HURUNUI-WAIAU ZONE COMMITTEE

Hurunui-Waiau Zone Committee

Agenda

Public Meeting
3.00pm, Monday, 19 June 2017

Cheviot Trust Hotel, 43 Hall Street, Cheviot

Community Partnership in Growth and Wellbeing

Committee Membership:

John Faulkner (Chairperson)
Ben Ensor (Deputy Chairperson)
James McCone
Cr Cynthia Roberts (Canterbury Regional Council)
Mayor Winton Dalley (Hurunui District Council)
Cr Vince Daly (Hurunui District Council)
James Costello
Michele Hawke
Ken Hughey
Dan Shand
Makarini Rupene (Te Ngāi Tūāhuriri Rūnanga)
Representative to be advised (Te Rūnanga o Kaikōura)

Quorum:

The quorum of the meeting consists of:

- half of the members if the number of members (including vacancies) is even; or
- a majority of members if the number of members (including vacancies) is odd.

****

The purpose of local government:

(1) The purpose of local government is—
  (a) to enable democratic local decision-making and action by, and on behalf of, communities; and
  (b) to meet the current and future needs of communities for good-quality local infrastructure, local public services, and performance of regulatory functions in a way that is most cost-effective for households and businesses.

(2) In this Act, **good-quality**, in relation to local infrastructure, local public services, and performance of regulatory functions, means infrastructure, services, and performance that are —
  (a) efficient; and
  (b) effective; and
  (c) appropriate to present and anticipated future circumstances.

(*Local Government Act 2002 – Amendment Act 2012*)

HURUNUI – WAIAU ZONE COMMITTEE
WORKSHOP & MEETING
Monday, 19 June 2017,
Cheviot Hotel, 43 Hall Street (main road), **Cheviot**

1.00pm – 2.45pm Biodiversity sub-committee meeting (to be confirmed)

Note – evening community meeting from 7.30pm on Current water quality in Waiau and Hurunui catchments

	3.00pm	**Zone Committee Meeting commences** with karakia and formal order of business • Health and Safety • Apologies • Announced urgent business • Interests register (changes or updates) • Confirmation of minutes – 15 May 2017 • Matters arising.	4 5-13
1	3.15pm	Update on Regional Committee • Winton Dalley and Michele Hawke	
2	3.25pm	Update from Zone Committee members on activities and meetings attended that relate to the Committee's outcomes for the zone	
3	3.35pm	Public Contribution	
4	3.40pm	Update from Hurunui District Landcare Group and any other organisations wishing to speak	
5	3.50pm	Zone Delivery verbal update Leanne Lye, Environment Canterbury	
6	4.00pm	Confirm land and water issues in the zone to be fixed or significantly progressed by December 2018	14-19
	4.30pm	BREAK	
7	4.50pm	Revised 5-year Delivery Outcomes and Milestones (2017-2018) Leanne Lye	20-25
8	5.30pm	Zone Facilitator's report Ian Whitehouse, Environment Canterbury	26-51
	6.00pm	Meeting concludes	

Register of Interests for the Hurunui-Waiau Zone Committee

Committee Member	Interests
James Costello	• Farm owner – sheep in the Hurunui Catchment • Water Resource Consent to take water from the Waitohi River • Shareholder in Hurunui Water Project • Possibly an affected landowner by infrastructure of Hurunui Water Project • Dryland Farmers Committee member
Ben Ensor	• Land owner in the coastal hills, Jed and lower Waiau catchments. • Managing director of Seaward Stock Company Ltd, comprising sheep, beef and cropping enterprises. • Consent holder to take water for irrigation from a stream hydraulically connected to the Waiau River. • Member of the Hurunui Waiau Landcare Group (Dryland Farmers Group).
John Faulkner	• Dairy farm owner in the Amuri Basin. • Irrigation water supplied by Amuri Irrigation Company Ltd (Shareholder). • Dairy Support block owner, consent to take water from a gallery. • Member of the independent irrigators Group.
Michele Hawke	Nil
Dan Shand	• Land owner Hurunui and Waiau catchments • Dry land farmer • Member of the Hurunui/Waiau Landcare Group
Mayor Winton Dalley	• Register of Interests lies with the CEO of the Hurunui District Council.
Ken Hughey	• Professor of Environmental Management, Lincoln University (2 days per week) • Chief Science Advisor, Department of Conservation, Wellington (3 days per week) • Board member Waihora Ellesmere Trust • Board member Hanmer Springs Conservation Trust • Member Royal Forest and Bird Protection Society. • Member Royal Society of NZ • Member NZ Geographical Society. • Occasional contract water-related research work including for Environment Canterbury.
Makarini Rupene	TBC
James McCone	• Dairy Farming businesses- Director and Shareholder • Dry Creek Dairy Ltd- AIC Balmoral scheme • Kinloch Dairy Ltd- AIC Waiau Scheme • Dairy Farm Director • LH Dairy Ltd- Independent irrigation consent, lease of dryland hill country • Water management • Amuri Irrigation Company Director • Committee Member Upper Waiau Independent Irrigators • Informal interest in potential emu plains irrigation
Councillor Vince Daly	• Farm owner - mixed cropping and livestock farm • Water resource consent to take water from unnamed lake in Jed catchment
Cynthia Roberts	• Register of Interests is held by Environment Canterbury.

HURUNUI DISTRICT COUNCIL
MINUTES

Meeting	Hurunui-Waiau Zone Committee
Date and Time	15 May 2017, 3.00pm
Venue	Council Chambers, Amberley
Agenda	http://www.hurunui.govt.nz/assets/Uploads/15-May-2017-Hurunui-Waiau-Zone-Committee-Agenda-1.pdf
Members Present	John Faulkner (Chair), Mayor Winton Dalley, James McCone, Ken Hughey, James Costello, Ben Ensor, Dan Shand and Cr Cynthia Roberts.
In Attendance	***Environment Canterbury (ECan)* –** Ian Whitehouse (Zone Facilitator), David Bedford (Chair), Michael Bennett, Andrew Parrish, Leanne Lye, Jessica Hill, Steve Firth, Ned Norton, Peter Taylor, Nadeine Domminesse, Angus Mcleod and Lisa Jenkins ***Department of Conservation* –** John Benn ***Hurunui District Landcare Group* –** Josh Brown ***Fish and Game* –** Scott Pearson ***Hurunui Water Project* –**Christina Robb, Chris Pile ***Landowner* –** Lesley Shand, Gwen, Jane Demeter and Barry Cleghorn ***Amuri Irrigation Company (AIC)* –** David Croft ***Committee Secretary* –** Michelle Stanley
Recording Device	A recording device was in use for the accuracy of the minutes.
Karakia	No one was available to lead the Karakia.
Apologies	Apologies were received from Michele Hawke, Cr Vince Daly and Makarini Rupene. Mayor Winton Dalley for early departure. THAT THE APOLOGIES BE ACCEPTED. Faulkner/Costello CARRIED
Conflict of Interest Declarations	Nil.
Urgent Business	Nil.
Minutes	THAT THE MINUTES OF THE COMMITTEE MEETING HELD ON 10 APRIL 2017 ARE CONFIRMED, SUBJECT TO THE FOLLOWING AMENDMENTS: • Page 6, Item 2, Science Stakeholder, 1st bullet point, change is **to** it. • Page 6, Item 2, Science Stakeholder, 2nd bullet point, change first sentence to read: "The idea of recreation values was questioned as to what..."

- Page 7, Item 4, 1st bullet point, change sentence to read: "Josh Brown is settling into the co-ordinator position well and is currently contacting stakeholders to familiarise himself with the position. The Hurunui District Landcare Group are working to get some better information and data to fill in the land maps."
- Page 7-8, Item 5, Add Catchment to Waipara throughout the item.
- Page 8, Item 6, should read Progress report on 5 year delivery outcomes.
- Page 9, general business, 2nd bullet point, change sentence to read: "There are only a few irrigated farms in the Waipara Catchment that are not under…"
- Page 10, Urgent Business, 2nd bullet point, change to read: "Headwaters of the Waiau River above the Boyle Bridge on State Highway 7."

Faulkner/Costello CARRIED

Matters Arising:

Progress Report on 5 Year Delivery Outcomes (Page 9) – General Business

The Regional "Farming to Good Management" campaign is a region-wide campaign that will be out soon. It will be targeting farms that are likely to need a resource content: approximately 1,000 farms across Canterbury with over 50 ha or irrigation. Michael Bennett will be doing targeted one-on-one conversations with those that are identified in the Waipara Catchment, Conway Catchment and those that are not in a collective in the area covered by the Hurunui Plan. There will be advertising across Canterbury as part of this campaign.

Proposed Targeted Plan Approach (Page 7)

Andrew Parrish, ECan Regional Planning Manager, updated the Zone Committee on the meetings with Ngai Tahū:

- Ngai Tahū discussions have been on-going.
- The Ngai Tahū representatives would like to see more of a written plan so that they can see that the iwi values are being addressed. They wonder if both options could be done and definitely need certainty before agreeing to anything.
- Communication with mana whenua will continue. There might be more headway if on the ground actions are used to demonstrate actions within a written plan and mahinga kai food gathering standards are adopted.
- Whilst it would be in the favour of mana whenua to see an inclusion of mahinga kai into farm management plans it would require more than a simple change to the 10% rule to make that happen across the Hurunui-Waiau Zone. If the change was made and a couple of test farms were used with the mahinga kai model of Farm Management Plan then Ngai Tahū would most likely agree that a targeted plan approach was the best way forward.

Hurunui District Council Meeting – Cr Vince Daly (page 6)

Cr Vince Daly to report at next meeting on what the contribution to the water quality in the Waiau River that the Hanmer Sewage has.

Correspondence

Outgoing:

Cheviot Reserves Advisory Group Letter

An update on this will be forwarded to the Zone Committee from Leanne Lye and the letter updated accordingly.

Thank you letter to Steve Palmer

Taken as read.

Incoming:

John Faulkner spoke on an email received from Jamie McFadden, Rural Advocacy Network, that was written in response to a 'HW workshop and Meeting 15 May – Finalising priority issues at HDC Amberley' email sent on 14 May 2017.

The email outlined the Rural Advocacy Network's disappointment with the priority issues process and lack of priority of the four major issues that they raised.

They felt that ranking the issues before receiving all of the submissions is contrary to best practice planning.

They also believe that the priority ranking process is the role of governance, such as the Hurunui-Waiau Zone Committee.

---

1. Update on Regional Committee

Nothing to report from the 11 April Regional Committee Meeting as Mayor Winton Dalley was unable to attend and Michele Hawke is absent.

The agenda can be found at:

https://www.ecan.govt.nz/data/document-library/?Search=regional+water+management+committee%2C+agenda&documentTypes=-1&pageSize=12&start=1&sortDir=desc

---

2. Update from Zone Committee members on other activities and meetings attended that relate to the Committee's outcomes for the Zone.

- Cr Cynthia Roberts attended the Field Day at Stoneyhurst, winners of the regional Ballance Farm Environment Award. She reported that it was a fantastic and informative day, and a good example of a well-run farm. Mayor Winton Dalley to follow up a possible site visit for the Zone Committee.
- Mayor Winton Dalley spoke on the announcement of the 2017 Primary Industries Earthquake Recovery Fund. This fund supports projects that investigate long-term land use options and funds professional advisory services for future land use planning. A large local farmer-led project proposal is being developed with the support of Federated Farmers. Applications for this close 23 June 2017. There is hope that this could be also used to help with some of the Zone Committee biodiversity goals.

---

3. Public Contribution

Nil.

REPORTS, SPEAKERS AND PRESENTATIONS

4. Update from Hurunui District Landcare Group and other organisations wishing to speak

Ben Ensor introduced Josh Brown, the new Hurunui District Landcare Group co-ordinator, to the committee. Josh Brown provided an update to the Zone Committee. The following was noted:

Josh Brown's role includes:

- Co-ordinating and communicating with the members of the group. This involves workshops with members and industry representatives.
- Research proposal such as the impacts of dryland farming in the Hurunui-Waiau Zone.
- Representation and advocacy of the group. Showing up and putting a face to the group.

The Hurunui District Landcare Group update:

- They, in conjunction with Beef and Lamb New Zealand, are running FEP workshops.
- Josh's portfolio also includes the Cheviot Irrigators Group which is a subgroup of the Hurunui District Landcare Group.
- Josh is seeking ongoing opportunities for the Landcare Group. They do not want to be just in the policy space. They are looking at how to protect/improve biodiversity on farms, how to assist with the earthquake recovery and hope to act in a supporting role.
- The non-statutory aspect is an ongoing discussion. Having a FEP is a requirement for membership. This is a work in progress.

It was agreed that the Zone Committee needs to be very clear in its statement of requirements in order to be helpful for farmers and groups in the zone.

---

5. Update from Zone Manager

Leanne Lye, Zone Manager, ECan, updated the Zone Committee on the recent activities of the Zone Team. The following was noted:

- Steve Firth has been newly employed to help the zone teams in Christchurch, Hurunui-Waiau and Kaikoura.
- The Zone Team have recently had a workshop with John Faulkner, Ben Ensor and Michele Hawke on revising the 5 year delivery outcomes and milestones. They will report on this at the June meeting.
- The St Annes Lagoon is a work in progress. The adopted option has been to look at putting water into the lake in the second year of a drought. The results of the core sampling information is still to be sent to Zone Committee members.
- There have been no compliance issues since the last meeting.
- The Amuri Irrigation Companies work is progressing nicely.
- ECan are looking at doing a flyer drop and advertising around outdoor burning due to a number of recent complaints following burning of trees from shelter belts cleared following AIC piping of its irrigation scheme.

