

## Summer Newsletter 2023 Number 76

## Kia ora tātou,

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

- Edited, published and gathered articles for the Summer 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 of the Biocontrol Workshop
- Participated in on-going National Science Challenge Co-design hui: Scaling collective action through shared learning

## Poikaiwhenua Catchemnt Group

I hope you have all had a great break over the summer, enjoying this beautiful country we live in even if the weather has hardly been the greatest. Funny how there's good and bad to this weather, on one hand its helped our plants grow, but then so have the weeds and grasses around them and we had to put extra resources into releasing them. Make sure you are checking on your plantings as it can become a big job very quickly.



This year we are getting a "Friends of the Pokaiwhenua" Membership Group together. This will be coming out shortly and will give you access to discounts and advice, along with access to funding opportunities and the ability to get involved. If you're keen to be volunteering your time, we have opportunities with weed clearing and pest control. Give Andrew Lennox (Coordinator) on 021401359, and

we will let you know where and when. <u>https://www.pokaiwhenua.org.nz/</u>



# The Friends of Te Whanganui-A-Hei Marine Reserve Trust - Educating our Children on the Importance of Healthy Water

It has been a busy season for the Whitebait Connection (WBC) Programme in our region for local Coordinator Amber Boyd. This is the fourth year the programme has been offered by provider organisation The Friends of Te Whanganui-A-Hei Marine Reserve Trust.



With the challenges of Covid lifting a bit we were able to deliver the programme and get involved in stream planting with students at Mercury Bay Area School, Puriri, Moanataiari, Hikuai, Opoutere, Hikutaia and Tapu schools.

The Trust would like to thank Waikato Regional Council's Environmental Initiatives Fund for their funding of this programme. With this funding we can offer the programme at no cost to schools in our area.

We would also like to thank Jeanne van Kuyk from Aroha Anglo Nubians for her generous gift of a Stream Health Monitoring and Assessment Kit (SHMAK). It provides a way to assess whether land-use practices are affecting waters. It also allows stream health to be tracked over time, so you can recognise if stream health is getting better, worse or staying the same.

Amber says, 'what is important to me is educating children on the importance of healthy water for us and the earth by giving them the tools to be able to identify healthy water systems and also see how/what we can do to improve our waterways.'

Art work is also included to expand their education. It helps to put on paper what they see and how it can be better. Students formulate an action plan that does something for the freshwater environment in their community based on the knowledge they have gained during the programme. Teachers have information about how to continue monitoring water/stream health after the completion. Thereby training the trainer to keep it going!

In conjunction with the WBC, Opoutere School has done a planting session with Trees for Survival, a local charitable trust that provide plants. They have planted 370 plants/trees along 130 metres of the stream. Hikuai School also has plans for planting in their area. Mercury Bay Area School has a long-term project at the Whitianga Bike Park of trap lines. They are also helping with the planting and restoration of the streams that flow through the Bike Park. And continue to test the water and look at fish passage and inanga spawning sites making this a project for the whole school over many many years to come.

Puriri School uses their river, the Awa, as another classroom. They frequent the river many times during the year using the knowledge they have gained to test and evaluate. They found lots of life! (mayflies, free swimming caddisfly, stick, stone cased caddisfly, toe bitter, eel, bullies, sandfly, snails, worms, dobsonfly, damselfly). They too are keen to do riparian planting around their area. Moanataiari school is working with a local Thames group to restore the stream/drain down by their school. And, of course a major benefit, rubbish is

always 📲



Figure 1: Puriri School students – testing water site. Photo Amber Boyd

sting sites!



Figure 2: Winning Art – Izzy White – Mercury Bay Area School. Photo Amber Boyd

## **DOC Waikato Update**

#### Drone monitoring of Matuku/Bittern at Whangamarino Wetland

After a successful Tauranga based trial in 2021, the DOC Waikato District biodiversity team have just completed thermal drone monitoring of Matuku/Bittern at Whangamarino Wetland.

This new technology provides us with an opportunity to find nesting female Matuku from a 'birds eye view'. This has previously only been done by physically searching for nests, which can disturb these secretive birds and their habitat. While this year's drone monitoring did not find any nests, it further tested the methodology

meaning that we can start to develop a national protocol for drone monitoring for Matuku. We did see Matuku feeding, courting behaviours and even a family of stoats (adult and pups) running around the peat habitat. This season, Mutuku have faced an incredibly wet breeding season with a lot of habitat changes due to high water levels. What's also interesting and unusual this breeding season is the male Matuku are still booming now – they usually stop in December! Our eye in the sky with this new drone technology will provide us with a better understanding of these nationally critical, cryptic birds and our internationally significant repo/wetland, Whangamarino.



