ORARI-TEMUKA-OPIHI-PAREORA WATER ZONE MANAGEMENT COMMITTEE

on

Monday 4 July 2016

11am - Workshop

1pm – Formal Meeting

Mackenzie District Council
Main Street
Fairlie

ORARI-OPIHI-PAREORA WATER ZONE MANAGEMENT COMMITTEE

Notice is hereby given that an Orari-Temuka-Opihi-Pareora Water Zone Management Committee workshop will be held on Monday 4 July 2016 at 11am followed by a meeting at 1pm in the Council Chamber, Mackenzie District Council, Main Street, Fairlie.

Committee Members:

John Talbot (Chairman), David Caygill, Kylee Galbraith, John Henry, Mandy Home, Ivon Hurst, Richard Lyon, Hamish McFarlane, James Pearse, Ad Sintenie, Mark Webb and Evan Williams

ORARI-TEMUKA-OPIHI-PAREORA WATER ZONE MANAGEMENT COMMITTEE

4 JULY 2016

		WORKSHOP
		Reflect on engagement at community meetings
		Discussion on scenarios for the Healthy Catchments Project
		LUNCH
		MEETING
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4	**1**	**Confirmation of Minutes**
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ORARI-TEMUKA-OPIHI-PAREORA WATER ZONE MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 4

Prepared by Joanne Brownie
Secretary

Confirmation of Minutes – Committee Meeting 13 June 2016

Minutes of the June Committee meeting.

Recommendation

That the minutes of the Committee meeting held on 13 June 2016, be confirmed as a true and correct record.

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

MINUTES OF AN ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE MEETING HELD IN THE CONFERENCE ROOM, BENVENUE HOTEL, EVANS STREET, TIMARU ON MONDAY 13 JUNE 2016 AT 1PM

PRESENT John Talbot (Chairperson), David Caygill, John Henry, Mandy Home (from 1.50pm), Ivon Hurst, Richard Lyon, Hamish McFarlane, James Pearse, Ad Sintenie and Mark Webb

APOLOGIES Kylee Galbraith and Evan Williams

IN ATTENDANCE Olivia Smith (OTOP facilitator), Rhys Taylor (Community Engagement Coordinator), Nic Newman (ECan facilitator), Raymond Ford (Principal Planner), Michael Hide (Zone Implementation Team Manager), Shirley Hayward (Senior Water Quality Scientist), Alexia Foster-Bohm (Planner), Barbara Nicholas (CWMS Team Leader), Georgina Patrick (Consent Planner), Janet Gregory (NZ Landcare Trust), Keitha Laming (Opuha Water Ltd), John Benn (Department of Conservation), Koren Allpress (Timaru Herald), Al Williams (Courier)(part meeting), Prue Thirkettle (public), Frank Scarf (public), Tom Ward (public), Phil Driver (public)

The meeting began with a karakia from John Henry.

1 REGISTER OF INTERESTS

David Caygill alerted the Committee to his appointment as chairman of the technical advisory group on water nutrient and allocation.

2 CONFIRMATION OF MINUTES

Proposed John Henry
Seconded David Caygill

"That the minutes of the Committee meeting held on 2 May 2016 be confirmed as a true and correct record, subject to clarification that in regard to clause 4 – Emerging Contaminants, Hamish McFarlane's recorded comment that 'fertiliser companies are also doing work at a high level…' was to point out that it is not necessarily the zone committee's role to take responsibility for this issue."

MOTION CARRIED

3 CATCHMENT GROUPS DISCUSSION

The Facilitator led the discussion on how catchment groups are to be involved in the Healthy Catchments Project, the role of catchment groups in the LandCare project and the approach in the coming year. The role of the catchment groups has been refreshed, as per the paper from LandCare included in the agenda.

Janet Gregory has worked with catchment group facilitators to identify key issues, where each catchment group is at and where they want to head. Actions being planned include looking at what programmes can be put in place before the next

irrigation season commences and raising the profile of catchment groups, by for example promoting the good projects farmers are currently doing. Further detail of what exactly the catchment groups are doing can be provided to the OTOP committee if the committee wants to see this level of detail, eg the summary table of what the catchment groups are involved in.

A revised system is in place for feedback and coordination of actions where appropriate, especially where there are common topics and issues such as water quality and quantity, biodiversity and Good Management Practice. There are already some mechanisms in place – minutes of catchment groups are collated and each group has an association through its OTOP representative on the group.

It is also important for OTOP to provide feedback to the catchment groups and it was suggested that OTOP could re-instate its catchment group working group. Reporting mechanisms can be reviewed from time to time.

