

I hereby give notice that an ordinary meeting of the Catchment Operations Committee will be held on:

**Date:** Wednesday, 14 April 2021  
**Time:** 9.30am  
**Venue:** Tararua Room  
Horizons Regional Council  
11-15 Victoria Avenue, Palmerston North

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## **CATCHMENT OPERATIONS COMMITTEE**

### **AGENDA**

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#### **MEMBERSHIP**

<b>Chair</b>	Cr DB Cotton
<b>Deputy Chair</b>	Cr AL Benbow
<b>Councillors</b>	Cr EM Clarke
	Cr SD Ferguson
	Cr EB Gordon
	Cr FJT Gordon
	Cr RJ Keedwell
	Cr WM Kirton
	Cr JM Naylor
	Cr NJ Patrick
	Cr WK Te Awe Awe
	Cr GJ Turkington

**Michael McCartney**  
**Chief Executive**

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**[www.horizons.govt.nz](http://www.horizons.govt.nz)**

for further information regarding this agenda, please contact:  
Julie Kennedy, 06 9522 800

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SERVICE CENTRES	Kairanga Cnr Rongotea & Kairanga-Bunnythorpe Rds, Palmerston North	Marton 19-21 Hammond Street	Taumarunui 34 Maata Street	Woodville Cnr Vogel (SH2) & Tay Sts
REGIONAL HOUSES	Palmerston North 11-15 Victoria Avenue	Whanganui 181 Guyton Street		
DEPOTS	Levin 120-122 Hokio Beach Rd	Taihape 243 Wairanu Rd		
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## AGENDA

1 Welcome/Karakia

2 Apologies and Leave of Absence

At the close of the Agenda no apologies had been received.

3 **Public Forums:** Are designed to enable members of the public to bring matters, not on that meeting's agenda, to the attention of the local authority.

**Deputations:** Are designed to enable a person, group or organisation to speak to an item on the agenda of a particular meeting.

Requests for Public Forums / Deputations must be made to the meeting secretary by 12 noon on the working day before the meeting. The person applying for a Public Forum or a Deputation must provide a clear explanation for the request which is subsequently approved by the Chairperson.

**Petitions:** Can be presented to the local authority or any of its committees, so long as the subject matter falls within the terms of reference of the council or committee meeting being presented to.

Written notice to the Chief Executive is required at least 5 working days before the date of the meeting. Petitions must contain at least 20 signatures and consist of fewer than 150 words (not including signatories).

Further information is available by phoning 0508 800 800.

4 Supplementary Items

To consider, and if thought fit, to pass a resolution to permit the Committee/Council to consider any further items relating to items following below which do not appear on the Order Paper of this meeting and/or the meeting to be held with the public excluded.

Such resolution is required to be made pursuant to Section 46A(7) of the Local Government Official Information and Meetings Act 1987 (as amended), and the Chairperson must advise:

- (i) The reason why the item was not on the Order Paper, and
- (ii) The reason why the discussion of this item cannot be delayed until a subsequent meeting.

5 Members' Conflict of Interest

Members are reminded of their obligation to declare any conflicts of interest they might have in respect of the items on this Agenda.



Minutes of the fifth meeting of the eleventh triennium of the Catchment Operations Committee held at 9.30am on Wednesday 9 December 2020, in the Tararua Room, Horizons Regional Council, 11-15 Victoria Avenue, Palmerston North.

**PRESENT** Crs DB Cotton (Chair), AL Benbow, EM Clarke, SD Ferguson (via audio visual link), EB Gordon (from 9.33am), FJT Gordon, WM Kirton, JM Naylor, NJ Patrick (via audio visual link from 10.40am), WK Te Awe Awe (from 10.16am), and GJ Turkington.

**IN ATTENDANCE** Chief Executive Mr M McCartney  
Committee Secretary Mrs JA Kennedy

**ALSO PRESENT** At various times during the meeting:

Mr R Strong (Group Manager River Management), Dr J Roygard (Group Manager Natural Resources & Partnerships), Mr G Cooper (Manager Land & Partnerships), Mr J Bell (Investigations & Design Manager), Mr G Shirley (Group Manager Information & Regulatory), Ms K McDowell (Senior Communications Advisor), Mrs M Rose (Catchment Data Analyst), Ms E Whale (River Management Analyst), Mrs S Carswell (Coordinator District Advice), Mr J Ryan and Mr T Olsen (New Zealand Farm Environment Trust), Mr D Hamilton (Public Forum), and Mr C Rudd (Deputation).

The Chair welcomed everyone to the meeting.

## APOLOGIES

**COP 20-33** *Moved* **Cotton/Turkington**

*That the Committee receives an apology from Crs B Gordon, Patrick and Te Awe Awe for lateness and an apology from Cr Keedwell.*

**CARRIED**

## SUPPLEMENTARY ITEMS

There were no supplementary items to be considered.

## MEMBERS' CONFLICTS OF INTEREST

There were no conflicts of interest declared.

## CONFIRMATION OF MINUTES

**COP 20-34** *Moved* **Kirton/Benbow**

*That the Committee:*

**confirms** the minutes of the Catchment Operations Committee meeting held on 9 September 2020 as a correct record, and notes that the recommendations were adopted by the Council on 22 September 2020.

**CARRIED**

*Cr B Gordon joined the meeting at 9.33am.*

## PUBLIC FORUMS / DEPUTATIONS / PETITIONS

### Deputation

Mr Charles Rudd thanked the Committee for the opportunity to speak. In referencing page 15 of the 9 December 2020 Catchment Operations agenda, Arawhata Stream and Hokio Drainage Network Study, he noted environmental issues relating to Lake Horowhenua and outlined why he believed the proposed Arawhata Wetland business plan would fail.

### Public Forum

Mr Don Hamilton summarised his concerns and expressed his opposition to gravel extraction in the Kawhatau River. He displayed photographs depicting changes to the river channel over a period of time which he believed was due to gravel extraction activities.

## RIVER AND DRAINAGE ENGINEERING REPORT

*Report No 20-178*

Mr Strong (Group Manager River Management) introduced his report, provided updates on the progress of various river and drainage activities, and showed a series of photographs in support of some of the projects.

*Cr Te Awe Awe joined the meeting at 10.16am.*

**COP 20-35      Moved      Turkington/Clarke**

*That the Committee recommends that Council:*

*a. receives the information contained in Report No. 20-178.*

**CARRIED**

## LOWER MANAWATU SCHEME O&M MANUAL

*Report No 20-179*

This item updated Members on the development of an Operations, Maintenance and Surveillance Manual for the Lower Manawatu Scheme. Mr Strong (Group Manager Operations) commented on the shape, form, structure and benefits of the proposed document.

**COP 20-36      Moved      Turkington/Kirton**

*That the Committee recommends that Council:*

*a. receives the information contained in Report No. 20-179 and Annex.*

**CARRIED**



## LAND MANAGEMENT PROGRESS REPORT

*Report No 20-182*

Dr Roygard (Group Manager Natural Resources & Partnerships) and Mr Grant (Environmental Manager Land) spoke to the item which covered work carried out by the Natural Resources and Partnerships – Land Management team and included the activity areas of Sustainable Land Management Initiative, Regional Land and Coast, and Nursery.

*Cr Patrick joined the meeting via audio visual link at 10.40am.*

Dr Roygard commented on the possible future changes to the Whole Farm Plan programme to meet the government's new freshwater regulations, and commented on modelling of sediment reduction and research of sediment levels in rivers.

**COP 20-37      Moved      B Gordon/Te Awe Awe**

*That the Committee recommends that Council:*

- a. *receives the information contained in Report No. 20-182 and Annex.*

**CARRIED**

## BALLANCE FARM ENVIRONMENTAL AWARDS

*Report No 20-181*

Mr James Ryan (General Manager, New Zealand Farm Environment Trust) spoke to a presentation summarising the purpose, goals, objectives, funding partners, and future opportunities associated with the New Zealand Farm Environment Trust. He said the Trust was best known for running the Ballance Farm Environmental Awards. Mr Terry Olsen (Trustee, New Zealand Farm Environment Trust) thanked Horizons Regional Council for its ongoing support and commented on the calibre of entrants for the Ballance Farm Awards.

**COP 20-38      Moved      Clarke/F Gordon**

*That the Committee recommends that Council:*

- a. *receives the presentation from James Ryan and Terry Olsen.*

**CARRIED**

## RANGITIKEI MANAGEMENT STRATEGY UPDATE

*Report No 20-180*

Mr Strong (Group Manager River Management) updated Members on the development of a management strategy for the Rangitikei River. He showed photos of the challenges related to flood events on the River and outlined the aim and detail associated with the shovel ready project.

**COP 20-39      Moved      Turkington/B Gordon**

*That the Committee recommends that Council:*

- a. *receives the information contained in Report No. 20-180.*

**CARRIED**

The meeting closed at 11.35am.

Confirmed

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CHAIR

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GROUP MANAGER RIVER MANAGEMENT

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GROUP MANAGER NATURAL RESOURCES  
AND PARTNERSHIP

Report No.	21-47
Decision Required	

## RIVER AND DRAINAGE ENGINEERING REPORT

### 1. PURPOSE

- 1.1. The purpose of this item is to report on progress with river and drainage activities for the period December 2020 - March 2021.

### 2. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 21-47.

### 3. FINANCIAL IMPACT

- 3.1. Funding provision for all activities reported on in this item is either included in the River and Drainage General or River and Drainage Schemes Activity sections of the 2018-28 **Long-term Plan (LTP)**; is covered by an approved carry-forward of unexpended budget from the 2019-20 financial year; or additional approval will be specifically sought by way of recommendation in the item.

### 4. SIGNIFICANT BUSINESS RISK IMPACT

- 4.1. There are no significant risks relating to the adoption of the recommendations contained in this report.

### 5. CLIMATE CHANGE IMPACTS

- 5.1. While this item doesn't specifically consider climate change impacts clearly climate change is a significant influence for the activity as a whole, reflected in the fact that the current 30 Year Infrastructure Strategy highlights climate change as a significant issue.

### 6. DISCUSSION

- 6.1. This period is typically a busy one for river management, with scheme meetings coinciding with the summer construction period. (a large part of the financial year's budget is spent over this period). Layer in the LTP update process, the green light to some key infrastructure projects, (Te Puwaha, the Lake Horowhenua Boat Ramp) and the gearing up to deliver the Climate Resilience Projects and not surprisingly it's proved to be particularly busy.
- 6.2. Scheme meetings commenced in mid-March and a number have already been completed with the remainder scheduled for completion by mid-April. Attendances have been on the low side, not surprising given the relatively benign weather conditions (a general correlation).