Figure 3: Thermal drone monitoring at Whangamarino

#### Puuweto monitoring and new lure trial at Rotomanuka

Living Water (a 10-year partnership between DOC and Fonterra) has been annually monitoring Puuweto/ Spotless Crake at two Waikato Peat Lakes since 2017. Puuweto are a good indicator species of wetland ecosystem health. These cryptic and at-risk birds are known for their secretive behaviour and are infrequently seen meaning their population size is largely unknown. DOC Living Water staff supported by volunteers use call-playback towards the end of the breeding season to detect the Puuweto. They are more often heard than seen.

Last year the highest numbers since the start of the monitoring were detected at Lakes Ruatuna and Rotomanuka. So far this monitoring round, responses and sightings have been minimal. They are significantly less responsive outside of their breeding season, and it is unknown what effects the unseasonably wet summer and high water levels could have had on this.

Puuweto can respond well to effective predator control – favourable conditions can allow large and multiple egg clutches over the breeding period. New mustelid lures, PoaUku (meaning clay lure in Te Reo), have been trialled at Rotomanuka by dedicated volunteer, Alasdair. These new lures have shown some good initial success with eight ferrets, two stoats and one weasel caught since late December 2022. Our teams and volunteers are frequently trialling new technology and techniques to improve our predator control programmes throughout the Waikato.





#### Wellbeing and Conservation Education – Teacher Professional Development Day

DOC and Sanctuary Mountain Maungatautari will be hosting another teacher professional development day at Sanctuary Mountain Maungatautari on Friday 31 March for Waikato teachers.

#### In this free session teachers will:

Participate in hands-on nature-based wellbeing activities Gain confidence in integrating conservation education into their programmes of learning Connect with the natural environment and learn about the cultural and natural taonga of our region, including what is on offer at Sanctuary Mountain Maungatautari. Keep an eye on the Sanctuary Mountain Maungatautari social media pages and website for links to register, or contact Tash Kingsford at tkingsford@doc.govt.nz for more information.

## **Owhango Alive - A Foray into the Birding World at Ohinetonga**

Owhango Alive volunteers were lucky enough to take part in a 5 minute Bird Count Training course at the domain pavilion in September. The course is part of the Department of Conservation series of ecological monitoring field courses, which are run by the Nelson Marlborough Institute ofTechnology. By Tania Bramley. About half of the 11 participants were locals with the rest coming from as far as the Coromandel. Throughout the course we learnt how to identify a range of common forest birds using the five- minute bird count (5MBC) protocol. This method is based on the Dawson and Bull field method and is commonly used by the Department of Conservation and many other community groups (Click on this link to test your own bird call knowledge). We also were taught how to complete a count and how to fill in data sheets correctly.

Ohinetonga reserve was the perfect location for practicing the methods. We spent two peaceful days quieting our minds, listening for the birds, trying to pinpoint their locations and how many were calling. It's way more tricky than it sounds! We heard bellbirds, tui, kereru, whiteheads, grey warblers, silvereyes, karearea (native falcon), and even saw a dabchick in the lagoon! We also gained an understanding of how to design a 5 minute bird count monitoring programme for project sites. With great real life examples of this data in action our course tutor showed us the many different ways the data can be used to help tell a conservation story. A lot of other connections and conversations around pest control methods and habitat restoration projects around the region were had. Everyone agreed it was a great event and have asked for more conservation field skills courses to be run in the same venue next year. See more course options here.

Owhango Alive would like to thank Tania Bradley from NZ Landcare Trust for organising the event. If you would like to take part in the counts as an observer please contact Sally. Since counts haven't been done in a few years it would be fantastic to have volunteers take part in these courses so we could start the process up again!