Proposed Mark Webb
Seconded David Caygill

"That the Committee re-form the OTOP catchment group working group."

MOTION CARRIED

4 UPDATE ON WASHDYKE ACTIVITIES

ECan is helping to coordinate an interagency taskforce group to look at issues associated with the Washdyke Lagoon to improve both short term and long term outcomes for the lagoon and its catchment. The project could mesh with the Healthy Catchments Project. The group includes representatives from the Timaru District Council, ECan, OTOP and the Arowhenua runanga. It was suggested that a representative of the Department of Conservation also be invited to be part of the group. The group will be kept relatively small and be action focussed (rather than policy focussed).

5 COMPLIANCE:DRAFT MONITORING AND ENFORCEMENT GUIDELINE

The Committee considered the draft Consent Monitoring and Enforcement Guideline for the 2016/17 year. Feedback from the OTOP Committee will help guide ECan as to where ECan's resources are best allocated to have greatest effect on compliance.

The Committee was reminded of the comments it made when considering the annual compliance monitoring report at the last meeting ie lack of enforcement and timely follow ups, inconsistency of monitoring, the number of consents where it was unable to determine compliance, and ECan not proactively identifying issues.

Mandy Home joined the meeting.

The Committee made the following comments -

- Agree with the focus areas for Desired Outcomes as listed in the guideline.
- Under 'key approaches to achieving these outcomes', the word 'especially' to be inserted between 'available' and 'where' in the last bullet point.
- Add a further bullet point under key approaches - to provide timely follow up and response to complaints/issues.

- Agree with the Consent Monitoring Priorities subject to replacing 'widespread' with 'full' in the third bullet point, and adding a fourth priority activity to concentrate on sensitive areas (such as mahinga kai, spawning, drinking water zones). It was pointed out that additional priorities will spread the resources more thinly but this year could be used as a trial.
- Under Enforcement Tools, second paragraph, delete the words from 'with the least use…..to not possible.'
- The Committee was generally of the view that increased monitoring is required, and where necessary, infringements should be issued.

The changes suggested will be incorporated and the meeting was advised that there will be an annual refresh of the guideline, with a 6 month update to the Committee on monitoring.

6 CURRENT NUTRIENT MANAGEMENT RULES IN OTOP ZONE

Mike Hide outlined the nutrient management rules for the zone and how ECan is planning to communicate the information on what the rules are for the orange and red zones. It was acknowledged that ECan has not been vocal enough with farmers around the consent requirements in the OTOP zone. There has been some uncertainty about what planning requirements apply, given that the sub regional planning process might result in changes to the consent requirements.

Orange Zone - consent is required if nitrogen loss of greater than 20kg per hectare per year in baseline period (2009-2013) for properties greater than 50hectares, or the nitrogen loss has increased above the baseline; effective from 1 January 2016 (therefore taking into account the 6 month grace period, farmers should have a consent now).

Red Zone - consent is required if nitrogen loss of greater than 20kg per hectare per year in the baseline period, for properties greater than 5 hectares effective from sometime in 2017.

The message being given to farmers is that while they need a consent, the priority should be to complete their Farm Environment Plans and get their nutrient baseline data in place; and then lodge their consent application.

To inform farmers ECan is taking the following steps -

- development of a website for farmers to help guide them through the process
- in the Waimakariri zone a trial is running where one-on-one visits are being made to farmers to explain the CWMS process, if successful this could happen in the OTOP zone
- catchment groups and field days will help to spread the word
- The routine compliance monitoring team is talking with farmers while on site
- working with industry
- there is an option to do targeted mailouts
- applying for another resource consent (eg dairy shed effluent), or selling a farm will trigger a check as to whether a land use consent has been granted.

The application of the current rules in the transition period was queried given there potentially will be two sets of rules for a period while the sub regional plan process continues. It was clarified that during the subregional planning process,

the existing rules must be met, as the subregional plan process may take 2 years. Consent duration is determined by a policy in the Land and Water Regional Plan that land use consent will be granted for not longer than 5 years after the sub regional plan chapter is notified.

The Committee discussed irrigation and the ability to increase irrigation during the subregional plan process, given that increasing irrigation is one of OTOP's community outcomes. It was confirmed that increased irrigation is possible only if the discharge limit is not exceeded (eg through efficiency gains). This lead on to interest in the current state for irrigated land compared to the historical situation. Relevant information will be made available where possible.

The meeting concluded at 3.25pm.

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Chairperson

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 5

Prepared by **Mike Hide**
Zone Manager

OTOP Work Programme Development

Purpose

To update the Committee on:

1. How the work programme will adapt as a result of the Healthy Catchments Project.
2. How progress against the work programme is best reported to the Zone Committee.