- 6.3. Progress in delivering the Climate Resilience projects was summarized in a report to the March **Audit, Risk and Investment (A,R&I)** Committee meeting; without duplicating the full content of that report implementation is generally behind the programme outlined in the funding agreement although substantial momentum is building across the Foxton, Palmerston North and Rangitikei projects. As noted to the A,R&I Committee meeting this is not unique to Horizons, part of a wider sector challenge in responding to substantial investment by central government for the first time in 30 years.
- 6.4. The **Lower Manawatū Scheme (LMS)** is intended to receive the biggest slice of Climate Resilience Investment but is lagging behind the other three projects. That's in part attributable to scope – the other three were more fully developed / easily defined as projects at the time the request for shovel ready projects to fund was received. The March workshop, along with some other changes, should see that momentum build through 2021.
- 6.5. Staff have been taking some first steps associated with the **Local Government Act (LGA)** Section 17a review of river management activity. S17a essentially requires Councils to periodically review how services are best delivered (optimal balance between out-sourcing and in-house delivery). An interactive RFT process is currently underway with a view to appointing a consultant later in the month. It is intended to look at both maintenance / construction and technical capability.
- 6.6. Late this month or early next month will see Horizons reach a notable milestone – the completion of the flood protection upgrade work for the Rangitikei Scheme initiated following the 2004 floods. Somewhat in the shadow of the larger investment made in the LMS that has run in parallel, this project has seen flood protection for the communities on either side of the lower reach of the Rangitikei River substantially improved. As noted before to members, the Climate Resilience project dovetails nicely with this project, turning the focus from gross protection standards to resilience and some broader complementary outcomes. Staff are working with the Communications Team to ensure the project completion is suitably celebrated.
- 6.7. Staff have over the period been in discussion with **Horowhenua District Council (HDC)** staff over the condition of the Foxton Boat Ramp, the overall 'fix' and what level of contribution from Horizons would be appropriate (acknowledging the integral issues at that location and the wider community benefit that the boat ramp provides). Horizons is making a relatively small contribution to the construction cost through both the LMS and the regionally rate-funded amenity enhancement fund.
- 6.8. In March I met with the Rangitikei District Mayor and Chief Executive to discuss on-going drainage / flooding issues at Koitiata close to the Turakina River mouth. These issues have been ongoing over many years, related in part to the particular state (at any given time) of the river mouth, issues that climate change induced sea level rise will exacerbate. They are also issues that sit outside the Turakina Scheme.
- 6.9. One of the more unusual non-scheme issues that arose over the period occurred adjacent to the Ohau River in the Kimberley Reserve – the threat the river is posing to a mature Rata tree in the Reserve. Although HDC are providing the bulk of the funding Horizons has agreed to fund the work as an environmental grant and for river management staff to manage the work, arguably a little at the margins of the environmental grant mandate.
- 6.10. From a resourcing perspective a number of new staff have started over the period, in part related to secondments associated with delivering the climate resilience projects but also to cover maternity leave and impending retirements, agility being the order of the day. As noted at the last meeting, substantial investment in plant has occurred over the last 12 months, culminating this month in the delivery of a new truck and transport trailer, replacing very well used pieces of equipment.

## 7. INVESTIGATIONS AND DESIGN

- 7.1. Over this reporting period there has been high demand to provide comment on a number of Plan Changes around the Region, in addition to significant infrastructure developments, such the Otaki to North Levin roading project and the KiwiRail freight hub development.
- 7.2. Investigations and Design Staff have also been working alongside the Science and Innovation Team on the risk register associated with swim spots that are monitored as part of the swim in our region campaign, ensuring Health and Safety risks in particular are systematically managed.

### ARAWHATA STREAM AND HOKIO DRAINAGE NETWORK STUDY

- 7.3. Consultants Tonkin and Taylor have completed their technical work and the associated report has now been finalised. This work will now be integrated with that being undertaken to develop plans for the Arawhata Sediment Trap as part of the Jobs for Nature package of works.
- 7.4. This next stage will develop an optimal design for the Arawhata Drainage Network and a budget for carrying out the necessary works.

### KOPUTAROA SCHEME REVIEW

- 7.5. The review of the Koputaroa Scheme is a significant piece of work as it seeks to understand the multiple issues and drivers that will shape the Scheme's operations and management well into the future. It was intended to present the final document to this meeting but the range / volume of competing demands meant this was not possible.

### OHOU-MANAKAU SCHEME REVIEW

- 7.6. This work is being progressed along with a study of the gravel resource in the Ohau River, as gravel management is an integral part of a sustainable / functional scheme. To date meetings have been held with the Southern Area Team to understand key issues. Staff have begun to meet with local Iwi / hapū to ensure both mātauranga Māori and the interests of Tangata Whenua are reflected in the review.
- 7.7. To support staff with some of the technical work required consultants Stantec have been engaged to carry out hydraulic modelling work. As well as helping to inform the review, this modelling work will also provide valuable information for the Hazard Mapping project, important for a rapidly growing part of the region.

### ASHURST SCHEME REVIEW

- 7.8. This review is looking at how the Ashhurst Scheme needs to operate into the future considering the pressures associated with climate change, as well as the continuing growth of Ashhurst. Consultants have been engaged to build upon a hydraulic model built for the **Palmerston North City Council (PNCC)** to better understand current levels of service and the investment required to increase that level of service.

## 8. CENTRAL AREA

- 8.1. This reporting period saw relatively isolated periodic heavy rainfall events followed by prolonged dry spells throughout January and February. River levels dropped quickly after each rain event however they have remained slightly higher than this time last year.
- 8.2. Over the period scheme staff have met with representatives from several Manawatū Iwi (Rangitāne, Kauwhata and Whakatere) with more regular catch up opportunities being planned going forward. These meetings look to strengthen the relationship between Iwi and the Central Team.
- 8.3. Work associated with raising the height of the Burkes gates to the level of the adjoining stopbanks (part of the Rural Upgrade Project) were completed in January. That required

structural steel plates to be affixed to the top of the existing gates. Reinstatement of fencing and final sign off will be completed within the coming weeks.

- 8.4. Staff have continued to work closely with Horizons Biodiversity Team to respond to the discovery of alligator weed and Sagittaria in the Mangaone Stream and tributaries. Alligator weed, along with root material, was mechanically removed from a site near Highbury Avenue Bridge. Sagittaria was mechanically removed from one location in the Mangaone Stream along with a large stretch of drain alongside Pioneer Highway. Inspections, monitoring and removal efforts for both are ongoing.
- 8.5. Rabbits remain an issue in several locations across the Scheme. A trial using a geogrid material to prevent rabbit damage will be installed in the coming weeks on the right bank of the Mangaone where rabbits have continued to burrow through previous repairs using hard facing material.
- 8.6. Staff have been involved with the Kitchener Park Trust members in relation to a pest plant (Phragmites Karka) that is invasively growing alongside the Makino and into the Park. Staff are committed to working with Trust members on the health of the Park recognising both the value of the remnant forest and the impacts the Scheme has on the Park.
- 8.7. Work has recommenced on the Kara Creek stopbank upgrade, part of the Rural Upgrade Project.

#### **LOWER MANAWATŪ SCHEME**

- 8.8. Works undertaken on the various rivers within the Scheme this period include the following:

#### **MANAWATŪ RIVER**

- 8.9. Survey of the gravel beaches is being undertaken to see what the impacts of gravel build-up / beach development are on the alignment of the Manawatū River between Palmerston North City and Ashhurst and to define a management approach. This matter is intended to be workshopped with Council.
- 8.10. Debris has built up on both the Pohangina Rail Bridge and SH 3 Napier Road Bridge across the Manawatū. Staff have been working with KiwiRail and a common contractor to have this removed before winter and are hoping to have consent from KiwiRail within the coming weeks to undertake these works on their behalf.
- 8.11. Staff are working with PNCC around the timing for burning the debris at The Fitzroy Groynes. PNCC are hoping to hold another Matariki celebration at the site in June which will incorporate the burning of the debris piles.
- 8.12. Staff have continued to monitor, meet and work with PNCC across various projects this reporting period. These included the continuation of the river entranceway works within the Esplanade; appropriate areas for wild flowers; assisting with the Summer Shakespeare event (location / flood hazard advice and additional vegetation maintenance); progressing the river pathway extension upstream of Riverside Drive; willow clearing and channel maintenance advice within tributaries; installation of the Proverb Pathway at the Steps of Tane; assistance and advice around future events within the river corridor.
- 8.13. Staff are continuing to assist PNCC around the development of the Marae Tarata area, previously used as a gravel extraction site near the transfer station on Tip Road in Awapuni.
- 8.14. Staff have also been involved in a workshop run by the Rangitāne and PNCC partnership for Te Motu o Poutoa (ANZAC Park). This is around development of this historical site and potential significant as a cultural and welcoming site for Palmerston North.
- 8.15. The mowing contract for the City that was put out for tender at the end of the last reporting period has been awarded. This is a combined term maintenance contract with the City (that has the larger share of the work) as the Contract Principal. This has some savings (albeit relatively modest) for the LMS.



- 8.16. The removal of the Whirokino Trestle Bridge was completed early this reporting period with no word as yet to the decision from **New Zealand Transport Agency (NZTA)** around whether or not the old Manawatū River Bridge will be removed or left for pedestrian and cyclist use.
- 8.17. The Manawatū River User Advisory Group met on 6 December with good attendance. General items were discussed in addition to highlighting the discovery of alligator weed in the catchment and an update on the drill pipe navigational hazards above Aokautere.

## 9. NORTHERN AREA

### RANGITĪKEI RIVER CONTROL SCHEME

- 9.1. The settled weather conditions over summer have allowed staff to complete a large amount of proactive maintenance work on the river. Even now with the commencement of autumn we are experiencing continued low flows and excellent working conditions.
- 9.2. During this period work commenced on the \$5.2M Rangitīkei Climate Resilience Project which is 75% funded from central government (\$3.9M). Senior Engineering Officer Dougal Ross has been appointed Project Engineer for the project, the river management component of the Te Puwaha / Whanganui Port Revitalisation Project as well as the final stage of the Parewanui stopbank upgrade currently under construction.
- 9.3. When the current stage of the Parewanui work is complete this will see the end for the sixteen year-long project that began in Tangimoana back in 2005. This project is expected to be completed on time and within the original budget brief.
- 9.4. The development of a management strategy for the Rangitīkei River reached another milestone with the recent scheme meeting, the staff outline provided generating constructive discussion around the current situation and the best way forward. Further development / refinement will take place during the year with drop-in sessions for adjoining / impacted landowners planned for late winter / early spring this year.

### Rangitīkei Maintenance Works

- 9.5. The Bulls Bridge River Access Track has been graded and re graveled. What appeared to be a log jam upstream of the Bulls Bridge at the local swimming spot was removed for public safety reasons. The logs turned out to be a mass of native Totara, suggesting bed degradation through this reach. The native logs were removed from the channel and provided to the local Parewahawaha (Ōhinepuhiawe) Marae.
- 9.6. A great deal of time has been spent preparing for the annual aerial spray of the Rangitīkei River under the new resource consent. The spraying activity is likely to commence on 22 March. Notification of the spray was via letters, newspaper, website and signage at public access points.

### RANGITĪKEI STOPBANK UPGRADE & CONSTRUCTION OF CONCRETE FLOODWALL

- 9.7. The construction works will see the upgrade of 1,800m of Rangitīkei River right bank stopbank from Walmac Farm through to Scotts Ferry on Parewanui Road. In addition to this, the contract also includes the construction of a 22m section of concrete floodwall where the stopbank intersects the Kapuni Gas Line. A wall was required over concerns that a larger compacted earth embankment would place too much load on the gas line. The contract awarded for the stopbank work will see 25,000 cubic metres of earth moved.
- 9.8. The completion of the works will finalise the Parewanui stopbank upgrade that commenced 10km upstream in 2006. The length of stopbank will provide 1 % AEP (100 year) flood protection with an allowance for 25 years of forecast river bed aggradation and 600mm freeboard. The contractor carrying out the work is Cashmore Contracting Ltd. As of the end of March 60% of the stopbank work had been completed.

## **RANGITĪKEI RIVER ENHANCEMENT / CLIMATE RESILIENCE PROJECT**

- 9.9. Horizons Regional Council has recently secured \$5.2 million in funding from central government for the Rangitīkei Enhancement / Climate Resilience project.
- 9.10. The key outcomes / criteria for the project align with the recently created strategy and are as follows:
- Making the lower section of the scheme more resilient particularly in the face of climate change;
  - Increased recreational access and use of the river corridor;
  - Enhanced biodiversity / environmental values of the river corridor.
- 9.11. The project will focus on the reach of the Rangitīkei River that is downstream of the Bulls SH1 Bridge and is expected to be completed in 2024. The work components involve returning areas of leased pastoral farmland to vegetation to protect the stopbank in conjunction with widening the active channel and managing river alignment through targeted gravel management and vegetation removal.
- 9.12. In addition to the idea of a mobility corridor, a recreational multi use track / route is proposed from Bulls to Scotts Ferry that includes cultural and historical sites along the way. There is also potential to develop wetlands around some of Horizons larger drains. The proposed plans are conceptual only and will be developed over the next three months with input from key stakeholders such as, landowners, Iwi and public. An information kiosk is planned for the Bulls Community Centre.

