

Waikato Biodiversity Forum Ngā Kaihāpai Rerenga Rauropi o Waikato

Spring Newsletter 2022 Number 75 Kia ora tātou.

An update on some of the work undertaken over the past three months:

- Edited, published and gathered articles for Spring edition of the Forum Newsletter
- Chaired and took minutes for Forum Focus group meetings
- Sent bio-forum emails with latest notices, and updated website and facebook page
- Responded to enquiries from email and 0800 bio div service
- Organisation and hosting of Soil Health and Biodiversity event
- Participated in on-going National Science Challenge Co-design hui: Scaling collective action through shared learning

The Waikato Biodiversity Forum Soil Health and Biodiversity Day

The soil health and biodiversity day took place on the 19th of October and was held at the Paterangi Hall, in the Waipa district. The day was a colaborative effort between WBF, Waikato Regional Council (WRC) and the Lancare Trust. For a long time soil has been treated as an inert substance which is only balanced through chemical input. The inadequacy of the approach to soil health, has resulted in an emerging global crises, of rapid soil desertification and erosion. These processes are having dyer impacts on our soils ability to grow vegetation and hold water, which in turn is contributing up to 40% of global carbon emissions.

The day started off with Bala Tikkisetty from WRC and Sam Mcelwee, the coodinator of the Waiakto Regional Council opening up proceedings. Sam and Bala set the scene for the day with a karakia to welcome everyone and set our intentions. From there, a sobering assessment of both the current national and international health of soil was presented. The picture is now clear that healthy soil is essential for the health (economic, environmental, mental) of almost all life on earth, including humans, and that soil is currently being degraded at unprecedented rates worldwide. Dying soil is unsurprisingly not an issue in areas covered with extensive and established vegetation, like our native forests, which covered much of the country prior to human settlement. The issue of dying soil lies in areas covered in agricultural and horticultural soils, which take up 70% of land globally and around 50% of Aoatearoa, NZ. The solution to our soil crisis is of course, not to stop farming, as we all rely on farming in so many ways, but to make farming practices carbon positive, i.e building soil rather than destroying it. Not only will doing this contribute vitally to halting our planets climate crisis, but also farming can be made more profitable in the long run.

Following on from Sam and Bala, Graham Sheppard, took over proceedings and spoke about what makes soil healthy, and how we can assess the health of soil accurately ourselves via Grahams Visual Soil Assessment (VSA) tool. VSA is an effective and immediate way to assess soil quality quickly and cheaply in the field. VSA provides a range of assessment tools to look at soil and plant properties which contribute to soil health, for example soil texture, structure porosity, worm counts and soil smell. This article will not go into detail on these tests, but to find out more about VSA in detail, <u>click here</u>.

A key understanding from the day, was that soil carbon plays a vital role in soil health, as it provides the building blocks for all cells and organisms. It also regulates biological, chemical and physical process in soil and is a major reservoir of plant nutrients. As the use of chemical fertilizers has become the norm, we have seen a reduction in organic content going back into soil, this has lead to a major increase of carbon released into the atmosphere globally. Increasing organic content in soil is the key to increasing



Figure 1: VSA in the field with Graham Sheppard. Majestic Pirongia Maunga in Background.

soil carbon, and therefore also vital for us in tackling climate change and a looming global food crisis. Luckily some farmers in NZ are already carbon positive, and being that much of our farming is pastoral rater than crop based (which is more damaging to soil), farming practices here can quickly be adapted to make the whole agricultural sector carbon positive. This would have hugely positive effects on the long term economic and environmental health of our nation and contribute globally to reducing carbon emissions. A win win.

Signs of Success Owhango Alive – Kiwi Sighting

On Friday the 2nd September, I was walking the lagoon track with my family before lunchtime towards the river. I beckoned my 2 year old granddaughter Ava and whispered to her that if she was quiet while walking, she might get to see some great wildlife including a kiwi. Once I said it, I thought yeah right, no way we're going to see a kiwi here!

Then, after half an hour exploring and experiencing the awesomeness of the track and lagoon, we made our way up to the big tree with the platform surrounding it, only to hear the loud and lovely sound of a Kaka. This perked up my senses and it sounded off again, to which my family asked what was that. I identified the sound via google to confirm my thought and was happy that there was more life in the reserve than when I lived there 9 months previously.

