

Memo

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|------|-----------------------------------|
| Date | 05 June 2019 |
| To | Angela Fenemor |
| CC | Alastair Picken and Jason Holland |
| From | Meredith Macdonald |

Community Engagement for the Waimakariri Land and Water Solution Programme

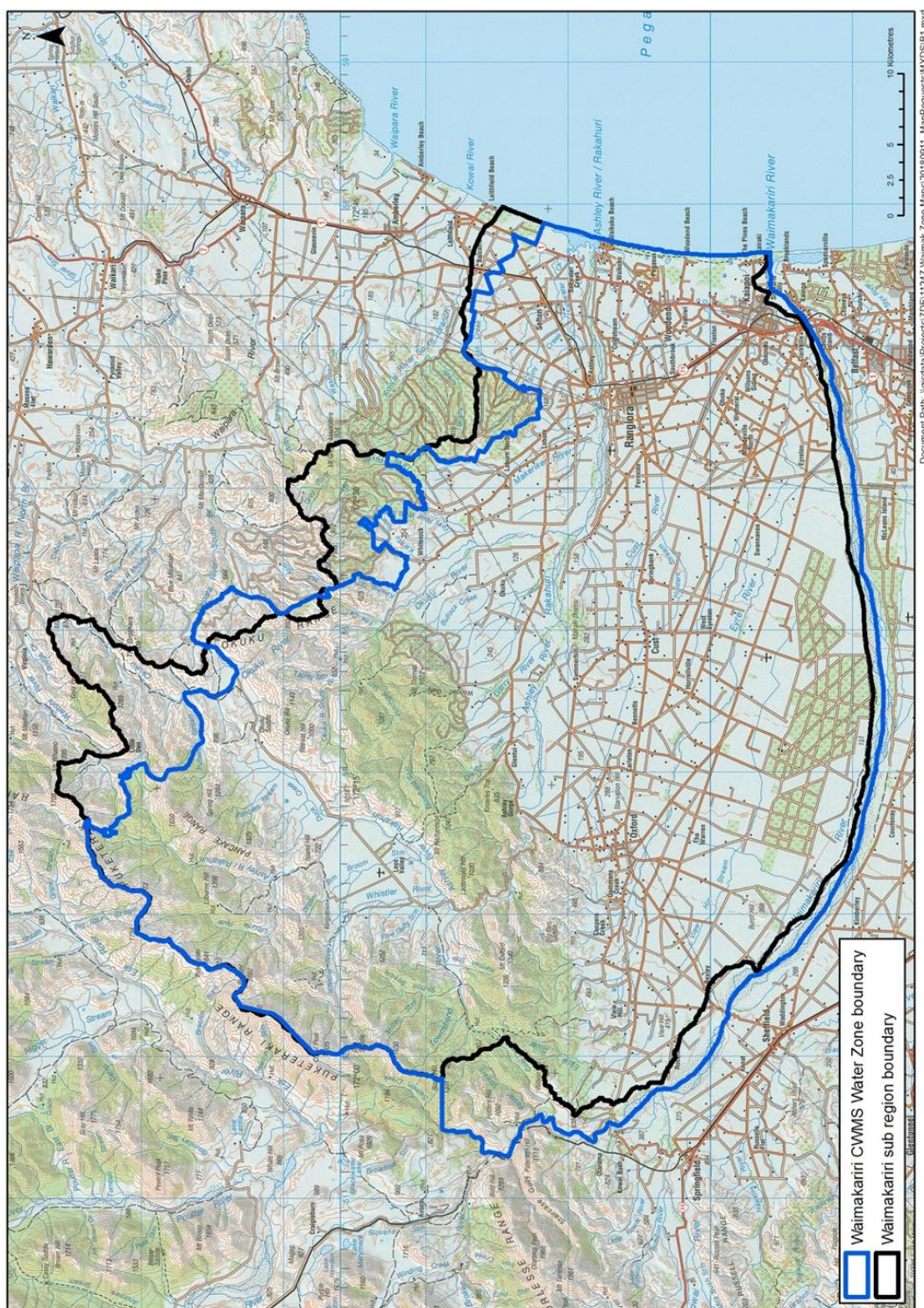
This paper provides an overview of the community engagement process for the limit setting process in the Waimakariri. It also provides some of the background and reasoning behind the community engagement approaches used in the Waimakariri catchment. The paper will outline the process from early 2015 through to when the Zone Implementation Programme Addendum was signed off by the Waimakariri Water Zone Committee in November 2019.

The Waimakariri sub-region, as shown in Map 1, lies to the north of the Waimakariri River and extends from Pegasus Bay in the east to the Puketeraki Range in the west with Mt Oxford, Mt Richardson and Mt Thomas in the foreground. In the north-western corner lies Lees Valley with Ashley River/Rakahuri flowing through the hills and onto the plains. As the Ashley flows it captures water from Okuku, Makerikeri and Garry Rivers ending up in Te Aka Aka (Ashley River/Rakahuri estuary).

