



# BIODIVERSITY

## 1 ACTIVITY OVERVIEW

- 1.1.1 Manawatū-Whanganui Regional Council (Horizons) has statutory obligations to maintain and sustainably manage the region's biodiversity under the Resource Management Act (1991). Horizons' strategy is set out in our One Plan and includes both regulatory and non-regulatory approaches. This item reports on the non-regulatory biodiversity programme.
- 1.1.2 Horizons' Biodiversity team works closely with other Horizons teams and external organisations to enhance biodiversity and engage the community in biodiversity enhancement. This work is supported by research, additional labour and monitoring undertaken by the Horizons Science & Innovation and Biosecurity teams, along with other agencies, to prioritise and focus implementation efforts. This item reports on the collective biodiversity activity of the implementation and science programmes. Other non-regulatory programmes, particularly the freshwater programme, also contribute to biodiversity outcomes.
- 1.1.3 A key challenge in biodiversity management is allocating resources in a way that provides the greatest ecological benefit. This has been a significant area of focus for the recent review of the biodiversity programme, which aimed to improve processes and subsequent biodiversity outcomes across the region, while working to bring Horizons closer to meeting requirements under the proposed **National Policy Statement for Indigenous Biodiversity (NPSIB)**. The proposed NPSIB requires councils to identify areas where there is significant vegetation and habitats of indigenous fauna, and to manage their protection through plans and consent processes under the **Resource Management Act (RMA)**.
- 1.1.4 National policy direction is changing with Central Government releasing the National Biodiversity Strategy, Te Mana o te Taiao, on 10 August 2020. The NPSIB was delayed due to Central Government's Covid-19 response and release of the draft is now signalled for later in 2021. These documents will influence the way that Horizons manages biodiversity within the region.

- 1.1.5 An outcome of the review is that Council has resolved that work across the non-regulatory biodiversity programme supports the goal for the priority sites to “*maintain or restore the full range of the region’s indigenous ecosystems to a healthy and functioning level*”. The goal for the biodiversity partnerships programme is “*Empowering communities to engage with biodiversity*”.
- 1.1.6 The June 2021 Environment Committee report presents information for the period January 2021 to April 2021 in the context of delivery of the programme for the financial year (July to June). This includes an annual summary of the biodiversity monitoring and research activity completed in 2020-21. Due to the timing of this report writing, many reports had not yet been finalised. Biodiversity Activity is presented regionally (where appropriate) and/or for each of the programmes that make up the Non-regulatory Biodiversity Programme, integrating the implementation work of the Biodiversity Team and the activities of the Science & Innovation and Biosecurity teams. This report is arranged in the following sections:
- The regional activity update and progress against Annual Plan targets;
  - The priority biodiversity sites programme, a site-led programme working with landowners to maintain and enhance priority sites on private land;
  - The biodiversity partnerships programme, where projects extend beyond the boundary of a single landowner and/or involve community groups or external agencies; and
  - Management of Tōtara Reserve, our regional park.

## 2 ANNUAL PLAN TARGETS

- 2.1.1 Progress against the Annual Plan targets for the 2020-21 year are shown in Table 1 below.
- 2.1.2 The annual plan targets for the priority sites programme are to add four new wetland sites and seven new bush remnant sites. All seven bush remnant sites and four wetland sites have been identified. Work planned or undertaken at these 11 sites is detailed in the priority sites section.
- 2.1.3 The biodiversity partnerships programme has 18 projects allocated toward an Annual Plan target of 12. Five projects have been completed: Betty Tripe Reserve planting, Cape Turnagain pest control and monitoring, Pūkaha Mt Bruce weeds, Rangitīkei Environment Group, Waitarere weed control.
- 2.1.4 The work at Totara Reserve has continued with a strong focus on health and safety. The poplar trees have been removed and planning for the replanting is well underway.

Table 1 Progress reporting for the Biodiversity Activity Annual Plan targets for 2020-21.

Long-term Plan Target	Target	Allocated	Completed or supported	% of target completed
<b>Protect/enhance priority habitat remnants</b>				
Additional top 100 wetlands actively managed	4	4	1	25%
Additional top 200 bush remnants actively managed	7	7	4	57%
<b>Support community involvement in biodiversity protection</b>				
Support existing community-based biodiversity improvement projects	12	18	5	28%
<b>Tōtara Reserve Regional Park</b>				
Annual report on the management of Tōtara Reserve Regional Park for biodiversity and recreational values, including managing the camping facility.	1	-	1	100%
<b>Science &amp; Innovation - Biodiversity Long-term Plan targets for 2020-21.</b>				
Performance Measures for Levels of Service	Target 2020-21	Target achieved	Progress update	
Annual report on biodiversity monitoring and research activity.	1	1	This report provides a summary of biodiversity monitoring and research activity completed.	

### 3 PRIORITY SITES PROGRAMME

#### 3.1 Programme overview

- 3.1.1 The Priority Biodiversity Sites Programme is a habitat-focused programme with the objective “to restore and maintain the representative range of ecosystems to a healthy and functioning level”.
- 3.1.2 The programme has four main components:
- 1) Monitoring and reporting on the management level status of known sites in the region;
  - 2) Maintenance of the sites currently in the programme;
  - 3) Finding and assessing new sites for addition to the programme; and
  - 4) Addition of new sites to the programme.

## 3.2 Activity Update

### MANAGEMENT LEVEL STATUS OF KNOWN SITES

3.2.1 Horizons tracks the management level status of known sites using a management level index framework. In broad terms the management levels are described as outlined below with each management level increase above management level 1, including the requirements of the management levels below that (e.g. a management level 2 site has both the requirements of management level 1 and management level 2).

The management levels are:

- 0.5: site may have received management from Horizons but has not been assessed;
- 1: Rapid Ecological Assessment completed within the last 10 years,
- 2: site has received Horizons contribution to management;
- 3: site receives ongoing management input from Horizons;
- 4: site receives a higher level of management inputs;
- 5: site receives significant inputs from stakeholders;
- 6: site receives management inputs for all animal pests.

3.2.2 A summary of the management level index status for all sites on the managed list, including the 11 new sites, is presented in Table 2. The number of sites that are considered part of the programme can be assessed by the number that have been assessed and received some support by Horizons e.g. management level 2 and above, or the number of sites considered to be actively managed (management level 3 and above). Due to the requirements for active management and ecological assessments within the last five years, sites that are management level 3 can reduce to management level 2 if management at the site is not considered sufficient or an ecological assessment has not been completed within the last five years.