30 meters from the river end of the lagoon walk, something caught my attention out of my right eye, I did a double take while trying to get my phone out and quietly calling back my granddaughter. It was a brown kiwi, not large, not small, some would say, just right. I was to slow to get the photo but could hear it disappearing into the undergrowth.

After further conversation with other local native bird lovers I came to realise how lucky I was to have experienced this moment, because before that day no kiwi were known to be in this piece of bush. So keep an eye out and voices to a whisper next time you're strolling through. Perhaps you will have more luck than I in capturing these lovely creatures on film. Mike Simonsen.



Purangi Conservation Trust - PFHC Support for Community groups

Predator Free Hauraki Coromandel Trust reached out to Purangi Conservation Trust last month to offer support. The field support team offer help to community groups with track cutting and marking, general maintenance of pest control areas, checking traps, establishing new track lines, trap distribution, GPS marking, monitoring and more. Aaron, Renee and Jamie assisted us with their skills and hard work to make great progress with pest control and future planning over three days. The trust is very grateful for their help

Day 1: Trap maintenance at Scotty's – DOC200 calibration and firing adjustments, baffle modifications, testing traps, walked the Backdrop block main track and lower track for familiarity, checked calibrations and placements of a lot of traps on the way.

Day 2: Took 18 x DOC 200 boxes with traps up the river via boat and installed into TRAPNZ project locations.

Day 3: Access track maintenance: via fence line north to stream, then followed stream to main track , marked with tracking tape and recorded gpx data. Most of the access was clear, except second half of fence line. Aaron cleared hakea from fence line. Potential for several trap/bait stations marked on TrapNZ. A big week,

with much achieved and appreciated in the way of hands on help and expertise. Special thanks to Adam Clow for the use of his boat to get us up the river.



Kukutaaruhe BioBlitz 2022

Hamilton City Council and the Fairfield Project hosted a BioBlitz in Donny Park/Kukutaaruhe Gully on Friday 11 and Saturday 12 November, which was loved by all those who attended. The BioBlitz was also supported by the Aratiatia Community Marae, who hosted a poowhiri (welcome) on the Thursday afternoon, and Ira Kahurangi Roopu, a Maaori community group that provided catering as a fundraising effort for their women's wellness workshops.

The goal of a BioBlitz is to take a snapshot of an area's biodiversity at a single point in time. On Friday, over 100 school children descended into the park to help with this mission. Unfortunately, due to severe weather, the day didn't go quite as planned, but the tamariki were still engaged and excited to do some biodiversity learning in a more sheltered place. NIWA took them through a workshop to learn about native fish such as eels and giant kookopu. There was much excitement (and some squealing), when one of the eels escaped its bucket and landed on the ground in amongst some of the school kids!

On Saturday, the BioBlitz was open to the community. The weather forecast was uncertain, but for those that did manage to make it down to the park, they loved the opportunity to take part in some hands-on learning and contribute to restoring nature in a new way. To record observations, the attendees used iNaturalist. Over the two days, the community recorded 323 observations, with a total of 155 species found in the park. The BioBlitz event was part of an ongoing relationship between Hamilton City Council and The Fairfield Project to restore Kukutaaruhe Gully.

Council is excited to have some data on what's living in the gully, as part of their Nature in the City programme. The aim of the programme is to bring back Hamilton's native vegetation cover from less than 2% to 10% by 2050. The BioBlitz data will help to monitor the biodiversity impact of increased plantings.



Pukorokoro Miranda Shorebird Centre - Young Champions Continue to Inspire

I had hoped to report that all godwits with active transmitters were safely back in New Zealand by now but as usual the godwits have the last say in this matter. The young godwits, now three years old, carrying satellite transmitters fitted in 2019 continue to inspire an everincreasing number of people, particularly on the Pūkorokoro Miranda Facebook page. Many of them report being in awe of these remarkable birds and in particular their extraordinary migration flights. Even though I have been following satellite tagged godwits since the heady days of E7 way back in 2007, I never tire of their story and still find it hard to comprehend a bird flying across, what to us mere mortals appear to be a featureless ocean for up to ten days. To the godwits it is a highway, which many of them must get to know quite well.