Much of the land to the east of Rangiora is reclaimed swamp that is still subject to poor drainage and occasional flooding.

The rivers, streams, lagoons and the wetlands have always been an important place and food basket for tangata whenua. The sub-region is part of the takiwa of Ngāi Tūāhuriri Rūnanga and holds special significance. Before the Marae at Tuahiwi was established, several kilometres north of present Kaiapoi, Ngāi Tūāhuriri ancestors established an important cultural, political and economic settlement with the Kaiapoi pa at the centre of it. Gathering the resources the land provides, and passing on traditions/practices has been and continues to be an important part of Ngāi Tūāhuriri connection to the area.

Diversity abounds in Waimakariri sub-region due to its unique mix of small towns, farming, lifestyle blocks and its proximity to Christchurch. Despite rapid population growth, Waimakariri has been able to retain its rural/small town character with attractive town centres and surrounding rural areas.



Map1: Waimakariri Water Zone Boundaries

The limit setting process in the Waimakariri catchment was driven by the Canterbury Water Management Strategy (CWMS) and the National Policy Statement for Freshwater Management 2017 (NPSFM). The CWMS provides the basis for the collaborative approach to water management issues throughout Canterbury.

The Waimakariri Water Zone Committee (Zone Committee) is one of 10 Zone Committees that were established under the Canterbury Water Management Strategy (CWMS) to implement the strategy through collaboration, assessment and decision making. The Zone Committee guides the process, often advising ECan staff on actions to take in response to comments and concerns expressed by the wider community.

The Waimakariri zone is the seventh collaborative process to go through a collaborative approach after Hurunui Waiau, Selwyn-Te Waihora, Ashburton, South Coastal Canterbury, Upper Waitaki, Lower Waitaki and the Wairewa/Lake Forsyth catchment in Banks Peninsula. Collaborative processes in the Orari, Temuka – Opihi, Pareora zone, and a targeted process for the Hurunui, have occurred over similar timeframes to the Waimakariri process.

The Waimakariri Zone Committee started their journey to develop water quality and quantity recommendations for their Zone Implementation Programme Addendum (ZIPA) in April 2015. They finished the community engagement part in October 2018. A tabulated record of their consultation during this period is in Appendix B of this paper.

The Waimakariri Community

The community in the Waimakariri zone have been given many opportunities to inform the recommendations in the ZIPA throughout the process.

The Zone Committee are representatives of their community and it was important for them to engage with the community to inform, confirm understanding and test solutions. A diagram showing communication flow between the key groups is shown in Appendix A. As a result of the complexity of the information and group needs, the process ended up with a number of different stages as the understanding of the issues and possible ways forward presented themselves.

Ngāi Tūāhuriri rūnanga with Te Rūnanga o Ngāi Tahu (TRONT)

Waimakariri is part of the Ngāi Tūāhuriri takiwā. They have two representatives at the Zone Committee table. Capacity issues and several changes in rūnanga membership created difficulties during the process. However, earning and continued conversation over time has slowly allowed a relationship between representatives of Canterbury Regional Council (ECan) and Ngāi Tūāhuriri Rūnanga to build.

Waimakariri District Council (WDC)

WDC is a party to the CWMS and has been and continues to be fully engaged with the Zone Committee's work. They have supported and provided feedback on all stages of the community engagement. They have also provided information to local community boards and groups to make sure they have been informed of opportunities to engage.

Christchurch City Council & Christchurch West Melton Water Zone Committee

The Christchurch community was brought in the consultation in early 2018 when technical experts agreed that deep groundwater was flowing under the Waimakariri River, instead of

the Waimakariri River acting as a hydraulic barrier to groundwater flow (as previously understood). This led to a review of who to consult with.

The Christchurch City Council (CCC) and Christchurch-West Melton Water Zone Committee (CWM Zone Committee) received information about the issue and were provided opportunities to give feedback on proposed solutions. Meetings between staff, CCC, the CWM Zone Committee, and Waimakariri Zone Committee have been recorded in the Table of Consultation in the Appendix B.

Other stakeholders

Other key groups for community engagement were:

- Science Stakeholders Advisory Group,
- Farmers Reference Group
- Directly affected water take consent holders
- Ashley River / Rakahuri catchment consent holders
- Waimakariri River tributaries catchment consent holders
- Waimakariri Irrigation Limited

Waimakariri Irrigation Limited (WIL) and other consent holders were actively involved in consultation. WIL assisted with ECan to organise the initial discussion with landowners and managers in the Eyre catchment about the nitrate flowing under the Waimakariri river modelling results.

Science Stakeholders Advisory Group (SSAG) was established for participants to be involved with the development and understanding of the technical work.