3.2.3 In 2021, 11 new sites are allocated to be added to the programme (see below for more details). These additional sites are projected to increase the number of sites at management level 3 to a total of 77 sites. NB, some of the work to bring these sites into the programme is still underway and these sites are shown in brackets in Table 2.

Table 2 Priority Sites Management Level Index Status (see text above for description of the management levels). Note the bracketed numbers are the new additional sites that are yet to have their maintenance tasks completed this year.

Management level	Bush sites		Wetland sites		All sites	
	2019-20	2020-21	2019-20	2020-21	2019-20	2020-21
6	1	1	0	0	1	1
5	1	1	2	2	3	3
4	7	7	3	3	10	10
3	38	42 (+3)	14	15 (+3)	52	57 (+6)
<b>Sub-total for Level 3+</b>	<b>47</b>	<b>51 (+3)</b>	<b>19</b>	<b>20 (+3)</b>	<b>66</b>	<b>71 (+6)</b>
2	100	100	52	51	152	151
<b>Sub-total for Level 2+</b>	<b>147</b>	<b>151 (+3)</b>	<b>71</b>	<b>71 (+3)</b>	<b>218</b>	<b>222 (+6)</b>
1	348	350	66	69	414	419
0.5	4	4	6	6	10	10
<b>Total</b>	<b>499</b>	<b>505 (+3)</b>	<b>143</b>	<b>146 (+3)</b>	<b>642</b>	<b>651 (+6)</b>

3.2.4 Management actions in the 2020-21 year have been prioritised to fit the available budget through a process that is focused first on adding the 11 new sites to meet the Annual Plan target, then on the 66 sites at Management Level 3 and above.

3.2.5 The process for allocating the budget included all of these sites having full site summaries and management prescriptions prepared. These documents:

- a) Identify ecological integrity targets,
- b) Identify pressures required to be managed to meet targets; and
- c) Develop prescriptions and indicative cost information to reduce pressures to required levels over a five-year period.

Costings are based on prescriptions designed to restore ecosystem function and viability, not to maximise populations of charismatic species or ensure the persistence of threatened species. Where charismatic or threatened species are present it may be appropriate to provide additional management in collaboration with the Department of Conservation.

3.2.6 Thirty of the 66 sites that are management level 3 or above received maintenance control in the current financial year. Twenty-six of these received funding from the priority sites programme and a further four sites from other programmes e.g., the icon site (3 sites) and regional park programmes (1).

3.2.7 In addition to the maintenance sites, 11 new sites are allocated to receive work to add these sites as management level 3 and above (Map 1). The new sites and the completed/planned work are described in Table 3 below.



Photo 1 Left - contractor Clint Purches with old man's beard stump removed from one of the sites included for management this year. Right - *Dactylanthus* flowers: this species was recently found at a new site included for management this year (Ngā Manu images).

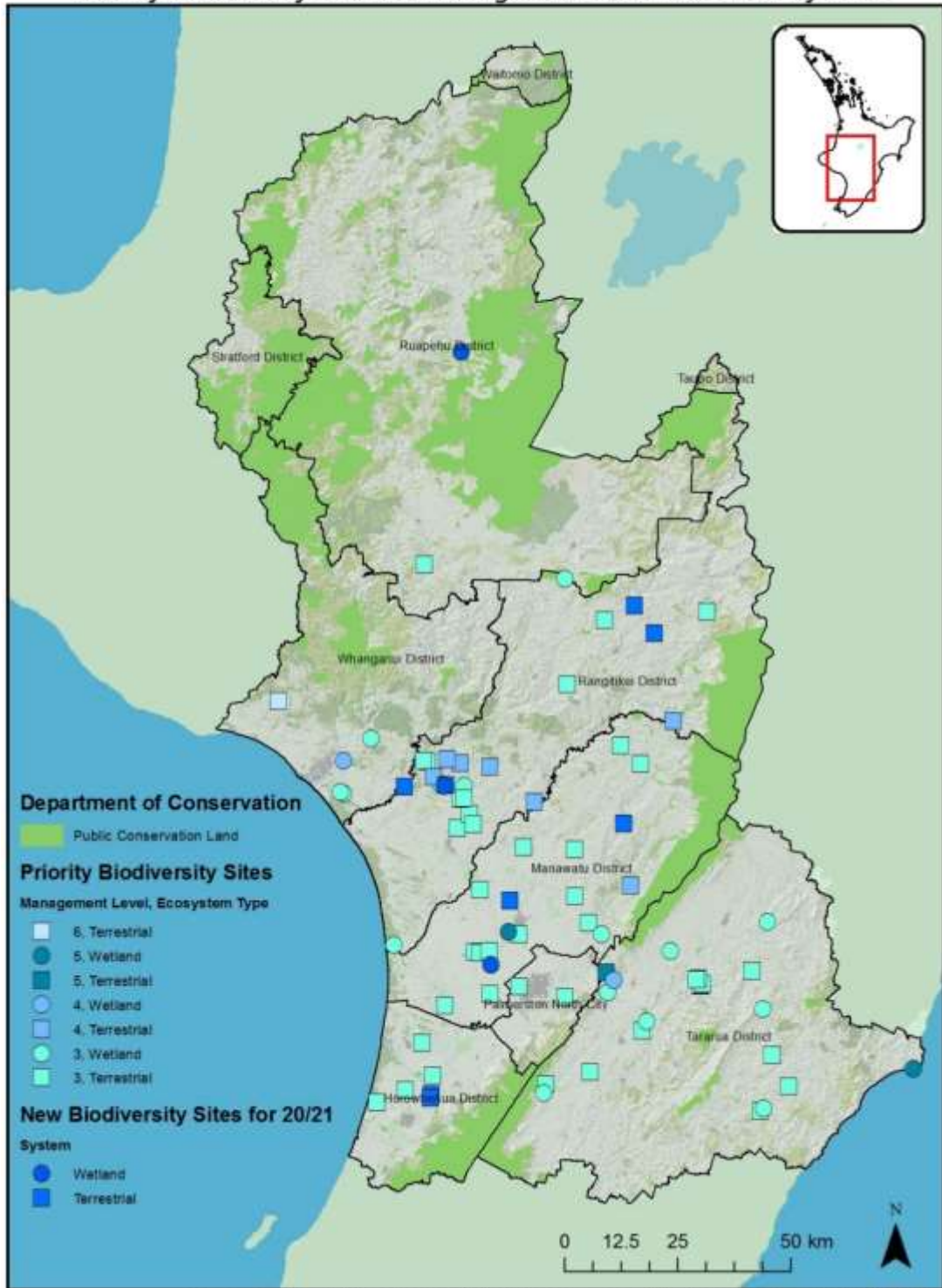
Table 3 2021 New wetland and bush priority sites under management.

