Guardians of Pāuatahanui Inlet

The Inlet

Newsletter for Guardians of Pāuatahanui Inlet

AUGUST 2024

The Inlet is a newsletter that brings together local and regional news affecting the Pāuatahanui Inlet and its environs.

The Inlet comes out three times a year and current or back issues can be downloaded from our website.

The newsletter includes items of concern that affect the area as well as general interest topics for everyone.

Please contact us if you would like to contribute to ***The Inlet.***

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FROM THE CHAIR

Porirua City Council is working through a major reorganisation that changes the structure and reporting lines for the people that used to be part of the Harbour Team under Nigel Clarke.

The result is that the separate Harbour, Catchment and Resource Recovery Team, formerly managed by Nigel, has been disestablished and Nigel has left Porirua City Council. The staff in the harbour planting area are being merged with the Parks Department under Julian Emeny. He, in turn, will report to a newly appointed General Manager of Infrastructure - Mike Mendonça (ex Kapiti District, Wellington City and Ministry for the Environment). Mike's infrastructure portfolio is listed as:

- leading planning and maintenance of Council's infrastructure (including roading) and utility assets;
- ensuring the provision of transportation, water, stormwater, sewage disposal and solid waste services; and
- leading the work programme on waste minimisation and harbour riparian planting.

The waste and water catchment components of Nigel's team have been assigned to two separate teams - waste and resource recovery under David Down, and water under Olivia Dovey. Both report to Mike Mendonça.

There is also another function, under General Manager Community and Partnerships, headed by Reuben Friend, which includes managing partnerships with key stakeholders and community groups, including grants and village planning. Presumably we will have some connections with Reuben and his teams.

In a recent meeting with the Porirua Harbour Trust, Mike Mendonça assured us that the constructive relationship GOPI had with Porirua City through Nigel's team will continue and this includes the help and support for our Inlet Planting Project and any related activities.

In the light of these substantial changes, and on behalf of GOPI, I would like to acknowledge all the time and effort Nigel Clarke put into materially advancing much needed protection and restoration of Te Awarua-o-Porirua and its catchments. We and the Inlet benefitted from his constant support of our activities.

ANNUAL GENERAL MEETING 2024

Our AGM was held at the Baptist Church in Whitby at 7.30 on Wednesday 26 June and we thank all who attended the meeting. It was great to see you there.

This is the second year we have held the annual meeting at this venue and it really suits us and the numbers that attend each time.

Chair of the Guardians, Lindsay Gow, opened the meeting and noted that our secretary for the 2023-24 year had sadly resigned her position and moved to Palmerston North. In the absence of a Secretary for this meeting, Christine Stanley was seconded into the role.

Lindsay made reference to the Annual Report which had already been distributed to the membership, and selected some specific items of interest from a very full year of activities. Of particular note were the five submissions made during the year, all of them in partnership with Porirua Harbour Trust. The most recent of these submissions addressed the Plimmerton Farm Stage 1 Fast Track Consent Application. Earlier in the year, we made a submission to the Environment Select Committee on the Fast Track Approvals Bill. If passed, this bill will give the power of decision-making to three ministers who could authorize any development if they so wished, regardless of environmental issues. We are one of over 2000 submissions on this bill, such is the overwhelmingly negative response to this proposed piece of legislation. If passed, it will put at risk the New Zealand environment and the wildlife that depends on it.

Lindsay alluded to our Inlet restoration programme that has seen several planting events throughout the year, particularly at Ivey Bay and Browns Bay. Also mentioned was our well supported annual Inlet Clean-up and the 'Show Us Your Harbour' photographic competition which, this year, was a combined event jointly run by the Porirua Harbour Trust and GOPI. Structured as a harbour-wide competition, it attracted a lot of entries in the various categories and was a great success.

The Financial Report, given by our Treasurer, Marg Glover, highlighted proposed changes to our constitution in order to meet updated regulations for incorporated societies, and the need to account for the use of our accumulated funds due to changes in Charities Commission rules.