## **TE PUWAHA / WHANGANUI PORT REVITALISATION PROJECT**

- 9.13. The Horizons component of this project involves strengthening / addressing deferred maintenance of the moles and other river training infrastructure that keeps the lower reach of the river in its present position, enabling navigable access to the port and protection for parts of the City.
- 9.14. A Hui was held with key members of the community and representatives of Te Mata Puau to discuss the Morgan Street rock stockpile site - the impacts and opportunities consistent with the underlying focus on abundance and mauri that underpin the project. Work to form the stockpile area has begun and staff are expecting to begin an RFT process for rock supply shortly.
- 9.15. A series of workshops is currently underway with Te Mata Puau, a core component of the co-design process intended to give effect to the Tupua Te Kawa values contained in the Te Awa Tupua statute.

## **ENGINEERING ADVICE**

- 9.16. In the Ruapehu District a joint council (Horizons and Ruapehu District Council) information day was held at Ohura on 19 January 2021. Over recent years new landowners have settled in Ohura who are unaware of the flooding risk to the community.

## **10. EASTERN AREA**

### **GENERAL**

- 10.1. Due to changes in health and safety policy and the general shortage of contractors available for river works, new contractors have been engaged to work within the Tararua district. These contractors are usually engaged in works for other regional councils and large infrastructure concerns (i.e. Transpower), so bring additional resourcing and skills / expertise to the Eastern Area.



## **TARARUA DISTRICT RIVER MANAGEMENT SCHEME**

- 10.2. Two large sections of vegetation clearance work have been undertaken in the quarter
- 10.3. The first was completed in the headwaters of the Tiraumea River, at Tiraumea and involved a new contractor utilising large forestry equipment. Over 3 km of willow congestion was removed in a very quick period of time by a single operator. This now expands the possibilities of vegetation clearance methods for the scheme and gives opportunities for large scale remote vegetation clearance to be completed cost-effectively.
- 10.4. The second piece of work involved vegetation clearance on a very congested tributary of the Mangamarama Stream which was causing flooding issues. A specialist forest contractor was engaged to fell and remove the very old trees. This has very effectively opened the channel and has resulted in an even flow through the awa.

## **SOUTH EASTERN SCHEME**

- 10.5. Channel shaping and clearance was started and completed on the Otomarahu near SH 2. Due to channel congestion the stream was becoming overly sinuous and affecting fences and some farm crossings. The landowner wants to fence and plant the stream in collaboration with the Freshwater Team – stabilising the stream will help achieve this as well as improving water quality by decreasing bank erosion. The only challenge will be agreeing to the offsets required of Schedule B of the One Plan - Streams Valued for Flood Control and Drainage.

## **UPPER MANAWATŪ – LOWER MANGAHAO SCHEME**

- 10.6. Commercial extraction of two large gravel beaches close to the confluence of the Manawatū and Mangahao Rivers has been begun, linked to the Te Ahu a Turanga project. A large amount of metal will be removed from the inside bends adjacent to some significant erosion at Elliot's. This will then be shaped to allow a better conveyance of flow and bank protection work will follow later in the year.
- 10.7. Work is still underway to renew the Gravel Extraction consent, which is held by Horizons and is an integral part of the management of the scheme. This is awaiting signatures from all affected parties.

## **11. SOUTHERN AREA**

### **GENERAL**

- 11.1. Staff have been working on preparing presentations for the up and coming scheme meeting which started on 22 March 2021.
- 11.2. Staff continue to be heavily involved with the development and testing of the new Asset Management System.
- 11.3. This period has seen the arrival of the replacement truck and trailer unit which will be used (amongst other things) to transport the new excavator.
- 11.4. Shanay Mercer has joined the Southern River Management Team taking up a fixed term contract as a skilled labourer.

### **MAKERUA DRAINAGE SCHEME**

- 11.5. Boundary pump No. 2 has been pulled for servicing and renewal and the replacement of the impeller to improve operational effectiveness at this site. At the same time a new sleeve has been fitted inside the discharge pipe into the pump chamber as the old pipe was badly rusted out.
- 11.6. Okuku Pumpstation the No. 4 pump is being pulled as part of its routine maintenance cycle for servicing and renewal.

## KOPUTAROA DRAINAGE SCHEME

- 11.7. This period saw the pump at station No. 2 pulled out for servicing and renewal.
- 11.8. While the pump was out being serviced a ramp has been installed in drain M2 so a tractor pump can be used to relief pumping to the No.2 area.
- 11.9. An enhancement project related to a part of the Koputaroa scheme - the Koputaroa No.4 pumpstation catchment – continued over the period. The project involves mapping the current network, identifying all the scheme drains and non-scheme drains that feed to the Koputaroa No. 4 station along with identifying which drains have been fence and planted. At the same time all culverts were mapped and a preliminary assessment done on fish passage.
- 11.10. The project is a collaborative one with both Freshwater and Science Staff, a key component being assessing fish mortality rates associated with station operation. Staff installed a net on the outlet of the pumpstation, in place for approximately 6 months. Staff have been regularly monitoring the site and to date have found no signs of fish mortality.
- 11.11. Staff have also been working on an assessment of the aquatic values within the network. During a week long period in February River Management and Science Staff carried out the following assessments:
- Fish surveys - 6 sites throughout the scheme where 2 fyke nets were set and 4 minnow traps installed per site. This will provide information about the fish species present in the network and give an indication of fish passage.
  - Diurnal fluctuations in temperature and dissolved oxygen will be recorded by oxygen / temperature loggers which will be installed at these four sites for a minimum of 7 days during the fishing period.
  - EDNA testing - samples taken and sent to lab to identify the presence of low abundance or difficult to capture fish species.
  - Water quality monitoring-total of four water quality sites will be sampled once a month for 12 months beginning in January 2021. At the time of each sample a SmarTroll reading will be taken to determine dissolved oxygen levels, temperature, pH and conductivity at each site. Habitat assessments (e.g. percent macrophyte coverage and shade) will also be recorded upon each site visit.
- 11.12. Results so Far:
- EDNA sample results: Three samples were collected throughout the drainage network and provided strong indications for shortfin eels and mosquito fish, and weak indications for inanga and goldfish. Brown mudfish were not detected despite being caught at one of the sites.
  - Shortfin and longfin eels, inanga (primary whitebait species), common bully, and, brown mudfish were present throughout the system. Non-indigenous goldfish and mosquito fish were also present, the latter present in high densities throughout the system. This suggests that the fish friendly flood gate is allowing fish to pass through during high flows, particularly due to the presence of inanga which are poor swimmers compared to eels.
  - Nutrients results were adequate in terms of toxicity.
  - One perched culvert – all others were sufficient (they had water in them and not too much sediment so should not hinder fish passage)
  - Water temperature and depth changes random results likely due to water entering system from Manawatū and gravity feeding pump activating.

- Dissolved Oxygen is extremely low in parts of the system and should be addressed because macrophyte growth is excessive throughout the network.

11.13. Over the next couple of months we will be working with Science Staff to put a report together on the results along with mitigation options. That will be taken back to landowners and tabled to future scheme meetings, as well as presented to Council. We will also be correcting the perched culvert and continuing to monitor the network.

#### **MOUTOA-WHIROKINO DRAINAGE SCHEME**

- 11.14. Ongoing issues with both of the Pleuger pumps at the end of the floodway have kept staff busy and at times both pumps have been out of action and localised flooding in the lower reaches of the floodway. Over this period both pumps have been pulled and sent away for servicing. Damage to the seals of the small pump caused by silt / sand in the water meant that all of the seals needed replacing before the pump could be reinstalled.
- 11.15. The large Pleuger pump issues were much more difficult to diagnose and the parts for replacement more difficult to be supplied. This pump is still out and is waiting on parts with it to be reinstalled during the next period.
- 11.16. Ongoing leakage through the wet gates at the end of the floodway continues to be an issue and is resulting in the scheme doing additional pumping to maintain water levels in the spillway. This period saw staff try and fix sheets of timber onto the outside of the northern end gate to block any holes, however, the extent of existing gaps in the timber gates and deformations of the timber boards made it too difficult to get a good seal.
- 11.17. The age and condition of these gates at this site does require that these gates be replaced in the near future to ensure they efficiently hold water out. There is significant cost involved in the replacement of these gates and with the uncertainty around the future use of the lower spillway land and potential abandonment of this structure it does not make sense to undertake such work at until the review of the floodway use is completed.

#### **12. ENVIRONMENTAL GRANT WORKS AND ENGINEERING ADVICE**

- 12.1. There are a number of Environmental Grant jobs that are on hold while the applicants confirm funding for their 70% contribution to the work.

## 2020 – 2021 Environmental Grant work

<i>Name</i>	<i>River or Stream</i>	<i>Job No.</i>	<i>Type of work</i>	<i>Work status</i>	<i>Estimated work cost (\$)</i>	<i>Value of grant (\$)</i>
Cvitanovech	Makiriki	IN	Geo fabric	Approved	\$14,000	\$4,200
Te Rongaroa Marae	Ongarue	IN1511	Rock Lining, Layering Planting & Earth works	Approved – On Hold Awaiting client funding	\$35,354	\$10,606
Palmer	Okahukura Saddle Rd	IN	Vege clearance	Application being prepared	\$23,250	\$6,975
Blue Mountain Adventure Centre	Piopiotea Stream	IN	Rock Lining	On Hold Awaiting client funding		
Friends of Taihape	Hautapu River	IN	Willow Clearance	On Hold Awaiting client funding	\$7,148	\$2,144
Segura – Tuatahi Property	Pungapunga	IN	Bank Protection, Gravel Mgmt	Cancelled	\$18,885	\$5,665
McKay & Larsen	Kiwitea	IN1516	Bank Protection	Approved	\$3196.66	\$958.99
Randall	Tutaenui	IN	Bank Protection	Application being prepared	\$11,878	\$3,563
Hilton Shane	Tapuata Stream	IN1513	Rock Lining	Complete	\$4600	\$1380

### 13. SIGNIFICANCE

13.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Ramon Strong  
**GROUP MANAGER RIVER MANAGEMENT**

### ANNEXES

There are no attachments to this report.

Report No.	21-48
Information Only - No Decision Required	

## AGRICHEMICAL NO SPRAY REGISTER RISK MANAGEMENT

### 1. PURPOSE

- 1.1. The purpose of this item is to update members on the development of better systems / processes for capturing landowner requests that agrichemicals not be used on / adjacent to their property.

### 2. EXECUTIVE SUMMARY

- 2.1. A significant activity in the river management area is the inspection and maintenance of 1,100 km of drain. Much of that maintenance activity involves the application of herbicides to control weed growth. An issue in 2020 highlighted systemic deficiencies in managing requests from landowners who do not wish to have herbicides used on or adjacent to their property. Progress with improvements to systems / processes are outlined and are being progressively implemented – staff will present a summary of progress at the meeting.
- 2.2. Accommodating such requests create challenges not only in ensuring compliance but also with ensuring that network functionality is not compromised and operating costs are not significantly impacted, important considerations particularly with climate change and a likely rise in the number of no-spray requests.

### 3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 21-48.

### 4. FINANCIAL IMPACT

- 4.1. Financial impacts associated with the required system development and changes to the notification process are relatively small. The main impact is in the area of revised maintenance programmes (alternatives to spraying that retain drain conveyance). The main alternative is more frequent mechanical cleaning – the cost of mechanically cleaning a section of drain is around ten times the cost of spraying. At present levels this is a manageable and relatively small additional cost.
- 4.2. There are other potential alternatives such as careful / judicious use of planting to provide shading and reduce weed growth but staff are mindful of not generating other maintenance issues as a result (e.g. high volumes of branch debris accumulating in the drain, increased access difficulty for mechanical cleaning). Those alternatives clearly have an initial cost but also (with the right consideration) are likely to have lower overall maintenance costs with other potential benefits.
- 4.3. There is no statutory or other mechanism to recover any increased maintenance costs associated with no spray requests - the schemes absorb those costs. While it is feasible to amend targeted rate classifications to reflect such requests, this has the potential to significantly increase administrative costs and is not seen as a viable solution.