- Michael Bennett reported that there has been good community engagement in regards to joining collectives. All but one irrigator has expressed an interest to join a collective. Not all have joined but have expressed interest as they see that it is the best course of action.
- The biodiversity team is busy sorting out projects at the end of financial year. They are working with the community to get feedback on what the key biodiversity issues and values are on the braided riverbeds of the Waiau and Hurunui rivers.

---

6. Briefing on 8 May Workshop on biodiversity values in Hurunui and Waiau braided riverbeds

Cr Cynthia Roberts spoke to the Zone Committee on the 8 May workshop on biodiversity values in Hurunui and Waiau braided riverbeds. The following was noted:

- The meeting was to identify biodiversity values on these braided riverbeds.
- Feedback from attendees was that it was a successful and useful day.
- DoC, ECan, Forest and Bird, BRAID and QEII Trust were all at this meeting and it was great to see that they were all thinking along the same track.
- Gaps were identified and recommendations made.
- The next step is to talk to adjacent landowners and stakeholders to find out their priorities before progressing. This step is very important and vital to finding out why things are the way they are currently.
- There is still a meeting to be had with the biodiversity sub group and Jessica Hill is still to work out the structure of the document. This would be in draft form that could be fed into. The Zone Committee would like this document to detail very clear actions and be able to looked to for guidance.
- This is an information gathering exercise at the moment.
- The next opportunity for the community, landowners and stakeholders to participate needs to be advertised and actioned quickly. Jessica Hill and Ben Ensor to work together to advertise this. It was suggested that highlighting why the biodiversity values are important would help people to embrace the ideas.
- The Zone Committee want this to be 100% open to the community.
- Jessica Hill will take the lead in this and will work with Ben Ensor and others in the stakeholder group to achieve an outcome.

---

7. Update from Hurunui Water Project
Chris Pile (HWP)

Chris Pile from the Hurunui Water Project (HWP) spoke to a presentation on their recent progress.

This presentation is available at HDC and on the ECan website at https://www.ecan.govt.nz/get-involved/council-and-committee-meetings/view/2017/05 15 May 2017.

The following was noted:

- The current scheme proposal is an 'On Plains Storage only – 23Mm³ (single Hurunui Intake at Mandamus)' to service the initial irrigated area. The reason for choosing this option was due to:
    - Environmental Impact significantly reduced
    - Construction complexity and risk reduced
    - Capital Cost is $25 million lower than the Waitohi storage based scheme.

The following discussion was held:

- There is a condition of the consent that there shall be no increases of phosphorus but does not stipulate how to ensure that. This is an ongoing challenge for HWP.
- The reliability is at 90% and application at 4mm per day. 100% reliability is too much at the moment. The 4mm per day is in line with other areas and models have come up with that as an appropriate application rate. There has been a lot of communication with landowners on this.
- There is no land that will be irrigated through HWP above the storage site that have to rely on run-of-river water from Hurunui River.
- It is too early in the design development to see what the target pressure of the piped water will be.
- HWP has a contract with Rooney Group Ltd and this is working well.
- There is still a wee bit of headroom in nutrient allocation for further development.
- The site for the storage site is on private land, so far there have been no issues with the site but a cultural assessment is still to be completed. They are not expecting any issues.
- The best that HWP can ask of the Zone Committee is stability and certainty for two years with regards to regulatory processes.
- Climate change has been factored in.
- The cost of the water to the landowners will be approximately $10,000 per hectare. This is based on 21,000 hectare targeted irrigated area. All the indications are showing that it will work.

Break

The meeting adjourned for a break at 4.30pm and reconvened at 4.50pm.

Mayor Winton Dalley left.

8. Agreeing the priority land and water management issues

Discussion on the priority land and water management issues continued from the workshop held prior to this meeting.

Ian Whitehouse drafted a document recording all the discussed priorities. This will be circulated to the Zone Committee after the meeting and included in the agenda for the 19 June 2017 Hurunui Waiau Zone Committee meeting.

Summary of the priorities agreed (for further information see 19 June 2017 Agenda)

Important and urgent land and water management issues in the Hurunui Waiau Zone:

- 10% rule - Ensure that normal dry land farming is not "illegal" under HWRRP.
- Minimum flows in Hurunui and Waiau Rivers - Consider using deferring a review of water takes (to align them with the HWRRP minimum flows) to lever further actions by irrigators to improve water quality.
- Braided river bed management - in Hurunui and Waiau Rivers.
- All farms at GMP - Get uptake of GMPs through consented audited FEPs (including AIC, Cheviot Irrigators Group & HWP) and through FEPs by Hurunui District Landcare Group.
- Waipara catchment - Is further development possible with HWP in Waipara catchment given current water quality (that reflects naturally high P levels and low flows in summer).
- Toxic cyanobacteria (Phormidium) - Need better understanding of the critical factors for Phormidium and what can be done to reduce blooms.
- Water quality limits for Waiau River - Develop water quality limits for Waiau River that are as "strong" as those for Hurunui River.
- Water storage - Water storage for integrated water infrastructure for Hurunui and Waiau catchments.

Important, though less urgent, land and water management issues in Hurunui Waiau Zone:

- Increased sediment and P following earthquake
- Nutrient allocation
- P load limits for Hurunui River
- Jed River
- Schedule of recreation resources and values in HWRRP
- Review and revise ecosystem health (water quality) limits in HWRRP
- Landslip Stream salmon spawning site
- Take and use of groundwater for dairy shed use

Other matters raised in responses to the Committee's initial list of priority issues:

- Managing Lake Sumner to provide flushing flows to remove periphyton from Hurunui River (at SH7 and SH1):

- Flushing flows are the most effective way to manage periphyton (including Phormidium and didymo) accumulation.
- A weir on Lake Sumner has been suggested as a way of providing flushing flows.
- Damming Lake Sumner has been rejected by at least three Hearing Panels on the basis of its impacts on a range of values including lake-margin forests, naturalness, and kayaking in Maori Gully. It is unlikely a plan change to allow a weir on Lake Sumner would succeed.
- The Zone Committee reconfirms its position that managing Lake Sumner is "off the table".

Other discussion not included in the agreed issues document:

1. **Scope for innovative** ideas was discussed. It was agreed while it was great to be open to new ideas, it would most likely be that these innovations and ideas will be picked up through on the ground action and landowners good management practices.
2. **Lack of landowner buy** in was discussed as an issue. It was agreed that while this was an important issue, it is part of the process.
3. **Poor scientific basis for HWRRP**. It needs to be acknowledged that science needs to keep going. The Zone Committee are committed to keeping abreast of the current and ever changing science.
4. **Unsustainable cost of HWRRP to the community**. There is a huge cost to the community and there is still some areas of the Plan that need to be looked at. It is an important part of the solution that the cost of implementation is a key factor.

   The investigation of catchment plans could link into the cost of the HWRRP to the community. Need to investigate in more depth.

   Talking about more on the ground actions. Which ties in hugely with the 10% rule and permitted activities.
5. **Implement a model based on the catchment board system**. This was a trial run started 30 years ago and the legacy still continues today. It was aimed at reducing erosion of land into the rivers. It was a subsidised plan and was coordinated by ECan. The model required a huge amount of labour and buy-in from the farmer. Ben Ensor, whose farm was one of the test subjects, reported that it had a massive impact on reducing the amount of erosion. Essentially, it was an FEP before its time.

   It was also pointed out that farmers could look at the earthquake recovery fund. The best course of action is to identify the issues on the farm via an FEP and apply for funding.
6. **Increase compliance on poor performance/Excluding stock on waterways.** This is a compliance issue and there are already a number of rules and regulations pertaining to compliance. The auditing process should pick up this issue.

	7. **Farmer vs farmer issue.** The fallout from the 10%-rule issue has led to a widening of the division between some farmer groups, particularly between dryland and irrigated farmers. The committee is cognisant of the break down that almost happened in the community and are trying to work on it now particularly by fixing the 10% rule issue. It is important to the community going forward that the divisions in the farming community are resolved. It needs a good conversation and a strategy to go forward. Will take a long time to resolve nitrogen allocation concerns so need to look at it now.
9. CWMS Target: Recreation and Amenity Opportunities – Priority recreation and amenity restoration sites. Dann Olykan and Anita Fulton (ECan)	The additional priorities for restoration or improvement of recreation opportunities and amenity in the Hurunui Waiau zone are: • Improve swimability at the swimming site on the Hurunui River at the Balmoral Reserve campground (near State Highway 7). • Provide walking access to the Waiau River mouth • Improve the road/4WD track on the true left of Waiau River to improve access from Hanmer Stream to the "rock" on the Waiau River. • Protect the salmon spawning site at Landslip Creek in the South Branch of Hurunui River. • Make available through LAWA information on access to all important recreational waterways, the recreation activities available on these waterways, and current water quality information for the waterway/site. • Upgrade toilets and improve roading at the campground at the Hurunui River mouth campground. o Provide toilets, rubbish collection, and weed control at the Hurunui River at SH1 bridge.
10. Zone Facilitators Report Ian Whitehouse (ECan)	The report was taken as read. The following was decided: • There will be a community presentation after the 19 June 2017 meeting which is to be held in Cheviot, Cheviot Trust Hotel, from 7.30 – 9.30pm. • The schedule for the workshops for the Hurunui Science Stakeholders Group was noted.
Urgent Business	Nil
Meeting concluded	The meeting concluded at 6.31pm.
Next meeting	19 June 2017, Cheviot Trust Hotel, Cheviot.

AGENDA ITEM NO: workshop and item 6	SUBJECT MATTER: **Land and water issues in the Hurunui Waiau zone to be fixed or significantly progressed by December 2018**
REPORT BY: Ian Whitehouse, Environment Canterbury	DATE OF MEETING: 19 June 2017

Action required

- Confirm the land and water issues in the Hurunui Waiau zone as attached, identified by the committee on 15 May, that need to be "fixed" or significantly progressed in next 18 months**.**

Background

The zone committee at its workshop and meeting on 15 May 2017 agreed the land and water issues that need to be fixed or significantly progressed by December 2018. There was insufficient time at the meeting for the committee to confirm the record of the details of the agreements reached. The attached table records the agreements reached and the committee is asked to confirm this record.

The zone committee prepared an initial list in March of key land and water management issues for the zone. This list was sent to a wide range of organisations and interests. The committee received thirteen responses on its initial list and heard from submitters at a workshop on 01 May. These and additional responses were discussed at the zone committee workshop on 15 May. At the workshop and at the zone meeting on 15 May the zone committee finalised its list of issues.

Recommendation

The zone committee endorses the attached table as the record of the key land and water management issues in the zone to be fixed or progressed in the next 18 months.

Next steps

Once the committee finalises the list these issues will be worked on over the next 6 months and then progress reviewed. The work in the next few months will include getting the right information and using it to evaluate options to "fix" the issues. It is expected the zone committee and the Science Stakeholders Group will be involved.

Important and urgent land and water management issues in Hurunui Waiau zone (to be fixed or significantly progressed by December 2018)

Record of agreement by zone committee on 15 May 2017. To be confirmed at 19 June zone committee meeting.

Issue	Proposed actions and/or commentary
10%-rule Ensure that normal dry land farming is not "illegal" under HWRRP	Identify and a range of options (e.g. PC5, change definition "land use change", Advice Note . . .). A plan change will be required. Gather information to be able to: • Assess impact on N and P in-river limits with all farms at GMP, dryland permitted and all consented irrigation in place; • understanding the major causes of human-induced P and N losses and the areas of the catchment where most of this comes from; • understand impact of current rule on land values and property sales; • understand impact of current rule in constraining dry land development.
Minimum flows in Hurunui and Waiau Rivers Consider using deferring a review of water takes (to align them with the HWRRP minimum flows) to lever further actions by irrigators to improve water quality	Understand the implications of recent work by John Hayes, Cawthron Institute, on assessment of flow requirements for aquatic invertebrates and fisheries. It is suggested that John be invited to talk with the zone committee (probably in conjunction with a briefing on how the HWRRP minimum flows were determined). This workshop would be in July at the earliest. Understand the technical information, including ecological flow assessments that informed the development of the HWRRP minimum flows and the deliberations of the Hearing Commissioners. Model the flows in Hurunui and Waiau Rivers to see how flows would have differed if the HWRRP minimum flows had been implemented when the HWRRP became operative (December 2013). Gather and evaluate information to understand the nature and magnitude of the risk if minimum flows are not reviewed on existing consents, particularly with regards to: • in-river ecological values; • braided river birds • river mouth openings (and if this is an issue what voluntary actions could be taken if river mouth closes or if there are localised dry reaches). Understand the cost to irrigators if they wish to retain current reliability of supply when HWRRP minimum flows are implemented (for example cost of storage). Ask irrigators to identify actions that they believe they would do if a consent review was deferred. Consider how long the consent review would be deferred.
Braided river bed management in Hurunui and Waiau Rivers	HWZC Biodiversity Subcommittee discuss the material brought together at the workshop identifying ecological values in the braided riverbeds of Waiau and Hurunui River. HWZC Biodiversity Subcommittee identify potential braided riverbed Immediate Steps projects and how these might be progressed Ask Environment Canterbury to provide or contract resources to develop and start implementing Management-Action Strategies for all or parts of Hurunui and Waiau braided riverbeds.