All current members of the committee were re-elected for the coming year with the exception of the position of Secretary which remained unfilled at the time. A day later we were really pleased to accept Marg Glover's husband, Simon, as Secretary, a decision he made the day after our AGM took place. Thank you Simon.

With the formalities complete, Lindsay introduced our guest speaker, Dr Warrick Lyon. Warrick is a shark expert who gained a PhD for his research on the rig shark, a very important commercial species that uses the Inlet as a nursery and feeding ground. Warrick talked about his approach to the research, some questions he wanted to answer and how he designed different techniques and equipment to ascertain those answers. A summary of his research and what he discovered is included in this newsletter on page 5.

OUR NEW SECRETARY

Just prior to this year's AGM, Jessica Taylor, our Secretary since 2022, handed in her resignation from the committee as she and her partner, Rob, were about to move to Palmerston North. We obviously wish Jessica and Rob all the very best for the future and thank Jessica for her contribution to the work of the Guardians over the last two years.

This of course left a vacancy which we had hoped could be filled prior to the AGM, but that wasn't to be. Christine Stanley kindly stood in for the evening to take the minutes and, by the close of proceedings, we

Our New Secretary cont….

still had no volunteers or nominations for the position.

Then, just a day later, we were thrilled to receive an offer from Simon Glover, partner of our Treasurer, Marg, to fill the role for the new year. The committee accepted the offer and welcomed Simon on board.

Simon provides the following as a brief summary of his background.

'Simon has lived in Paremata since 2017, having arrived with his wife Marg on a yacht at the end of a 20-month odyssey from the UK. He adopted his new homeland with enthusiasm, having always been a camper, tramper, sailor, kayaker, and, latterly, paddleboarder and cyclist. Simon is enthusiastic about preserving the natural environment, preferably by doing no harm in the first place! He is a semi-retired engineer in the (whisper it) extractive industries, being one of those charged with ensuring oil, gas and geothermal fluids remain contained where they should be, and not released where they shouldn't.

'He stepped into the breach as Secretary after the 2024 AGM, having waited to ensure Marg could cope with having him serve on the same committee before offering his services. He has participated in a number of GOPI activities over the last few years, including plantings and litter picks, and of course the cockle count. His approach to horticulture is one of enthusiasm over skill, but that may change as the rushes are nurtured through their young lives.'

NIKAU FOUNDATION GRANT

We are very pleased to announce to our members the award of a $4,500 grant from the Nikau Foundation that will assist in our continued work toward the restoration of Pāuatahanui Inlet.

The Nikau Foundation (https://www.nikaufoundation.nz) is a Wellington-based charity established in 1991 with a mission 'to build healthy, thriving and resilient communities' across the Greater Wellington Region. Their recognition that our community-led work in caring for Pāuatahanui Inlet met with their remit for the 2024 funding round, was very exciting.

Our application focused on the planting of rushes on the fringes of the Inlet. We have had a number of successful planting events over the years and the fruits of our work, plus that of our community volunteers, can be seen in the many healthy and flourishing rush beds. Areas that had become barren over the years are now showing a great deal more life. However, all of this work requires funding as well as the volunteer labour to plant and maintain the beds.

Neither is this work possible without the tremendous support of Porirua City Council and, in particular, the staff members who not only provide us with guidance but actually give up their weekend time to take part in the activities. We'd like to give a special thanks to Nigel Clarke and Baillie Graham for their support.

The programmed event took place on 17 August to fit in with the timing guidelines of the grant. Eight hundred plants were planted at Motokaraka Point in a little over one hour. Thanks to all volunteers who gave their time toward this splendid effort. The results will speak for themselves in a few months.

PLANTING DAY AT IVEY BAY

Saturday, 22 June, and another group event took place at Ivey Bay, infilling and extending an area of previously planted sea rush (*Krausii maritimus*). This was part of the Inlet Restoration Project started three years ago. Four hundred more rushes were dug into the foreshore, next to the Kindergarten, with the help of 20 volunteers including Baillie Graham (Community Engagement Advisor, Harbour and Waste Minimisation) and Nigel Clarke (formerly Manager, Porirua Harbour, Catchments and Resource Recovery). With all this help to lighten the load, it took just an hour to put them all in.