	Type	Name	District	Short Description
1	Bush	Man260 Near Kimbolton	Manawatū	5 ha of tawa, podocarp forest – deer fenced with Horizons assistance in December 2020. Landowners retired an additional 1 ha of pasture and Horizons are providing plants to replant this in June 2021.
2	Bush	Rang187a North of Taihape	Rangitīkei	40 ha of kahikatea, tōtara and matai forest –that landowner had fenced off 20 years ago. Horizons contractors carried out ground control of <b>old man's beard (OMB)</b> in early May 2021. Contractors discovered <i>Dactylanthus taylorii</i> , variously known as "Daccy", "flower of Hades", "fingers of the gods" or "wood rose". This unusual plant grows only in New Zealand, and only in the North Island. It is a parasite, living on the roots of forest shrubs and trees and is a threatened plant that is also present in the remnant (Photo 1).
3	Bush	Rang253, North of Taihape	Rangitīkei	13 ha of kahikatea, tōtara and matai forest, currently grazed. Horizons Land and Biodiversity teams are working together to get the forest deer-fenced. Fencing materials have been delivered and contractor was booked for April 2021.
4	Bush	<b>Horo194,</b> Kōputaroa	Horowhenua	0.3 ha kahikatea forest, containing one of the three remaining populations of giant snail <i>Powelliphanta traversi koputaroa</i> . Landowner is retiring additional

	Type	Name	District	Short Description
				land adjacent to forest remnant and Horizons are replanting this to extend snail habitat. Rodent monitoring has been carried out and additional possum bait stations installed. Rat control and hedgehog trapping will begin in May.
5	Bush	Horo109, Kōputaroa	Horowhenua	5 ha swamp mosaic containing remnant population of giant snails <i>Powelliphanta traversi koputaroa</i> . Horizons has carried out weed control, and will be replanting with species that provide good snail habitat in June. Rodent monitoring has been done and additional possum bait stations installed. Rat control and hedgehog trapping was to begin in May.
6	Bush	Whan20, Fordell	Whanganui	7 ha kahikatea, pukatea forest. Horizons is assisting with deer fencing planned for this financial year.
7	Bush	Man169, Feilding	Manawatū	4 ha of tōtara, titoki forest. Horizons contractors are booked to carry out <i>Tradescantia</i> and karaka control.
1	Wetland	Rang61W, Marton	Rangitīkei	2 ha sphagnum mossfield. Horizons is assisting with fencing planned for this financial year.
2	Wetland	Rang205, Marton	Rangitīkei	5 ha kahikatea forest surrounding 0.6 ha sphagnum mossfield. Horizons is assisting with fencing and weed control planned for this financial year.
3	Wetland	Man210, Kairanga	Manawatū	10 ha kahikatea, tawa, titoki forest and oxbow lagoon. Horizons staff carried out old man's beard (OMB) control in early May 2021.
4	Wetland	Rua37W, Owhango	Ruapehu	12 ha wetland mosaic (sedgeland, reedland and fernland). Horizons contractors are booked to do weed control this year.



Priority Biodiversity Sites and Management Levels as at 10 May 2021



Map 1 Priority Biodiversity Sites and Management Levels as at 30 April 2021.



## IDENTIFYING AND ASSESSING SITES

- 3.2.8 An important component of the programme is identifying which new sites that are to be added to the programme each year.
- 3.2.9 **Rapid Ecological Assessments (REAs)** involve visiting a site to collect inventory data on the ecosystem types present and the threats that would need to be managed if the site were included in the Priority Sites Programme. As well as increasing our knowledge of remaining biodiversity in the region, REAs identify sites that are eligible for management in the following year. As the habitat at a site can change over time (for example, due to new pests arriving or management interventions) REAs are repeated every five years for priority sites on the managed list. Since the start of the 2020-21 year REAs have been completed for 32 sites and another three are on track for completion by year-end.
- 3.2.10 Work to identify potential sites for management has focused on a subset of regionally critically endangered ecosystems, based on four factors: predicted remaining habitat, extent of habitat decline, area of remaining habitat in the conservation estate, and proportion of remaining habitat outside the conservation estate. This subset contains many hundreds of forested sites. Determining which are likely to have the highest ecological values and are most suitable for management has proved challenging.
- 3.2.11 To better support Horizons work toward the goal “to *restore and maintain the representative range of ecosystems to a healthy and functioning level*” a project has been developed to identify approximately 50 representative high-value sites within the region to target for management over the next five years. Site selection will aim to ensure the full range of ecosystems within Horizons region are identified for management. Site selection will target high priority ecosystems i.e., rare and threatened while ecosystems that are not represented within the conservation estate, or are not reported as under management by DOC, will be prioritised. This work also recognises the additionality of larger and/or more complex sites that include multiple ecosystems. This work will span two financial years with part one – a geospatial layer identifying the initial 50 sites delivered this financial year. This will be reported as a static map once completed. Part two includes further details on identified sites and suggestions of other sites that could be prioritised for management if the first is unable to receive assistance from Horizons. Part two is due for completion in the first half of the 2021-22 financial year i.e., by December 2021.
- 3.2.12 Alongside the project above, a set of ecosystem factsheets are under development for all ecosystem types mapped under the potential ecosystem mapping project. These include: a description and the diagnostic features of each ecosystem; example sites for ecosystems where appropriate; regional and national distribution; likely effects of prior human-induced activities; and, in some instances, an outline of potential threats specific to an ecosystem. These factsheets will assist Horizons staff in identifying specific ecosystems and will be made available as a resource for communities connecting with biodiversity. This work is due for completion before the end of this financial year.

### Reports produced

Daly, E., Bocker, E., Moore, S., and Roygard, J. (2020). [\*Biodiversity – Priority Sites Update\*](#). Report No 20-157 to the Horizons Regional Council Strategy and Policy Committee, 10 November 2020.

Singers, N. (2021). *Ecosystems of the Manawatū – Whanganui Region*. To be completed by end of this financial year and a link to the completed factsheets will be provided.