Update

The development of the work programme for the zone needs to consider a range of factors:

- Zone Committees priority outcomes
- Zone Implementation Plan recommendations
- Compliance and enforcement guideline for the zone
- The level of internal and external resourcing available
- Councils statutory obligations.

This work is progressing well and has led to the amendment of existing work programmes and planning is underway for some new areas of work.

At this stage the planning is largely focusing on the actions that can be undertaken within the next 18-24 months, as there will be a need to refine the work programme to deliver the recommendations that result from the Healthy Catchments Project.

As stated above, the development of the programme has focused on ensuring that all the activities are aligned to the Zone Committee's priority outcomes. This approach is useful for the purposes of work programming, however reporting against these outcomes is not an ideal way to show progress as many of the projects deliver against multiple outcomes.

For this reason it is suggested that progress reporting is based on the achievement of project milestones across 5 key workstreams.



Recommendation

To be received and noted.

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 7

Prepared by Robert Carson-Iles (Biodiversity Officer, Environment Canterbury)

Immediate Steps Biodiversity Project

Purpose

The purpose of this agenda paper is to propose a new Immediate Steps (IMS) project for the zone committee to consider.

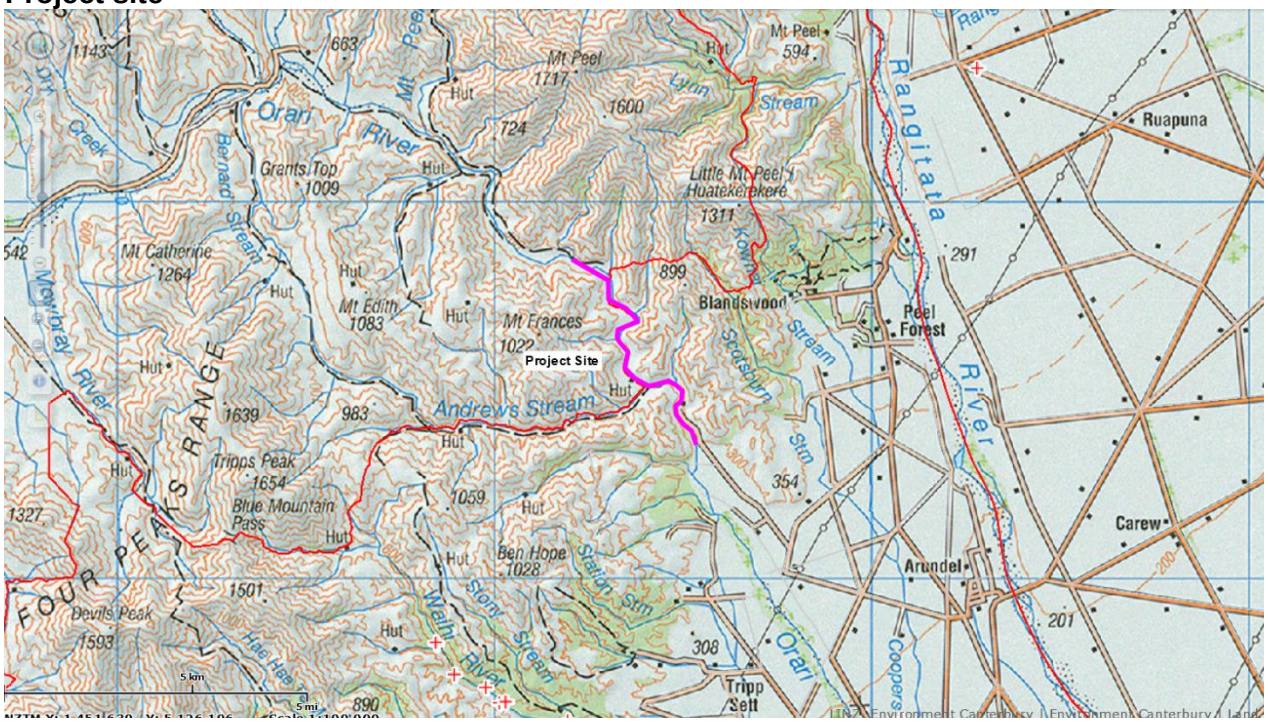
Attached

Background project information for zone committee decisions and recommendations for funding.