The team hard at work at Ivey Bay
Cr: Andre van Halderen

The exercise was made possible by a further grant from DOC, covering the cost of the plants, and the dedicated work of Andre van Halderen and his wife Caroline. We thank the Department of Conservation, Porirua City Council and all who were involved.

The following photos show the results of our work since 2022.

Ivey Bay in November 2022
Cr: Andre van Halderen

Ivey Bay, July 2024
Cr: Michael Waldron

BROWNS BAY RELEASING

It is a different story for Browns Bay where we have had two major planting sessions over the last couple of years, to build a border of sea rush on either side of the Browns Stream outlet. Unfortunately, wind and water currents are combining to wash masses of dead seagrass onto this shore during high tides and this is smothering the new plants. It is a regular seasonal occurrence in the harbour, when conditions are right, but has become a serious cause for concern in this area because we employ significant resources in the restoration efforts and don't want to have this go to waste. Many of the sea rush plants are now being killed off by the overwhelming weight of debris.

So, with sponsorship for disposal of a trailer-load of seagrass from Composting New Zealand, for which we are very grateful, a small group of committee members headed to Browns Bay on Sunday 7 July to remove as much of the seagrass as possible.

Browns Bay Releasing cont….

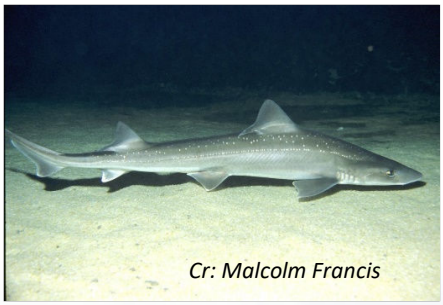
Releasing means removing unwanted vegetation from around desired plants and a lovely sunny afternoon made this burdensome task somewhat more pleasant. Andre tackled the western side of the stream while Caroline, Simon, & Marg tackled the eastern side, with easier access to the trailer. Michael moved between the two areas to add to the manpower as required. After two hours the trailer was full to bursting and it was time to head off to Composting New Zealand before close-of-day. As much as possible was loaded onto the trailer, while some of the rest was carried by hand above the high-tide line, hopefully avoiding any risk that it will be washed back into the Inlet.

The photos (courtesy of Simon) don't really do justice to the efforts but the plants, clearly, were happy to see light-of-day again. We will monitor the results of this exercise in the next few months to see if it has helped the plants regain their strength.

PRESENTATION ON RIG SHARK

Our AGM this year welcomed shark scientist Dr Warrick Lyon as guest speaker. His presentation summarised his research into the rig shark in Pāuatahanui Inlet between 2014 to 2017 that earned him a PhD. Our newsletter of April 2017 described this shark in its feature article, and referred to Warrick's research at that time. GOPI-Newsletter-2017-04

Here, we are including an updated, but shortened, version of that article, followed by some interesting facts that Warrick established during his research project.


Cr: Malcolm Francis

Rig (Latin name: *Mustelus lenticulatus)* is a shallow-water shark found only in New Zealand and very common throughout our coastal waters, particularly in shallow bays and estuaries. Rig is one of six shark-related species that have been spotted in the Inlet, the others being blue shark, school shark, eagle ray, short-tailed stingray and elephant fish.

While belonging to the sharks in general, rig have some very distinctive characteristics. Unlike a typical shark that has sharp teeth and a wide gape designed to catch and hold prey, the rig's teeth are flattened and arranged like paving stones to form grinding plates. The open jaw is narrow. These features reflect the feeding habit of the rig which is accomplished by sucking up mouthfuls of sea-floor sediment containing burrowed crustaceans and crushing them. The rig first separates its prey from the sediment by ejecting the mud and sand through its

Presentation on Rig Shark cont...

gills. This feeding habit also enables the rig to maintain respiration without the need to keep moving. Unlike many other sharks, rig can maintain a flow of water over its gills while remaining relatively still in the shallow water of estuaries.