Participants who were invited to SSAG:

- | | |
|--|-------------------------------|
| • Beef and Lamb | • Fish and Game |
| • Canterbury District Health Board | • Pork NZ |
| • BRAID/Ashley River Care Group | • Canterbury University |
| • Dairy NZ | • Te Rūnanga o Ngāi Tahu |
| • Department of Conservation | • Te Kōhaka o Tūhaitara Trust |
| • Foundation for Arable Research | • Ngāi Tūāhuriri Rūnanga |
| • Irrigation NZ | • Ngāi Tahu Farming |
| • Federated Farmers | • WDC |
| • Forest and Bird | • Deer NZ |
| • Lincoln University Silverstream River Care Group | • Whitewater NZ |
| • Waimakariri Irrigation Limited | |

Communication

The opportunities to engage in the limit setting process were advertised based around who was required to be engaged with and the purpose of the meeting or workshop at each stage on consultation.

Information about each session was advertised through some, or all, of the following means:

- Emails direct to affected stakeholders and organisations
- Online Social Media
- Kaiapoi Cinema
- ECan and WDC webpages
- Local Waimakariri newspapers and The Press
- Waimakariri E-newsletter (~1250 subscribed)
- Fliers in Council Offices and in shop windows
- Articles in North Canterbury News and Northern Outlook

In addition to the community meetings and workshops held in the Waimakariri Zone, the wider public were welcome to attend and participate in the monthly Zone Committee meetings. Zone Committee meetings provide an opportunity for the committee to discuss community feedback and respond to any concerns. Throughout the process the Zone Committee gave due consideration of community feedback, which informed the final recommendations in the ZIPA.

Stages of consultation

Between April 2015 and October 2018, the general stages of consultation are noted below and are explored in further detail later in this paper.

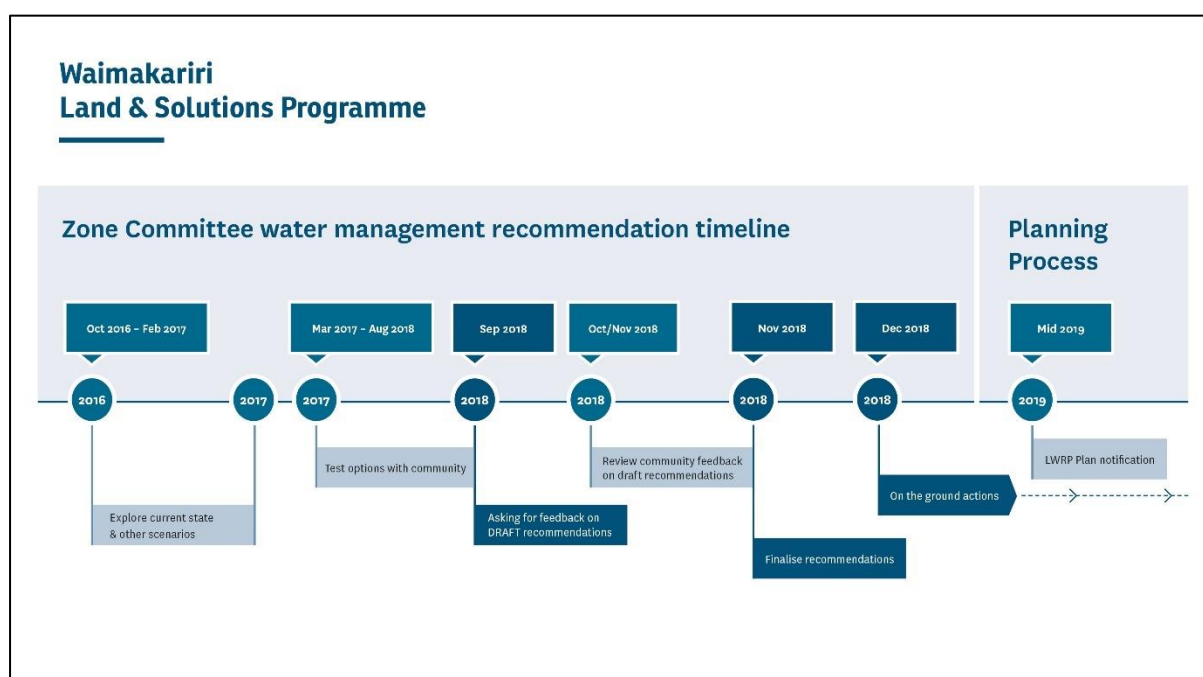


Figure showing the community engagement timeline

Initiation

The initiation stage focussed on introducing the Zone Committee's programme of works, within the context of the CWMS. This stage involved identifying and confirming water quality and quantity outcomes in the Waimakariri zone. Then from this what issues prevented those

outcomes being met. Ten community meetings were held across April and May 2015, with a further five held in November and December.

These rounds of community involvement engaged more than 400 people who were kept up to date on local water management issues and the lead into the sub-regional planning process through monthly email newsletter updates.