Issue	Proposed actions and/or commentary
All farms at GMP Get uptake of GMPs through consented audited FEPs (including AIC, Cheviot Irrigators Group & HWP) and through FEPs by Hurunui District Landcare Group	Support Hurunui District Landcare Group. This may include a (sub) catchment approach as per a "catchment board" approach. There is increasing buy-in to GMP through the Landcare Group and irrigation collectives. Support on-the-ground actions. AIC is using the results from auditing FEPs to target education and training for farmers. Evaluate the use of Farm Portal to achieve GMP N losses on irrigated farms through collectives. HWWRP provides regulatory backstop for GMP (through Schedule 2) so plan change not required.
Waipara catchment Is further development possible with HWP in Waipara catchment given current water quality (that reflects naturally high P levels and low flows in summer)	Once PC5 decision is released (mid June) have a community meeting to provide: • what PC5 means for Waipara farmers; • the current water quality in the river and the causes of this • HWP's plans in the Waipara catchment HWZC discuss "what next" after this community meeting.
Toxic cyanobacteria (*Phormidium*) Need better understanding of the critical factors for *Phormidium* and what can be done to reduce blooms	NIWA and other organisations have applied for 5-year research funding on periphyton (including *Phormidium* and including Hurunui River). Environment Canterbury is supporting this application and will advocate for the issues raised by Hurunui Science Stakeholders (including the role of micro-nutrients and DairyNZ support for this work). Provide a brief assessment of whether different storage options would be able to release water to remove periphyton at SH7 on Hurunui River.
Water quality limits for Waiau River Develop water quality limits for Waiau River that are as "strong" as those for Hurunui River	Assess the likely impact on in-river water quality outcomes from consented irrigation development (AIC) and planned development (Emu Plains) Evaluate the risk and whether there is need to strengthen water quality limits before 2023.
Water storage Water storage for integrated water infrastructure for Hurunui and Waiau catchments	HWP have decided on their approach to water storage (large on-plains storage). The primary driver for water storage is to retain reliability of supply (particularly for AIC) when HWRRP minimum flows are implemented. Therefore this issue is related to what comes out of the item above about the HWZC consideration of using deferring a review of water takes (to align them with the HWRRP minimum flows) to lever further actions by irrigators to improve water quality. HWP and AIC have indicated that the time is not right for them to be progressing investigation of "integrated" water storage options. The HWZC expects any developers who are looking to progress water storage to come up with an option that is consistent with the committee's vision and outcomes, and bring options to the committee for discussion. The zone committee needs to continue to get updates and keep a watching brief.

Important, though less urgent, land and water management issues in Hurunui Waiau zone (to be worked on June 2017 – December 2018)

Record of agreement by zone committee on 15 May 2017. To be confirmed at 19 June zone committee meeting.

Issue	Possible next steps
Increased sediment and P following earthquake	The HWZC needs to keep a watch on this issue. Central government is funding land and farm recovery. The committee needs to get updates on farm recovery. Any increases in sediment and P due to the earthquake should not result in farmers being penalised by nutrient management rules or limits. If the committee becomes aware of instances where farmers are being penalised because of the impact of the earthquake these should be brought to the attention of the relevant organisation.
Nutrient allocation	A fix of the 10% rule that permits normal dryland farming should reduce concerns about N allocation. The committee is aware of the need to avoid “us” and “them” divisions which can pit farmer against farmer. Nutrient allocation is a complex and contested issue with strongly held positions. Finding a widely agreed N allocation framework and how to transition to it will be very challenging. Trying to solve the issue would likely occupy all of the committee’s time and energy.
P load limits for Hurunui River	The 10% rule focused attention on how the P load is measured and the close link between river flows and in-river P loads. A fix of the 10% rule should reduce the attention on the P load. Notwithstanding the challenges with the P load and concentration limits they have been effective in managing further irrigation development in the Hurunui catchment. There has not been new information that justifies revisiting the approach in the current plan (of managing N, P and microbial contaminants). Changes to the load limits could potentially lead to other changes to the plan. The in-river P limits do not provide a strong signal on who needs to reduce on-farm P losses and where. The technical team needs to provide information on the sources of “manageable” P losses (to target, for example, particularly tributaries or land uses). HWP as part of consent conditions is looking to monitor P losses at the property scale. The committee should seek updates from HWP on this
Jed River	The HWZC needs to keep a watch on this issue. Smaller catchments like the Jed and Blythe are subject to many of the same HWRRP provisions as the Hurunui and Waiau catchments. If the committee becomes aware of examples where the approach to land and water management in the Jed, Blythe or other small catchments are not commensurate with the degree of environmental impact then these examples need to be discussed by the committee with the Zone Team.

Issue	Possible next steps
Schedule of recreation resources and values in HWRRP	The HWRRP rules and limits help deliver recreation outcomes for the most important recreation resources (such as whitewater values in the Maori Gully reach of Hurunui River). Where the values are not being provided (despite the HWRRP) – such as at Balmoral camping ground swimming site – targeted on-the-ground action is required and will be included in the Zone Delivery Team's Work Programme (where resources are available). The committee acknowledges that information on recreation and amenity values is important and that schedules in plans may be a way of providing this to ensure developers and consent planners are aware of the values. Such schedules could be considered in the 10-year HWRRP review in 2023. The inclusion of a schedule in the HWRRP (or LWRP) will not of itself deliver recreation values. Where the committee hears of recreation outcomes not being provided for then the committee needs to understand why this is happening and work with Environment Canterbury and other organisations to fix the problem.
Review and revise ecosystem health (water quality) limits in HWRRP	There are concerns about the adequacy of the HWRRP limits (e.g. N concentrations are for toxicity not ecosystem health). The RMA Section 35 review of the HWRRP is likely to consider the effectiveness of the limits in the plan although it is likely revision of the limits would be left until the 10-year plan review in 2023. A change in the HWRRP limits could lead to many other changes to the HWRRP.
Landslip Stream salmon spawning site	Landslip Stream joins the Hurunui River above Lake Sumner. The salmon spawning site is included in the list in the HWRRP schedule. The site may be at risk from damage by cattle. It is suggested Fish and Game work with the farmer about stock management at this site. Immediate Steps funding may be able to assist with fencing.
Take and use of groundwater for dairy shed use	HWRRP significantly restricts the amount of water that can be taken for dairy shed use as a permitted activity (compared with the LWRP). This means that some farmers need consents for their groundwater takes for dairy shed use even though these takes were existing prior to the notification of the plan. If a farm needs this consent but does not have it then their FEP can only achieve a B audit grade (at best), not an A grade. Some farmers have already applied for these consents. Environment Canterbury will advise the zone committee on this matter as it also may be influenced by proposed changes to the RMA.

Other matters raised in responses to the committee's initial list of priority issues

Issue	Comment
Managing Lake Sumner to provide flushing flows to remove periphyton from Hurunui River (at SH7 and SH1)	Flushing flows are the most effective way to manage periphyton (including *Phormidium* and didymo) accumulation. A weir on Lake Sumner has been suggested as a way of providing flushing flows. Damming Lake Sumner has been rejected by at least three Hearing Panels on the basis of its impacts on a range of values including lake-margin forests, naturalness, and kayaking in Maori Gully. It is unlikely a plan change to allow a weir on Lake Sumner would succeed. The Zone Committee reconfirms its position that managing Lake Sumner is "off the table".

AGENDA ITEM: 7	SUBJECT MATTER: **Revised 5-year Delivery Outcomes and Milestones**
REPORT BY: Leanne Lye and Ian Whitehouse, Environment Canterbury	DATE OF MEETING: 19 June 2017

Action required

- Committee members approve the revised 5-year Delivery Outcomes and Milestones (attached) as the basis for the Zone Team Work Programme.

Background

The Committee agreed 5-year Implementation Outcomes and Milestones in October 2014 with these to be reviewed annually. Hurunui Waiau was the first zone to prepare 5-year outcomes and milestones. They are part of the increased focus on ensuring work programmes focus on delivering zone committee's outcomes and recommendations (i.e. delivering the ZIP).

The 2014 outcomes and milestones were revised in March 2016.

The 5-year outcomes and milestones were reviewed by John Faulkner, Ben Ensor, Michele Hawke, Leanne Lye, and Stephen Bragg at a workshop in May facilitated by Ian Whitehouse. The milestones were revised as per the attached.

The outcomes and milestones will be delivered by a range of organisations including Environment Canterbury, Hurunui District Council, Amuri Irrigation Company, Hurunui Water Project and Hurunui District Landcare Group. Input to the milestones in Outcome 1 (Farming at GMP) were provided by Ben Ensor on behalf of Hurunui District Landcare Group (milestone 3), Alastair Rutherford, AIC, (milestone 4), and Christina Robb, HWP (milestone 5). In 2016 David Edge, Hurunui District Council, provided the outcomes statement and milestones for Outcome 7: Reliable drinking water and these have not been changed.

An outcome statement is still to be developed for Outcome 8: Enhance Mahinga Kai.

Discussion at meeting

At the meeting the committee discuss the proposed 5-year Delivery Outcomes and Milestones and approve them as the basis for the Zone Team's Annual Work Programme and for reporting to the Zone Committee.

The Delivery Outcomes and Milestones will be reviewed in approximately 12 months. The Zone Manager will report progress quarterly on the milestones.

Attachments

1. Proposed revised 5-year Delivery Outcomes and Milestones (at June 2017)

Hurunui Waiau Zone – 5-year Delivery Outcomes and Milestones (Proposed revisions June 2017)

Outcome 1: Operate at GMP - on-the-ground actions

Hurunui Waiau Zone farmers are operating at Good Management Practice (GMP) levels or better.

Milestones:

1. All irrigated farms have farm environment plans, whether as part of a collective or not, by September 2017.
   Lead: Michael Bennett (Milestone done by AIC and Cheviot Irrigators Group in large part)
2. At least 50% of dry land farms (by area) in the Hurunui and Waiau catchments of greater than 50ha have a farm plan by June 2018.
   Lead: Michael Bennett (Milestone done by Hurunui District Landcare Group in large part)
3. Complete first round of FEP auditing on AIC Collective and Cheviot Irrigator Group farms by December 2018. Farms which receive C and D audit grades are actively supported with 90% achieving a better grade subsequently.
   Lead: Michael Bennett (Milestone done by AIC and Cheviot Irrigators Group)
4. All farms that will be irrigated from Hurunui Water Project have FEPs before the supply of first water (expected to be September 2020).
5. Lead: Michael Bennett (Milestone done by HWP)
6. Communications strategy, which complements communication from collectives and industry, reviewed annually and updated, if necessary, by zone committee.
   Lead: Michael Bennett
7. Progress with implementation of the Compliance strategy to support GMP is reported quarterly and the strategy reviewed annually by the zone committee.
   Lead: Zone Manager
8. Lead: Zone Manager Zone Manager reports to zone committee, in a timely manner, on response taken to significant one-off matters.
   Lead: Zone Manager

How will this outcome be measured?

- *% farms that require an audit that receive an A or B grade (in the longterm – not over next few years)*
- *% uptake of benchmark GMP practices (e.g. irrigation efficiency, wintering practices etc)*
- *% of farms with irrigation that have audited farm plans and the progress in audit grades achieved over time;*
- *Number of dryland farms with a FEP*
- *Number of one-on-one farm visits (by ECan staff and "GMP" advisors from other organisations such as Hurunui District Landcare Group, Fonterra)*

Management oversight

Zone Committee Sponsors – Ben Ensor and James McCone (dryland & irrigated)
Zone team responsibility – Mike Bennett

Outcome 2: Solutions to priority issues, including targeted plan changes

Develop and champion the implementation of widely supported solutions, including targeted plan changes, to priority land and water management issues in the zone.

Milestones:

1. Options on how to fix the priority issues for the zone have been identified and are being evaluated by March 2018.
   Lead: Whit
2. Additional technical investigations and monitoring are completed or in place by June 2018 to address priority issues including those required in the medium term such as more information on the factors determining the occurrence and accumulation of cyanobacteria (*Phormidium* spp.)
   Lead: Whit (with Technical Lead and Tim Davie)
3. The Zone Committee's recommended water management solutions package for the whole zone (ZIP Addendum) is widely supported by stakeholders and finalised by September 2018.
   Lead: Whit

How will this outcome be measured?

- *Survey to determine the degree of acceptance of the revised HWRRP.*

Management oversight
Zone Committee Sponsor – All of committee

Zone team responsibility – Ian Whitehouse

Outcome 3: Integrated water infrastructure

Widely-supported integrated water infrastructure solution for Hurunui, Waiau and Waipara Rivers and agreed and in process of implementation

Milestones:

1. Additional actions required to achieve an integrated water infrastructure solution for Hurunui, Waiau and Waipara catchments are identified by HWP, NTP and AIC with the zone committee by September 2017 and agreed by May 2018.
   Lead: Brett Painter
2. Twice-yearly progress report to zone committee from HWP, NTP & AIC.
   Lead: Ian Whitehouse

How will this outcome be measured?