During much of the year, most adult rig spend their lives in open water, hugging the seabed, but during spring and summer, mature adults at 4-7yrs old make inshore migrations, congregating in sheltered, shallow harbours and estuaries to breed. Pāuatahanui Inlet is one of the most important such breeding grounds in central New Zealand and the overall population of rig is estimated to reach between four and six thousand individuals over the course of a year, peaking during the summer months.

As part of New Zealand's coastal ecology, the rig shark is a highly important in-shore commercial fish species, less prone to overfishing than most other sharks. You may have heard of 'lemon fish'? Under this name it is sold as the ubiquitous serving of 'fish and chips'. Rig are taken mainly by set net and bottom trawl (both banned commercially in the Inlet) and there are six managed stocks of rig around New Zealand shores with three within 40km of Porirua harbour. This makes Pāuatahanui Inlet a highly important breeding ground for this fish. Yet, despite its importance to the fishing industry, migratory movements of rig shark have been poorly understood in the past.

It was for this reason that Warrick, while working as a research technician with NIWA, conducted his study into the behavioural patterns of rig over a period of four years. At the AGM, Warrick explained his research philosophy and what he discovered about these fascinating fish.

Warrick caught and released 404 individuals from 2014-17, using set nets and a technique called 'mark-and -recapture'. This method identifies individual animals and Warrick determined that 4% of the total catch were recaptured in following years, showing that, to some extent, they exhibit nursery-area *philopatry*, a term meaning they return to the same location each year.

While in the harbour, it was presumed that rig use the Inlet for migration, breeding, as a nursery and as a feeding ground. To investigate these ideas, Warrick used GPS technology to track the movements of some 53 individuals, a world first research technique at the time for this type of study. Designing the equipment from scratch, Warrick used a GPS receiver attached to the dorsal fin of the shark via a 7m monofilament. This allowed the receiver to float, continuously recording position. It sent the data to a number of radio receivers placed around the Inlet and these then passed the data on to a land-based computer for analysis.

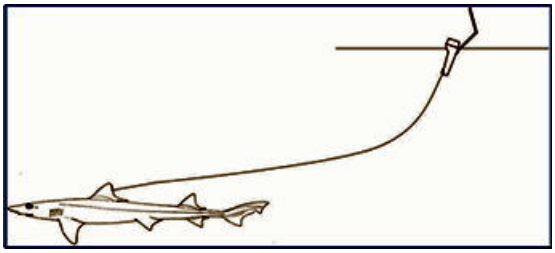


Diagram of the GPS location system

With this monitoring process Warrick discovered some very significant behavioural traits of the species. Firstly, rig use most of the sub-tidal areas of the Inlet, the deepest parts, and particularly avoid more shallow intertidal areas. With additional computer modelling, Warrick was able to determine that 50% of their time was spent searching within specific areas of the sub-tidal zone, while for 44% of the time they would cover a wider range within that sub-tidal zone. Only for 6% of the total time did they move between areas.

The final discovery that the research uncovered was that rig don't much like rain! In times of heavy rainfall, runoff into the streams and finally into the Inlet lowers the salinity level of the Inlet waters and Warrick discovered that the rig then avoided most areas. After a rainfall event the only place Warrick caught rig was Bradeys Bay where they would remain for several days until the salinity in other areas had returned to normal.

Presentation on Rig Shark cont….

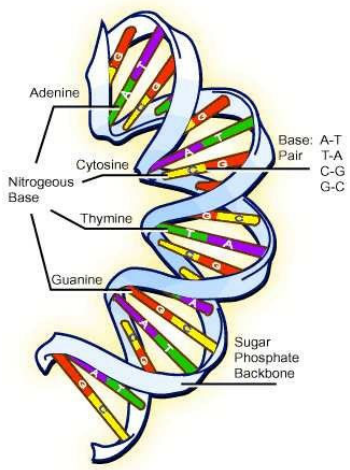
Such findings help to expand one's knowledge of the species, and the information can be useful when considering environmental pressures that may affect the success of a population so important to the fishing industry.