During the initiation stage, the Zone Committee had two field trips within the Waimakariri Zone looking at water ways and informally meeting with members of the public to describe the ZIPA process.

Scenario Testing

- Current State – October 2016
- Current Pathways – November 2016
- Alternative Pathways – March 2017

For the scenario testing stage, the Zone Committee took out three scenarios to the community. The purpose was to inform the community what the science was saying is currently happening (Current state) and two alternative pathways (Current and Alternative Pathways) as to what could happen. In response the Zone Committee asked the participants whether each scenario was acceptable or not and any solutions they might suggest.

At each workshop, the community were given a presentation on the science findings. Then around a table, community members were asked questions about each scenario. A Zone Committee member and a facilitator sat at the table helping them through the process. The overall feedback from these meetings were then provided to the Zone Committee at their next briefing.

Out of these workshops, the Zone Committee gained a better understanding of the key water management issues and what the community thought the drivers were in the zone.



Alternative Pathways Community Meeting on 15 March 2017

Consultation on specific topics (Targeted engagement)

From late 2017 through to the end of 2018, the Zone Committee decided to focus consultation on specific topics. Part of the reasoning was the assessment of water quality and quantity were at different stages of understanding and, secondly, concentrating on a particular topic would allow focussed feedback.

Environmental flow and allocation workshops

Discussions on environmental flows and allocation were held primarily with surface water and stream depleting groundwater consent water take users and Ngāi Tūāhuriri rūnanga. As holders of water permits they would be directly affected by changes to minimum flows and water allocation.

The first set of six workshops were held in November 2017 to build an understanding of what the specific water quantity issues were and what water reliability people were experiencing. Participants were asked what actions, or other solutions, could be put in place to remedy any issues. The workshops were attended by 77 people who provided feedback on what they experienced in their catchment.

Alongside this Simon Harris (ECan Consultant) conducted a survey sent out to all water takes users in the Waimakariri zone regardless of the size of their take. This survey asked about their current usage and reliability. The confidential survey was emailed out several times and was discussed at workshops. Unfortunately, there were only 21 respondents of which held a total of 17 surface water consents and 22 groundwater consents. Due to the low response little could be gleaned from the results.

The second set of workshops was held between April and June 2018. They focussed on alternative flow regimes to achieve water quality outcomes in each catchment.

The workshops all had a similar target audience and format to the November workshops. Letters and emails were sent out to surface water and stream depleting groundwater consent water take users inviting them to participate in the workshops. Each workshop was set up around specific catchment(s), there were seven meetings in total. The facilitated workshops had 76 people attend. At each table participants were asked a set of questions and were encouraged to talk with each other over maps about their opinions and thoughts of the solutions the Zone Committee had put forward.

As a result of a wider community discussion, some communities requested specific meetings on their catchment. This occurred for the irrigators on the Cam River in June 2017, and water users on the Cust River in October 2018.



Environmental flow and allocation workshops in Fernside and Clarkville Halls November 2017

Workshops on managing nitrates

The nitrate workshops and meetings resulted from a groundwater model changing the agreed understanding that the Waimakariri River was a barrier to deep groundwater (Etheridge and Whalen 2019). When these findings came out, the Zone Committee had to amend their timetable to allow time for the wider community to consider what it meant on meeting freshwater outcomes, and the potential effects on landowners and managers.

For community engagement it meant widening consultation to Christchurch City Council and Christchurch West-Melton Water Zone Committee in early 2018, so they were informed of the modelling results, and to provide opportunities to give feedback to the Waimakariri Zone Committee on proposed solutions.

The first public meeting on nitrates in the Waimakariri zone was held at West Eyreton Hall in May 2018 with landowners and managers from the modelled source area of nitrate loss flowing under the Waimakariri River. Shareholders from Waimakariri Irrigation Ltd (WIL) were included as they manage much of the land in the area. The meeting was jointly run by WIL and ECan with at least 30 participants attending.

The series of workshops to consult on nitrates in July 2018 was advertised across the entire Waimakariri district because the source and receptor areas collectively covered a wide area. The intent was to raise awareness of this issue and the potential level of change this presented to existing land use and management in some parts of the District.

Three workshops were held in Kaiapoi (18 July), Oxford (19 July) and Rangiora (25 July). Each workshop started with a presentation followed by plenty of time for questions. This was followed up by facilitated questions at tables supported by Zone Committee members. Interest in the subject was high and about 210 participants in total turned up to each workshop to learn about the new scientific understanding and provide feedback on how to manage nitrates within the zone.

The discussion regarding how to manage nitrate loss was animated and as a result some local farmers and property owners formed the Next Generation Farmers group. This group indicated they wanted to work with the Zone Committee as they saw themselves as the young farmers who would need to solve the nitrate issue over the longer term.

