lost
06-07	16	9	40	14	26	17	9
07-08	13	10	32	10	22	10	12
08-09	15	10	44	10	31	4	26
09-10	17	11	49	21	28	13	15
10-11	13	10	34	15	19	9	10
11-12	17	11	46	20	26	8	17
12-13	11	10	30	13	17	2	15
13-14	24	13	68	39	29	4	25
14-15	17	10	44	18	26	13	13
15-16	15	10	43	11	32	21	11
16-17	20	13	58	30	31	13	21
17-18	23	17	70	26	40	24	17

Thank you to Sharon Kast and Chery Crosbie for assisting in monitoring NZ dotterel each season. Your valuable Time and effort is appreciated.

Alison Stanes

This chart shows losses in some seasons mainly due to black-backed gulls. With video proof of a black-backed gull consuming 3 dotterel chicks in less than four seconds, gull numbers were managed after the 2013-14 season. NZ dotterel chick fledging numbers have continued to increase since then.

Kiwi

The kiwi that was found outside the park looking weak and emaciated went off to the Auckland Zoo for tender care. It has been returned many kilos heavier and released in the park.

Tuturiwhatu (NZ dotterel)

A nest that got dislodged by a spring tide near Comet Rock was rescued by Chery Crosby one of the NZ dotterel monitors. She found all three eggs on the high tide line so made a nest in the sand further up the beach in the sand and put the eggs in it. Fortunately it must have been soon after the wave shifted the eggs because they were still viable. As the parents had already invested 20 days and nights sitting on the eggs they went back and sat on the new nest. Ten days later all three chicks hatched and thirty days after that all three chicks were fledged.

A week after the NZ dotterel working file was closed for the season, because all except two pairs had fledged chicks, Maurice (a ranger) phoned me one Saturday night to say he had a live dotterel chick in his hand. A park visitor had brought it in because a black-backed gull dropped it near their beach picnic site, so what should he do with it? Hand-rearing was not an option because it would never survive in the wild, so it had to be released back near where it was picked up and let nature take its course. An hour later another call came, "I found an adult pair near the site and they had another chick with them, so I quickly put it down and moved away because they were a bit grumpy." For the next two weeks we watched both chicks. But when the day of fledging came only one fledged. This is all part of the bumper season with 24 NZ dotterel fledging.

Alison Stanes

Takahē Success

The takahē are doing well at Tāwharanui Regional Park and providing support for the national takahē recovery group together with lots of interest for park users. To date we have 16 adult birds on the park and one chick. Last year's chick was named Tuakana (first born) and has been translocated to Motutapu Island where it is hoped he and his partner might breed next year. In this summer's breeding season we had three nests. Three eggs hatched but unfortunately, only one chick has survived. Sometimes it takes birds a few seasons to work out their parenting skills! We welcomed two new adult pairs recently but we are losing two birds as the gene pool is mixed around. A fourth nest was built but no chick eventuated. "Like race horses (with their birthday on 1 August), all takahē share a birthday. October 1 marks the beginning of the takahē calendar year. This is when the previous summer's chicks are said to be a year old and can be included into the total population count," says Glen Greaves, Senior Takahē Ranger with DoC.

This year's official yearly takahē population count is in, with 347 birds recorded throughout the country – a 13 percent increase on last year. "This is the highest annual growth rate recorded in the population since management began almost 70 years ago," says Glen. Importantly, of those 347 birds, more than two thirds are coupled up. The takahē population now includes more than 100 breeding pairs. Glen explains, "This is significant as the number of breeding pairs is the most accurate measure of population health. A total population number can give false security, if there is a significant age or sex bias."

As the population grows there is more certainty for the future of the takahē. The species has recently moved two steps away from extinction according to the New Zealand Threat Classification System. The recovery programme is confident the number of takahē will increase by at least 10 percent after this summer's breeding season. With the population increasing, new sanctuary sites, such as Tāwharanui, have doubled in the past 10 years. This provides an important safeguard for the species should disaster strike the wild population in Fiordland. A new wild population is planned for Kahurangi National Park, near Nelson.