## 5. COMMUNITY ENGAGEMENT

- 5.1. Community engagement to date has consisted of a flyer / leaflet delivered via rural post to just over 6500 landowners identifying the intended use of agrichemicals to control weed growth in scheme drains – in essence wanting to identify those landowners not comfortable with that to be added to a database.

## 6. SIGNIFICANT BUSINESS RISK IMPACT

- 6.1. There is no significant business risk associated with this item. The main risk with the current situation is one of reputational damage, a risk significant enough to warrant the focus that is being applied to this issue. The activity also creates a potential liability for Council, particularly where scheme drains serve organic dairy farms.
- 6.2. Complying with those no-spray requests does generate other risks, principally the consequences / impacts (in the absence of viable alternatives to spraying) to other landowners with sections of drain maintained to a lower standard i.e. potential exacerbation of flooding or drainage issues upstream. This is considered to be, in general terms, a relatively low / manageable risk.

## 7. CLIMATE IMPACT STATEMENT

- 7.1. As this item deals with systems / process related to drain spraying, relevance to climate change is minimal. The only notable observations are that warmer temperatures are likely to add to maintenance challenges as they relate to weed growth (and that other aquatic weeds might become established in the Manawatu) and that more frequent severe weather will place added emphasis on the need to retain network conveyance. Less use of herbicide is also likely to require more mechanical cleaning, increasing emissions, albeit to a very small degree.

## 8. BACKGROUND

- 8.1. A significant component of river management operational activity is the maintenance of over 1100km of open drain. Drain dimensions and fall, soil type, catchment characteristics and operating context vary greatly; seasonal and climatic variation add further complexity. Much of the operational activity sits within the Lower Manawatu Floodplain; approximately 900km of drains with over 1000 different rateable properties of which over 70% have a scheme drain running through or alongside their property.
- 8.2. Weed growth and the accumulation of sediment can reduce the effectiveness of the network over time. Methods to address weed growth mainly involve the application of a herbicide; mechanical cleaning is also occasionally used for this purpose but its main use is to address sediment accumulation.
- 8.3. Spraying is carried out using a mix of works staff and contractors; drain spraying capability exists within both our Kairanga and Marton Depots. External contractors used are those that have registered an interest in the work through a supplier panel process that encompasses all river management requirements in regard to casual use of plant and equipment.
- 8.4. The main herbicide used is Glyphosate; Reglone (the active ingredient being diquat) is used increasingly to control submergent weed. Both are currently permitted by **Environmental Protection Agency (EPA)** for use over water. Staff and contractors handling / using agrichemicals are required to be Growsafe certified ([www.growsafe.co.nz](http://www.growsafe.co.nz)).
- 8.5. Submergent weed can be a major challenge to maintaining levels of service at particular times of year as it can clog / overload pump station screens. Application rates used by staff and contractors are judicious for that reason – avoiding a mass of dead weed clogging weed screens – but also to retain overall drain stability (targeting the invert but not the

sides to avoid slumping). Clearly there is also a fundamental imperative with the use of herbicide to ensure that the minimum amount is applied to effectively complete the task.

- 8.6. The exact maintenance regime employed for any given part of the network is largely set by works staff. On average most drains are sprayed at least once a year with mechanical cleaning taking place on average once every 5-10 years. Spraying typically commences around late October and runs through to mid-May depending on weather and growing conditions. Notification of that programme is made at the start of the season by way of notice in local newspapers. Landowners are also contacted when staff or contractors enter property to undertake drain spraying.
- 8.7. There are a number of landowners who for various reasons do not wish to have agrichemicals applied on or adjacent to their property. In those instances staff either (depending on where the section of drain sits in the network) increase the frequency of mechanical cleaning (not without its own impacts) or accept a lower standard of conveyance.
- 8.8. A recent issue within the Manawatu Drainage Scheme has highlighted the manner in which staff manage no-spray requests from landowners – a lack of system / process around capturing those requests and ensuring both staff and contractors adhere to those requests.

## 9. DISCUSSION

- 9.1. Staff will provide an update on progress to date and proposed next steps at that meeting in the form of a presentation.

## 10. SIGNIFICANCE

- 10.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Kyle Russell  
**OPERATIONS MANAGER**

Ramon Strong  
**GROUP MANAGER RIVER MANAGEMENT**

## ANNEXES

There are no attachments for this report.





Report No.	21-49
Information Only - No Decision Required	

## LAND MANAGEMENT PROGRESS REPORT

### 1. PURPOSE

- 1.1. This report covers work carried out by the Natural Resources and Partnership – Land Management team during the period 1 November 2020 to 28 February 2021. It includes the activity areas of **Sustainable Land Management Initiative** (SLUI), Regional Land and Coast, and Nursery.

### 2. EXECUTIVE SUMMARY

- 2.1. This report focusses on the operational targets of the Annual Plan 2020-21 Land Management Activity for SLUI, Regional and Coast, and Nursery budget activity areas. It also provides updates on the contract targets with **Te Uru Rakau** (TUR), formerly Forestry NZ, regarding delivery of the SLUI programme. The annex provides a more detailed update on progress.
- 2.2. This activity report relates to the period 1 November 2020 to 28 February 2021. Spring conditions were better than normal with mild conditions and consistent rainfall through until Christmas. Since then rainfall has been patchy and temperatures have fluctuated. January and early February provided good rainfall but late February has been hot and dry. By early March most areas were reporting they would like some rain, with stream levels low and pastures drying out.
- 2.3. Tree survival and growth has been very good. Poplar and willow poles have had high 90% establishment and very good growth rates. Pine blocks have established well. Riparian plantings have done well as long as weed control has been diligent.

#### SLUI

- 2.4. The SLUI programme has entered into a new four-year funding contract with TUR. The **Hill Country Erosion Fund** (HCEF) contract provides for more than \$6.4 million in funding over four years. This year is year two with the TUR contribution being \$1.388 million, the Horizons' contribution \$3.677 million, and an estimated landowner contribution of \$4.3 million in cash, and \$0.5 million in-kind providing a total estimated budget of \$9.855 million.
- 2.5. The **Whole Farm Plan** (WFP) programme is contracted to complete 22,500 ha of new plans plus 1,000 ha of one-off paddock maps. At present 57 plans covering 24,553 ha are allocated for the year. The interest in farm plans has increased following Central Government's release of consultation documents about freshwater management. In their current form, SLUI plans will not meet the requirements of the farms plans required by Government.
- 2.6. The environmental works programme is contracted to complete 3,065 ha of "on the ground" works. The programme has 3,350 ha of works allocated for the year (down from 4,625 ha at last report) and experience shows not all of this will be delivered within the year. The expanded budget for grants this year is \$2.337 million with allocation levels indicating just over \$3.0 million of Ministry of Primary Industry and Horizons' funding grants. That could mean a small amount of Horizons SLUI reserves will be used during the year.

### Regional and Coast

- 2.7. The Regional and Coast programme is funded via general rate targeting advice and grants for erosion control works on a one-off basis within the Whanganui River Catchment. These works will be largely outside of the SLUI contracted area and in funding partnership with the **Whanganui River Enhancement Trust** (WRET). In total 175 ha of land is targeted for erosion control works. At this point in the year 262 ha of works have been allocated between the combined programmes, with 59 ha of work completed within the Whanganui Catchment Strategy programme and 87 ha in the wider environmental grant programme.
- 2.8. The Industry Partnership programme proposes supporting five initiatives promoting sustainable land use and good management practice on farms within the region. Funding partnerships exist with the New Zealand Farm Environmental Trust and the Poplar and Willow Research Trust. Other programmes are supported as funding and opportunities allow.
- 2.9. The Soil Health programme maintains the Regional State of the Environment soil quality monitoring programme through a regional network of soil health assessments, and a general advice programme around soils and soil health.

### Nurseries

- 2.10. Council operates a number of poplar and willow pole nurseries to produce planting material for erosion control programmes. The aim is to produce and source a total of 30,000 poles per season.
- 2.11. The 2020 winter pole season was completed with final numbers showing 32,600 2.5 to 3.0 m poles distributed to landowners.
- 2.12. The pole production and purchase programme is on track to source between 38,000 and 40,000 poles for winter 2021 planting.

## 3. RECOMMENDATION

That the Committee recommends that Council:

- a. receives the information contained in Report No. 21-49 and Annex.

## 4. FINANCIAL IMPACT

- 4.1. There are no direct financial impacts associated with this report. However, it does update members on a number of financial matters associated with SLUI, Regional and Coast, and Nursery activities.

## 5. COMMUNITY ENGAGEMENT

- 5.1. Consultation was carried out through the 2012-22 **Long-term Plan** (LTP) submission process and the recent Annual Plan process. Te Uru Rakau has a key role in part-funding and overseeing the SLUI section of this activity.

## 6. CLIMATE IMPACT STATEMENT

- 6.1. This item reports on Horizons' activity in relation to our Annual Plan targets and is not considered to have a climate change impact. The land management activity includes a range of planting programmes, the benefits of which have been reported to council in various items.

**7. SIGNIFICANT BUSINESS RISK IMPACT**

- 7.1. There are no significant risks inherent in the adoption of the recommendations contained in this report.

**8. SIGNIFICANCE**

- 8.1. This is not a significant decision according to the Council's Policy on Significance and Engagement.

Grant Cooper  
**LAND & PARTNERSHIPS MANAGER**

Jon Roygard  
**GROUP MANAGER NATURAL RESOURCES & PARTNERSHIPS**

**ANNEXES**

- A Land Management Progress Report





## LAND MANAGEMENT ACTIVITY – 1 NOVEMBER 2020 TO 28 FEBRUARY 2021

### 1. OVERVIEW

- 1.1.1 The purpose of this report is to update Council on the Land Management activity within the **Sustainable Land Use Initiative** (SLUI), Regional and Coast, and Nursery activities carried out under the Annual Plan, and the **Te Uru Rākau** (TUR) (formerly Forestry NZ) contract. The report is presented in five sections:
1. Activity during the last reporting period and upcoming activity;
  2. Report on progress against the Annual Plan, and contract outputs;
  3. SLUI activity by Whole Farm Plan production, work completed life-to-date and year-to-date, and against targets;
  4. Regional and Coast work completed against year-to-date targets; and
  5. Nursery activity.
- 1.1.2 The Land Management programme's primary activity is to reduce hill country erosion in order to increase the resilience of the region to storm events and improve water quality. SLUI, the main component of the programme, has more than 575,000 ha of farm plans across 800 farms and aims to complete approximately 3,100 ha of erosion control works and 22,500 ha of new farm plans in the 2020-21 year.
- 1.1.3 Beyond hill country erosion control, the Land programme also supports industry partnerships including the Ballance Farm Environment Awards and events that enable discussion among industry professionals and farmers about land management activity. The Land Management team also provides support to Horizons' regulatory teams about the implementation of the **National Environmental Standard for Plantation Forestry** (NES-PF) and the implementation of One Plan policies and rules about land disturbance and vegetation clearance. More recently, we have been working on implementation of the new national policy direction for freshwater.
- 1.1.4 Management of poplar and willow nurseries in order to provide the necessary materials for the hill country erosion work is the final component of the Land activity. Upgrades to Horizons' Woodville nursery will continue this year. The programme aims to produce more than 30,000 poplar poles to be planted annually for erosion control in our region.

- 1.1.5 The Annual Plan and contract targets are agreed, with the latest **Ministry of Primary Industries** (MPI) contract signed in August 2019. This commits MPI funding of more than \$6.4 million over four years until 30 June 2023. The overall budget for this programme exceeds \$30 million of funding from Horizons, MPI and landowners.
- 1.1.6 The MPI funding is not evenly spread over each of the four contract years and this year has the lowest funding with MPI contributing \$1.388 million.
- 1.1.7 The Land Management activities of this year's work programme link to the Council's Long-term Plan 2018-28 and to the non-regulatory methods of the One Plan (Chapter 5, Policies 5-1 & 5-5).