Consultation with Ngāi Tūāhuriri rūnanga and Te Rūnanga o Ngāi Tahu

Alongside engagement with the wider community and Ngāi Tūāhuriri rūnanga on specific topics, there was specific engagement with Ngāi Tūāhuriri rūnanga. As has occurred in previous community processes it was important to allow the rūnanga time and resources to gather information for their purposes to inform the process. This includes how their values associated with water are being affected and what would be required for manawhenua to reconnect and continue to be connected to their resources and taonga. This resulted in the Cultural Opportunity Mapping Report (COMAR; Representatives of Te Ngāi Tūāhuriri and Tipa, G. 2016).

Between the COMAR being finalised and May 2018 there were several changes in rūnanga membership which created complications during the process. After this time Ngāi Tūāhuriri rūnanga worked with ECan to improve understanding of what was important to Ngāi Tūāhuriri rūnanga and their expectations (see Consultation tables for details).

Consultation on draft Addendum to the Waimakariri Zone Implementation Programme

The final stage (September and October 2018) before the Zone Committee had to finalise their recommendations was to bring their conversations and decisions together in a package for the community to consult on.

Advertising of the draft ZIPA was through newspapers, Kaiapoi cinema, WDC and ECan websites, an e-newsletter was sent out, and several articles were published.

The Zone Committee wanted plenty of opportunity for the community and stakeholders to provide feedback. Therefore, ten workshops were set up across the zone and in Christchurch city, some in the evenings and others in the daytime. The workshops were held in Ohoka Market (21 Sept), Kaiapoi (26 Sept), Pegasus (27 Sept), Oxford (3 Oct), Belfast (4 Oct), Ohoka Market (5 Oct) and Rangiora (10 Oct). The Zone Committee also hosted one-on-one sessions for people who wanted to discuss issues in more depth in Rangiora (1 Oct).



Set up for draft ZIPA workshops September 2018



Draft ZIPA workshop in Oxford 3 October 2018



Draft ZIPA workshop in Ohoka Market 21 Sept 2018



Draft ZIPA workshop in Ohoka Market 5 Oct 2018

The draft Addendum, with supporting technical information and summaries of community meetings held, were provided to the community on Zone Committee's website (hosted by Environment Canterbury).

Throughout the process the Zone Committee gave due consideration of community feedback and resulted in the final recommendations in the Addendum. 85 individual items of

feedback were received in various forms including via email, via the zone website ('Have your say'), electronic and hard copy feedback forms, letters in addition to one on one discussions at the ten sessions.

A couple of separate meetings were held with the Cust River water consent holders. They were concerned about the proposed minimum flow increase and how this would affect their reliability. These meetings resulted in focussed analysis of their situation and the consent holders providing alternative solutions for the Zone Committee's consideration.

After each series of workshops or meetings, feedback was summarised in memos back to the Zone Committee for consideration.

The Zone Implementation Programme Addendum was signed off by the Zone Committee on 19 November 2018.

Conclusion

This paper documents the community consultation process undertaken to assist the Waimakariri Water Zone Committee determine recommendations to management freshwater in their zone.