Our Tāwharanui takahē are monitored weekly by a group of enthusiastic volunteers who have been doing this rostered task since the birds were first released here, three years ago. We check the birds' location, that their transmitters are working, and when seen, that the birds are in good condition. The weekly report keeps everyone informed and becomes part of the Tāwharanui story - evidence that we are playing our part in restoring the environment and enabling rare endemic species to become just a little less rare - so that future generations will be able to enjoy them.

Sally Richardson.

Takahē movements



James Ross and Matt Maitland give Manaaki and Walter a health check before they are moved from the holding pen to Punch Bowl.



Matt Maitland shows Manaaki to a group of interested children.



Karyn and Tony Hoksbergen release Manaaki and Walter into an area known as Punch Bowl.



Manaaki and Walter who had been flown up by Air New Zealand from Te Anau were released into the holding pen by Kath Ravenhall and grand-daughter Stella along with Scott De Silva Principal Ranger Northern Parks Auckland Council.



Manaaki and Walter check out their new territory.



The chick was finally caught, given a vaccination, health check and coloured bands. He/she is healthy and weighs over 2 kilos. Sharon Kast holds the chick while Matt Maitland carries out the checks.

Out and about in the Park

On 11 February, 32 people from the *Got To Get Out* group had a Valentine's Day Adventure Hike at Tāwharanui. Unfortunately for them the walk coincided with a storm! It's great to know that this did not deter them. After meeting for coffee in Ponsonby the group headed for Tāwharanui. Roger Grove gave them an introductory briefing in the Sanctuary Hut and then after introductions and stretches they headed out into the weather. They spent some time on the Ecology Trail and then braved the North Coast track. All credit to their organiser, Robert Bruce, for getting them out there.

Got To Get Out is a Facebook based social enterprise that is all about getting people outdoors, active, seeing the world and making new friends. Last year they organised a large group to help with the June Planting Day and we hope to see them back again this year.

Below left, *Got to Get Out* organisers Kim Wheeler and Robert Bruce lead the group out, undeterred by the weather.



Shore skinks (below) that had been taken into captivity for some research work (colour morphology and habitat adaptation) by Marleen Baling, returned to Tāwharanui Open Sanctuary, released near the dotterel enclosure at Jones Bay by volunteers, Sally and Dianne. (below right)

Len, Roger and Sharon are responsible for a new bridge giving access to Possum Gully. Hooray, no more wet boots!



Bird News (continued)

Pateke

A big thank you to all who participated in the 2018 annual pateke (brown teal) survey. It was great to get the team (Maggie, Ray, Roger, Len, Alison and Chery) back together to bash along streams, ponds and mud to count the elusive pateke keeping cool under the overhanging grasses or in some cases just basking on banks in the sun. The total count in the park and surrounding wetlands was 134 pateke, 10 less than 2017. It was noted that the water level in streams and ponds was much higher than in previous counts. The distribution of three distinct populations (Tāwharanui, Omaha ponds and streams, Christian Bay wetlands) remains relatively constant, with only the wetlands behind Tāwharanui Lodge (Christian Bay) showing a large decrease, in fact there were no pateke. Three weeks prior there had been over 30. There is some good news, 17 pateke were observed on private ponds adjacent to the wetlands. See photo on back cover.

Sharon Kast (Team Leader)

Duvaucel's Gecko Update

A year ago, 80 Duvaucel's geckos were reintroduced to the Tāwharanui Open Sanctuary, after more than a century of being absent from the mainland due to the impact of introduced predators. This reintroduction was achieved due to the breeding and research programme being led by Dr. Manuela Barry from Massey University, and the support of the Becroft Foundation who provided TOSSI with funding. Many of you would have read about it at the time. You would therefore know that they grow up to 30 centimeters long, weigh up to 120 grams, live up to 50 years old and that they give birth to just two live young each year.