FEATURE ARTICLE

So, you would like to investigate your local stream to see what may be lurking in the water or the riverbed, or on the bank and in the riparian zone. With boots, nets, spades and buckets etc. you trudge down to the stream edge and gather samples of each. Back at home you examine your collection with magnifying glass and microscope to see what you can find. Together with several reference books through which you browse, you try to identify the specimens found. It's a lot of work, there has been damage to the environment in the process and the results are a bit hit and miss with the identification. Now there is a better way.

eDNA Sampling

eDNA sampling is an exciting and rapidly advancing field of study in the exploration of biodiversity. It is a relatively new technology that analyses a water sample taken from a lake, river or stream in order to identify the species of plants and animals that exist, not only within that waterway but also in the wider catchment.



Basic DNA structure

The term eDNA is short for *Environmental DNA*, DNA being the genetic code well known from forensic science and evolutionary biological studies. It carries the instructions that control the structure, development and physiological processes of any organism from a bacterium to a great ape. It is found in all cells and is shed by all organisms through various life processes. This DNA will be found in the water sample and can be analysed to identify, in many cases a single species or, if not that, then at least a representative group such as bacteria, grasses or eels.

To do this, the DNA is isolated from the water and, through several highly technical processes, analysed to separate the section of code that identifies the organism. The efficacy of eDNA sampling is still developing but, using this technology, ecologists can gain insights into the occurrence and distribution of species within a catchment over space and time and can monitor biosecurity threats and fluctuations in ecosystem health.

A huge advantage of this technology is the ability to detect the presence of many organisms while lessening the impacts on sensitive species that may otherwise occur with conventional sampling methods and it increases the chance of detecting rare, endangered and elusive species. What's more, identification can be achieved safely, and with less time than traditional survey methods, resulting in a very cost-effective process that enables an increase in scale and depth of environmental monitoring. With this method one is able to identify thousands of species of fish, macroinvertebrates, birds, mammals, reptiles, amphibians, plants, fungi, protists, bacteria, and other organisms, all from just a cup or two of water.

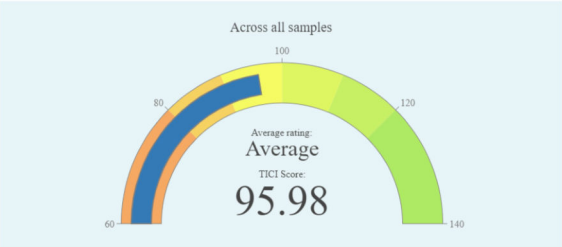
With the technology now established, companies have been set up to offer eDNA identification services and our most well-known example is Wilderlab NZ Ltd., based in Wellington. For an amateur interested in

Feature Article cont….

the health and biodiversity of a particular aquatic environment, the process through Wilderlab is very easy. For a reasonable price of around three hundred dollars, one is sent a sampling kit with straightforward instructions. The process involves taking a small quantity of filtered water from the location of interest and sealing it in the container provided. This is then sent away for analysis by post or courier and the results are returned by post or email.

As well as species identification, Wilderlab has developed an enhanced statistical model that assesses the overall waterway health. It is termed a TICI score and has a rating ranging from Poor to Excellent which is displayed on a visual scale as shown in this example.

(TICI stands for *Taxon Independent Community Index*)