The oldest godwit we know of in New Zealand was at least 28 years old when last seen. How many times had that bird traversed the Pacific? I wonder if they recognise islands they pass over year after year. Do birds that stop on any of the hundreds of South Pacific islands learn that these might be good places to stop, if need be, during unfavourable weather, or due to exhaustion on their epic eight-to-ten-day journey from Alaska? So many questions still to be answered, if only to satisfy an inquiring mind. With a rapidly changing climate, understanding how birds



cope with changes will be important in helping to protect them and information gleaned from the tagging program may help this process.

As I write this (15 October) three of the remaining young tagged godwits have stopped on Pacific Islands, 4RRBB on Badu in the Torres Strait, although as her tag hasn't transmitted since 5 October we don't know where she is now. 4RBBR is on Espiritu Santo in Vanuatu and 4RBWB is near Honiara in the Solomon Islands. Both seem in no hurry to return to New Zealand just yet. They will be considered adults next year so should knuckle down to doing what is expected of adults, producing the next generation. If the tags keep working, we might see them shift to a new cycle with none of these sightseeing side trips.

With only seven of the original 40 tags still working the chances are getting slimmer of seeing another round trip. 4RBBB did stop on the west coast of New Caledonia from 11 September to 6 October and then flew directly back to her favoured non-breeding site at Foxton Beach on the Manawatu Estuary. It seems that no matter where these birds stop during their migrations they know where they want to be and when continuing their journey generally set a course directly for that chosen destination. 4RBBY was a good example of this when she departed from New Guinea on 12 August and set course for northern New Zealand keeping on a pretty direct bearing. She landed on the Manukau Harbour on 20 August, but her favoured site is Matarangi on the Coromandel and the next day she was back there. 4RYRB has stopped in Aotea Harbour in the Waikato, arriving there on 10 October after an 11,700km flight. Her favoured site is near Nelson in Tasman Bay, so perhaps she will return there soon. 4RYRY appears to be still in the Northern Territory in the Limmen National Park. The transmissions are from a very small area so there is a possibility the tag is no longer on the bird, so we will just have to wait and see if she chooses to go somewhere else eventually. To see the full article click here

A collaborative Effort to Bring Bio-control to Waikato Schools

Students at Ngaruawahia Primary, St Paul's Catholic and Ruawaro Combined Schools have been given some very special and very hungry caterpillars to look after this Term. The caterpillars are the larvae of the Honshu White Admiral butterfly (Limenitis glorifica). and are the natural predator of one of New Zealand's most invasive pest plants – the Japanese Honeysuckle (Lonicera japonica). Entomologist Hugh Gourlay from Manaaki Whenua- Landcare Research has been studying and raising biological control agents (insects that are natural predators to invasive weeds) for over 40 years, travelled up from Lincoln in Canterbury with a suitcase full of caterpillars and butterfly chrysalis.

Three classes in these schools are Honshu White Admiral butterfly (whose full life cycle takes about 7-8 weeks) and releasing them on local patches of Japanese Honeysuckle. As part of Hugh's visit the classes

looked at a number of other biological controls – the gorse pod moth, californian thistle gall fly and green thistle beetle, and discussed questions like "what is a weed?", "why are some weeds more of a problem than others?" and "what are the benefits of biological control"?

The schools are now a few weeks into the project and all the chysalides have hatched and butterflies have laid eggs. There's a large group of students keeping a close eye on the units every day- they are really engaged and recording the changes in numbers of eggs and butterflies every day" says teacher Pam Thomson at St Paul's Catholic School. Student Isla says "I



really enjoy learning about the butterflies and especially counting the eggs. Gabby says "I'm really surprised about the butterflies – they're so different!" The classes are now patiently watching and waiting for the eggs to hatch and for the caterpillars to emerge so that they can complete their life cycle and be released. Enviroschools Facilitator Adrienne Grant says – "it's a great project, the students are fascinated and very careful and concerned about the well-being of the creatures.

The project has been funded by with the Waikato Regional Council's Environmental Initiatives Fund and is been organised by Waikato District Council and Enviroschools.