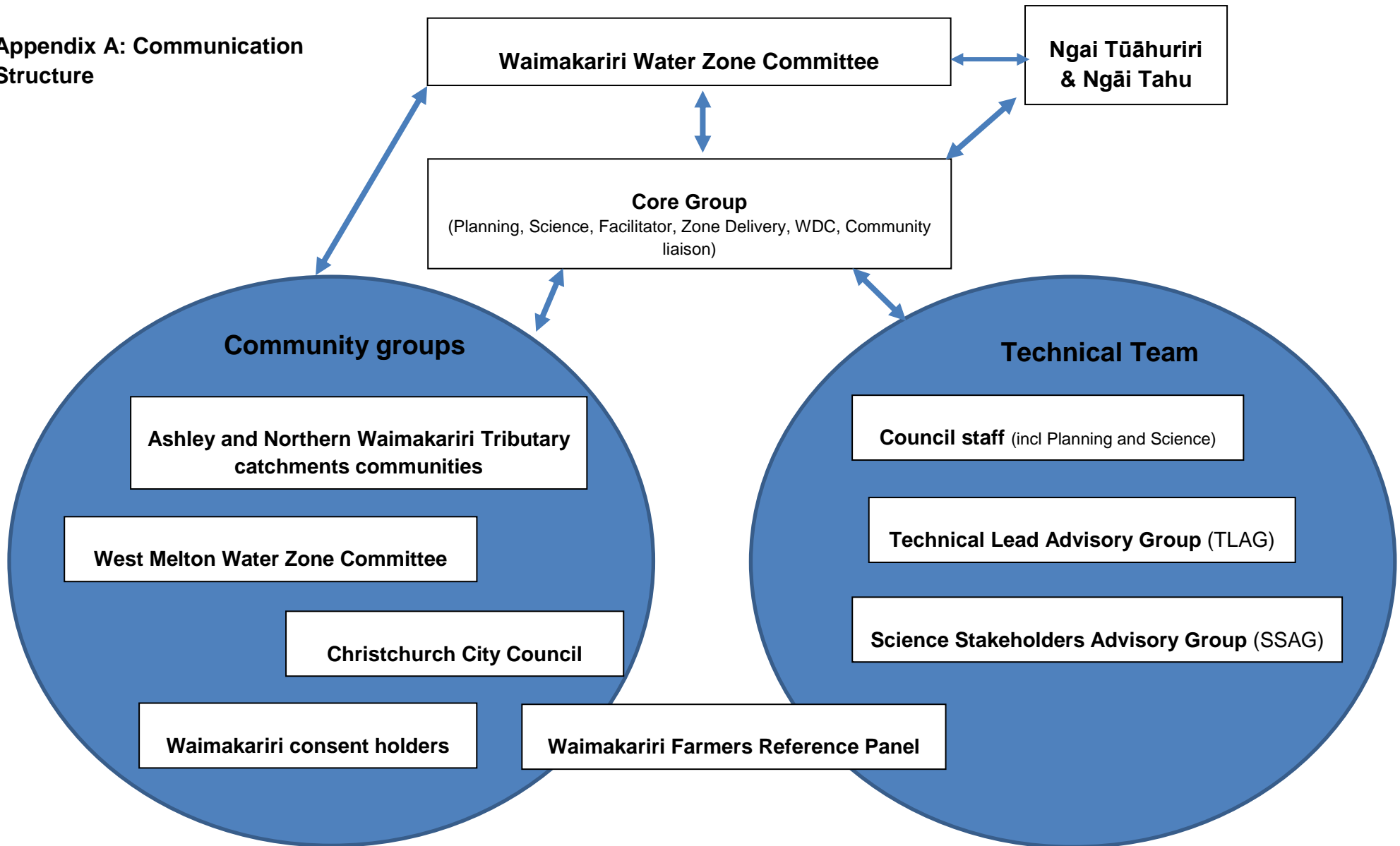
It provides an overview of the significant commitment to consultation and engagement that has occurred over the past three years, particularly in the last 12 months.

As with previous collaborative processes, in support of plan changes, this process has been limited by the tight timeframes and the complex nature of the hydrology and water quality issues. The results of the groundwater modelling meant the process had to adjust to make sure information was updated, the right stakeholders were informed, and adequate time for stakeholders and the community to consider the issues and possible ways forward was provided.

References

- Etheridge, Z. and Whalen, M. 2019: Waimakariri Land and Water Solutions Technical Assessment Overview. Environment Canterbury Report No. R19/73. May 2019
- Representatives of Te Ngāi Tūāhuriri and Tipa, G. 2016: Cultural health assessments and water management for the Rakahuri – Waimakariri zone (COMAR) and endorsement letter dated 12/6/2017. Tipa and Associates.