What you may not be aware of is what has been happening since then. We are actively monitoring the geckos and mice and attempting to control the mouse population. The plan is to monitor the impact mice have on the native gecko population over a 10 year period. The research is being led by Massey University, but TOSSI volunteers have an important role to play. Monitoring is carried out every two months over a two-week period. It involves setting out tracking cards near the sites where the geckos were released. These cards are checked over the next two days, and again a week later. We are looking for the tracks of mice, skinks and of course Duvaucel's geckos. The prints indicate the gecko movements in relation to the release sites. We had a great find during a recent survey, when baby gecko footprints were found. That of course is fantastic news. A couple of the released geckos were gravid (scientist-speak for pregnant). The best part is knowing that the young have survived predation since being born last summer. Monitoring is carried out by a team of Massey University and TOSSI volunteers negotiating a mix of terrain, to locate the predetermined monitoring sites.

There is lots of activity being recorded at many of the release sites, and in surrounding areas. More detailed information is gathered every six months when recapture of released geckos is attempted. Each gecko has a unique pattern allowing any movement from the release site to be recorded. At the December survey, 25 of the 80 released geckos were recaptured and details recorded. This rate of recapture is considered good.

In addition to monitoring there is mouse control work being carried out monthly. This involves checking and replenishing bait stations, with amount of bait taken being recorded. The geckos' success in the presence of mice will be monitored for the next decade. The data collected will be useful for future reintroductions of Duvaucel's geckos and similarly vulnerable species.

The reintroduction of Duvaucel's geckos to Tāwharanui Open Sanctuary is an ongoing project. We are in the early stages. Let's hope the baby footprints are a sign of success, now, and for the future.

If you are interested in being involved with the monitoring and are relatively fit and agile, please contact Roger Grove (gecko@tossi.org.nz) to register your interest.

See photos on next page.

Roger Grove



A Duvauchel's gecko



Manu Barrie measures a Duvaucel's gecko.



Flora Report

The March report is always about bagging up thousands of seedlings into PB3s ready for the winter planting season. So far we have bagged at least:

manuka	5,500
kanuka	3,400
flax	531
Cordyline	400
mahoe	525
Coprosma robusta	593
karo	445
puriri	75

The nursery outside the lunchroom is full of manuka and kanuka but we still need to bag more of these two species to reach our goal of 6,000 of each.

To achieve these numbers we have had up to 22 volunteers turning up on Tuesdays and during January campers from the campground came to assist us. Some of these campers were very efficient having helped many times before. Some were newcomers who were encouraged to join TOSSI and come back in winter to help us plant the trees they had helped us to bag. Many were children, some so small they were of limited assistance but at least they were being introduced to the concept of tree planting.

We will be having further help this year from the Pacific Discovery groups of 14 people per session for 6 sessions from Tuesday 22 February to Thursday 15 March, with supervision by the regular nursery volunteers.

Most of the seedlings bagged so far are for planting in Slip Gully this winter. However we have other smaller special projects as well, including saltmarsh ribbonwood, carex and flax for the lagoon area; prostrate manuka, prostrate taupata and astelia for the Marine triangle near the seabird nesting sites; and more flax and muelhlenbeckia for the Anchor bay sand dunes.

We have been having some problems with our plants this summer. Many young kahikatea seedlings died from overheating. A rabbit or two got into the main nursery in mid February and trimmed the nearly 600 Coprosma robusta seedlings. The exterior fence was checked and a temporary interior fence erected to prevent further damage. Fortunately the seedlings are putting out new shoots and most should survive. Last week we arrived at the nursery to find that the watering system had been shut down, it seems by a contractor, and we have lost about six hundred manuka seedlings. After a real soaking many of the remaining seedlings were potted but some may not survive.

Finally progress has been made on the new shade house extension. Led by Roger, aided by Keith, Len and Ken, it is slowly taking shape. With further hot summers like this one it will become increasingly necessary!