## Mangaiti Gully Restoration Group - Signs and tracks upgrade

Originally our tracks were built to give our volunteers access to do restoration work. Since our section of the gully has been opened up, the public have started to use the tracks for their recreation. We have now changed our focus. We have been putting a great deal of work into supporting public access to zone 1 of Mangaiti Gully by upgrading the tracks. At the Keswick end, where council has erected a gate, we have installed a bike rack, so cyclists can lock up their bike and go for a walk (photo 1). We have invested quite a lot on money on signs at all four entrance points. These signs include a colour coded map of all our tracks. The colour codes line up with corresponding coloured pegs along the tracks. (photo 2). This is all in line with Hamilton City Councils Nature in the City Strategy of opening up the city's natural areas for the public to enjoy. https://gullyrestoration.blogspot.com/





## Titoki Landcare - Why undertake vegetation surveys?

Vegetation surveys are undertaken for a wide range of objectives such as measuring plant species abundance, evaluating the ecological resource on a site, assessing vegetation trends, or for legal reporting obligations (e.g. funding agreements or resource consent conditions).

Vegetation monitoring is a specific type of vegetation survey that involves the collection of repeated observations to detect trends over time e.g. trends in the composition and structure of plant communities as the results of environmental changes.

Vegetation monitoring is a way of measuring change over time to measure the success of restoration or conservation efforts and make informed management decisions. The type of vegetation survey or monitoring carried out depends on the objectives of an ecological restoration project but some examples of vegetation survey types and their application are described here.

## Kahikatea green wheel (KGW) assessment

Waikato Regional Council developed the <u>Kahikatea Green Wheel (KGW)</u> in 2021 which measures 32 ecological condition sub-attributes within lowland forest patches in the Waikato, dominated by kahikatea (Dacrycarpus dacridioides). The KGW is based on the five-star system developed by the Society for Ecological Restoration Australasia (SERA) for measuring ecological improvement in kahikatea forest on private land.

The 32 condition sub-attributes are divided into landscape-based indicators and site-based indicators. With respect to vegetation, the sub-attributes consider:

- Native and exotic canopy, mid-storey and ground cover
- Native canopy condition
- Native plant species richness
- Native plant recruitment
- Pest plant species presence and abundance.

The KGW vegetation survey consists of a site walkover and a qualitative assessment of these attributes. Attributes are given a score from 1-5 stars creating a wheel chart showing how well a site is doing.

## Long term permanent 20 x 20 m Recce plots

Permanent 20 x 20 m vegetation monitoring plots are used by the Department of Conservation and regional councils to measure long-term vegetation change over time. These plots involve:

- Tagging and identifying plants to species
- Measuring height and diameter at breast height of all stems larger than 2.5 cm at breast height.
- Completing a standard permanent plot reconnaissance (Recce) plot sheet which includes information on the relative abundance of each plant species present in seven vegetation tiers.
- Measuring 24 permanently marked understory plots within the larger plot to track seedling recruitment over time.
- Counting all saplings.

This data is then analysed and extrapolated to the wider environment to monitor changes in species composition over time, to determine the effects of exotic animals on the forest, and to calculate carbon sequestration rates.

## Pest plant vegetation surveys

Pest plant surveys involve identifying, recording and marking the GPS location of weed species. Weed distributions and densities can then be mapped and changes in weed species numbers and/or weed densities can be monitored over time.

## Wetland delineation

Wetland delineation surveys are used to determine the presence and extent of wetlands based on the distribution of hydrophytic vegetation using wetland delineation protocols developed by the Ministry for the Environment and Landcare Research.

This type of vegetation survey involves identifying species within an impermanent plot and assigning a cover score to each species. Plot sizes vary depending on the structure of the vegetation:

- Trees in a prospective wetland are surveyed across 10 m radius plots
- Shrubs are surveyed across 5 m radius plots
- Herbaceous plants are surveyed in 2 x 2 m plots.

Each plant species is assigned a pre-determined wetland indicator status ranging from obligate wetland plants to upland plants. Plant presence and abundance combined with the indicator status of each plant species is then used to calculate a dominance and prevalence score of wetland plants within each plot to determine whether the vegetation within the plot is considered wetland vegetation.

If the vegetation results are inconclusive, soil cores can show the presence of hydric soils, which are indicative of wetlands. Other hydrological characteristics can also be used such as the depth of the water table, water staining on leaves, and position within the landscape.

## Photopoints

Photopoints are a useful tool for tracking qualitative changes in vegetation over time, particularly within small restoration projects.

Photopoints are fixed locations within your site where photos are taken repeatedly over time to provide visual evidence of the change in the site. This method does not provide quantitative data, but the images can be used to show the broad changes occurring at a site over time. <u>https://titokilandcare.co.nz/</u>



Wetland delineation