- *Area of land receiving new water and/or definitive plan for the delivery of water to new areas.*

Management oversight
Zone Committee Sponsor – John Faulkner

Zone team responsibility – Brett Painter

Outcome 4: Ecosystem health and biodiversity

Maintaining and, where possible enhancing, ecosystem health including maintaining Indigenous biodiversity values in priority areas – braided river ecosystems, North Pegasus Bay Coastal wetlands, coastal hills from Conway Flat to Waiau River mouth, and significant wetlands.

Milestones:

1. Annual reporting on state of ecosystem health in the zone.
   Lead: Tim Davie
2. Identify and develop options to fund biodiversity improvement and protection on private land in a manner that overcomes concerns about releasing farm information.
   Lead: Zone Manager
3. Braided Riverbeds – see outcome 9 milestones.
4. Annual Immediate Steps funding allowance for zone is all allocated.
   Lead: Jess Hill

How will this outcome be measured?

- *Before and after surveys of state of biodiversity values in priority areas*
- *Immediate Steps and other biodiversity funds are oversubscribed in the zone*

Management oversight

Zone Committee Sponsor – Ken Hughey and Michele Hawke

Zone team responsibility – Jess Hill

Outcome 5: Community ownership and understanding

Hurunui – Waiau zone community feels well informed and widely engaged in zone activities.

Milestones:

1. Communications strategy, that complements communication from collectives and industry, reviewed annually and updated, if necessary, by zone committee (refer to Outcome 1)

How will this outcome be measured?

- *Attitude and understanding surveys*

Management oversight

Zone Committee Sponsor – Michelle Hawke

Zone team responsibility – Zone Manager

Outcome 6: Recreation, tourism and amenity opportunities

Aquatic recreation, tourist and amenity values in priority locations are maintained and, where possible, improved.

Milestones:

1. Improve water quality at the Balmoral camping ground swimming site (near State Highway 7).
   Lead: Zone Manager
2. Change the procedure for removing toxic algal warnings on rivers in the zone to avoid delays because the river was in fresh (i.e. discoloured) when visited.
   Lead: Tim Davie or Kimberley Dynes
3. Zone Committee identify priority recreation or amenity sites where action is needed to improve the site by October 2017 and get work started on these by December 2017.
   Lead: Zone Manager

How will this outcome be measured?

- *Before and after surveys of recreational values in priority areas*
- *Number of complaints about the state of water bodies for recreation (such as in relation to suitability for swimming)*
- *Number of initiatives to improve recreation opportunities at priority sites*
- *Contact recreation monitoring*

Management oversight

Zone Committee Sponsor – Dan Shand and James Costello

Zone team responsibility – Zone Manager

Outcome 7: Reliable drinking water

A sustainable supply of water that meets the needs of present and future domestic and agricultural users, and complies with New Zealand Drinking Water Standards in an affordable and responsible manner.

Keep this Outcome and milestone – ensure HDC happy with this and will contribute to quarterly reporting

Milestones:

1 All Hurunui District community water supplies will be protozoa compliant as below:
- End of 2017/18: 33.3% protozoa compliant (deep well security status)
- End of 2024/25: 52.4% protozoa compliant (all minor schemes)
- End of 2025/26: 85.7% protozoa compliant (all small and rural agricultural supply schemes)
- End of 2026/27: 100% protozoa compliant (all neighbourhood supply schemes)

2 Hurunui District Council progressively implements the prioritised water management improvement areas as outlined in the Water Asset Management Plan (wAMP approved in November 2014).

3 Hurunui District Council progressively implements the agreed improvement areas identified in each of the Water Safety Plans (previously referred to as Public Health Risk Management Plans) for the community supply schemes across the district.

How will this outcome be measured?

- *Number of drinking water complaints*
- *State of community supplies in relation to NZ drinking Water standards*

Management oversight

Zone Committee Sponsor – Winton Dalley and Vince Daly

Zone team responsibility – Zone Manager [milestones done by HDC]

Outcome 8: Enhance Mahinga Kai

Work with Rūnanga to develop outcome statement

1 Identify at least two projects to enhance mahinga kai in the zone

2 Investigate options to provide on-the-ground advice to raise awareness of farm practices that provide for mahinga kai and Ngai Tahu values

Zone Committee Sponsor – Makarini Rupene

Zone team responsibility – Stephen Bragg

Outcome 9: Maintain natural character of braided rivers

Natural character is maintained on active braided river beds in the zone.

Milestones:

1. Prepare a Management Action Strategy or strategies for braided riverbeds in Waiau and Hurunui Rivers or parts thereof with the (first) strategy finalised with farmers and other interests by March 2018 and actions on-the-ground commenced by June 2018. Work with LINZ to start to deliver, from December 2016, CWMS targets, where relevant, on LINZ riverbed land in the zone.
   Lead: Zone Manager

Management oversight

Zone Committee Sponsor – Ken Hughey

Zone team responsibility – Zone Manager

AGENDA ITEM NO: 10	SUBJECT MATTER: **Zone Facilitator's Report**
REPORT BY: Ian Whitehouse, Environment Canterbury	DATE OF MEETING: 19 June 2017

Action required

1. Zone Committee members note the presentation (attached) on current water quality that will provided in the evening at Cheviot following the zone committee meeting.
2. Note the Hurunui Science Stakeholders Group workshop on Wednesday 21 June will discuss the critical information needed to develop solutions for the following land and water management issues:
    - Fixing the 10%-rule issue;
    - Consideration of using deferring a review of water takes (to align them with HWRRP minimum flows) to lever further actions by irrigators to improve water quality;
    - Developing water quality limits for Waiau River that are as "strong" as those for Hurunui River and when these limits would be notified (in targeted plan change or following HWRRP review in 2023).

1 Cheviot community meeting on water quality in Waiau and Hurunui catchments

The committee is hosting a public meeting at Cheviot following the committee meeting. A copy of the material to be presented is attached.

2 Science Stakeholders Group workshops

The Hurunui Science Stakeholder workshop on 31 May covered:

1. Outline of and progress on assessment of Hurunui Waiau Social Profile - Sri Hall and Vivienne Ivory (Opus)
2. Outline of and progress on current state economic assessment - Simon Harris (LandWaterPeople)
3. Lag time in the Hurunui catchment- Lisa Scott and Hamish Graham (ECan).

All presentations and the notes from the workshop have been emailed to the zone committee and to the Hurunui Science Stakeholders Group.

1. The next Science Stakeholders Workshop is on Wednesday 21 June (3.00 – 6.00pm) at St John's Hall, Amberley. It is proposed that this workshop discuss the critical technical the critical information needed to develop solutions for the following land and water management issues:
    - Fixing the 10%-rule issue;
    - Consideration of using deferring a review of water takes (to align them with HWRRP minimum flows) to lever further actions by irrigators to improve water quality;
    - Developing water quality limits for Waiau River that are as "strong" as those for Hurunui River and when these limits would be notified (in targeted plan change or following HWRRP review in 2023).

It is expected that further Science Stakeholder workshops will be scheduled in July and August.

What we know

…about water quality in the Hurunui and Waiau River catchments

Results from current monitoring and investigations

Cheviot Hotel, !9 June 2017

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Key messages (1)

- Water quality is generally better in Waiau River than in Hurunui River. The Waiau River is a larger river with more floods and freshes (that remove nuisance periphyton).
- Cyanobacteria (*Phormidium*) is an issue in the Hurunui River below SH7. Didymo appears to be the dominant algae in the upper reaches.
- Waiau mainstem water quality generally good (including for ecosystem health indicators, periphyton cover & toxic cyanobacteria) although increased N concentrations at SH1;

Key messages (2)

- Swimmability (*E. coli* levels) is an issue in the Hurunui for the tributary streams and at SH1 much of the time. In the Waiau it is generally not an issue except sometimes at SH1.
- Water quality in Leader & Mason Rivers reflects stable low flows, warm summer temperatures and few flushing flows. Nuisance periphyton in both rivers. Poor ecosystem health & toxic cyanobacteria in Leader at SH1.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Key messages (3)

- Nitrate from intensive land use in the Amuri Basin is a major source of N to the Hurunui and Waiau Rivers, with increasing trend in concentrations at some tributary and groundwater sites.
- The impact of AIC piping and consented expansion, development of HWP and Balmoral forest conversion is still to be seen.
- The impact of altering in-river N & P concentrations on periphyton growth and species composition remain uncertain. Notwithstanding this,
  - the management of N & P, microbial contamination and sediment is considered necessary to avoid an adverse deterioration in freshwater quality;
  - Flushes and small floods are effective in regulating periphyton accumulation;

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Wadeable and Swimmable

- **Wadeable** = People are exposed to a high risk of infection (>5% risk) from contact with water during activities with partial immersion and some ingestion of water
  - Annual median must not exceed 1000 MPN/100mL
- **Swimmable** = moderate risk of infection (< 5% risk) from activities likely to involve full immersion.
  - Annual 95th percentile must not exceed 540 MPN/100mL
- Based on monthly monitoring

From NPS-FM (2014)

Wadeable and Swimmable - Hurunui

- Wadeable: All sites monitored are suitable for wading activities
- Swimmable:
  - Tributary streams frequently do not meet minimum requirements for swimmability
  - Hurunui River at SH1 did not meet minimum requirements for past 4 years – reflected by a 'poor' suitability for recreation grading
  - Decreasing *E.coli* trends for Dry Stream, Pahau River and St Leonards Drain

Swimmable	2011-12	2012-13	2013-14	2014-15	2015-16
Hurunui River at Mandamus	A	A	B	A	A
Mandamus River – Tekoa Rd				B	B
Waitohi above Hurunui Confl.		B			
Dry Stream above Hurunui Confl.	Insufficient data for analysis				
Pahau River above Hurunui Confl.	B	B		A	
St Leonards Drain above Pahau					
Hurunui River SH1	B				

Sites coded red do not meet the minimum acceptable state for Swimmability for that year.

Wadeable and Swimmable - Waiau

- Wadeable: All sites monitored classed in the A band of the NPS-FM for 2011-16 – indicates suitable for wading activities
- Swimmable:
  - Upper Waiau River and tributaries generally considered swimmable
  - Annual climatic variation can influence swimmability e.g wet seasons

Swimmable	2011-12	2012-13	2013-14	2014-15	2015-16
Mason River SH70	INSUFFICIENT DATA FOR ANALYSIS			B	B
Leader River SH1				B	B
Waiau River Leslie Hills Road			B	A	A
Waiau River SH1					A

Sites coded red do not meet to minimum acceptable state for Swimmibility for that year.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

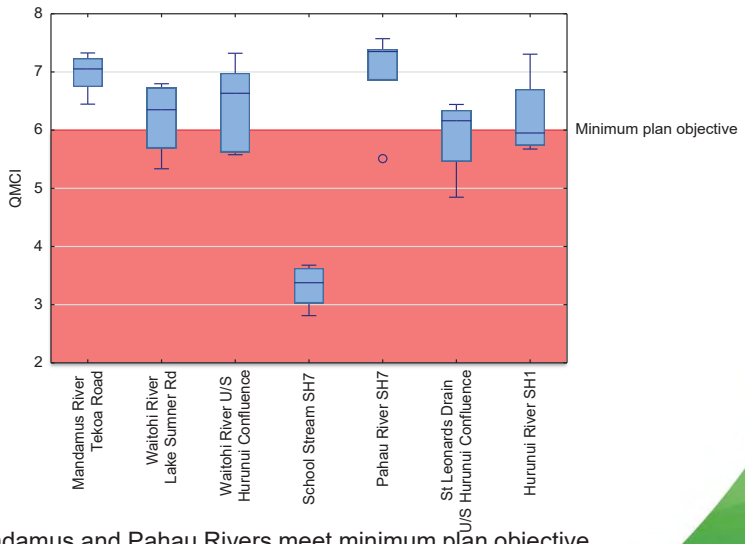
Contact recreation (summer) monitoring

- Suitability for recreation monitoring only carried out for Hurunui River at the swimming site near SH7 bridge and at SH1, and Waiau at Waiau
- Hurunui SH7 and SH1: Recent improvement to “Fair” grading, but have both been previously considered unsuitable for recreation
- Insufficient data to grade Waiau River at Waiau, Trib on South bank above Waiau Bridge = Fair

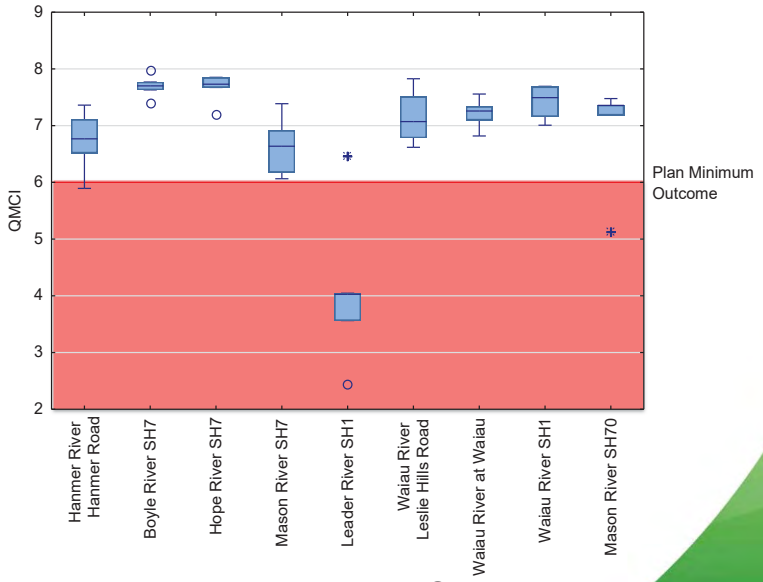
Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Aquatic ecosystem health