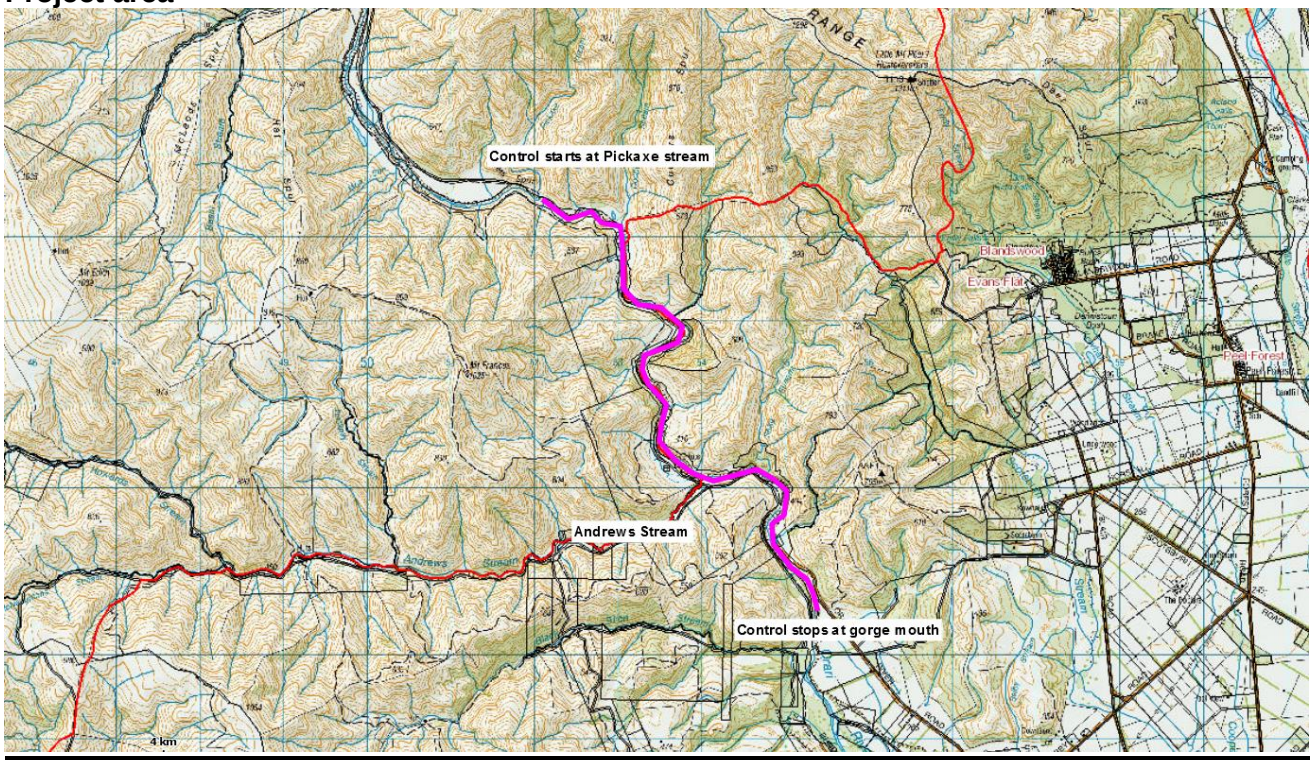
Project information for funding decision

Orari Gorge Weed Control

Project site



Project area



Proposed project*	Project details in brief	Land tenure	Cultural Value**	Ecological score	Funding requested (Total cost in brackets)
Orari Gorge Weed Control *Protect habitat values of Orari Gorge*	**Threat:** Weed invasion (key species are broom, pines, alder, willows) **Proposed activities:** Volunteer and Helicopter weed control over a four year period. **Comments:** This proposal involves carrying out weed control in the LINZ owned bed of the Orari River from Pickaxe Stream down the Orari River to the mouth of the Gorge, a distance of approximately 8 kilometres. The proposal is designed to complement biannual weed control carried out by LINZ from Dry Creek to Pickaxe Stream and annual alder control carried out by ECan River Engineering from the Hewson to the mouth of the gorge. Control will be carried out using a helicopter and a wand to allow safe and efficient access to the steep sides of the gorge and volunteer control will be carried out on easy to reach high value habitat areas for extra sensitivity. IMS funding will cover helicopter work and chemical purchase for volunteers.	Public (LINZ)	-	30/39	$36,500 ($99,500) ($10,000 yr ECan river engineering, $4,000 yr LINZ, $7,500 volunteer control)