## 4 BIODIVERSITY PARTNERSHIPS

### 4.1 Programme Overview

- 4.1.1 The Biodiversity Partnerships Programme funds biodiversity-related projects that extend beyond the property boundary of a single landowner and/or involve community groups or external agencies. The current suite of projects includes target sites or areas with environmental, social and cultural values.
- 4.1.2 The 18 projects approved in 2020-21 are made up of six Biodiversity Collaborations (four “icon” and two targeted rate projects), nine Biodiversity Fund projects, Weedbusters and Community Engagement events (Map 2).



Map 2 Community Biodiversity Project Sites.

## 4.2 Programme Activity

- 4.2.1 Council approved the revised structure for the Biodiversity Partnerships Programme and adopted "*Empowering communities to reconnect with and improve biodiversity*" as the programme's goal, after the Strategy and Policy Committee meeting in August 2020.
- 4.2.2 The biodiversity partnerships project includes icon and targeted rate projects (Table 4), biodiversity grant project (Table 5) and community engagement projects. A further component of work during 2020-21 has been seeking Central Government funding, which is also updated in the sections below.

Table 4 Council has approved the following as Biodiversity Partnerships icon projects and targeted rate funding allocations for the 2020-21 year as follows:

<b>Icon projects</b>	<b>2020-21 FY (excluding GST)</b>	<b>Current Status</b>
Te Āpiti Manawatu Gorge	\$244,856	At risk of non-completion
Kia Whārite	\$150,000	On track
Pūkaha Mt Bruce	\$37,292	Completed
Bushy Park Tarapurahi	\$20,000	On track
<b>Targeted rate projects</b>	<b>2020-21 FY (excluding GST)</b>	<b>Current Status</b>
Rangitīkei Environment Group (REG)	\$95,000	Completed
Waiterere Beach Community Project	\$7,000	Completed
<b>Total</b>	<b>\$554,148</b>	

Table 5 Biodiversity Grant projects for the 2020-21 financial year.

<b>Partnership Projects</b>	<b>2020-21 FY (excluding GST)</b>	<b>Current Status</b>
Manawatū Estuary	\$25,000	Underway
Turitea Reserve	\$20,000	Underway weed control
Tawhata Eco-sanctuary	\$15,000	Underway to be completed in June
Te Pōtae o Awarua Predator Control	\$15,000	Underway
		Aorangi Awarua Trust proposed works and Health & Safety plan approved, grant provided.
Cape Turnagain	\$10,000	Completed
Awahuri Forest – Kitchener Park	\$8,000	Underway, 75% complete
Kahuterawa Stream	\$8,000	Underway
Ahimate Reserve	\$5,000	Underway
Massey Hill	\$3,500	Underway
<b>Total</b>	<b>\$109,500</b>	

- 4.2.3 Horizons Regional Council opened [the Kanorau Koiora Taetake - Indigenous Biodiversity Community Grant](#) on 10 May 2021. This contestable fund is open for applications for community-led projects that support connections between nature and people, and work to restore and protect indigenous biodiversity. These connections include projects that support the regeneration and continuation of mātauranga Māori. Community-led projects includes those led by private landowners, individuals, Māori land trusts, not-for-profit organisations, umbrella groups and whānau/hapū/iwi.

- 4.2.4 This new Kanorau Koiora Taketake - Indigenous Biodiversity Community grant has been developed in place of the community grant programme, which no longer exists. Council is proposing through the Long-term Plan to increase funding for community biodiversity projects through the new contestable fund. This new approach to allocating funding for biodiversity projects requires some projects that have regularly received funding from Horizons towards community biodiversity projects to apply for funding where they may not have previously had to do so.
- 4.2.5 Applications closed on 4 June 2021, after which an internal panel will assess applications and provide information to the Council-appointed panel. The projected timeline is for applicants to be notified of decisions in late July with projects able to begin following that.

#### **Reports produced**

Daly, E., and Roygard, J. (2020). [Biodiversity Partnerships Projects](#). Report No 20-100 to the Horizons Regional Council Strategy and Policy Committee, 11 August 2020.

Horizons Regional Council. (2021). [Kanorau Koiora Taketake – Indigenous Biodiversity Community Grants Guidelines](#). Guidelines prepared for contestable fund, May 2021.

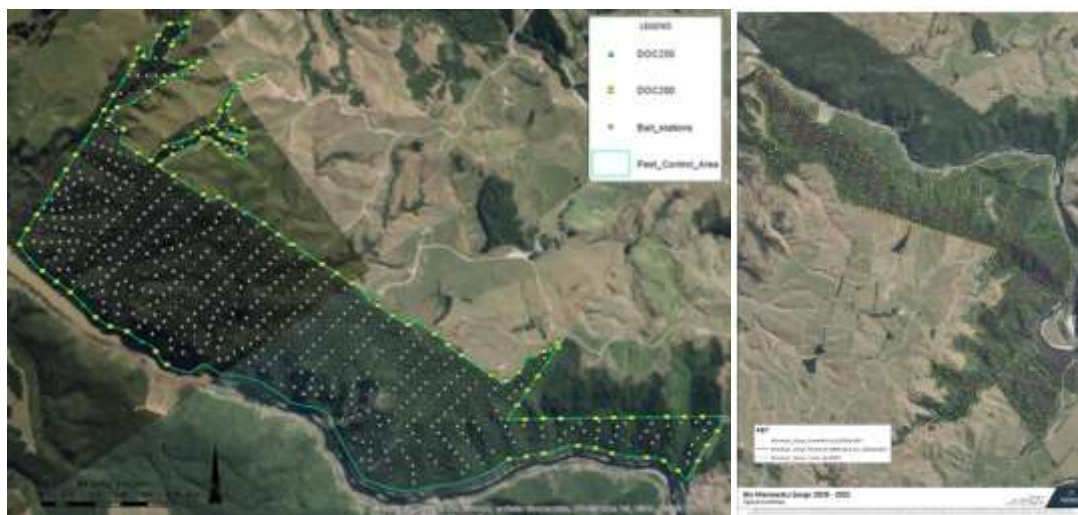
### **4.3 Project Updates – 2020-21**

This section provides updates on the activity of the projects funded in 2020-21.