6/20/24, 8:58 PM Wilderlab eDNA Batch Report

Wilderlab eDNA Batch Report

Scientific name	Common name	Group	713211	713212	713213	713214	713215	713216
Anas platyrhynchos	Rakiraki,Mallard duck	Birds	3170	3183	3145	2816	4050	3420
Anguilla dieffenbachii	Tuna; kūwharuwharu; reherehe; kirirua,Longfin eel	Fish	1615	1570	3481	1025	1292	1703
Gobiomorphus mataraerore	Kaharore bully	Fish	1875	1226	1047	1493	1098	1928
Gobiomorphus cotidianus	Tīpokopoko; toitoi,Common bully	Fish	2095	1203	106	2211	551	1467
Galaxias brevipinnis	Kōaro; maehe,Koaro	Fish	394	536	900	918	880	601
Cervus elaphus	Tia,Red Deer	Mammals	296	628	313	1038	358	317
Gobiomorphus huttoni	Redfin bully	Fish	926	42	377	104	439	679
Lumbriculus variegatus	Blackworm	Worms	552	156	236	605	353	244
Anguilla australis	Tuna; hao; aopori; hikumutu,Shortfin eel	Fish	316	357	305	383	292	170
Porphyrio melanotus	Pūkeko,Pukeko	Birds	26	427	574	310	184	257
Bos taurus	Kau,Cattle	Mammals	270	105	250	434	238	301
Arripis trutta	Kōukauka; kahawai,Kahawai	Fish	331	164	167	153	120	210
Galaxias fasciatus	Kokōpu,Banded kokopu	Fish	0	0	0	335	88	261
Orthonychiurus folsomi	Springtail	Springtails	97	106	120	80	105	59
Retropinna retropinna	Ngaore; paraki; pōrohe,Common smelt	Fish	43	0	314	0	207	0
Craspedacusta sowerbii	Freshwater jellyfish	Cnidarians	37	0	0	98	389	22
Rattus norvegicus	Pouhawaiki; pou o hawaiki; kaingarua; maungarua,Norway Rat	Mammals	98	147	85	29	86	55
Tubifex tubifex	Sludge worm	Worms	134	13	170	5	143	30
Eiseniella tetraedra	Squaretail worm	Worms	33	40	30	213	57	40
Nasturtium officinale	Wātakirihi; kōwhitiwhiti,Watercress	Plants	0	61	43	111	80	82

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Example of a page of results from the Wilderlab analysis.

Using Wilderlab's services, several analyses have already been performed on the streams and tributaries of Pāuatahanui Inlet, instigated both by individuals and one group, and the results are providing several points of interest in evaluating the health and biodiversity of the Pāuatahanui Catchment. The group in question is the Freshwater Catchment Community coordinated by Diane Strugnell. The Catchment Community and Pest-Free Pāuatahanui operate under the auspices of the Pāuatahanui Residents Association as an 'umbrella organization' helping with financial management and oversight as well as access to the association's communication channels.

Last year, Wilderlab NZ, the Environmental Protection Authority and NZ Landcare Trust joined forces to fund twelve eDNA projects around the country. For this opportunity, Diane put together a proposal from the Catchment Community for a Pāuatahanui Stream Catchment Assessment and it was accepted. The funding allowed the group to sample four sites (using six-rep kits), supplemented by a fifth, self-funded, kit for Flightys Stream. Previous sampling had been done for Moonshine Stream in the upper catchment so, altogether, Pāuatahanui, Belmont, Flightys, lower Moonshine and Haywards streams were assessed.

The results of this project, as well as those done by individuals on other streams, are all available on the Wilderlab website and can be downloaded to trawl through and examine in detail. The results give an insight into the biodiversity that is present in the streams that feed into the Inlet and why it's so important to value the environment around us.

The first observation taken from the data is that, while rarely seen by the casual observer, there are numbers of fish species living in these streams. What is more, many of these fish are migratory, spending part of their life cycle at sea and part in fresh water. This fact alone emphasizes the importance of the Pāuatahanui Catchment for its contribution to the overall diversity of life around our shores.

The species of interest are at least four of the five New Zealand galaxiids, the common smelt, both the long-fin and short-fin eels and the pouched lamprey. A more detailed analysis of the data shows up variations in the distribution of these species, reflecting the individual species' ability to navigate up-stream and the

Feature Article cont....

possible barriers to the migration that may be encountered.

The galaxiids constitute the whitebait catch netted during the spring migration. They enter the streams at this time as juveniles and migrate upstream to a greater or lesser extent, dependent upon their ability to overcome rapids and other, sometimes man-made, barriers. The īnanga is the most common species and over time it has occupied most of the tributaries of Pāuatahanui Stream. It is also found in the smaller streams running through the Reserve. While not able to climb, they are fast swimmers and can overcome rapids to gain the upper reaches of the catchment. In much smaller numbers, both the banded kōkopu and giant kōkopu are also common in the tributaries, although the giant kōkopu, which has less climbing ability, declines in number very quickly. The kōaro, while being the best climber, has a sporadic distribution and doesn't show up in Murphys, Belmont or Haywards streams, nor in the small streams of the Reserve. Presence of the fifth galaxiid, the shortjaw kōkopu, is uncertain as DNA analysis can't currently separate them from the giant kōkopu.