Susan Gibbings

TOSSI on Facebook

TOSSI is back up and running on Facebook. You can find us by searching 'Tāwharanui Open Sanctuary Society Incorporated' or using the URL <https://www.facebook.com/TOSSI.NZ/>
Please feel free to post photos and other updates that you feel followers will be interested in. Follow the page to get notification of upcoming events.

NEWSLETTER CONTRIBUTIONS WELCOME

If you would like to write a brief article about any activities you've been involved in, or an experience you've had in the Park which you'd like to share, please email it to me: mbvkkg@gmail.com
And if you have any good photos of interest, please supply a brief caption and email them to me.

Marguerite Vanderkolk
Editor.

Trapline Volunteers Needed

Trapline volunteers help maintain the network of traps and bait stations throughout the Park. They serve a crucial role in detecting and eliminating pest predators that have somehow managed to get into the sanctuary. Volunteers adopt a line which they usually service once a month. You can do this alone or with a friend to help share the load. The lines vary in length and difficulty: some are physically demanding, others are literally a walk in the Park! Full training and advice will be provided.

If you are interested please contact
James Ross: jjross801@gmail.com



TOSSI monogram patches are available for sale with black or white surrounds, to sew on garments — hats, shirts, fleeces etc.

Cost: \$15

Contact: Sally 09 425 0161



Children's Book: *Drama Queen*

At last a reprint is available!
A delightful story about a New Zealand dotterel that lives at Tāwharanui. Excellent birthday or Christmas gift.

Cost: \$20

Contact: Alison 09 524 0291

TOSSI Committee

Chair	Alison Stanes	09 524 0291
Vice Chair	Roger Grove	09 422 3459
Secretary	Karyn Hoksbergen	09 585 1315
Treasurer	Kim Grove	09 422 3459
Committee	Sally Richardson	09 425 0161
	Gilbert Barruel	09 425 7081
	Tony Enderby	09 422 6127
	Marguerite Vanderkolk	09 422 7747

Newsletter Editor Marguerite Vanderkolk
09 422 7747

Membership Secretary Janet Poole
Email secretary@tossi.org.nz
E letter Janet Poole 021 054 0600
Website www.TOSSI.org.nz
Correspondence Chair or
Membership Secretary
PO Box 112
Matakana 0948

Application form for NEW MEMBERS

Tāwharanui Open Sanctuary Soc. Inc.

Name(s): _____

Address: _____

Phone No. _____

Email _____

Membership fee:

\$20 single membership	\$ _____
\$30 Family membership	\$ _____
Additional contribution (optional)	\$ _____
(Donations over \$5 are tax deductible)	
Total amount enclosed	\$ _____

Membership as a gift to family or friends:

A gift membership will be sent to you.

Recipient's name: _____

Recipient's address: _____

Please make cheques payable to Tāwharanui Open Sanctuary Society Inc. and return to:

TOSSI Membership Secretary
PO Box 112
Matakana 0948

You can also pay by bank transfer to:

ANZ 06-0483-0072390-00

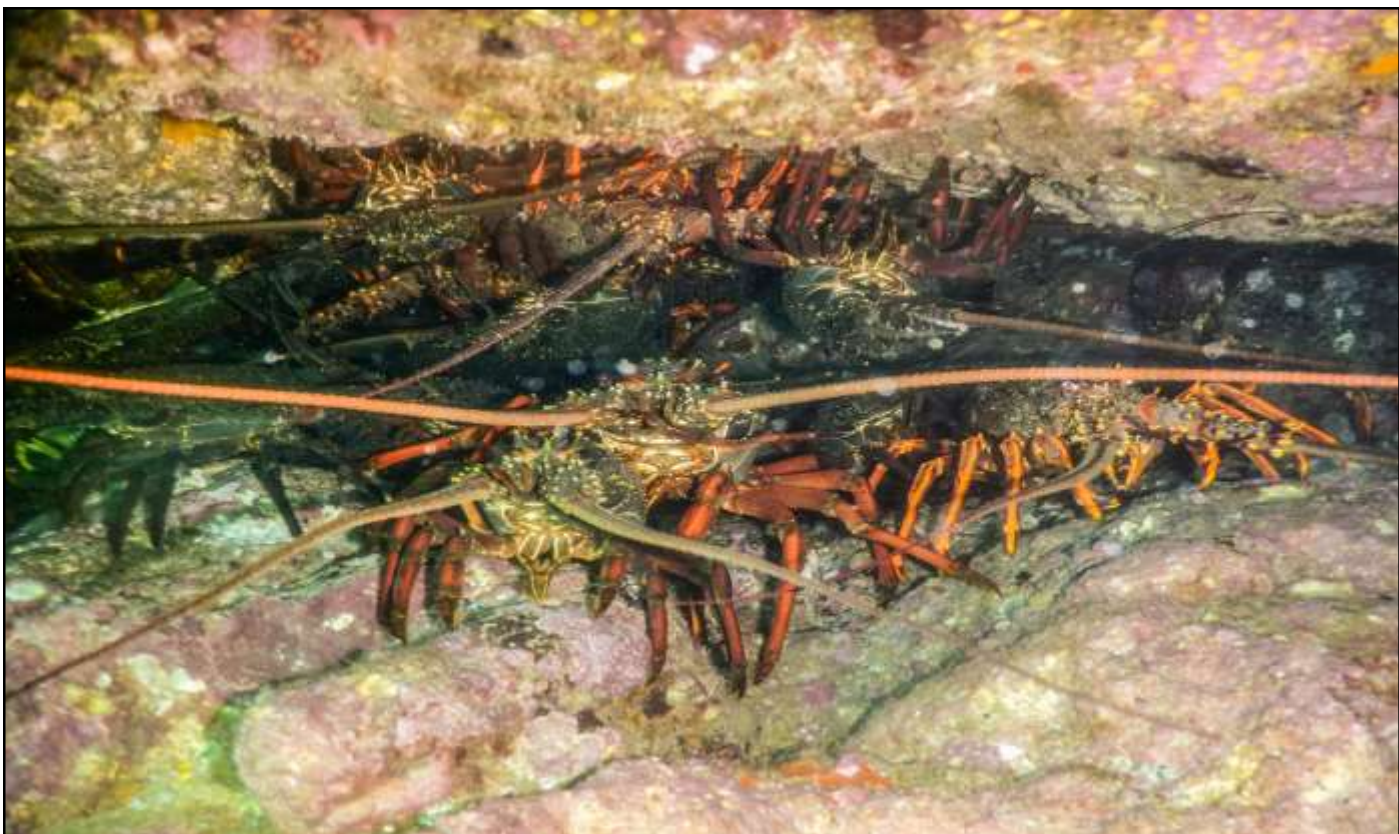
The membership name should be clearly referenced if the payee name is different to the membership name, e.g:

Payee	Payment details	Membership
Bloggs, J.	\$20/\$30	Bloggs Family

If making a donation with membership, please reference clearly.



This large flock of pateke were recently seen for the first time on the lagoon, as their flocking site.



TOSSI member, photographer and keen marine conservationist, Shaun Lee, went for a dive at Flat Rock and was pleased to see crayfish, as he knew the numbers were falling at Tāwharanui and Goat Island. Scientists say crayfish are "functionally extinct" in the Hauraki Gulf which means they no longer do the ecosystem jobs they were designed for, like eating kina. Shaun intends to write to the new Minister for Primary Industries and ask that the marine reserve at Tāwharanui be extended so crayfish can be better protected to allow them to start rebuilding populations in the Hauraki Gulf.

We acknowledge with thanks Warkworth Digital Design and Print for their assistance with the printing of this newsletter.
Phone: 09 425 7188. Email: messaging.service@post.xero.com