Monitoring of aquatic macro-invertebrates (bugs >0.5 mm) species as an indicator of overall water quality and stream habitat



- Mandamus and Pahau Rivers meet minimum plan objective
- Waitohi (2 sites), St Leonards Drain and Hurunui SH1 occasionally do not meet the minimum plan objective
- School Stream at SH7 does not achieve the minimum plan Objective



- All sites except the Leader River at SH1 generally achieve the minimum plan Objective

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Key Messages: Aquatic Ecosystem Health

- 2 Hurunui and tribs sites always meet plan objectives, 4 sites sometimes meet plan objectives,
- School Stream at SH7 does not meet the minimum plan objective
  - Stagnant flow, choked with macrophytes and floating algae
- All Waiau and Mason sites, except the Leader at SH1 meet the minimum plan objective
- Leader River impacted by low flow, sedimentation/embeddedness, nuisance periphyton growth and warm temps
- AIC piping will reduce flows in many of the Amuri Basin streams

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

What is periphyton

Green filaments

Black *Phormidium* mats

- Algae or cyanobacteria e.g didymo, green filaments, *Phormidium*
- In large quantities can be considered a nuisance due to impacts on river values
  - Recreation – *Phormidium* mats can be toxic
  - Ecological – can smother the benthic environment
  - Aesthetic appeal

Key factors driving Periphyton and Cyanobacteria

- River flow has greatest influence on periphyton growth, followed by nutrients when flow is stable
- different periphyton appear to have different nutrient requirements
  - didymo = low nutrient requirements
  - cyanobacteria = elevated N, potentially low P in water
  - long filament = elevated N & P
  - Need to manage both N & P to meet requirements of different periphyton

Total Periphyton - Hurunui

- NPS-FM National Objectives Framework – Benthic Periphyton – chlorophyll 'a'
  - Only have suitable data at 2 sites: Hurunui SH1 + Pāhau River
- Pāhau River at Top Pāhau Rd generally good
- Hurunui River at SH1 variable and not suitable all years

Benthic Periphyton	No. samples	National Bottom line		C		B		A	
SQ30064	Hurunui River SH1								
3 yr	36	4	11%	5	14%	2	6%	22	61%
2011-12	12	3	25%	2	17%	0	0%	5	42%
2012-13	12	1	8%	1	8%	1	8%	8	67%
2013-14	12	0	0%	2	17%	1	8%	9	75%
SQ00540	Pahau River at Top Pahau Road								
3 yr	36	0	0%	0	0%	1	3%	34	94%
2011-12	12	0	0%	0	0%	0	0%	12	100%
2012-13	12	0	0%	0	0%	1	8%	10	83%
2013-14	12	0	0%	0	0%	0	0%	12	100%

Environment Canterbury Regional Council Kaunihera Taiao ki Waitaha

Total Periphyton - Waiau

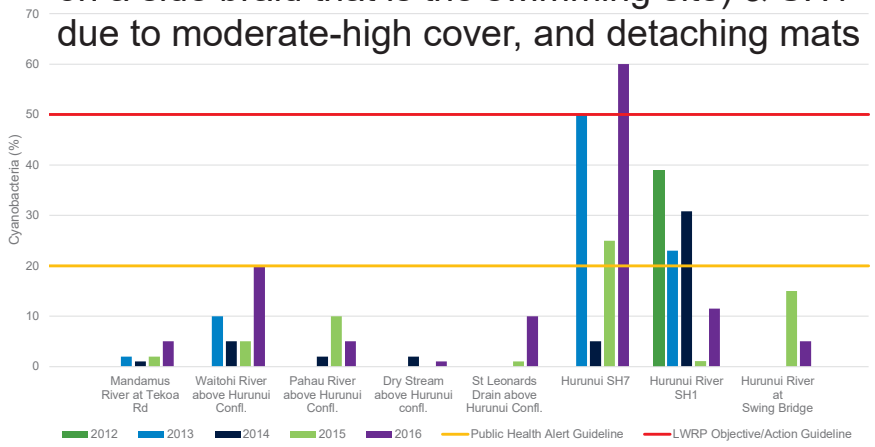
- NPS-FM National Objectives Framework – Benthic Periphyton – chlorophyll 'a'
  - Only have suitable data at 2 sites
- Waiau River at Leslie Hills generally good
- Mason River is variable

Chlorophyll *a*	No. samples	National Bottom line		C		B		A	
SQ34704	Waiau River Leslie Hills								
3 yr	36	0	0%	0	0%	1	3%	28	78%
2011-12	12	0	0%	0	0%	1	8%	8	67%
2012-13	12	0	0%	0	0%	0	0%	8	67%
2013-14	12	0	0%	0	0%	0	0%	12	100%
SQ34869	Mason River SH70								
3 yr	36	2	6%	3	8%	2	6%	22	61%
2011-12	12	2	17%	3	25%	1	8%	3	25%
2012-13	12	0	0%	0	0%	1	8%	10	83%
2013-14	12	0	0%	0	0%	0	0%	9	75%

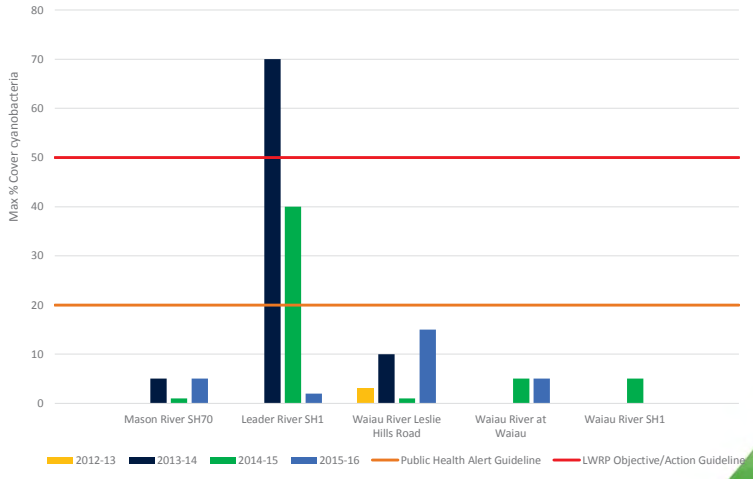
Canterbury Regional Council Kaunihera Taiao ki Waitaha

Cyanobacteria (*Phormidium*) mat cover - Hurunui

- Most problematic in the Hurunui River mainstem
- Public Health Warnings often issued at SH7 (often on a side braid that is the swimming site) & SH1 due to moderate-high cover, and detaching mats



Cyanobacteria mat cover - Waiau



- Most problematic in Leader River
- Present in Waiau River at low cover below levels of public health risk concern

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Cyanobacteria mats in rivers

- No public health warnings have been issued in the Waiau River
- Most problematic for recreational sites in the Hurunui River
- Leader River exceeded levels but is not a recognized bathing site, but is detrimental to ecosystem health – smothering of benthic habitat
- Local observations suggest side braids of Waiau at SH1, and immediately below drains and streams have a denser cover of mats (than the main braid)
- Waiau River may be susceptible to mat growth, but flow (floods) currently limits growths

Kaunihera Taiao ki Waitaha

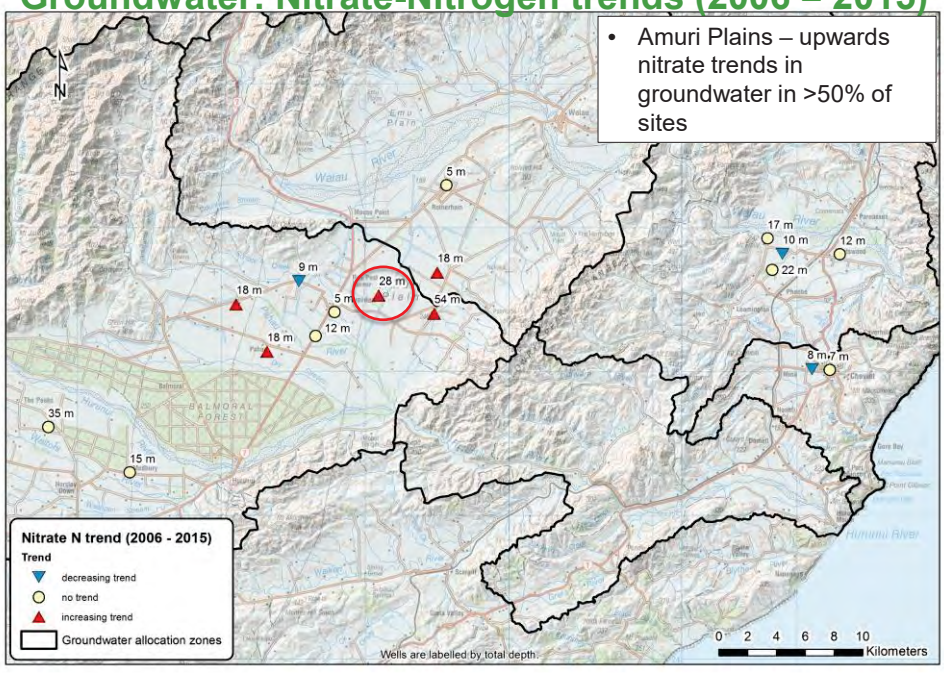
Didymo cover in rivers

- Monitoring indicates Didymo is the dominant periphyton in the upper Hurunui catchment (upstream of SH7)
- Didymo appears to dominate under low nutrient conditions in the Hurunui River when flow is stable
- Didymo present in the Waiau River but not at problematic cover – regulated by flushing flows

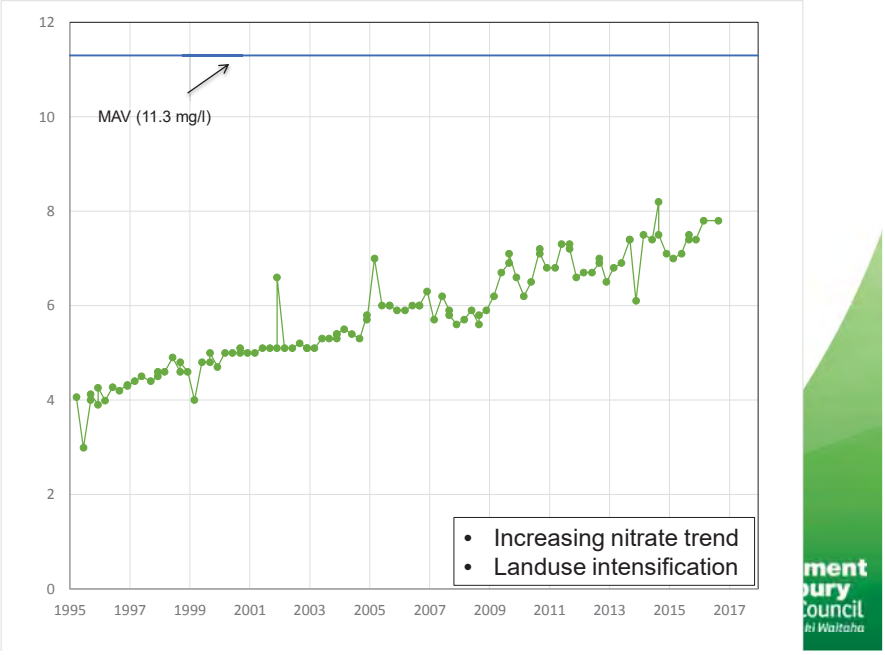
Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Groundwater

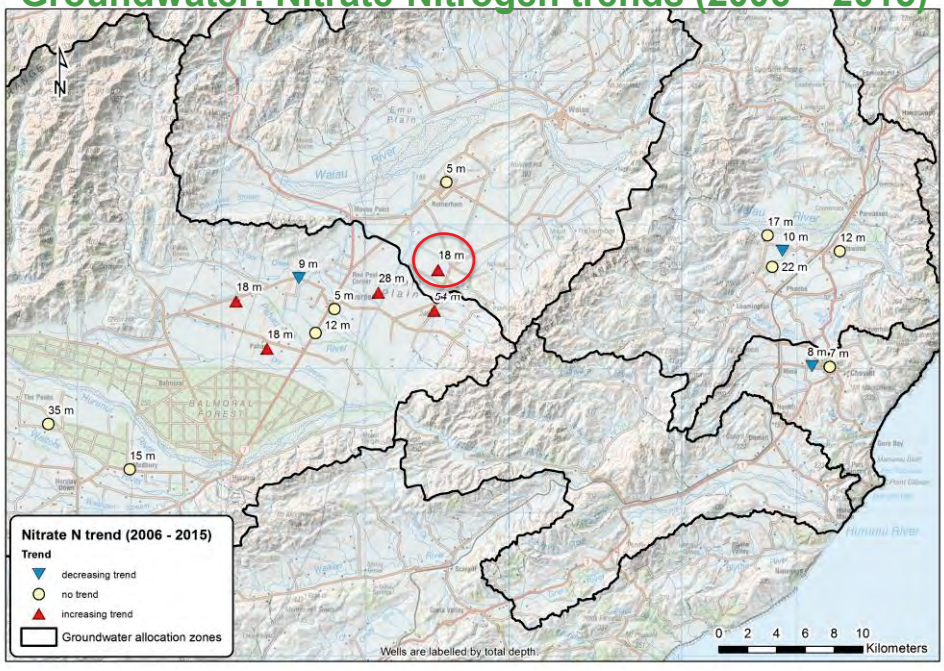
Groundwater: Nitrate-Nitrogen trends (2006 – 2015)