Also found in the DNA analysis is the common smelt, a small fish that spends its juvenile stages at sea, migrating to fresh water as adults during spring to spawn. Smelt are easily stressed, being sensitive to temperature and pH levels, so it's a positive sign that they are found in the Pāuatahanui stream. However, they are not strong swimmers and there is little evidence that they move up into the tributaries.

Both long-fin and short-fin eels show up regularly in the eDNA samples but it's the long-fin that dominates. These eels enter the stream as juveniles and, being good climbers, are able to navigate well upstream to spend many years in fresh water before reaching adulthood. Finally, they migrate back to the sea and head for spawning grounds in the Pacific.

The hooded lamprey is another migratory species that lives in our streams. In this case, however, adult life is largely spent at sea, finally migrating into fresh water at springtime. They use their mouth suckers to help negotiate the fast-flowing waters by clinging to rocks and pebbles etc. and in this way can move into the headwaters if the barriers are not too high. There is however little evidence that they reach most tributaries, only appearing in Moonshine and Pāuatahanui streams. It can take more than a year to reach the headwaters and having achieved this feat they spawn and die. Larvae then spend up to four years buried in the stream bed before maturing into adults and migrating back to the ocean.

There are many other species and groups of animals and plants that could be used to illustrate the value of eDNA analysis but migratory fish do present direct evidence of the influence the streams of Pāuatahanui Inlet have over the success or otherwise of a breeding population.

In summary, the eDNA analysis carried out by Wilderlab is very sensitive so that even a small positive result is usually evidence that a species is present. However, there are many factors that can affect the results and the sample count is not a definitive indicator of the numbers of individuals present.

As a final point of interest, the TICI modelling produced for stream health came up with the following results for each stream:

Stream	TICI Score	Rating
Pāuatahanui	97.68	Average
Belmont	97.93	Average
Flightys	83.71	Poor
Moonshine	102.99	Good
Haywards	99.05	Average

FERNBIRD DISPERSAL – *A Truly Remarkable Story*

In 2016, the Pāuatahanui Wildlife Reserve Management Committee developed a plan to attempt re-establishment of a once local native bird back into the Reserve. It was a small, indistinct bird that had lost the battle to survive in the artificial environment of recreational and farming activities that the Reserve once was. Over 30 years, work undertaken by members of Forest & Bird and many other volunteers who devoted their time to the cause, recreated the wetland shrub-type vegetation typical of the area and ideal for the success of this bird—the fernbird (mātātā).

Fernbird in Pāuatahanui Wildlife Reserve
Cr: David Cornick

In many regions of New Zealand fernbirds are declining in number. Rotokare Scenic Reserve in southern Taranaki however, is a haven for them. The predator-proof fence-protected valley reserve has such ideal conditions that the resident fernbird population thrives there. Because of this, several translocations have been made from Rotokare in the last few years.

The Pāuatahanui plan was to collect and transport 50 birds in two batches, the first being in April 2017 and the second, a year later. The exercise was overseen by Kevin Parker, a bird expert in translocations, and was very successful. GOPI reported on this project in our newsletters at the time.

From that point onward it was important to monitor the new arrivals periodically to check the overall success of the project. As is normal practice, all birds were banded to give each a unique identity for this purpose. A regular regime of pest eradication was also established to give the birds the best chance of survival. As time went on it became clear that the population had established well and, over the next few years, offspring of the original birds could be discovered forming new nesting pairs in different parts of the Reserve. Gradually, the bird population infilled different areas until almost all of the Reserve was colonised. It indicated that, not only was the understory suitable for this secretive little creature to nest in, but also that the food supply of insects was abundant.

This success was, in itself, a very satisfactory outcome but from that time onward, surprises were in store. In more recent times there have been reports of the occasional fernbird being heard or seen in locations outside the Reserve and this began to raise eyebrows. Perhaps, it was surmised, young birds were moving out of the Reserve due to the now well established high population. A careful watch was kept on all such reports and as time went on it became very apparent that this was in fact the case.