Recommendations: The recommendation is to support this project. The Orari Gorge provides habitat to a number of threatened flora and fauna species including Geckos, Blue duck, Riflemen, *Hebe f. amplexicaulis* and *Carmichaelia torulosum*. There is a network of different flora assemblages including rock outcrop, podocarp/hardwood forest, beech forest and grey scrub. The gorge also acts as a corridor for aquatic and terrestrial fauna to move between the plains and the foot hills. Aside from the pure biodiversity values the area is highly valued for recreation. Some of these flora values and the ability to provide habitat for threatened fauna species is at risk of being compromised by invasive weed species. The invasion pathway for the majority of these species is from the river margin, hence this is where control is focussed. Action now will limit or prevent the damage caused by these species.
The project is aligned with the Zone Implementation Plan (see below)
2.3.1 Immediate steps funding - invest funding in projects that: provide early and multiple biodiversity gains, have sufficient scale to make long term impact, protect and enhance ecosystem integrity and function. Priorities are: activities (weed control...) that enhance biodiversity habitat....; remnant habitats and their unique flora and fauna.
2.2.3 protect dryland remnants

** Cultural assessment of the project is not completed prior to presentation to the zone committee – any comments from the cultural rep are appreciated during the meeting.
Pictures to be shown at meeting to reduce agenda size.

OOP Immediate Steps Update

Table 2: Immediate Steps Project Summary

Application Year	Applicant	ECan Funding	External Funding	Status
2011/2012	Old Orari Lagoon	12,472	10,012	Completed.
2011/2012	Otipua Dune Restoration - Stage 1	8,645	23,808	Completed.
2011/2012	Deep Stream Year 1	20,000	10,000	Completed.
2011/2012	Henriksen's Bush	11,000	5,500	Completed.
2011/2012	Horseshoe Lagoon - Willow Control	5,607	3,293	Completed.
2011/2012	Peel Forest Wetland Yr 1	20,000	10,000	Completed.
2011/2012	Pit Road Lizard Sanctuary - Stage 1	20,360	12,694	Completed.
2012/2013	Deep Stream Year 2	20,000	15,000	Completed.
2012/2013	Opihi Catchment Environmental Protection Group	1,560	1,060	Completed.
2012/2013	Horseshoe Lagoon Fencing & Planting	10,000	5,000	In progress.
2012/2013	Otipua Dune Restoration - Stage 2	5,450	9,500	Completed.
2012/2013	Pareora Scenic Reserve Fencing Yr 2	20,000	21,000	Completed.
2012/2013	Peel Forest Wetland Year 2	19,500	10,000	Completed.
2012/2013	Albury Springs Enhancement	5,706	5,706	Completed.
2012/2013	Pit Road Lizard Sanctuary - Stage 2	10,000	5,070	In progress.
2012/2013	Pit Road Reserve Pine Tree Removal	10,000	4,500	Completed.
2012/2013	Rangitata Stone Row Relocation	2,131	2,400	Completed.
2012/2013	Upper Old Orari Lagoon	6,150	6,780	In progress.

2013/2014	Upper Old Orari Lagoon 2014 Planting	4,400	2,200	In progress.
2013/2014	Old Orari Lagoon 2014 Planting	1,335	1,675	In progress.
2013/2014	Opihi Catchment Environmental Protection Group 2013 Planting	3,863	2000	Completed.
2013/2014	Orakipaoa Tributary Plantings	2,500	4000	In progress.
2013/2014	Awarua Wetland Restoration	14,000	7,100	Completed.
2013/2014	Coopers Creek Willow Control	5,500	3,740	In progress.
2013/2014	Craigmore Covenant Fencing	22,266	11,134	In progress.
2013/2014	Hanging Rock Wetland Restoration	17,704	14,610	In progress.
2014/2015	Pit Road Lizard Sanctuary - Rabbit proof fencing	10,140	12,060	In progress.
2014/2015	White Rock Tributary Fencing	10,800	5,400	Completed.
2015/2016	Awarua Wetland Restoration Year 2	14,500	8,840	In progress
2015/2016	Connells Wetland enhancement	16,500	16,500	In progress
2015/2016	Upper Rangitata Predator control Project	20,000	176,091	In progress
2015/2016	Chamberlain wetlands restoration	13,445	6,723	In progress
2015/2016	Stanton Wetland	1,910	3,330	In progress
2015/2016	Springfield Wetland	26,310	22,771	In progress
2015/2016	Awarua Wetland Restoration Year 3	4,402	4,725	In progress.
2015/2016	Ohapi Springs	9,000	21,150	In progress.
2015/2016	Clarke Flat sycamore control (stage 1)	50,000	25,000	In progress.
	TOTAL ALLOCATION	**457,156**	**510,372**	

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 9

Prepared by **Barbara Nicholas (Regional Committee Facilitator)**

CWMS Regional Water Management Committee Update

Recommendation

The Zone Committee note the written update on the regional committee work and receive a brief verbal update at the zone committee meeting.