#### **TE ĀPITI MANAWATŪ GORGE**

- 4.3.1 The next Te Āpiti Manawatū Gorge Governance Group meeting is scheduled for 10 June 2021.
- 4.3.2 Activities during this reporting period have included:
- Weed control is almost completed for the year with low levels of regeneration at previously treated sites, and control undertaken on the northern side of the Manawatū River. The contractor’s post-operational report will be completed by June 30.
  - Pest animal control for possums in the current network on the southern side of Te Āpiti has not been completed due to short supply of approved bait meaning the contractor has continued to set up the bait station network for the untreated area of the southern side, to provide as much coverage as terrain will allow. Waka Kotahi (NZTA) has initiated its pest management plan on the northern Te Āpiti area to offset impacts from the new road construction, which has started. They have engaged contractors to establish a lizard sanctuary for any lizards located during the new road construction. A bait station network for possums and rats is being deployed over the northern Te Āpiti area and also includes the Kiwirail corridor. This is planned to be operational in July with a monthly refill of fresh Double Tap bait for five months to reduce possum and rat densities during the bird breeding season.

- Predator traps have been purchased and are awaiting delivery to be deployed around the perimeter of Te Āpiti. They will be checked 20 times per year by contractors to reduce the presence of mustelids at the Te Āpiti site. The Horizons Regional Response Team will also support this project by delivering an extra fill in bait stations that surround Te Āpiti, in July and autumn when juvenile pests are in dispersal mode.



Map 3 Planned bait station networks for north and south Te Āpiti

- Signage at Te Āpiti Manawatu Gorge is being upgraded and will have new content at both entrances at the east and west carparks describing the biodiversity and track maps at both entrances, bird identification signs throughout the length of the track, and swamp maire and wetland information at Ferry Reserve.
- We have purchased four pedestrian counters to count and report in real time the numbers of pedestrians and their direction of travel at the Tawa Loop, Ballance Loop, Manawatu Gorge Track, and Te Ara o Mahurangi mountain bike track. These are programmed to be installed in June.

## KIA WHĀRITE

- 4.3.3 Predator trapping has continued in the Rētāruke, Manganui o te Ao and Whanganui River Catchments for whio (blue duck) protection and in the Waimarino area for North Island brown kiwi protection. Horizons' activity for this year has been contracted and is on track to being completed with 32 of the 36 planned predator trap checks completed by April 2021. The project is contributing to the Kia Whārite project, which covers 180,000 ha, in collaboration with DOC. Predator numbers to date are provided in Table 6 below.



Table 6 Predators caught in Kia Whārite trapping.

<b>Species Caught</b>	<b>YTD Number</b>
<b>Cats</b>	33
<b>Ferrets</b>	3
<b>Hedgehogs</b>	319
<b>Rats</b>	2916
<b>Stoats</b>	173
<b>Weasels</b>	124
<b>Total</b>	3,568

- 4.3.4 More than 500 goats have been so far as part of ground and aerial goat control operations in the Waimarino area.
- 4.3.5 DOC is undertaking a review of the Manganui o te Ao whio security site to refine the requirements for ongoing protection and enhancement of this taonga species. The review to date has continued funding for next year, with consideration of DOC's ongoing funding of the project not yet finalised. An update will be provided to Council following the review.
- 4.3.6 DOC Whanganui have reported that it has serviced 800 stoat boxes for the year and has monitored the Manganui o te Ao River, finding 32 pairs of whio and 15 singles. This is a stable result compared to previous surveys, and three pairs hatched a total of 11 ducklings.

## **PŪKAHA MOUNT BRUCE**

- 4.3.7 Pūkaha Mount Bruce is a community project involving Horizons, Greater Wellington, DOC, iwi, and local landowners. The 942 ha reserve straddles the boundary of the Horizons and Greater Wellington regions just south of Eketahuna. Pūkaha has thriving wild kokako, kiwi and kaka populations, native lizards, longfin eels, and other special inhabitants. The forest itself is a dense lowland podocarp remnant of Seventy Mile Bush. Pūkaha is managed as a "mainland island" without predator-proof fencing, which means pest control in and around the reserve is essential to protect its vulnerable wildlife.

Horizons Regional Response Team is servicing perimeter mustelid traps every two weeks and continuing the landscape-scale possum control operations. The budget for trap servicing this year is \$27,292. Trap catch data is presented below (

4.3.8 Table 77).

Table 7 Pūkaha trap catch results for the year to date.

	<b>July – Sept Totals</b>	<b>Oct-Dec Totals</b>	<b>Jan-Apr Totals</b>	<b>Year to date</b>
Stoats	6	1	8	15
Weasels	1	0	1	2
Ferrets	4	0	19	23
Rats	45	30	40	115
Hedgehogs	20	24	85	129
Cats	15	0	41	56

- 4.3.9 The Biodiversity team, alongside DOC, manages environmental pest plants within the reserve and the buffer. DOC funded an aerial survey to locate old man’s beard sites in the area. The Horizons contracted weed control team has completed its work for the season, removing much of the OMB on the adjacent farmland. Horizons spends \$10,000 annually on pest plant work at this site. This ongoing effort by Horizons, and continued work by DOC inside the reserve, will reduce OMB to a low infestation.

### **BUSHY PARK TARAPURUHI**

- 4.3.10 Horizons contributes \$20,000 per year to support activities at Bushy Park Tarapuruhi, near Whanganui. This year our funds have helped with predator monitoring, weed control within the sanctuary, mouse control, and work on the predator-proof fence and gates.
- 4.3.11 The motor on the outer gates at the entrance to Bushy Park Tarapuruhi failed in January. Volunteers manually opened and closed the gates (and chased away a cat that entered the gate cell) during busy periods until the motor was repaired. Horizons funds helped with an upgrade of the gate motors to prevent this problem recurring.
- 4.3.12 A translocation of pōpokotea (whitehead) birds into Bushy Park Tarapuruhi is planned for next year. The application for a wildlife permit to carry out this work is being finalised.
- 4.3.13 A translocation of titipounamu (rifleman) birds into Bushy Park Tarapuruhi is also planned and consultation with hapū at the potential source site is about to begin.
- 4.3.14 The Bushy Park Tarapuruhi halo project is underway to protect native species beyond the fence. Contractors funded through the DOC Community Fund carry out monthly trap checks across the 600 ha halo area and Horizons Regional Response Team carries out annual possum control in this area. The objective of the halo project is to allow Bushy Park Tarapuruhi to function as a nucleus to restore the wider environment.