Appendix A: Communication Structure



Appendix B: Record Tables of Consultation

Zone Committee Workshops and Meetings

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|------------------|--|-------------------------------------|
| 3 June 2015 | MEETING Committee Update on the SSAG and TLAG | WDC Council Chambers |
| 8 June 2015 | MEETING Waimakariri Limit Setting Process – Introductory Community engagement – review Workshops; Matt and Murray | WDC Council Chambers |
| 22 June 2015 | MEETING Discussion about Priority (community) Outcomes, Matt and Murray | WDC Council Chambers |
| 6 July 2015 | WORKSHOP Follow up to the Waimakariri Limit Setting Process – Introductory Workshop; Matt and Murray | WDC Council Chambers |
| 10 August 2015 | MEETING Groundwater Quality Investigation in the Loburn Area, Lisa Scott | WDC Council Chambers |
| 31 August 2015 | WORKSHOP 1 st Biodiversity Stakeholders Meeting hosted by WWZC | Rosburn Receptions |
| 7 September 2015 | MEETING Waimakariri Sub Regional Plan Timeline – Update | WDC Council Chambers |
| 5 October 2015 | MEETING Priority outcome narratives; Tech team work plans overview | WDC Council Chambers |
| 2 November 2015 | MEETING Briefings on the LWRP planning framework and PC5, Jason & Devon | WDC Council Chambers |
| 1 February 2016 | MEETING Sub-regional plan – scope of work, and Nov-Dec 2015 community meetings reviewed | Function Room Rangiora Town Hall |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|----------------------|---|-----------------------------------|
| 7 March 2016 | MEETING WQ and Ecology Gap Filling, Michael Greer | Function Room, Rangiora Town Hall |
| 21 March 2016 | WORKSHOP Conceptualisation of the Waimakariri Zone hydrogeology, Zeb | WDC Council Chambers |
| 4 April 2016 | MEETING History and Rationale For The Current Environmental Flow And Allocation Regime – Ashley/Rakahuri River, John Glennie | Function Room, Rangiora Town Hall |
| 4 April 2016 | WORKSHOP Waimakariri Priority Outcomes and Narratives Workshop, Matt D | Function Room, Rangiora Town Hall |
| 18 April 2016 | WORKSHOP Waimakariri proposed process, Dirk and Matt | WDC Committee Rooms |
| 2 May 2016 | WORKSHOP Sub-Regional Planning Process – Briefing, D Brand; Outcomes and Indicators – Workshop, Matt and Dirk | Function Room, Rangiora Town Hall |
| 16 May 2016 | WORKSHOP Waimakariri Hydrology – Mark Megaughin; Ashley/Rakahuri Estuary and contact recreation programme – Lesley Bolton-Richie | WDC Council Chambers |
| 18 May 2016 | WORKSHOP 2 nd Biodiversity Stakeholders Meeting hosted by WWZC | Rosburn Receptions |
| 13 June 2016 | MEETING Community Outcomes and NPSFM Values - Workshop – D Brand; Community Outcomes and Indicators - Workshop – M Dodson Ashley/Rakahuri And Phormidium – Tara McAlister (PhD student from the Waterways Centre for Freshwater Management at the University of Canterbury) | Function Room, Rangiora Town Hall |
| 20 June 2016 | WORKSHOP Technical indicators, Matt | WDC Council Chambers |
| 11 July 2016 | MEETING Community Engagement Plan - Workshop – J Stapleton; Draft Scenarios - Workshop – M Dodson | Function Room, Rangiora Town Hall |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|--------------------------|--|-----------------------------------|
| 25 July 2016 | WORKSHOP Briefing on Land and Water Solutions Programme communications and community engagement | WDC Council Chambers |
| 8 August 2016 | MEETING Overview of Scenarios Workshop – J Stapleton and I Whitehouse; Community Engagement Review Workshop – A Arps And J Stapleton | Function Room, Rangiora Town Hall |
| 29 August 2016 | WORKSHOP Proposed boundaries review – using Sub regional planning boundaries instead of CWMS boundaries, Matt Dodson and Jo Stapleton | WDC Council Chambers |
| 12 September 2016 | MEETING Business as usual scenario (later renamed current pathways), Matt Dodson Confirmation of boundaries for sub-regional process | WDC Council Chambers |
| 21 September | WORKSHOP 3 rd Biodiversity Stakeholders Meeting hosted by WWZC | Rosburn Receptions |
| 3 October 2016 | WORKSHOP Presentation of the Cultural Health of streams in the Waimakariri–Rakahuri Zone & the aspirations of whanau by Gail Tipa | WDC Council Chambers |
| 31 October 2016 | WORKSHOP Current pathways scenario findings, for WWZC meeting | Rosburn Receptions |
| 7 November 2016 | MEETING Current Pathways Scenario for Waimakariri Land and Water Solutions Programme Workshop – M Dodson; Waimakariri Mana Whenua Significant Sites Assessment Briefing – J Stapleton | Function Room, Rangiora Town Hall |
| 12 December 2016 | WORKSHOP Waimakariri Alternative Pathways Scenarios Workshop – M Dodson; November Community Meetings Feedback Briefing – J Stapleton | Function Room, Rangiora Town Hall |
| 19 Dec 2016 | WORKSHOP Current Pathways Scenario – Technical Review, Matt Dodson and Zeb Etheridge | WDC Council Chambers |
| 30 January 2017 | WORKSHOP | WDC Council Chambers |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|-------------------------|--|-----------------------------------|
| | FMU memo – Alastair Picken, Current State & Pathways Scenario – key issues summary, Sub-regional scope of work review Waimakariri Big Rocks work programme review – A Arps | |
| 10 February 2017 | WORKSHOP Agreed Purpose and Culture Statement: To facilitate improved and sustainable land and water management in the Waimakariri Zone | WDC Council Chambers |