Attachment

Summary of CWMS Regional Water Management Committee: 14 June 2016.

Summary of the CWMS Regional Water Management Committee: 14 June 2016

Climate change

Brett Mullan and Daniel Collins of NIWA presented on the latest understanding of climate change, with an emphasis on what it will mean for Canterbury. The committee's advice to ECan is that managing for climate change be woven into all future planning considerations.

Stormwater management

Gerard Cleary (Waimakariri District Council) spoke to the report from the Stormwater Forum on current work on cost and affordability, technical and design best practice, and regulation and process.

He noted the concern of district councils that they will in future be required to consent high risk discharges that they may not have the expertise to assess. He also noted that there is an option being discussed for a 'shared services' model between district and regional councils to address stormwater compliance.

Ecosystem health and biodiversity

The working group reported on progress towards a five-year regional work programme and the progress already underway to protect and enhance the future of eels. The committee welcomed the decision of MPI to separate the long and short fin eel populations for the purposes of managing their take through the quota system. A decision on the size of the quota is expected very soon.

CWMS Targets

The committee were updated on work to ensure there are appropriate and reportable measures in place to assess success in delivering the Targets by 2020. The committee is asked to advise on particular measures/indicators and agreed to progress that work before the next meeting in August.

Recreational and amenity

The Recreational and Amenity working group reported on their first meeting. Two initiatives are being developed:

1. A workshop to bring together recreational interest groups as a first step to addressing gaps n information and understanding of values
2. Workshops with zone committees to identify possible flagship recreation projects in each zone. (These will happen in August/September.)

Regional infrastructure

An update on progress across the zone was presented, noting that infrastructure is a long term investment that is taking into account our knowledge about climate change.

Changing membership

John Wilkie (southern rūnanga representative) has resigned from the committee. He was farewelled and thanked for his sustained contribution to the work of the committee from its establishment.

The next meeting will be the final one for the current community representatives – expressions of interest are now being called for, with new appointments starting in October.

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 11

Prepared by **Raymond Ford and Dan Clark**
Environment Canterbury

Update on the Scenarios to be considered in the Technical Work for the OTOP Healthy Catchments Project

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Purpose of Report

To discuss, and decide on, the scenarios that the technical team will use to test possible 'what if' options for the Orari-Temuka–Opihi–Pareora Zone's freshwater resources.

Background

The Zone Committee is undertaking an intensive work programme and community consultation process to develop recommendations to achieve the identified community outcomes within the OTOP Zone. These recommendations will include statutory (plan provisions) and practical actions within the Zone.

The plan provisions are likely to amend or supersede some of the existing water quantity and quality limits for the OTOP Zone in the Canterbury Land & Water Regional Plan (the Plan).

The technical team is compiling information on the current state of the Zone's rivers, wetlands, Lake Opuha and groundwater which will be the starting point for discussions on how the Zone's water and land resources should be managed.

Why develop scenarios?

Setting water quality and quantity limits will have significant implications for the local community. Scenarios will allow the Committee and community to explore the implications of setting different limits for water and land in the Zone on a range of values (e.g. environmental, cultural, social and economic), before committing to a particular water management approach.

In developing scenarios, it is important to remember:

- They are not predictions, rather the scenarios should be thought of as 'what if we managed the water resources in this way' questions.
- Scenarios are not necessarily options. Bits of different scenarios could be mixed together and used to develop a package of solutions at the end of the process.
- The scenarios will be used to inform the choices for water quality and quantity limits that will be considered by the community, the Zone Committee and the Council.

How will the scenarios be developed?
Four scenarios are proposed for the Health Catchments Project. The attached table describes the key features of each scenario.

The following assumptions will be used across all scenarios:

- Regional plans are modelled at fully implemented minimum flows and allocations
- Stream depletion is modelled using pumping based on climate driven demand
- New irrigation is added only in realistic areas. E.g. where flat land is available and water delivery is possible.
- New water scenarios are based upon infrastructure modelling project
- Consents are fully exercised.

The technical team will use a wide range of information (e.g. data, models, guidelines, knowledge) to describe in detail how each scenario is likely to affect social, cultural, economic and environmental values. The results of each scenario will be described in a technical report for the project.

How will the Zone Committee and community assess the different scenarios?
Each of the scenarios will be assessed against each of the Zone Committee's outcomes and their associated indicators.