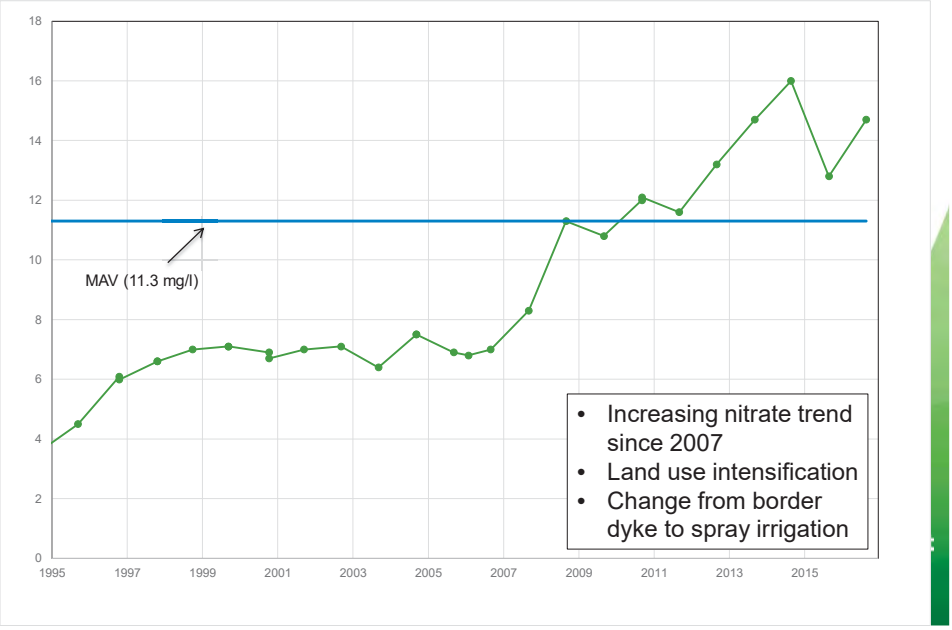
Amuri Plains well (N33/0205 – 28 m deep)



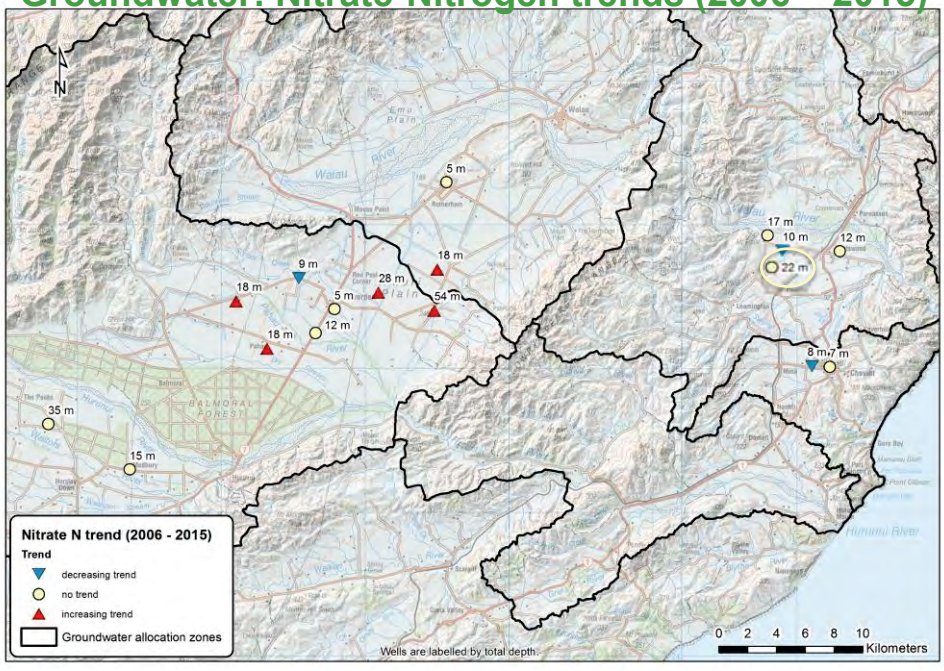
Groundwater: Nitrate-Nitrogen trends (2006 – 2015)



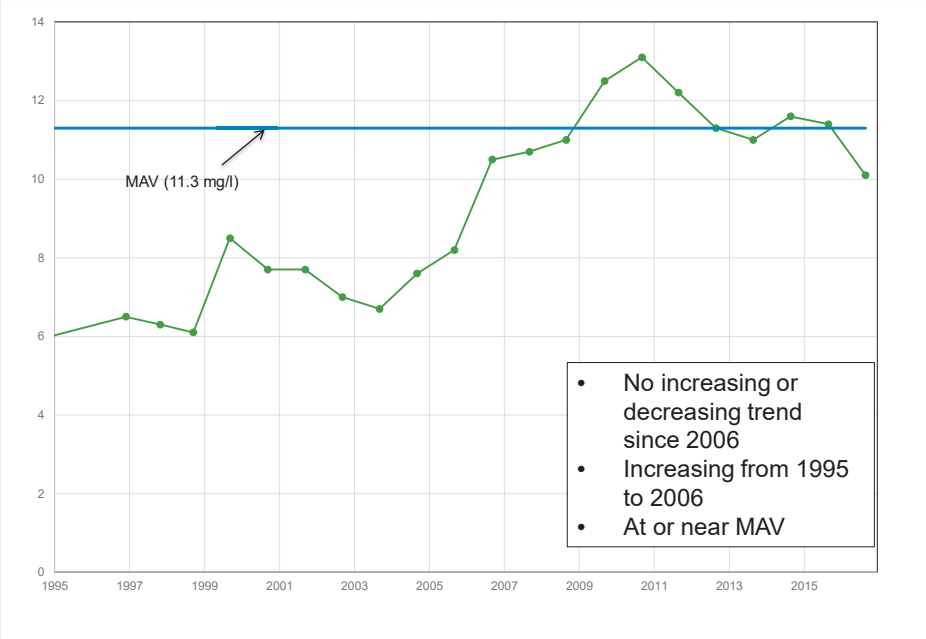
Amuri Plains well (N33/0200 – 18 m deep)



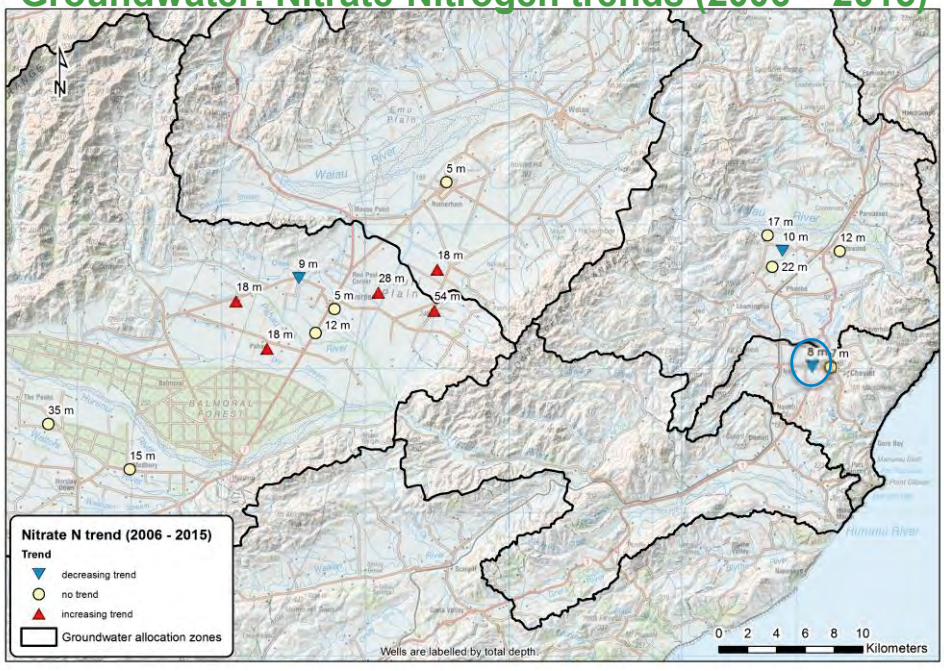
Groundwater: Nitrate-Nitrogen trends (2006 – 2015)



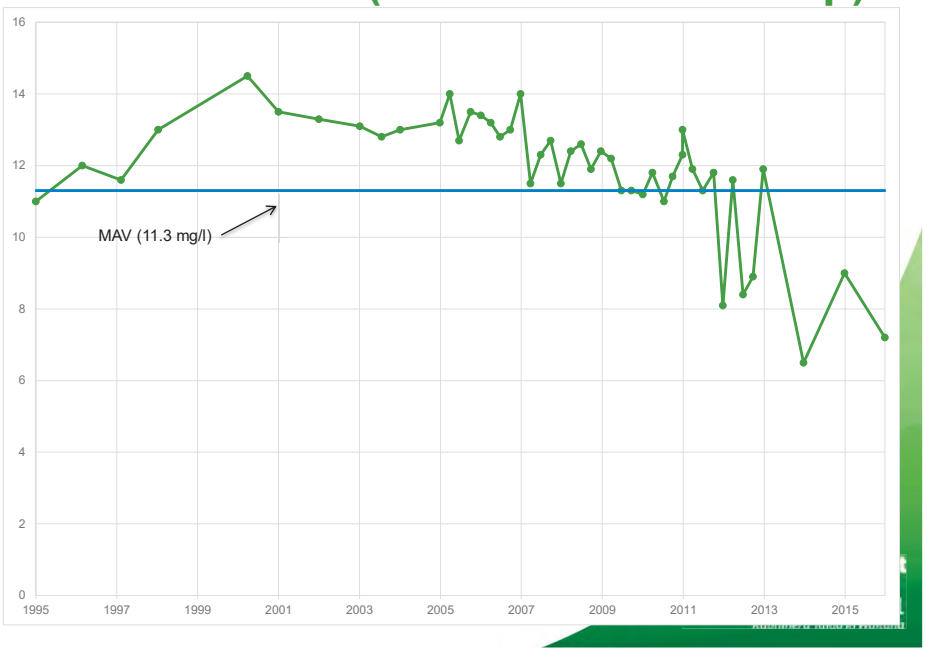
Parnassus well (N33/0166 – 22 m deep)



Groundwater: Nitrate-Nitrogen trends (2006 – 2015)



Parnassus well (N33/0049 – 8 m deep)



Key messages - groundwater

- Some wells with elevated nitrate
- >50% monitoring sites have an upward nitrate trend in the Amuri Basin
- Some sites with no trend (2006-2015) have nitrate concentrations near the MAV
- Reflects land use intensification and conversion from border dyke to spray irrigation

Environment Canterbury
Regional Council
Kaunihera Taiao ki Waitaha

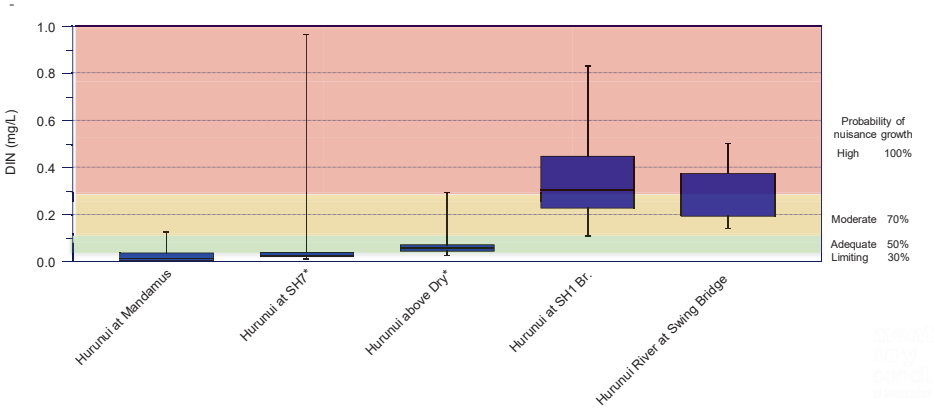
Nutrients and their impact on surface water quality

- **Nutrients**
  - At **low** concentrations - Beneficial in encouraging thin growths of algae in rivers (food for aquatic life)
  - At **higher** concentrations – encourage conspicuous nuisance growths of algae (periphyton)
  - At **very high** concentrations some nutrients (Nitrate-N, Ammonium-N) can be toxic
- Different guideline address different effects