## 2 ACTIVITY

### 2.1 ACTIVITY DURING LAST REPORTING PERIOD

- 2.1.1 This activity report relates to the period 1 November 2020 – 28 February 2021. Spring conditions were better than usual with mild conditions and consistent rainfall through until Christmas. Since then, rainfall has been patchy and temperatures have fluctuated. January and early February provided good rainfall but late February has been hot and dry. By early March most areas were reporting they would like some rain, with stream levels low and pastures drying out. Rain in early March was a start but more is needed.
- 2.1.2 Tree survival and growth has been very good. Poplar and willow poles have had high (90%) establishment and very good growth rates. Pine blocks have established well. Riparian plantings have done well as long as weed control has been diligent. Riparian plantings can be difficult to establish through good growth conditions for grasses and weeds.



Item 9

Annex A

Photo 1 - Excellent first year growth - Shinsei poplar pole, Ongarue, Ruapehu District. Photo: Weston Brown

- 2.1.3 Staff visits to landowners at this time of year concentrate on fencing and space planting claims. Staff will also update progress on fencing jobs to be completed by the end of the financial year. This is a good time to focus on claims as staff get a good idea of tree survival, access is good and farmers are starting to think about next year's work programme.
- 2.1.4 Along with visits, staff have been making phone contact with landowners to assess progress on fencing programmes.
- 2.1.5 Staff have assisted four landowners to make applications to the Jobs for Nature programme, including offering letters of support.
- 2.1.6 Staff have been involved in mapping a small number of farms. These farms have been mostly new blocks and extensions to existing farm plans. and for new staff members this has doubled as training in land mapping.
- 2.1.7 Grant McLaren retired in early March after more than 34 years as a Land Management Advisor in the Tararua District. Grant was well respected by his farmer clients in the southern part of the region is a major loss to the team, especially with his experience in poplar and willow poles. Grant was our representative on the Poplar and Willow Trust Technical Advisory Group.

## 2.2 ACTIVITY OVER THE NEXT THREE MONTHS

### 2.2.1 During March to May, staff will:

- Continue to keep in touch with landowners regarding grant work. All programmes are over-allocated but historically they come in closer to budget. Staff maintain funding spreadsheets with various levels of certainty of works being completed (proposed, confirmed/on track, rolled over, cancelled). See Section 4.5 of this report for details;
- Continue to work through claims processing, visiting farms and inspecting works;
- Complete Milestone reporting to TUR for the SLUI programme (March and May);
- Deliver completed farm plans and discuss work programmes for winter 2021, including on-farm inspections;
- Complete an electronic SLUI Newsletter;
- Set a date for a SLUI Advisory Group meeting – proposed for 14 April;
- Carry out form-pruning of poplar poles in trial sites throughout the region, and include new staff as a training opportunity on how to form-prune and give advice to landowners;
- Host a Nursery Managers meeting for Horizons and commercial pole growers;
- Continue to liaise with **Ministry for the Environment** (MfE) over Central Government's Freshwater proposals, specifically on the development of a Freshwater Farm Plan;
- Liaise with other land management staff from regional and unitary authorities through a Special Interest Group meeting in late March;
- Continue monitoring/audit programme for SLUI plans, with the aim of making a report available to TUR;
- Continue the silviculture programme in joint venture forests, with the aim to get as much work completed as possible. This includes work carried over from the Covid-19 interrupted programme last year;
- Complete the Soil Quality monitoring report, presenting the 2015-20 results from the first sampling round of 81 sites. This report will utilise the standard Regional Council technique for State of the Environment (SOE) reporting. The sites are strategically located to be representative of a range of soil types, land uses and physiographic zones across our region, enabling a comprehensive overview of the region's natural resources.



## 3 REPORT ON PROGRESS

### 3.1 ANNUAL PLAN AND CONTRACT TARGETS (2020-21)

3.1.1 The Annual Plan and **Hill Country Erosion Fund** (HCEF) contract targets for 2020-21 are shown in the table below.

Table 1: Annual Plan and HCEF contract targets 2020-21

MEASURE	ANNUAL PLAN	HCEF CONTRACT	TARGET	YTD	PREDICTED RESULT
<b>Sustainable Land Use Initiative</b>					
<b>Erosion reduction works programmes in targeted SLUI catchments (ha)</b>	3,100	3,065	3,100	1,216	On track, 3,350 ha work proposed
<b>Whole Farm Plan properties mapped per year (ha)</b>	20,000	22,500	22,500	4,210	On track more than 24,000 ha allocated
<b>Farm or paddock assessments mapped per year (ha)</b>		1,000	1,000	39	1 mapped and 3 awaiting mapping
<b>Case study completed (number)</b>		1	1	0	One proposed
<b>Feasibility reports (number)</b>		6	6	0	On track
<b>Regional and Coast</b>					
<b>Manage grant programmes to deliver erosion reduction works (ha)</b>	175		175	146	On track, 262 ha work proposed
<b>Support industry initiatives that promote sustainable land use (number)</b>	5		5	started	On track
<b>Operate council nurseries and source additional commercial pole material to deliver poplar and willow poles to control erosion (number of poles)</b>	30,000		30,000	32,600	2.5 – 3.0 m poles from all suppliers

## 4 SLUI ACTIVITY

### 4.1 WHOLE FARM PLAN (WFP) PRODUCTION

4.1.1 WFPs are a tool for bringing new land into the programme and for allocating grants to farms on various land types (priority land). An important part of maintaining the momentum of SLUI is the ability to bring new farms, new land and new work into the programme. This table shows the plans completed in SLUI's **life-to-date** (LTD) and progress with bringing new plans into the programme.

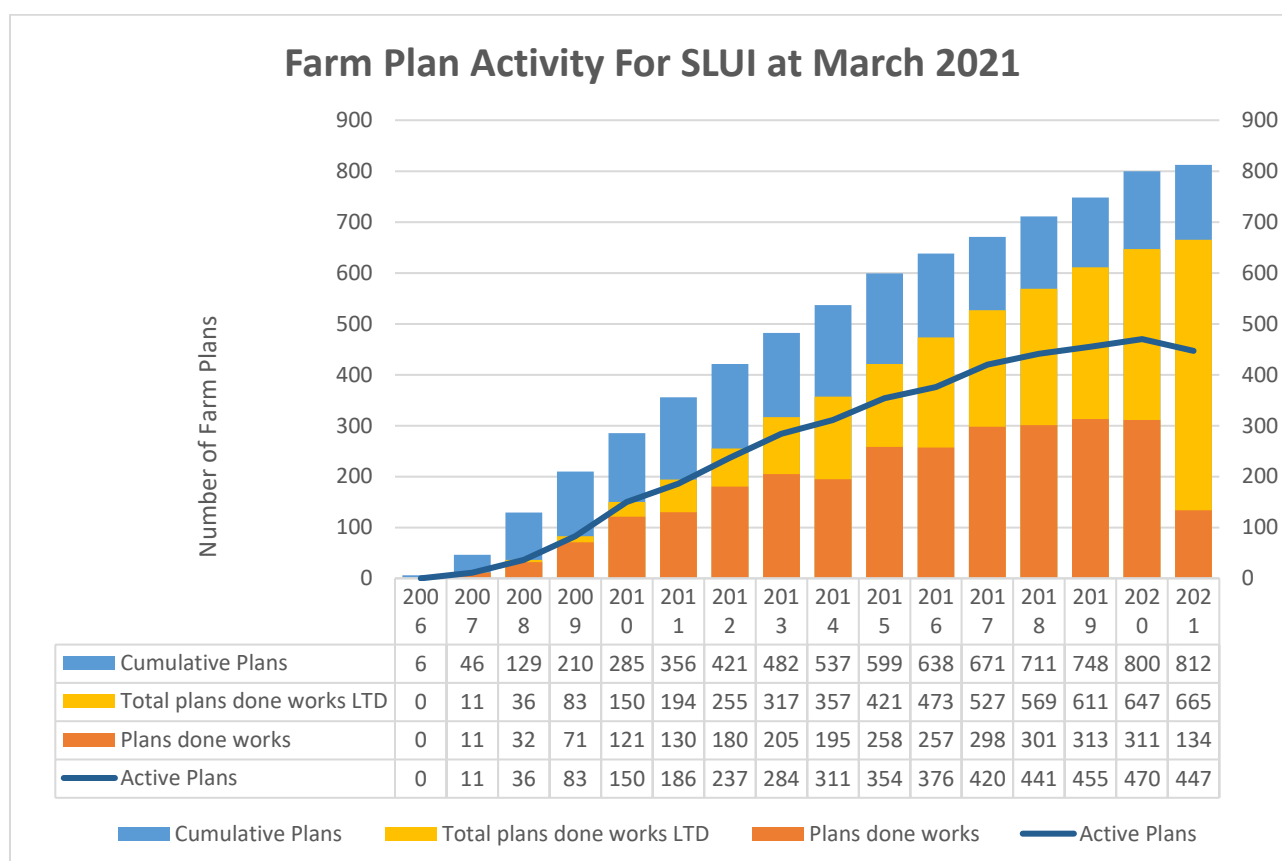
Table 2: WFP production (life-to-date)

No. of Plans	Hectares	Comments
<b>800</b>	575,000	WFPs completed in SLUI to 30 June 2020 – 51 plans
<b>16</b>	4,210	<b>Plans/ha mapped in SLUI in 2020-21 to date</b>
<b>41</b>	20,343	Plus plans/ha on list to be mapped in 2020-21
<b>57</b>	<b>24,553</b>	<b>Equals (16 + 41) plans on list to be mapped in 2020-21 financial year</b>
<b>71</b>	41,072	Information with landowners who are still to finally commit to a plan

- 4.1.2 Of the 51 plans mapped last year, 43 have been delivered to farmers, 28 of whom have agreed to start a works programme.
- 4.1.3 Fifty plans are allocated to the contractor in 2020-21 and seven to Horizons staff. This is more plans than normally would be allocated to staff but new staff need to learn how to prepare a plan in order to explain the process to landowners.
- 4.1.4 The 57 (24,553 ha) plans allocated exceed the Annual Plan target but provide some leeway for plans not to be completed by the end of the financial year.
- 4.1.5 We are awaiting the return of information/documents from a further 71 farms, accounting for 41,072 ha. Those with paperwork outstanding have been prioritised by:
1. Having existing plans;
  2. Being on top priority and high priority land;
  3. Being in the Ōroua Catchment; and
  4. The likelihood of doing works.

## 4.2 WHOLE FARM PLAN ACTIVITY

- 4.2.1 The contract targets focus on the number of plans completed; the activity of individual plans over the life of the programme and on an annual basis provide another measure of SLUI activity. The number of plans active in any one year can and does change.