David Cornick, a member of the Pāuatahanui Reserve Management Team involved in the translocations, has kept a very close eye on the fernbird population and these new reports. He has been investigating sightings himself and this diligence has confirmed that the birds are in fact dispersing well away from the original Reserve site. In recent months, David has made a special point of recording the occurrence of the birds and documenting the dispersal patterns.

The nearest confirmed location to Pāuatahanui Wildlife Reserve is the Horokiri Wildlife Management Reserve, just west of Pāuatahanui. Here, David confirmed one pair plus a single bird on 24 March 2024 and then, three weeks later on 17 April, another check identified three pairs. Further west still, at the Kakaho estuary, on 6 April, David was able to identify a further two pairs and another single bird.

As well as the above, confirmed sightings have also been made at Duck Creek and on the Camborne Walkway. These, however, appear to be transitory occurrences and not nesting pairs.

Fernbird Dispersal cont…..

These locations are not all that surprising as they are close to Pāuatahanui. What is surprising however is the presence of fernbirds across the hills to the west.

Taupo Swamp, north of Plimmerton, is a wetland that has over recent years received a lot of attention to eradicate unwanted plants and develop a true wetland habitat. Predator control is also part of this restoration. In 2023 Shane Cotter, an independent ornithologist, conducted a survey of bird populations for the Greater Wellington Regional Council. This established that, at the time, there were nine fernbirds living there.

Titahi Bay also has a number of areas where parkland is being nurtured and suitable wetland habitat is developing. And here is where fernbirds are also being found. Stuart Park, by the sewage treatment outfall, had one resident pair confirmed on 8 April. Then there is Whitireia Park near Te Onepoto Bay where David confirmed the presence of two resident pairs on 9 April. Finally, on 31 May another pair was sighted in Onehunga Bay, not far from the toilet block.

Perhaps even more surprising, however, are the sightings that have been confirmed further up the coast. On 12 January and then again 23 March, two pairs were identified at Raumati South wetland. Finally, at Mackays Crossing entrance on 24 March, a single bird was sighted on the Te Ara o Tipapa loop track, part of Queen Elizabeth Park.

In the other direction, eastwards of the coastline, one pair of fernbirds have been identified on Boulder Hill, at the edge of Belmont Park.

In 2019 another translocation of fernbirds from Rotokare was undertaken, this time to Mana Island. These have also been doing well and it is possible, therefore, that the coastal sightings could be from birds that have crossed the strait to the mainland. Also, the more northerly sightings may be the result of natural movements south from Waikanae Estuary where there is an original, albeit small, population of fernbirds. So, while migration from Pāuatahanui is likely, these other sources cannot be ruled out.

Other locations that have ideal fernbird habitats are Plimmerton Swamp, Battle Hill, Makara West Wind Farm, Makara estuary and Opau wetland. These have been checked and there are no confirmed sightings as yet but this is something that is being monitored.

All these dispersals are of course new offspring from the original populations of translocated birds and have no identifying bands. The original bird population in Pāuatahanui Reserve will largely have died out now as the life expectancy of a fernbird is only about seven years.

Interestingly, however, one ringed individual was identified by David in the Pāuatahanui Reserve on 29 June, the bands being yellow/blue. So that one must be 'getting on a bit', as the expression goes.

One of the original birds in Pāuatahanui Wildlife Reserve - yellow/blue
Cr: David Cornick

Browns Bay, October 2023, after a previous restoration planting day.
Cr. Michael Waldron

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Pollution: Discharges of contaminants to air, land, storm-water drains, streams, rivers or sea and for after hours consent enquiries: Greater Wellington Regional Council – 0800 496 734 (24 hours)

Boating infringements: Greater Wellington Regional Council – 384 5708 (24 hours)

Illegal fishing activity: Ministry for Primary Industries – 0800 476 224 (24 hours)

Pāuatahanui Wildlife Reserve: Department of Conservation – 0800 362 468

Let us know what you have reported so we can keep an accurate record and follow up if necessary.

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