## RANGĪTIKEI ENVIRONMENT GROUP (REG)

- 4.3.15 REG completed its planned old man's beard control work in the Rangitikei District in late April. Feedback from REG indicates that increased ongoing control is needed in the area. The REG annual report is expected in June.
- 4.3.16 REG are now in a partnership with the **Rangitikei River Catchment Care Group (RRCC)**, which has received approximately \$1.5 million funding from MPI to be spent over three years on control of old man's beard in the Rangitikei River Catchment. Horizons staff are providing some support for this project.

## WAITARERE BEACH COMMUNITY PROJECT

- 4.3.17 The Waitarere Beach community pays a targeted rate to Horizons for the purposes of controlling exotic plants and restoring native plants on the dunes.
- 4.3.18 Horizons contractors have controlled lupins, acacia and yucca at Waitarere Beach during this reporting period. This work is complete for the year.

## MANAWATŪ ESTUARY

- 4.3.19 Horizons has been exploring opportunities to have operational plan/s prepared for the 558 ha estuary site. The Manawatū Estuary Management Plan requires the production of plans for weeds, pest animals, flora and habitat management. Horizons is engaging with iwi/hapū, Horowhenua District Council and DOC about undertaking this work. Council allocated resourcing of \$62,000 for this activity via a carry-forward of funds from the 2019-20 year. This additional project has not advanced to a point where a plan is projected to be completed within the financial year.
- 4.3.20 Horowhenua District Council, Horizons and keen volunteer Annim Littek led a field trip to the estuary following the Coastal Restoration Trust Conference in March. Trip highlights included kuaka on the verge of migrating, plus threatened plants, katipō spiders and tuturiwhatu (banded dotterel) in the dune slacks near the river mouth.
- 4.3.21 Horizons increased the annual allocation of funding for pest plant and animal control from \$8,000 per annum to \$25,000 this financial year. Monthly checks of the DOC 200 series traps targeting mustelids continued until February. Trap catch data is presented below.

Table 8 Manawatū Estuary trap catch data for the reporting period.

	Jul – Sep Totals	Oct – Dec Totals	Jan - Feb	Year to date
<b>Stoats</b>	17	8	2	27
<b>Weasels</b>	0	0	0	0
<b>Ferrets</b>	0	0	0	0
<b>Rats</b>	13	7	1	21
<b>Hedgehogs</b>	0	0	12	12
<b>Other</b>	1	0	0	1

## **TURITEA RESERVE**

- 4.3.22 This project is a partnership between Palmerston North City Council and Horizons. An aerial survey for old man's beard and wilding conifers has been completed and ground control is underway. Horizons contributes \$20,000 and is focused on weed control.
- 4.3.23 Thirty-nine toutouwai (North Island robins) from Bushy Park Tarapurui were relocated to Turitea Reserve in April 2021. Toutouwai were locally extinct in the Manawatū but the extensive predator control carried out at Turitea is enabling their return.

## **TAWHATA MAINLAND ISLAND**

- 4.3.24 This financial year Horizons will contribute \$15,000 towards the Tawhata project for goat control and has treated the bait station network for possums as part of our **possum control programme (PCO)** when our contractor treated that particular PCO this year. Previously, Horizons funded Tawhata Trust with \$50,000 to treat the possums and goats on its land as part of a project to return the forested area to a sanctuary for kokako. However, the trust has now opted into the Horizons possum control operation and the area has been treated for possums by the Horizons programme. Goat control was expected to be completed by the end of May.

## **TE PŌTAE O AWARUA PREDATOR CONTROL**

- 4.3.25 Horizons funding supports the Aorangi Awarua Trust with the costs of servicing remote predator trap lines on its land in the Taihape area and with Ruahine Whio Protection Trust volunteers servicing and maintaining more than 800 traps on public land in the Northern Ruahine range.
- 4.3.26 Servicing these remote predator traps protects whio and North Island Eastern brown kiwi populations in the area. Northern Ruahine trap checks were carried out in October, November and December 2020, and January, February and March 2021. Anecdotally, we have been told numbers of predators trapped are down and further information will be available when Awarua Aorangi Trust provides a report.

## **CAPE TURNAGAIN**

- 4.3.27 Cape Turnagain is a significant natural landscape on the East Coast north of Herbertville. It covers 121 hectares and is home to many rare and threatened plants and animals, some of which are found nowhere else. Most of it is protected by a QEII covenant but this doesn't address the pest issues that threaten the vulnerable flora and fauna.
- 4.3.28 In 2018, QEII National Trust, with Horizons, successfully applied for Lotteries Commission funding to embark on a three-year protection project and we are in the third and final year of the project. Horizons has contributed \$10,000 per year and Biodiversity staff time. The total project budget across the three years is \$144,000.
- 4.3.29 Work includes contracted goat, possum, rat, cat, and mustelid control, pest plant control (specifically pampas and marram), population monitoring of the nationally

critical “Cape Turnagain” day-flying moth (*Notoreas perornata*), revegetation planting of the sand daphne the moth lives on, and community engagement with Weber School and Herbertville residents.

- 4.3.30 Trapping and baiting is occurring monthly and pest plant work is seasonal, mostly during summer. Horizons has increased the number of possum bait stations around the perimeter. Monitoring protocols were established at the beginning and will be run again at the end to measure what has been achieved.
- 4.3.31 Actual costs have been lower than estimated and it is likely sufficient funds will remain to extend the project. A request for an extension to funding timeframes is being investigated.
- 4.3.32 Camera traps have been operating in the area. All of the cats observed on camera have subsequently been caught. One cat was observed on the trail cams for two months before it was finally caught. Control of cats at this site is important to protect ground nesting shorebirds, lizards and threatened invertebrates. Full details of trap catches are in Table 99.

Table 9 Trap catch at Cape Turnagain for the year to date

	Aug - Sept	Oct - Dec	Jan -March	Year to date
Ferrets	2	-	2	4
Stoats	-	-	-	-
Weasels	-	-	3	3
Rats	1	2	3	6
Cats	2	1	11	14
Hedgehogs	1	5	10	16
Mice	-	-	-	-
Birds	1	-	-	1
Possums	-	-	-	-
Rabbits	-	-	-	-
<b>Total</b>	<b>7</b>	<b>8</b>	<b>29</b>	<b>44</b>

- 4.3.33 The endemic moth *Notoreas perornata* (“Cape Turnagain”) was monitored in March with four individuals found at one site and two at a second site. The sand daphne host plants that were planted for the moths in September were also monitored in March and are doing well. The original area inhabited by the moths was less than 1 ha in size, and the new host plantings provide more habitat for this nationally critical moth species.