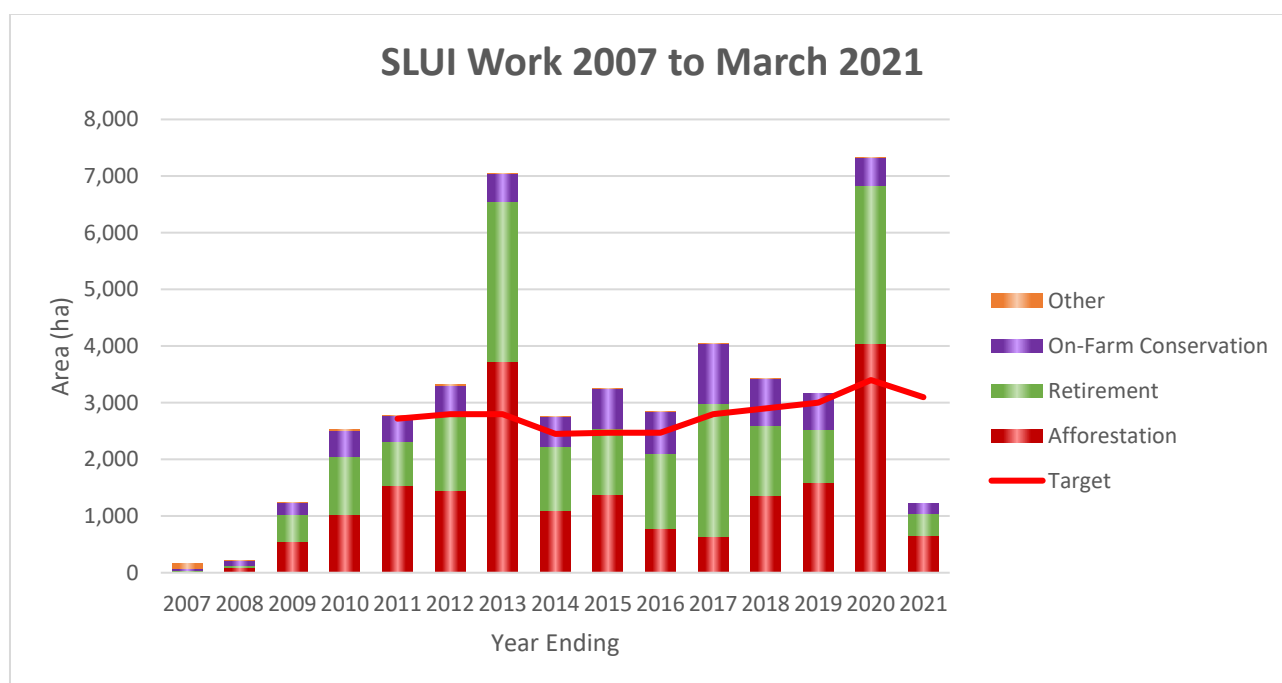
Graph 1: Farm Plan Activity at November 2020. Note the results for 2021 (2020-21) reflect the timing of this report early in the year.

- 4.2.2** Graph 1 looks at the farm plan activity as a whole and in any particular year. It is a “stacked column graph” where the orange, yellow and blue components of the column add up to the total number of plans in SLUI at the end of any given year. For example, in 2019-20 there were 800 plans completed over the life of SLUI, 647 plans had completed some works (81% active), and 311 plans had completed some work in that year (i.e. 39% of plans active in 2019-20).
- 4.2.3** The solid blue line tracks “currently active” farm plans where active is taken to be “has completed works in the last three years”. The number of plans “currently active” plans at the end of 2019-20 was 470 (59%).
- 4.2.4** As expected, the data in Graph 1 shows a trend of more active plans (yellow stacked column) as we bring on 40 - 50 new plans per year. The number of plans active in any given three-year period (blue line) has also grown but the rate of growth has slowed, this reflects more older plans dropping off and becoming less active. Reasons for this include: older plans will have completed priority works and landowners may be less motivated, landowners with more than one plan may be concentrating on one farm at a time, and if ownership changes or circumstances change plan works may be a lower priority. The blue line shows a decrease for 2021. At this stage of the year staff have completed claims on 137 farms, while we had work programmes agreed on 398 farms. The number of active plans will continue to grow until the end of the year.

- 4.2.5 We have undertaken further analysis of the “inactive” plans with the aim of introducing a “maintenance” category. These are plans that:
- haven’t been active over the last three or more years, and
  - have completed works on at least 70% of their Top and High priority pasture land.
- 4.2.6 These plans are considered to have carried out the bulk of their work programme but are not considered completed, rather in a “maintenance” category. Eleven plans have been assessed as being in this category.

## 4.3 SLUI LIFE TO DATE AND OUTCOMES

- 4.3.1 SLUI Life-to-date annual works completed are shown in Graph 2.

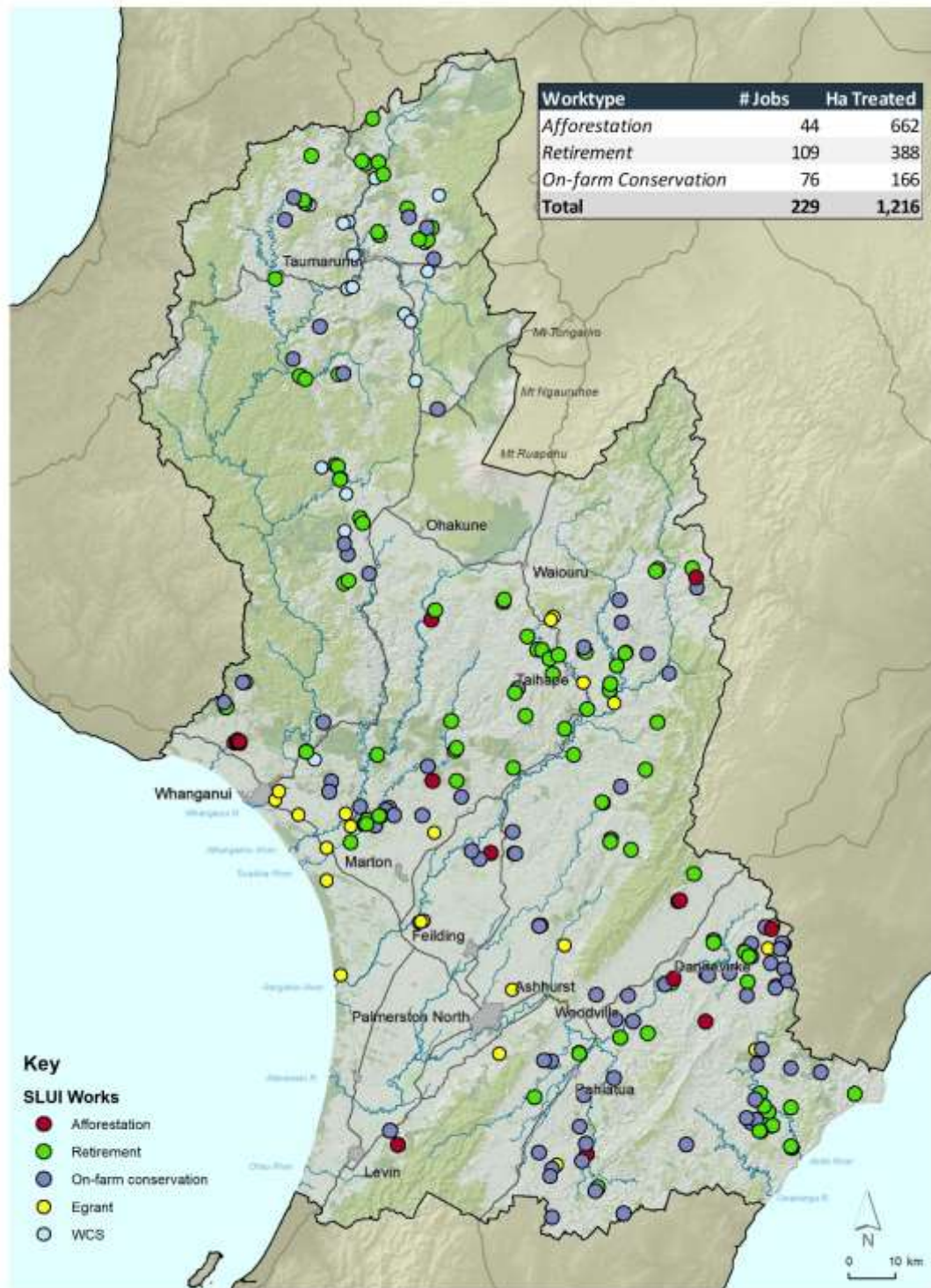


Graph2: SLUI works completed by work type during the life of the programme against annual contract targets (red line). NB 2020 is a partial year at this stage. See Graph 3 for the change in job status through the year.

- 4.3.2 Each year since 2010 the contract target for hectares of works completed has been exceeded.
- 4.3.3 The most work was completed last year with just over 7,000 ha of work. Afforestation and retirement made up the bulk of the work.
- 4.3.4 The notable years for afforestation were 2013, when there was a high level of uptake for the Afforestation Grant Scheme, and 2020, when there was a large amount of carbon and carbon/timber forestry established.
- 4.3.5 Retirement programmes also peaked in 2013 and 2020. In 2013 this was due to a large amount of jointly funded Ngā Whenua Rāhui work completed in the Whanganui

and Whangaehu catchments. In 2020 a large contribution was due to one major retirement project in the upper Rangitikei Catchment with 1,315 ha completed, which was 50% of the total retirement work.

- 4.3.6 On-farm conservation (purple) is predominantly space planting and gully planting with poplar and willow poles but also includes structures and earthworks. It is consistently about 500-1,000 ha per year and the limitation is largely pole supply.
- 4.3.7 At the current rate of progress, analysis suggests it will take 112 years to carry out works on all the top priority land that is currently in pasture. This calculation is based on completing approximately 3,000 ha of work per year with 1,000 ha on top priority land, about 500 ha of which is in pasture. The other 500 ha is retirement of existing tree-covered land. All the high priority land that is currently in pasture is estimated to take 252 years of works.
- 4.3.8 Outcomes for SLUI have been modelled by **Manaaki Whenua Landcare Research** (MWLCR) and this work was reported for Horizons in the 2019 **State of Environment Report (SOE)** at page 19.  
<https://www.horizons.govt.nz/CMSPages/GetFile.aspx?guid=a77bc2a4-381f-4660-8ef9-4e2486ac7165>
- 4.3.9 The MWLCR modelling reports:
- SLUI works to June 2018 are estimated to have reduced sediment load in rivers by 835,000 tonnes (6%) with the greatest reductions (up to 19%) in the Kai Iwi, East Coast and Lower Rangitikei areas.
  - With ongoing implementation of SLUI works at approximately the current pace, the average annual sediment load could be decreased by 27 percent and water clarity improved by 29 percent by 2043.
  - However, climate change is likely to alter annual rainfall patterns and increase hill slope erosion and river sedimentation, particularly in the northern and western areas of the region. Modelling suggests that this could result in a potential change to the predicted reduction in sediment load from 27% by 2043 to just 19%, 12% or 5% under minor, moderate and major climate change scenarios, with the amounts varying across the region.
  - Modelling also shows that SLUI, New Zealand's largest hill country erosion programme, may not offset the increases in sediment load from climate change in the longer term, as sediment loads in rivers could increase by between 40% and 180% by 2090. This suggests the long-term effectiveness of work already undertaken through SLUI is expected to reduce under climate change, as heavier rainfall events increase sediment loading in the region's rivers.



Map 1: Location of all grant works completed this financial year (SLUI and Regional and Coast).



## 4.4 YEAR-TO-DATE ACHIEVEMENTS

4.4.1 The table below shows the types of works completed and claimed this financial year.

Table 3: Works year-to-date (completed and claimed, by grant amount and land priority)

Worktype	Claims	Farms	Grant \$	Hectares By Land Type				
				Not Erodible (ha)	Erodible (ha)	High Priority (ha)	Top Priority (ha)	Total Ha
Afforestation	44	27	510,762	52.7	280.1	147.0	182.7	662.5
Retirement	44	39	222,466	12.0	75.0	35.2	43.0	165.2
Riparian Retirement	51	41	259,084	25.9	60.8	20.3	96.4	203.4
Wetland Retirement	13	13	58,243	7.8	10.5	-	0.8	19.1
Managed Retirement	1	1	3,168	0.0	0.4	-	-	0.4
Pole Planting	76	76	126,229	3.7	101.0	31.2	29.8	165.7
<b>Total</b>	<b>229</b>	<b>137</b>	<b>1,179,952</b>	<b>102.1</b>	<b>527.8</b>	<b>233.7</b>	<b>352.7</b>	<b>1,216.2</b>

4.4.2 The 1,216 ha of works completed and claimed is 39% of the Annual Plan full-year target of 3,100 ha. At the March report last year 862 ha (25%) of work had been completed.

4.4.3 Hectares completed by land type shows 586.4 ha (48%) of work claimed to date this financial year is on High priority and Top priority land. The bulk of this work has been completed on afforestation projects.