The results of each scenario will be summarised in a matrix that shows whether an indicator that contributes to an outcome is likely to be met or not met using the coloured scale shown below. Feedback will be sought from the Zone Committee and community on the acceptability of each scenario.

Summary matrix

ZONE COMMITTEE OUTCOMES	INDICATORS	SCENARIOS			
		No 'New Water'		'New Water	
		'Business as usual' existing plans	'In zone gains in water efficiency	New Water – consented schemes =	New Water – large scale
Outcome A (e.g.)	**Indicator 1**	?	?	?	?
	Indicator 2	?	?	?	?
	Indicator 3	?	?	?	?
	etc.				
Outcome B (e.g.	**Indicator 1**				
	Indicator 2				
	Indicator 3				
	etc.				
Outcome C (e.g.	**Indicator 1**				
	Indicator 2				
	etc.				



What is the timing for these scenarios?

A considerable amount of technical work is required for each of these scenarios. Once the current state work is completed in August and September, the technical team will commence work on the scenarios. We expect to complete each scenario as follows:

- Scenario 1 – November 2016
- Scenario 2 – February 2017
- Scenarios 3 & 4 - March 2017.

Description of the proposed scenarios

	Title	Description	Key elements
No 'New Water'	**"Business as usual"**	No new changes to the existing planning framework in the zone. This scenario forms a baseline against which the other scenarios are compared against.	• Canterbury Land & Water Regional Plan – Apply PC5 – all farms are at GMP – Orari River Flow allocation regime (sect 14) -150 day stream depletion test for minimum flows • No change to the Opihi River Regional plan – 30 day stream depletion test for minimum flows • No change Pareora River Regional plan - 150 day stream depletion test for minimum flows • Climate change- "Middle of the road scenario" • All Rangitata South 'Dry Shares" are taken up and used increasing irrigated area by 2000 ha • No significant changes in current land uses- possible change in area or RS shares • All current water and discharge permits are implemented.
	"In zone gains" in water efficiency	This scenario is designed to test how the existing water resources in the zone could be used more efficiently. There are no new sources of water for irrigation or augmentation. Additional new irrigation would be achieved by efficiency gains. Changes are made to the existing regional plans to improve their effectiveness	• Canterbury Land & Water Regional Plan – Apply PC5 – all farms are at GMP – Orari River Flow allocation regime (sect 14) - • Amend Opihi River Regional plan to: – incorporate OFRAG changes to Opihi flow regime – 150 day stream depletion test for minimum flows • Community drinking water sources • Changes as required to Pareora River Regional plan • Climate change- "Middle of the road scenario" • All Rangitata South 'Dry Shares" are taken up and used increasing irrigated area by 2000 ha and Y ha of groundwater sourced irrigation replaced with alpine water • Change to more intensive land use changes to utilize gains made in water availability • On-farm storage to improve reliability

'New Water'	**"New Water" small scale**	This scenario will examine the consequences if the proposed irrigation schemes are fully implemented resulting in approximately X new hectares of irrigated land	• Canterbury Land & Water Regional Plan
			  – Apply PC5 – all farms are at GMP
			  – Possible changes to the Orari River Flow allocation regime (sect 14) -
			• Amend Opihi River Regional plan to incorporate OFRAG changes to Opihi flow regime
			• Existing consented schemes source new water from Rangitata River water and Waitaki rivers
			  – Hunter Downs scheme X ha in the Pareora and Y ha in the Otipua catchments
			  – Rangitata South scheme results in new irrigated land
			• Some additional area irrigated
			• Community drinking water sources
			• Apply 'COMAR' recommended minimum flows
			• Amend Opihi River Regional plan to:
			  – incorporate OFRAG changes to Opihi flow regime
			  – 150 day stream depletion test for minimum flows
			• Climate change- "Middle of the road scenario"
			• All Rangitata South 'Dry Shares" are taken up and used increasing new irrigated area of 2000 ha
			• Change to more intensive land use changes to utilise gains made in water availability

	"New Water"- large scale	This scenario will examine the consequences if all or most of the potentially irrigable land in the zone received new water e.g. Tekapo, large scale Rangitata water, or a combination of sources.	• Large scale irrigation implemented in the zone, from a number of potential sources resulting in XX ha of additional new irrigation
			• Y ha of groundwater sourced irrigation replaced with alpine water
			• New water infrastructure not included in modelling
			• Apply 'COMAR' recommended minimum flows
			• Amend Opihi River Regional plan to:
			  – incorporate OFRAG changes to Opihi flow regime
			  – 150 day stream depletion test for minimum flows
			• Changes as required to Pareora River Regional plan
			• Climate change- "Middle of the road scenario"
			• All Rangitata South 'Dry Shares" are taken up and

			used increasing new irrigated area of 2000 ha • Change to more intensive land use changes to utilise gains made in water availability

The above scenarios are draft, and prior to modelling and assessment the assumptions will be confirmed, particularly relating to additional irrigation areas and new water. These assumptions will be reliant on results from the infrastructure modeling projects currently underway by Environment Canterbury.