Photo 2 The Cape Turnagain moth.

## **AWAHURI FOREST – KITCHENER PARK**

- 4.3.34 Awahuri Forest-Kitchener Park is a valuable wetland forest remnant with strategic importance for the future walkway network and recreational opportunities in and around Feilding. It is also one of Horizons' managed Priority Sites, a critically endangered kahikatea pukatea forest ecosystem type. Horizons provides advice on ecological matters to the Awahuri Forest-Kitchener Park Trust and \$8,000 of funding for revegetation planting and pest plant control in this 14 ha reserve.
- 4.3.35 Samples of the giant grass that has invaded the park from its source on the banks of the Makino Stream were confirmed as *Phragmites karka* (common reed). The Ministry for Primary Industries has since agreed to undertake a national review and risk assessment of *Phragmites karka*. This outcome would not have been possible without the hard work and coordination of Trustee Bessie Nicholls. Horizons has assisted with pest plant team staff providing advice to the Trust.
- 4.3.36 The Trust has secured a three-year grant from the Ministry of Primary Industries' Partnership Fund for restoring large areas of the forest. Most of the work involves willow removal and replacement with suitable native species and MPI will provide just over half of the almost \$360,000 total cost. In preparation for the increased planting programme, the Trust has contracted an experienced collector to provide eco-sourced seed to the nurseries involved in supplying the plants. Willow control has been undertaken in the areas earmarked for planting in the 2022 winter.

## **KAHUTERAWA STREAM BIODIVERSITY RESTORATION**

- 4.3.37 The project aims to enhance the biodiversity values of the Kahuterawa Stream site of approximately 65 ha, from the bridge at Linton to the confluence with the Manawatū River. Horizons contributes to revegetating the stream corridor with eco-sourced native plants and removing willows and other weeds. Massey University and New Zealand Defence Force are partners in this project, with each partner contributing \$8,000 this year.
- 4.3.38 During this reporting period, Horizons contractors have continued weed control, plant releasing, and some trackside vegetation management at this site.

## **AHIMATE MANAWATŪ RIVER URBAN RESTORATION PROJECT**

- 4.3.39 The Te Motu o Poutua project, an extension to Ahimate Park (aka Anzac Park), is progressing well. Horizons is one of the stakeholders in this project alongside iwi, **Palmerston North City Council (PNCC)** and the community. The site is situated at the old Higgins metal crushing area below the recycling centre at the end of Maxwell's Line.
- 4.3.40 Horizons contributes \$5,000 for contractors to carry out weed control and releasing native plants around Ahimate Park on a monthly basis.

## **MASSEY HILL**

- 4.3.41 This restoration project is a partnership between Ferguson Hall, PNCC, Massey University and Horizons. Horizons contributes contractor services for weed control to the value of \$3,500.
- 4.3.42 Horizons' contractors continue to control banana passionfruit, woolly nightshade, tutsan and old man's beard at this site, and have noticeably reduced the weed burden.

## **WEEDBUSTERS PALMERSTON NORTH**

- 4.3.43 This programme involves responding to reports from the public of pest plant sites that are hidden away in backyards and other places. The areas covered include all of the PNCC area and the Feilding urban area. The programme covers contractors visiting sites to carry out weed control in response to public information. It also includes advice and information on other plants and herbicide treatment options. Weedbusters is a partnership between PNCC, **Manawatū District Council (MDC)** and the community.
- 4.3.44 Staff have received 61 enquiries so far this year with OMB, banana passionfruit and ivy being the most numerous species reported. Staff respond with advice on how to control the weed of interest.
- 4.3.45 Weedbusters this year had reduced funding from \$52,000 in 2019-20 to \$23,000 this financial year. This has reduced the capacity for aerial surveillance, however on-the-ground work responding to enquiries has remained similar to previous years.

## **COMMUNITY ENGAGEMENT**

- 4.3.46 Community engagement is a priority and through the 2020-21 Annual Plan process, Council resolved to fund an additional position to add capacity and grow the current programme of community participation in biodiversity projects across the region.
- 4.3.47 Horizons supported the Coastal Restoration Trust NZ conference held in Whanganui on 10-12 March 2021. The conference brought together experts and community groups from all over the New Zealand, apart from Auckland which was at Covid-19 Level 2 restrictions. Fieldtrips to Koitiata, Castlecliff and Whanganui River were included.
- 4.3.48 Horizons is working with local Coastcare groups to run a fieldtrip to Tangimoana in June 2021 to keep the energy and ideas for coastal restoration in our region progressing.
- 4.3.49 Horizons is assisting Makuri School (Tararua district), Kimbolton School (Manawatū) and Mosston School (Whanganui) with revegetation projects on the school grounds. Ōhau School (Horowhenua) is receiving assistance with a trapping programme in its bush block.
- 4.3.50 Horizons is having a set of introduced pest animals professionally mounted to use at community events and school workshops. Species prepared by a taxidermist will include ferret, stoat, weasel, possum, hare, and rook. Skins will also be tanned to give children a tactile experience of the display animals.
- 4.3.51 Horizons is purchasing four acoustic recorders that can be used by school and community groups to survey for birds and bats. These recorders can be left out in the field for short periods of time, and then retrieved and recordings analysed. Horizons is also purchasing hand-held bat detectors for work with the community. These allow bat echolocation calls to be audible in real time, allowing community members to walk and hear any bats present. Both New Zealand species of bat are present in our region, and both are threatened species. Long-tailed bats are widespread on private land in many parts of our region.

## **SEEKING GOVERNMENT FUNDING**

- 4.3.52 During the 2020-21 year Horizons has made a range of applications to Central Government for funding from the Jobs for Nature fund. These applications aimed to provide employment opportunities with biodiversity enhancement outcomes, and included Iwi Environmental Management Plans, Regional Biodiversity enhancement, Kia Whārite expansion, and supported two projects proposed by the Unenuku Charitable Trust for the Pōkākā Eco-sanctuary Trust in Ruapehu District. None of these biodiversity or biosecurity or biodiversity-based applications were successful.
- 4.3.53 Staff engaged with the Department of Conservation and some iwi regarding DOC's "Kaimahi for Nature" funding, which has an allocation of approximately \$11 million for work in the region. Staff have sought clarity about the regional council role and process around funding distribution from DOC, and are working to support further discussion with iwi/hapū and the formation of the alliance structures that will enable projects to be determined and rolled out. The rollout of this programme is being led by

DOC and is continuing to evolve, with applications being assessed nationally. Regionally, a range of projects have been applied for and are being considered as a part of the assessment process.