4.4.4 There have been 229 claims completed on 137 farms with 260–470 still to be completed (260 refers to the remaining on-track jobs and 470 claims would be completed if all the proposed jobs were also completed).

## 4.5 FORECAST VS ACTUAL (TARGETS VS ACTUAL BY WORK TYPE)

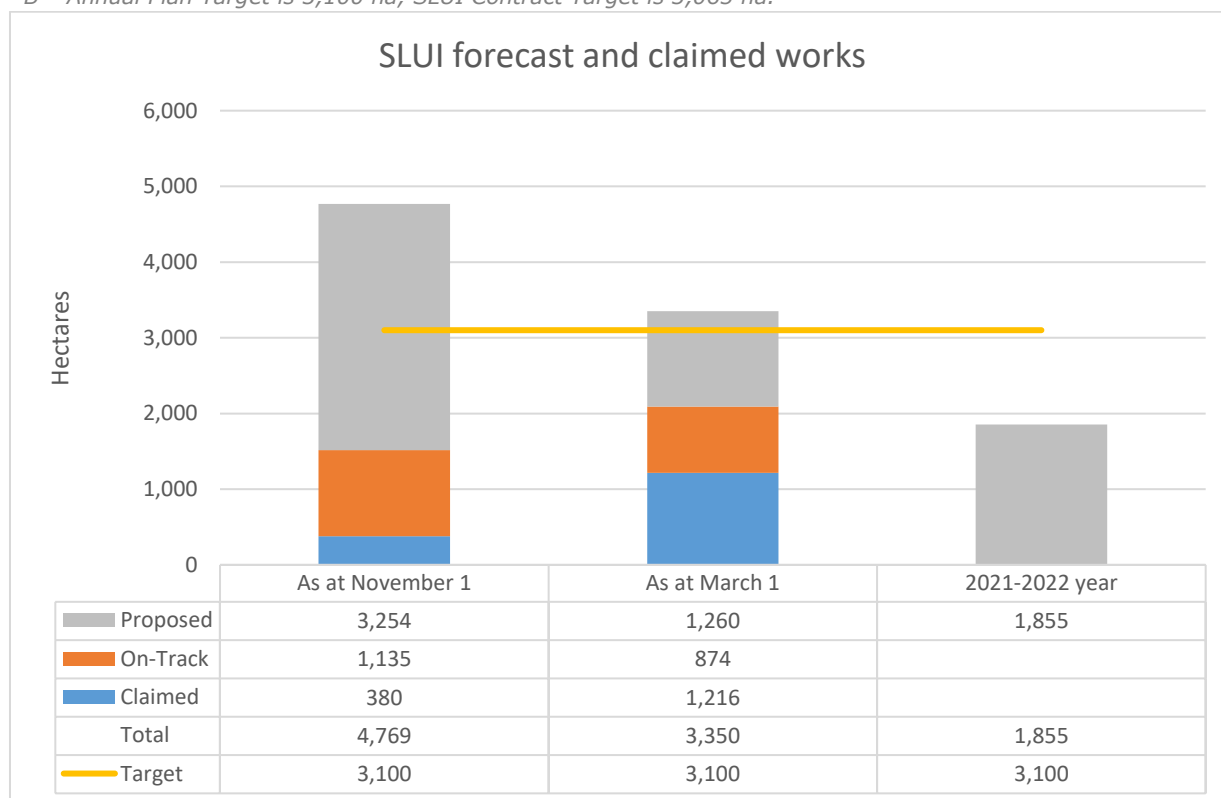
4.5.1 Table 4 shows the forecast figures against target for 2020-21. The work programme is fluid and changes throughout the year. Some changes are due to postponements or cancellations and some are due to new plans coming on-stream and bringing in new work programmes. The dollars shown in the table are the grant cost. It is unclear yet how Central Government's Freshwater rules governing river fencing will affect the work programme but it is likely more riparian fencing will be completed and requests for funding will increase, although this is already over-allocated. Further ahead, farmers may choose to redirect funding from afforestation or other works to riparian protection, and as a result the programme may struggle to meet some targets.

Table 4: Work this financial year (contract vs forecast vs actual by hectares and dollars).

Work Type	Hectares				Dollars \$ x 1000			
	Contract Target	Forecast	Actual	Actual vs Contract	Contract Target	Forecast	Actual	Actual vs Contract
<b>Afforestation</b>	1,250	1,475	663	-587	939	1,056	511	-428
<b>Retirement</b>	600	714	165	-435	261	819	222	-39
<b>Riparian Retirement <sup>*A</sup></b>	220	573	222	+2	357	1,672	317	-40
<b>Managed Retirement</b>	85	17	0.4	-84	25	27	3	-22
<b>Space Planting &amp; Gully Planting</b>	900	665	166	-734	398	315	126	-272
<b>Structures/Earthworks</b>	10	1	0	-10	60	7	0	-60
<b>Other (inc. blank)</b>	-	35	0	-	63	25	0	-63
<b>Total <sup>*B</sup></b>	<b>3,065</b>	<b>3,480</b>	<b>1216.4</b>	<b>-1,848</b>	<b>2,102</b>	<b>3,921</b>	<b>1,179</b>	<b>-923</b>

<sup>\*A</sup> – includes wetland retirement

<sup>\*B</sup> – Annual Plan Target is 3,100 ha, SLUI Contract Target is 3,065 ha.



Graph 3: Changes to SLUI job status through the year and the works allocated for the next financial year. "On-track" means the Land Management Advisor has re-confirmed the work with the landowner or is confident the work will proceed. Graph 3 updates Table 4 with more recent forecasts.



- 4.5.2 Table 4 compares contract target (ha and \$) to forecast and actual. Individual work targets can vary widely, i.e. in reality the contract is to deliver 3,065 ha and the mix of work types will change from year to year. Graph 3 tracks the changes in amount of work and the certainty of that work being completed over the course of the year and into next financial year, as understood through conversations with landowners.
- 4.5.3 Graph 3 shows that the jobs allocated at this stage of the year are reasonably evenly split between proposed 38%, on-track 26% and claimed 36%. In November last year the split was proposed 68%, on track 24% and claimed 8%.
- 4.5.4 The November report forecast 4,769 ha of work to be completed, which has dropped to approximately 3,350 ha in this report. Since November, 34 jobs (333 ha) of work have been cancelled, and 40 jobs (913 ha) of work rolled over to 2021-22. The bulk of the rolled-over work is afforestation, much of which was postponed because landowners were concerned about dry conditions last winter.
- 4.5.5 In past years at this time of the year we have analysed works still to be claimed (proposed and on-track) and estimate that approximately 70% of these outstanding jobs will be completed. As staff contact landowners, we believe there is more certainty around the on track jobs this year and suggest that 60-70% of the proposed jobs may be completed. If that is the case we can expect to complete approximately 3,000-3,350 ha of work at a grant cost of about \$3.0m. The priority for staff will be to encourage landowners to complete works, giving us the most hectares to go toward the end of year targets.

## 4.6 JOINT VENTURE FORESTRY OPERATIONS

- 4.6.1 Horizons has interests in 10 **joint venture** (JV) forests (under a registered Forestry Right) with a net stocked area of 1,387 hectares. A report on these forests was provided to Council in April 2017 and another report is planned for later this financial year. Work and expenditure in the forests includes rates and insurance payments, maintenance of tracks and fences, pest control, audits and inspections, monitoring and measurements, arranging silviculture, valuations for external audit, maintaining Emission Trading Scheme registration and reporting, and liaising with landowners.
- 4.6.2 Work is underway on this year's silviculture programme. The contractor has completed carry-over work from last year's fire season and Covid-19 interruptions. This year's programme is on schedule and will be about 50% complete by the time the contractor has to move into the planting season.
- 4.6.3 A project to review the value of the forests for the timber harvest and carbon has been progressed to the draft report phase. The project has explored current and projected future value, options to sell some or all of the assets and has also completed a review of accountancy practices for the forests. The reports are on track to be completed in the next reporting period and to be reported to Council in a public excluded item as a part of the next Catchment Operations meeting.

## 5 REGIONAL AND COAST ACTIVITY

### 5.1 PROGRESS ON ENVIRONMENTAL GRANT AND ADVICE

- 5.1.1 Environmental Grant funding is in place to support landowners to undertake works that will reduce erosion and protect the environment. This funding is targeted slightly differently between the **Regional Land and Coast** (RL&C) environment grant and the **Whanganui Catchment Strategy** (WCS) grant. Under the WCS, support from **Whanganui River Environmental Trust** (WRET) enables a greater variety of work to be funded and at higher grant rates in some areas.

Table 5: Work area and budget expenditure for the year to date

Grant Type	WORK AREA (ha)				BUDGET (\$)			
	AP Target	Allocated	Complete	AP % Complete	AP Budget	Allocated	Complete	AP % Complete
WCS	75	121	87	116	113,000* <sup>1</sup>	136,815	41,631	37
RL&C	100	141	59	59	80,000	134,419	55,266	69
<b>Total</b>	<b>175</b>	<b>262</b>	<b>146</b>	<b>84</b>	<b>193,000</b>	<b>271,234</b>	<b>96,897</b>	<b>50</b>

Note \*1 - this is \$50,000 Horizons and \$63,000 WRET

- 5.1.2 WRET allocation of \$63,000 toward grant costs is confirmed.
- 5.1.3 A total of 150 projects have been allocated to date with an estimated work area of 262 ha.
- 5.1.4 Space planting accounts for 66 of the 150 projects and riparian retirement 39.
- 5.1.5 The bulk of the work completed to date is space planting (46 ha) followed by retirement (37 ha) and riparian retirement (36 ha).
- 5.1.6 Both areas are over-allocated and some jobs may have to be transferred to the 2021-22 year, SLUI and/or additional WRET funding. Thirty-one jobs are already approved for 2021-22.

### 5.2 INDUSTRY PARTNERSHIPS

#### **BALLANCE FARM ENVIRONMENT AWARDS (BFEA)**

- 5.2.1 The Ballance Farm Environment Awards National Showcase event is being held at Te Papa on 25 March.

#### **POPLAR AND WILLOW RESEARCH TRUST (PWRT)**

- 5.2.2 The PWRT held its AGM on 26 November. Bruce Wills stepped down as Chair of the Trust and Iain Maxwell, a group manager from Hawkes Bay Regional Council, has been appointed as the new Chair.

- 5.2.3 PWRT has been successful in its funding bid under the One Billion Trees programme. This funding will enable the Trust to run wider extension and support to Regional Councils and landowners.
- 5.2.4 Regional Councils and the PWRT have continued to fund a project investigating the establishment of poplar sawfly near Dunedin. This project was cut short due to Covid-19 last autumn and an extension of funding has been approved from the Sustainable Food and Fibre Fund. The extension has allowed collection of more life-cycle observations of the poplar sawfly during the 2020-21 summer. The project will be wound up this winter.

### **BEEF AND LAMB NEW ZEALAND (BLNZ)**

- 5.2.5 Staff continue to attend BLNZ workshops covering farming and the **Emissions Trading Scheme** (ETS). BLNZ has engaged Forest 360 to present to farmers about how the ETS may affect them and Horizons staff have been present to clarify funding available through our grant programmes. The other priority for BLNZ has been to run workshops outlining Central Government's Freshwater rules. Staff have been present and have answered farmers' questions.

### **OTHER**

- 5.2.6 Staff have attended and presented at a number of events including: Various farm discussion groups and farmer visits. Central Government's Freshwater rules have dominated the discussion, especially intensive winter grazing and the low-slope map for river fencing. Staff have encouraged farmers to submit questions to the **Ministry for the Environment** (MfE) website about the low-slope areas;

Staff are involved in Horizons' response to the Freshwater rules, helping a proposed consenting process for intensive winter grazing in this report and with cross-council input into Freshwater Farm Plan design;

We have a number of new staff and informal training and mentoring is ongoing. This ranges from support on-farm to carry out claims, formal land inventory and land-use capability mapping, and an internal training session on form-pruning of poplar poles through the Horizons pole trial sites. This training has included support from Trevor Jones of PWRT helping staff measure tree growth rates. Form-pruning is a practice that provides benefits of much more leader dominant and compact trees on hillsides, as can be seen in the photograph below.