Recommendation

That the Zone Committee endorses the proposed scenarios to assist with development of the OTOP "Solutions Package".

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 12

Prepared by **Dan Clark**
Senior Hydrology Scientist (Environment Canterbury)

Update on the Economic Assessment Underway for the OTOP Healthy Catchments Project

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Purpose of Report

To update the Zone Committee on the economic assessment underway and to introduce the Zone Committee to the economists completing this work.

Background

As part of the current state assessment for the OTOP Healthy Catchments Project the technical team is considering how the four well-beings (social, cultural, economic and environmental) are currently being met. ECan has contracted BERL to complete the economic assessment of the current state.

Economists from BERL will be present at the Zone Committee meeting to present their approach and findings so far. This work will include consulting on the economic current state with a number of partners and stakeholders within the zone.

BERL's economic analysis will highlight the connections between the following four components and how together, they explain the current economic state of the OTOP Zone:

(i) *Key Performance Indicators*. These will be headline indicators, to be drawn from BERL's regional database for the Timaru District, the Canterbury region and for New Zealand

(ii) Agricultural Indicators. These will provide an in-depth assessment of the diversity of land-use

(iii) Labour Market Indicators. These will provide an in-depth assessment of the quality, composition and seasonality of the labour market in the Timaru District

(iv) Water Use Indicators. These will estimate the water use by industry and its seasonality. This assessment will also consider the resident population and the water take from domestic residences including lifestyle blocks.

Through their consultation with the Zone Committee, partners and stakeholders, BERL wishes to gain insight into the local context of the economic state of the zone, this will allow for an assessment which is locally relevant.

Recommendation

That the Zone Committee notes the work underway and provides feedback to Business and Economic Research Limited (BERL).

ORARI-TEMUKA-OPIHI-PAREORA ZONE WATER MANAGEMENT COMMITTEE

FOR THE MEETING OF 4 JULY 2016

Report for Agenda Item No 13

Prepared by Brett Painter, Environment Canterbury

OTOP Zone Water Infrastructure

Purpose
To update the OTOP Zone Committee on the current state of the OTOP Zone Water Resource Modelling project to deliver the OTOP ZIP water infrastructure objectives.

Background
The OTOP Zone Committee has previously considered a number of ideas for future water management in the OTOP Zone and the assessment of some of these ideas against the Canterbury Water Management Strategy. An initial water quality study was completed in 2014 and a follow up water resource modelling study was initiated in 2015. This update follows the report presented to the zone committee at its December 2015 meeting.

Recommendation

That the Zone Committee considers the following update and provides the author with requests for further information and/or feedback on further work, OTOP Zone Committee involvement etc.

Water Resource Computer Model
The objectives of the OTOP Zone Water Resource Model are to investigate the potential for 'new' water supply into OTOP Zone (initially considering a portion of RDR consented water) and OTOP in-zone gains to:

- Improve lowland stream health
- Improve Opuha/Opihi River system health
- Maintain or improve supply reliability for drinking, stock and irrigation supply
- Identify additional potentially irrigable areas for further assessment.

A water balance computer model has been developed to investigate the effects of current and potential combinations of water management rules, supply, demand and infrastructure. Concepts for progressing the model objectives were discussed at numerous meetings in 2015 with the zone committee, Regional Infrastructure Working Group of the Regional Committee, rūnanga, local communities, infrastructure developers and providers.

The first set of scenarios has focussed on the coastal zone between the Rangitata and Opihi Rivers. These scenarios have been informed by a demand study of current consent holders conducted late 2015. A new company, Geraldine Water Solutions has been formed by local consent holders to engage with local water users and potential "new water" suppliers. Geraldine Water Solutions confirmed the validity of the initial

baseline modelling run and helped to detail a set of initial “new water” scenarios. These included:

- Infrastructure and water requirements to increase current average supply reliability to 95%;
- Infrastructure and water requirements to respond directly to the demand study, and
- Infrastructure and water requirements to replace existing groundwater, up to full groundwater replacement and replacement of the lower Kakahu Scheme as a “Significant New Water” example.

Model results will be presented for discussion at the zone committee meeting. Current thinking on the scope of the Opuha/Opihi River system scenarios will also be presented for feedback and discussion.