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

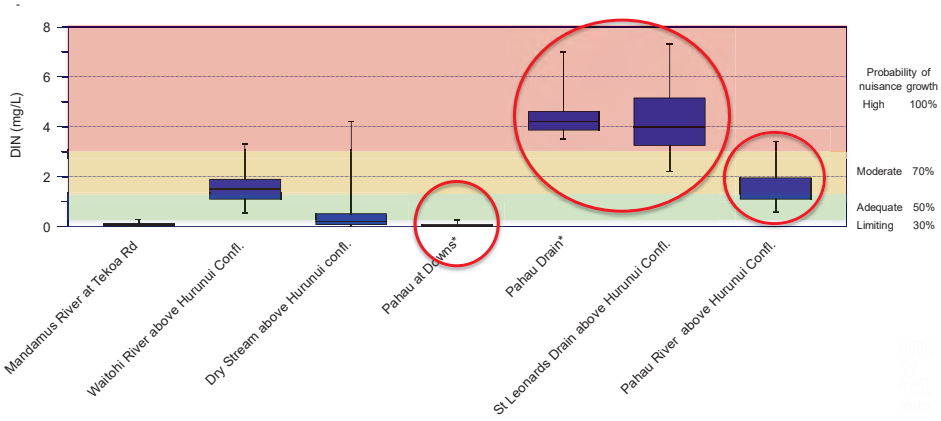
Nutrient impacts on periphyton – Nitrogen Hurunui Mainstem

- Increase in N from upper Hurunui (Mandamus/SH7) to lower (SH1/Swingbridge)
- From 1989 to 2016 nitrogen concentrations have significantly increased. Since 2006 there has been no significant trend observed (<1% annual change)



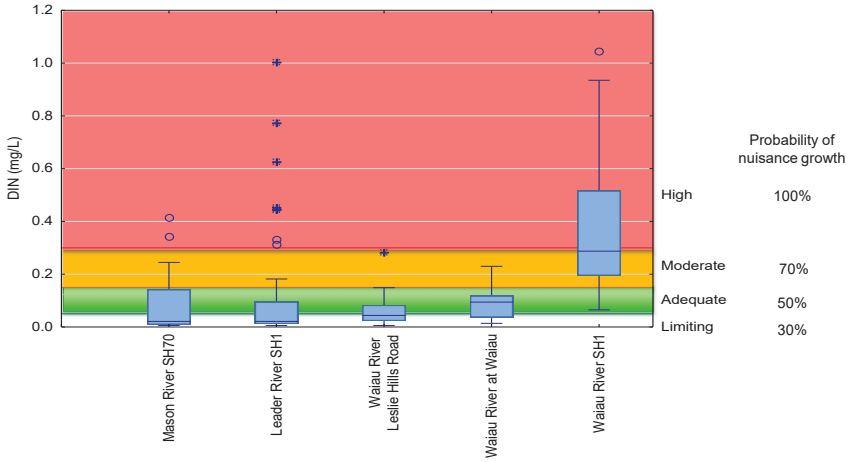
Nutrient impacts on periphyton – Nitrogen Hurunui Tribs

- Increase in N from upper Pahau (Downs) to lower Pahau (above Hurunui)
- Nitrogen elevated in tributary streams (Amuri Basin)
- Greatest in spring-fed tributaries e.g Pahau Drain, St Leonards Drain
- Increasing trends from 2005 for Waitohi and St Leonards Drain, decreasing for Dry (irrigation race water – may change with AIC piping)



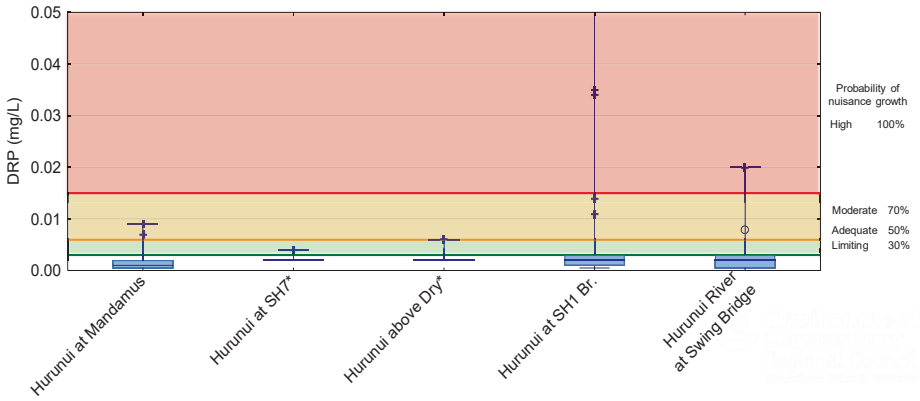
Nutrient impacts on periphyton – Nitrogen Waiau and Tribs

- Increase in nitrogen at SH1 – indicating moderate-high risk of nuisance periphyton blooms under stable flow
- No significant trend observed since monitoring began (2004-05), but slight increase at SH1



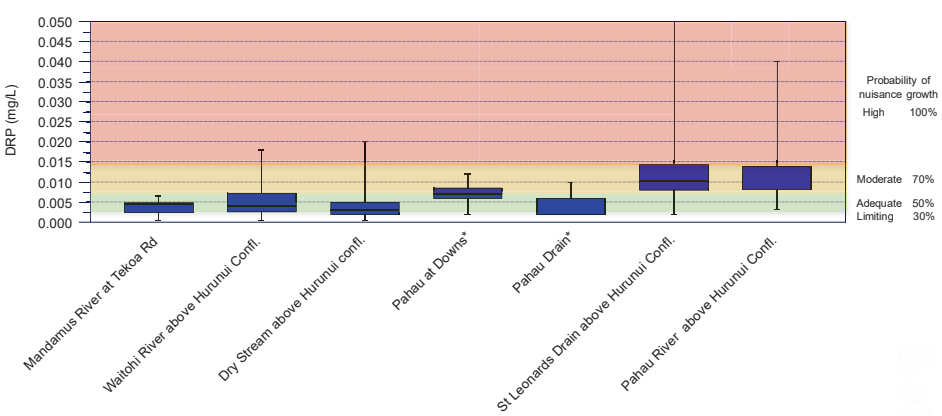
Nutrient impacts on periphyton – Phosphorus Hurunui Mainstem

- P concentrations indicates periphyton growth in the Hurunui mainstem is limited by phosphorus– does not account for sediment P sources i.e for *Phormidium* growth
- No significant trends 1989 – 2016 in mainstem, however slight decrease for SH1 when flow is taken into consideration
- Short term trend (2005 – Present) indicates a significant decrease in phosphorus when flow is taken to consideration



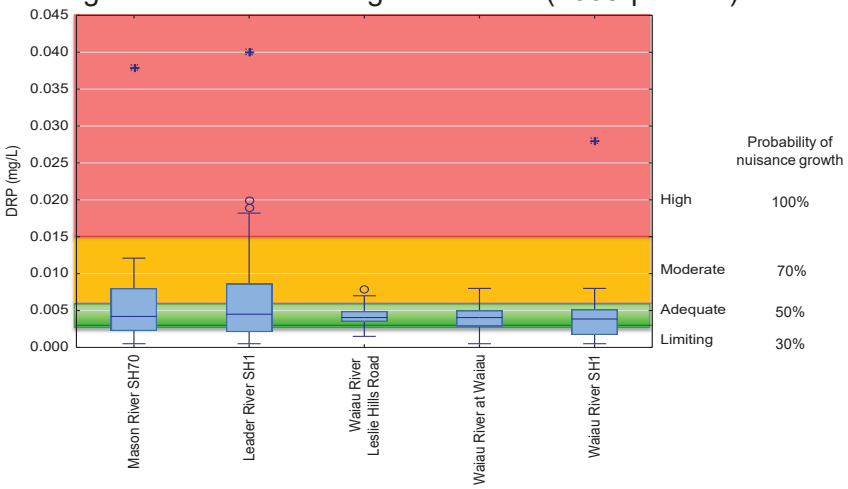
Nutrient impacts on periphyton – Phosphorus Hurunui Tribs

- Tributaries show higher P than mainstem
- Decreasing trends from 2005 for Waitohi, Pahau, and Dry Stream
- Higher concentrations in St Leonards and Pahau suggest targeted P-Losses may be reduced by management in these



Nutrient impacts on periphyton - Phosphorus Waiau and Tribs

- Waiau Tributaries show higher P - moderate increase in risk of nuisance growths
- P concentrations not increasing down the Waiau River
- No significant trends but slight decrease (2005-present)



Key Messages: Nutrients and periphyton

- **Hurunui River mainstem:**
  - Upper river dominated by didymo, with both N & P limiting factors of periphyton growth
  - Lower river dominated by cyanobacteria
  - Cyanobacteria related to increasing N concentrations, can be limited by P concentrations
    - Evidence that cyanobacteria can get P from fine sediment trapped in mats

Regional Council
Kaunihera Taiao ki Waitaha

Key Messages: Nutrients and periphyton

- **Amuri Basin tributaries**:
  - Elevated nutrient concentrations, with N increasing in some tributaries, P decreasing in some
  - Tributaries do not appear to be susceptible to nuisance periphyton growths – low slow flows likely make nutrient uptake by periphyton difficult
  - Elevated nutrient concentrations important as a source to the mainstem

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Key Messages: Nutrients and periphyton

- **Waiau River mainstem:**
  - Periphyton risk increasing downstream with increase in N;
  - P not high but adequate for periphyton growth.
  - Susceptible to nuisance periphyton growth, but generally regulated by frequent flushing flows
- **Mason and Leader Rivers**:
  - Nitrogen concentrations adequate for periphyton growth.
  - P concentrations higher than mainstem.
  - Tributaries susceptible to nuisance growths as flows and nutrients more stable

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

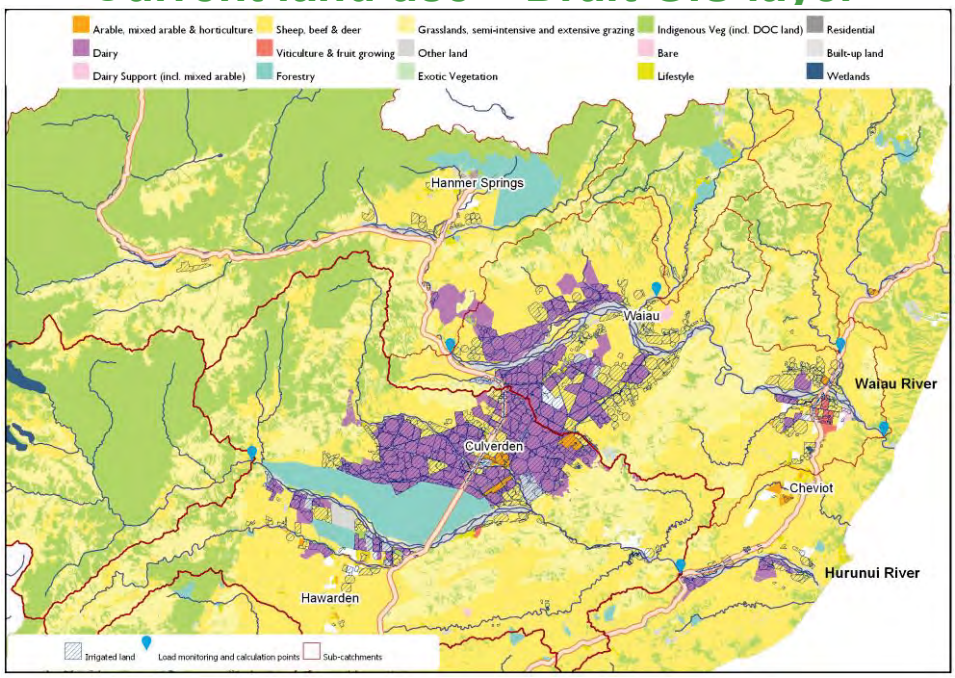
Nutrient toxicity – National Criteria

- All Hurunui and Waiau river catchment sites monitored have low ammonia toxicity risk

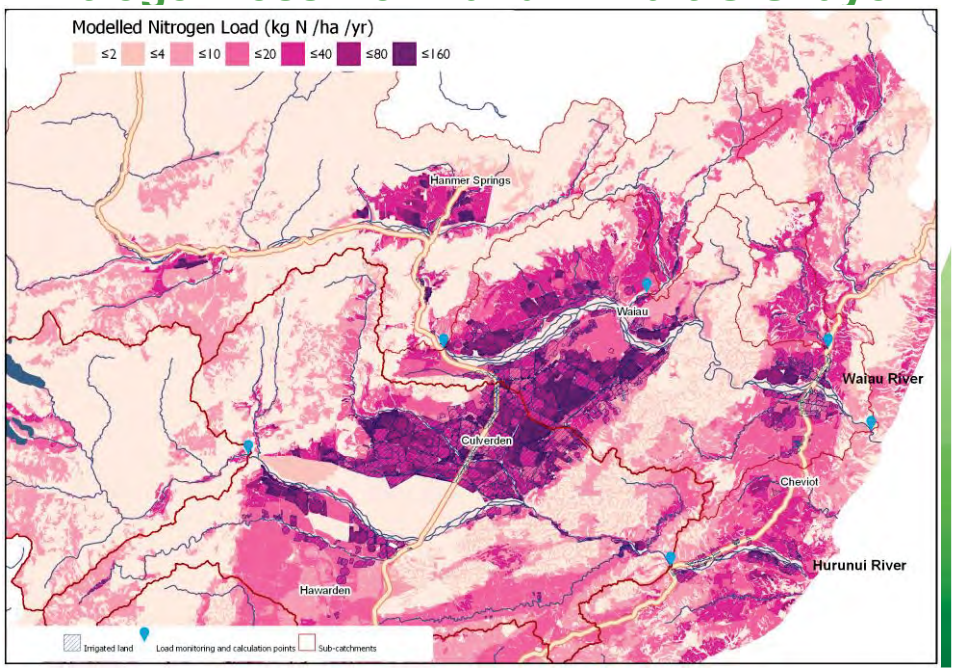
- Alpine and hill-fed rivers have low nitrate toxicity risk e.g Waiau, Hurunui, Mason, Leader, Pahau, Waitohi, Waikari, Kaiwara
- Some nitrate toxicity effects on species for spring-fed streams i.e Pāhau Drain and St Leonards Drain, Dry Stream, and Lowry Peaks Drain and Rotherham Stream