Photo 2 - Pruned/thinned rising nine-year-old Kawa and Toa poplar poles – Ngapuke, Ruapehu District. Photo: Weston Brown

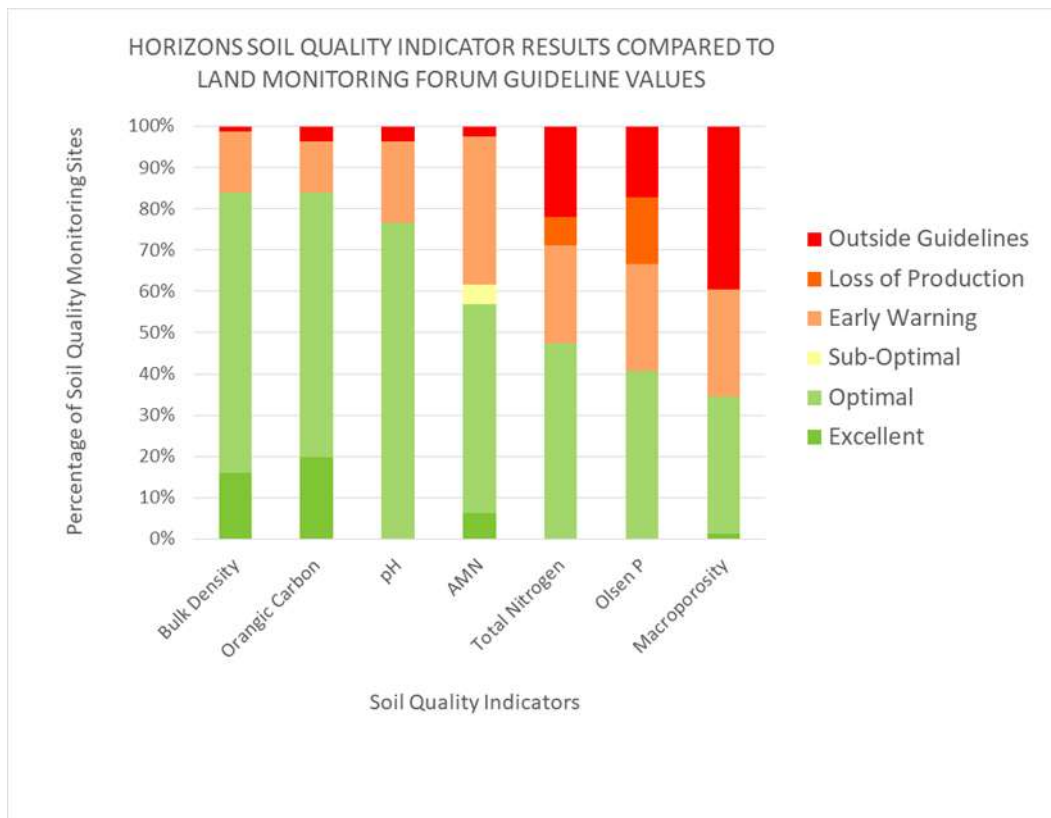
## 5.3 SOIL HEALTH

- 5.3.1 **Soil Quality Monitoring** (SQM) continued during spring and summer with 81 sites established since 2015. The aim is to settle at about 100 sites, which will adequately represent all the main soil and land-use types. Sixteen of the sites have SLUI Whole Farm Plans and five have a Soil Health Plans.
- 5.3.2 Sites within the following physiographic zones:
- 6 in sand country (7%)
  - 30 on low-lying plains (37%)
  - 29 on high terraces (36%)
  - 7 in hill country (9%)
  - 9 in pumice country (11%)
- 5.3.3 This is the sixth year of SQM and for the first time six earlier sites have been re-measured. Detailed soil chemistry and physics results will be reported for comparison once they are available. In the meantime, a Visual Soil Assessment comparison can be done for the re-measured sites. On average, the results indicate the Kairanga and Tokomaru silt loam sites had improved their soil structure, colour and worm count in spring 2021 compared with spring 2015. This appears to relate to a more favorable preceding winter-spring, as well as a longer interval since the sites had been cropped.

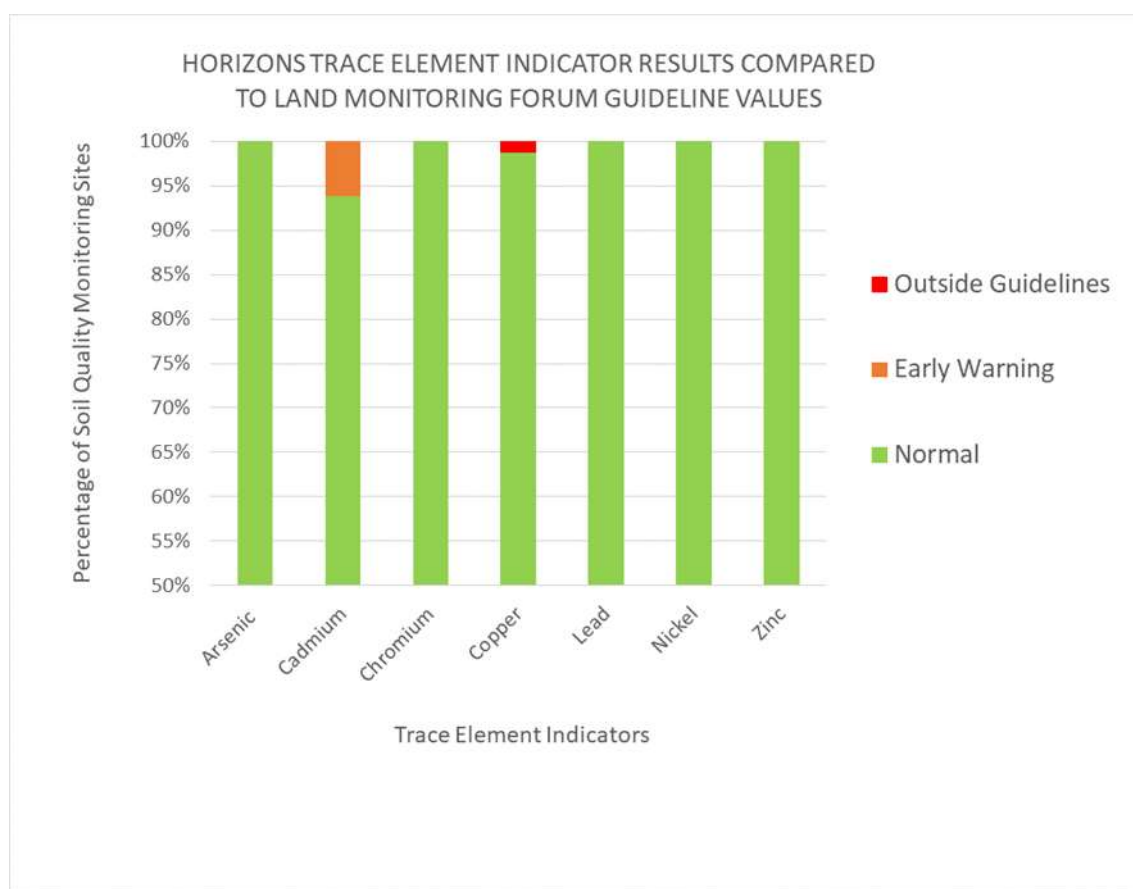
5.3.4 The overall results from the soil quality programme show:

- 35 of the 81 sites are outside guidelines for 1 indicator (43%);
- 13 are outside guidelines for 2 indicators (16%);
- 1 is outside guidelines for 3 indicators (1%);
- 1 is outside guidelines for 4 indicators (1%) (see graph 4);
- In total, 50 of 81 sites (62%) are outside guidelines for at least one indicator; and
- 1 is outside soil quality guidelines for trace elements (kiwifruit for copper);
- Five sites (6%) have been picked up as early warning (Level 1) for cadmium (see graph 5). The Level 1 relates to the NZ Cadmium Management Strategy (2019).

Macroporosity is the indicator most commonly outside guidelines (low 39%), followed by excess total nitrogen (22%) and excess available phosphate (Olsen P) (17%).



Graph 4: Percentage of SQM sites showing the range of good (green) to non-compliant (red) results as measured against agreed land monitoring guidelines for New Zealand.



Graph 5: Trace element results from SQM sites showing the range of good (green) to non-compliant (red) results. One site was non-compliant for copper and five returned early warnings for cadmium.

- 5.3.5 Soil Quality Monitoring result letters for sites 67-81, which were visited between November 2019 and June 2020, have been compiled, reviewed and issued to landowners. Long waiting times for the soil chemistry and physics results have delayed this process. The letters outline the results from the soil chemistry and physics laboratory results and VSA analysis whilst also interpreting the results and placing them within the regional context to inform landowners of their soil resources.

## 5.4 WHANGANUI CATCHMENT STRATEGY (WCS) AND WHANGANUI RIVER ENVIRONMENTAL TRUST (WRET)

- 5.4.1 Work programmes in the upper Whanganui-Ruapehu area are ahead of target as grant works have already exceeded the Annual Plan target for hectares of work. There are a further 46 claims to be completed for a variety of work types.
- 5.4.2 Staff have continued to liaise with WRET regarding funding of the works programme. WRET have not held an AGM but have indicated our funding is approved.



## 5.5 SUPPORT FOR CONSENTS AND COMPLIANCE

5.5.1 Advice to landowners regarding the need for consents or compliance for a number of activities which may be permitted or require consent, including:

- 2 on vegetation clearance, including one where the landowner wanted to clear native trees;
- 2 on tracking and cultivation;
- 1 proposed wetland enhancement (no consent required);
- 1 drain maintenance (no consent required); and
- 1 third party concern regarding land stability through forest harvesting.

## 6 NURSERY

### 6.1 WORK PROGRAMME TO DATE

6.1.1 WRET-supported nurseries in the Ruapehu District:

- All five northern nurseries were pruned and thinned by contractors in mid-January;
- The Ohura nursery was decommissioned. Old stools have been removed and the site re-leveled. It will be re-grassed, fences repaired and returned to Ruapehu District Council by next financial year. This site required considerable work to upgrade, needed a full replant and being a hill site it was difficult to manage. The decision was made to consolidate to sites closer to town and with better access.

6.1.2 Woodville:

- Contractors have been working at Woodville since November, thinning last year's harvested poles. The main part of the tending works are complete and the crew is not due to return until winter harvest.
- Three spray programmes have been completed for rust and aphids. Low levels of aphids have been present.
- Rows of all varieties in areas of clay soils have been showing signs of stress due to dry conditions since February.
- Provision of additional facilities for native plant storage for the freshwater programme has been scoped.
- Capex – irrigation. An irrigation company has made a site visit to provide estimates and updated pricing for proposed irrigation system. Contractors have also visited the site to ground-truth and estimate costs for constructing water storage.



Photo 3 – Members of the SLUI Advisory Group visited the Woodville nursery in November 2020. Photo: Sara Mathieson.

#### 6.1.3 Bulls:

- Contractors have completed pruning and spraying programmes.
- With more willows being established at Bulls, more spraying for aphids is required and we now complete two sprays rather than one.
- Burning of slash piles has not been completed due to a restricted fire season. If this continues, we may have to apply for a permit and burn as it is in the area earmarked for this year's planting. Slash and waste needs to be dealt with otherwise we run the risk of building up sites harbouring diseases such as silverleaf.
- An area next to a large eucalyptus-poplar shelterbelt has the potential to be replanted next year, but this is on hold until we are able to get a contractor to fell the shelterbelt.
- Thorn apple weed has appeared in cultivated areas, including some newly planted stool beds. The biodiversity team have provided spray recommendations.