## 5 TŌTARA RESERVE REGIONAL PARK MANAGEMENT

### 5.1 Programme Overview

- 5.1.1 Tōtara Reserve Regional Park is focused on providing visitors with enjoyable biodiversity and recreational experiences. The work includes plant and animal pest control, flood protection, walking tracks, and campground management and maintenance. Tōtara Reserve is one of the last and best remaining examples of lowland forest ecosystems in the Pohangina Valley and is also valued as an important site under the Biodiversity Priority Sites Programme.
- 5.1.2 This item is the annual report on activities at Tōtara Reserve for the 2020-21 year.

### 5.2 Activity Update

#### REMOVAL OF POPLARS

- 5.2.1 Council approved the removal of poplars at Tōtara Reserve in July 2020 and the procurement for contractors for this work was issued in September 2020. Felling of poplars bordering the stopbank at the Kererū Campground was completed two weeks before Christmas. Planning for replanting the area where the poplars were felled with native species is well underway.
- 5.2.2 Replanting this area will be a multi-year project. Stage 1 this financial year will involve three local schools assisting with planting 1500 trees. This year's planting will focus on the area adjacent to the Kererū campground.

#### PEST ANIMAL CONTROL

- 5.2.3 Horizons' Annual Plan provided additional funding to substantially upgrade animal pest control programme for the entire reserve. The pest control operations will be targeting possums, rats and mustelids to improve ecological biodiversity and visitor experience in the reserve, which contains two campgrounds. A plan has been developed to be implemented this spring by the Regional Response Team. The pest targets are to reduce possum abundance to less than 5% **residual trap catch (RTC)**, and rat abundance to less 10%, to enhance the reserve's biodiversity and amenity values.
- 5.2.4 The bait station network has been installed by Horizons Regional Response Team and pre-control pest monitoring has been completed with chew cards and tracking tunnels, providing a pre-control index of 7% RTC for possums and tracking tunnel index of 30% for rats. Uptake of bait varied and post-control monitoring will be undertaken over the next month.

- 5.2.5 A new toxin called Double Tap, which is designed to be less persistent in the environment, is being trialled. This trial will help evaluate the performance of the toxin alongside wider trials within the Horizons Possum Control Programme, to evaluate its appropriateness for various applications and cost-effectiveness.
- 5.2.6 Predator traps for mustelids have been ordered and when delivered will be deployed into the reserve on a 500 x 200 metre grid and around the perimeter. Once deployed they will be checked 12 times each year.

## **PEST PLANT CONTROL**

- 5.2.7 The annual programme of weed control at Tōtara Reserve is well underway. The contractor is revisiting previous treatment sites and surveying for other incursions of pest plants.
- 5.2.8 A Weed Management Plan (Adrienne Meys and Nick Singers, 2006) was developed in 2006 and provided direction for weed control from 2006-2020. A project to review and update the pest plant management plan for Tōtara Reserve is underway. This will review progress to date and provide direction to ensure we continue to build on the results achieved so far. The plan aims to bridge the space between strategy and implementation, building on the 2006 Weed Management Plan and providing an updated pest plant plan for Tōtara Reserve Regional Park.
- 5.2.9 Pest plant management within the reserve has been primarily managed by the biodiversity team as part of the Regional Park work programme. However, the surrounding area is managed at a landscape level by the biosecurity plants programme. A buffer area around the reserve has been identified and management of the buffer area has been negotiated between teams. Manawatū District Council is a significant stakeholder in pest plant control along roadsides adjacent to the reserve. a biocontrol beetle released to assist with control of transcatia pest plant.
- 5.2.10 This work is scheduled to be delivered early in the 2021-22 financial year and a copy of the report will be made available once finalised.

## **COMMUNICATION**

- 5.2.11 Staff are working on several aspects of improving communication around the work at the site, including a regular update to the Advisory Group, on-site signage about activities and further information through social media and Horizons' website.

## **CAPITAL PROJECTS**

- 5.2.12 There is a capex allocation of \$157,930 for the 2020-21 year. The platform with safety rails around the septic system inspection point is now complete. Work on water storage and treatment upgrades to provide drinking water, along with reliable source of water, is being undertaken. Horizons engaged Pattle Delamore Partners (PDP) Ltd to draw up plans and scope of works, and to tender the work. However, the only response to the tender was unaffordable so Horizons is working with PDP Ltd to project manage the installation of an approved water treatment system before the next camping season, with installation work spreading across two financial years. The

capital equipment (\$60,000) will be purchased this financial year with the residual Capex going towards electrical upgrades of the powered sites.

- 5.2.13 A website booking and payment system for the campgrounds is also being procured to make the booking and paying for camping sites a much easier experience for visitors. This will be in place for the next camping season.
- 5.2.14 Additional projects being costed include an upgrade of the Kahikatea Campground ablution block, sealing of the entranceways to both campgrounds and the caretaker's house, and electrical upgrades at the powered camping sites.

## **CAMP GROUND**

- 5.2.15 The poplar removal activity prevented the Kererū campground opening at Labour Weekend, while the Kahikatea Campground was able to operate all season. Although the season was delayed until just before Christmas, numbers of campers to the end of January were 5,660 adult nights, and 3,003 child nights for the season, which is slightly below the level budgeted for the period.

## **TŌTARA RESERVE ADVISORY GROUP**

- 5.2.16 The development of Terms of Reference for the group and a strategy for Tōtara Reserve are tasks to be undertaken once the priority work of poplar removal and remediation of the site are completed, along with water supply upgrades and other health and safety actions.

### **Reports produced**

Clapcott, L. (2021). *Pest Plant Review and Recommendations for Tōtara Reserve*. To be completed by end of financial year and a link to the completed report will be provided once finalised.

Hurley, D., and Smillie, R. (2020). *Pest Control Programme for Tōtara Reserve*. Horizons Regional Council Report, 2020.

Sue Moore

**BIODIVERSITY COORDINATOR**

Dr Lizzie Daly

**SENIOR SCIENTIST - ECOLOGY**

Rod Smillie

**BIODIVERSITY, BIOSECURITY & PARTNERSHIPS MANAGER**

Dr Jon Roygard

**GROUP MANAGER NATURAL RESOURCES AND PARTNERSHIPS**