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Current land use – Draft GIS layer



Nitrogen loss from land – Draft GIS layer



Comparing 'Source' and 'In-river' loads to existing Plan limits

Catchment	Area (ha)	'Source' loads (Nitrogen tonnes/yr)#	'In-river' loads (Nitrogen tonnes/yr)	Existing Plan (In-river) load limits (DIN tonnes/yr)
Hurunui @ Mandamus	105,754	**228**	**55*** (28-105)**	**39**
Hurunui at SH1 (Total)	252,395	**1,886**	**713*** (270-1451)**	**963**
Waiau above Leslie Hills	208,324	**565**	253; 137; 111***	**No limit yet**
Waiau (whole catchment)	331,879	**2201**	1666; 984; 1030***	**No limit yet**

Based on summing loads from draft GIS layers on previous slides
* Based on rolling 6 year average annual load estimate as at 2016
** Brackets show large range of annual load estimates for the period 2005 to 2016
***Based on annual load estimates for each of years 2013/14 to 2015/16

Key messages (1)

- Water quality is generally better in Waiau River than in Hurunui River. The Waiau River is a larger river with more floods and freshes (that remove nuisance periphyton).
- Cyanobacteria (*Phormidium*) is an issue in the Hurunui River. Below SH7. Didymo appears to be the dominant algae in the upper reaches – Both present in the Waiau River but regulated by frequent flushing flows
- Waiau mainstem water quality generally good (including for ecosystem health indicators, periphyton cover & toxic cyanobacteria) although increased N concentrations at SH1;

Key messages (2)

- Swimmability (*E. coli* levels) is an issue in the Hurunui for the tributary streams and at SH1 much of the time. In the Waiau it is generally not an issue except sometimes at SH1.
- Water quality in Leader & Mason Rivers reflects stable low flows, warm summer temperatures and few flushing flows. Nuisance periphyton in both rivers. Poor ecosystem health & toxic cyanobacteria in Leader at SH1;

Key messages (3)

- Nitrate from intensive land use in the Amuri Basin is a major source of N to the Hurunui and Waiau Rivers, with increasing trend in concentrations at some tributary and groundwater sites.
- The impact of AIC piping and consented expansion, development of HWP and Balmoral forest conversion is still to be seen.
- The impact of altering in-river N & P concentrations on periphyton growth and species composition remain uncertain. Notwithstanding this,
  - the management of N & P, microbial contamination and sediment is considered necessary to avoid an adverse deterioration in freshwater quality;
  - Flushes and small floods are effective in regulating periphyton accumulation;

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha

Next steps

- The zone committee has identified issues that it wants fixed or substantially progressed by December 2018 including:
  1. Fix the “10%-rule” issue;
  2. Consider whether further deferral of review of water takes (to align them with HWRRP minimum flows) should be used to lever further actions by irrigators to improve water quality;
  3. Consider strengthening water quality limits for Waiau River (c.f. limits for Hurunui River).
  4. Developing management strategies for Hurunui and Waiau braided riverbeds
- Will be developing options and evaluating options, including through targeted changes to Hurunui Waiau Rivers Regional Plan, to address these issues.

Environment Canterbury Regional Council
Kaunihera Taiao ki Waitaha


Questions

Canterbury Water

Hurunui Waiau Zone Water Management Committee

Terms of Reference

The area of the Hurunui Waiau Water Management Zone is shown on the attached map.

Establishment

The Committee is established under the auspices of the Local Government Act 2002 in accordance with the Canterbury Water Management Strategy 2009.

The Committee is a joint Committee of Environment Canterbury (the Regional Council) and Hurunui District Council (the Territorial Authority).

Purpose and Functions

The purpose and function of the Committee is to:

- Facilitate community involvement in the development, implementation, review and updating of a Zone Implementation Programme that gives effect to the Canterbury Water Management Strategy in the Hurunui Waiau area; and
- Monitor progress of the implementation of the Zone Implementation Programme.

Objectives

1) Develop a Zone Implementation Programme that seeks to advance theCWMS vision, principles, and targets in the Hurunui Waiau Zone.

2) Oversee the delivery of the Zone Implementation Programme.

3) Support other Zone Implementation Programmes and the Regional Implementation Programme to the extent they have common areas of interest or interface.

4) Ensure that the community of the Zone are informed, have opportunity for input, and are involved in the development and delivery of the Hurunui Waiau Implementation Programme.

5) Consult with other Zone Water Management Committees throughout the development and implementation of the Hurunui Waiau Implementation Programme on matters impacting on other zone areas.

6) Engage with relevant stakeholders throughout the development of the Hurunui Waiau Implementation Programme.

7) Recommend the Hurunui Waiau Implementation Programme to their respective Councils.

8) Review the Implementation Programme on a three yearly cycle and recommend any changes to the respective Councils.

9) Monitor the performance of Environment Canterbury, Hurunui District Council, and other agencies in relation to the implementation of the Hurunui Waiau Implementation Programme.

10) Provide Environment Canterbury and Hurunui District Council with updates on progress against the Zone Implementation Programme.

Limitation of Powers

The Committee does not have the authority to commit any Council to any path or expenditure and its recommendations do not compromise the Councils' freedom to deliberate and make decisions.

The Committee does not have the authority to submit on proposed Resource Management or Local Government Plans.

The Committee does not have the authority to submit on resource consent matters.

Committee Membership

The Zone Committee will comprise:

1) One elected member or Commissioner appointed by Environment Canterbury;

2) One elected member appointed by each Territorial Authority operating within the Zone Boundary;

3) One member from each of Tūāhuriri and Kaikōura Rūnanga;

4) Between 4-7 members appointed from the community and who come from a range of backgrounds and interests within the community;

5) Environment Canterbury and Hurunui District Council will appoint their own representatives on the Committee. Tūāhuriri and Kaikōura Rūnanga will nominate their representatives and the appointments will be confirmed by Environment Canterbury and Hurunui District Council.

Selection of Community Members

To be eligible for appointment to a Zone Committee the candidate must either live in or have a significant relationship with the zone. Recommendations on Community Members for the Hurunui Waiau Zone Committee will be made to Environment Canterbury and Hurunui District Council by a working group of representatives from Environment Canterbury, Hurunui District Council, Tūāhuriri and Kaikōura Rūnanga. The recommendations will take into account the balance of interests required for Hurunui Waiau, geographic spread of members and the ability of the applicants to work in a collaborative, consensus-seeking manner. Environment Canterbury and Hurunui District Council will receive the recommendations and make the appointments.

Quorum

The quorum at a meeting consists of:

(i) Half of the members if the number of members (including vacancies) is even; or

(ii) A majority of members if the number of members (including vacancies) is odd.

Chair and Deputy Chair

Each year, the Committee shall appoint the Chair and Deputy Chair from the membership by simple majority. There is no limit on how long a person can be in either of these positions.

Term of Appointment

Members of Committees are appointed for a term of three years. To coincide with Local Government Election processes terms shall commence from January each year, with each Committee requiring confirmation of membership by the incoming Council. The term for community members will be staggered so that one third of the community members is appointed (or reappointed) each year. There is no limit on the number of consecutive terms.

Financial Delegations

None

Operating Philosophy

The Committees will at all times operate in accordance with the requirements of the Local Government Official Information and Meetings Act 1987, and will observe the following principles:

1) Give effect to the Fundamental Principles, Targets and goals of the CWMS;

2) Be culturally sensitive observing tikanga Maori;

3) Apply a Ki uta ki tai (from the mountains to the sea) approach;

4) Work with the CWMS Regional Committee to support the implementation of the CWMS across the region as a whole;

5) Give consideration to and balance the interests of all water interests in the region in debate and decision-making;

6) Work in a collaborative and co-operative manner using best endeavours to reach solutions that take account of the interests of all sectors of the community;

7) Contribute their knowledge and perspective but not promote the views or positions of any particular interest or stakeholder group;

8) Promote a philosophy of integrated water management to achieve the multiple objectives of the range of interests in water;

9) Seek consensus in decision-making where at all possible. In the event that neither unanimous agreement is able to be reached nor a significant majority view formed, in the first instance seek assistance from an external facilitator to further Committee discussions and deliberations. Where the Committee encounters fundamental disagreements, despite having sought assistance and exhausted all avenues to resolve matters, recommend that the respective Councils disband them and appoint a new Committee.

Meeting and Remuneration Guidelines

1) The Committee will meet at least eight times per annum and with workshops and additional meetings as required. At times, the workload will be substantially higher. Proxies or alternates are not permitted.

2) Any Committee may co-opt such other expert or advisory members as it deems necessary to ensure it is able to achieve its purpose. Any such co-option will be on a non-voting basis.

3) Remuneration for members will be paid in the form of an honorarium currently set at the following levels:

   a. Appointed members - $4,000 pa
   b. Deputy Chair - $5,000 pa
   c. Chair - $6,000 pa.

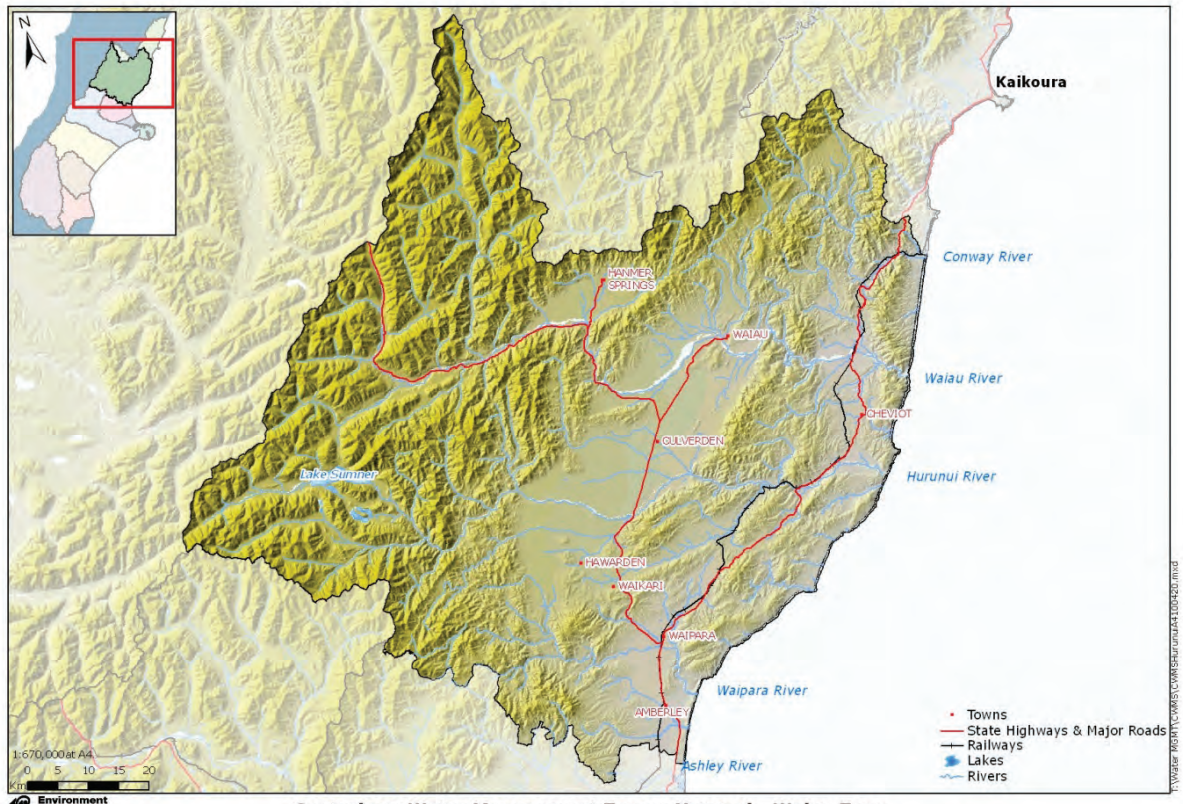
Staff or elected members of Territorial Authorities or the Environment Canterbury shall not be eligible for remuneration.

Mileage will be reimbursed.

Committee Support

The Committee shall be supported staff from the Territorial Councils and Environment Canterbury, primarily through the Committee Secretary and the Zone Facilitator.

Map showing Hurunui Waiau Water Management



Canterbury Water Management Zones: Hurunui - Waiau Zone