| 13 February 2017 | MEETING Lees Valley Farmers Group presentation and catchment workshop Sub-regional scope of work overview WDC District Development Strategy presentation | Function Room, Rangiora Town Hall |
| 27 February 2017 | WORKSHOP Overview of the COMAR recommendations, including Whanau flow preferences and ecological minimum flows Overview of Alternative Pathways scenario Overview of technical indicators | Rosburn Receptions |
| 13 March 2017 | MEETING Information on Lees Valley – response to Lees Valley Farmers Group concerns Summary of Key Issues in Waimakariri | Function Room, Rangiora Town Hall |
| 27 March 2017 | WORKSHOP: Proposed Waimakariri solutions programme Canterbury Maps and Zone Delivery overviews | WDC Committee Rooms |
| 10 April 2017 | MEETING Tuahiwi values briefing Joint meeting with Hurunui/Waiau Zone Committee | Tuahiwi Marae |
| 19 April 2017 | Biodiversity Stakeholders WORKSHOP: Current state reports discussed | Rosburn Receptions |
| 24 April 2017 | WORKSHOP | WDC Committee Rooms |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|--------------------------|--|-----------------------------------|
| | 101 on Surface water& stream depletion and Groundwater Issues/Options | |
| 8 May 2017 | MEETING Denitrification wall field study briefing, Recreational Opportunities | Function Room, Rangiora Town Hall |
| 8 May 2017 | WORKSHOP on Instream ecosystems and Biodiversity Issues/Options | Function Room, Rangiora Town Hall |
| 15 May 2017 | WORKSHOP 101 session on Surface water and Issues/Options on nitrate key decision areas | Rossburn Receptions |
| 19 June 2017 | MEETING Recreational areas and Biodiversity values | Function Room, Rangiora Town Hall |
| 19 June 2017 | WORKSHOP Phase 1 MKT report on Wahi tapu and Wahi Toanga was presented, Principles for Instream ecosystems and values, Other Plan tools | Rossburn Receptions |
| 10 July 2017 | MEETING Plan Change 5 and Farm Environment Plan Process Outline what existing plans have on Biodiversity – RPS and WDC | Function Room, Rangiora Town Hall |
| 24 July 2017 | WORKSHOP Progress against the Solution Programme Schedule and introduction of revised schedule to enable investigation into identified groundwater flow uncertainty | Rossburn Receptions |
| 7 August 2017 | WORKSHOP Saltwater Creek sub-catchment & Kōwai Groundwater Zone – no staff | Rossburn Receptions |
| 14 August 2017 | MEETING Land systems update and go back over what solutions they have for this KDA Adopting the revised Solutions Programme Schedule | Function Room, Rangiora Town Hall |
| 14 August 2017 | WORKSHOP Instream ecosystems A3 – review | Rossburn Receptions |
| 28 September 2017 | WORKSHOP Draft Engagement plan Lower Ashley discussed | Rossburn Receptions |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|-------------------------|--|-----------------------------------|
| 9 Oct 2017 | MEETING Immediate Steps funding Applications, Introduction of Big Rocks Project | Function Room, Rangiora Town Hall |
| 9 October 2017 | WORKSHOP Presentations of Farmers' Panel and DairyNZ Research | WDC Committee Rooms |
| 30 October 2017 | WORKSHOP John Glennie presentation on Ashley River, Brett Painter on storage history, Current ZIP recommendations | Rosburn Receptions |
| 13 November 2017 | MEETING WDC Stormwater Consent, Silverstream Salmon Hatchery update | Function Room, Rangiora Town Hall |
| 13 November 2017 | WORKSHOP Feedback on Stormwater Framework and WDC consent application, River lines and hydrological catchments | WDC Council Chambers |
| 27 November 2017 | WORKSHOP Instream Ecosystems Interventions- Management Options | Rosburn Receptions |
| 11 December 2017 | WORKSHOP Briefing ZC on the outcome of the groundwater flows below Waimakariri River | WDC Council Chambers |
| 11 December 2017 | MEETING Feedback from Targeted Community Engagement | Function Room, Rangiora Town Hall |
| 12 February 2018 | WORKSHOP Process, Outcomes and target for Eyre NAZ | Rosburn Receptions |
| 26 February 2018 | WORKSHOP Instream ecosystems draft recommendations | Rosburn Receptions |
| 12 March 2018 | MEETING Sub-regional solutions programme schedule review QEII biodiversity covenants in the zone, especially Lees Valley | WDC Council Chambers |
| 12 March 2018 | WORKSHOP Rūnanga/MKT/TRONT - Recognising and Protecting Cultural Values in the Waimakariri Zone | WDC Council Chambers |
| 26 March 2018 | WORKSHOP | Rosburn Receptions |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|----------------------|--|----------------------|
| | Northern Waimakariri: Flows, GW limits, big rocks (Biodiversity) and nitrate | |
| 26 April 2018 | WORKSHOP Northern Waimakariri: Flows, GW limits, big rocks (Biodiversity) and nitrate | Rosburn Receptions |
| 30 April 2018 | WORKSHOP Northern Waimakariri: Flows, GW limits, big rocks (Biodiversity) and nitrate – continued from 26 April | Rosburn Receptions |
| 7 May 2018 | WORKSHOP Interzone groundwater briefing | Rosburn Receptions |
| 14 May 2018 | WORKSHOP Waimakariri Zone minimum flows and allocations | Rosburn Receptions |
| 28 May 2018 | WORKSHOP Farmers Reference Panel Ashley/Rakahuri draft recommendations for River minimum flows, allocation limits (rivers and groundwaters), nitrate limits, managing risk of nitrate over-allocation, phasing out river over-allocation | Rosburn Receptions |
| 11 June 2018 | WORKSHOP Test ZIPA against Rūnanga aspirations, science monitoring and review cycle, supporting innovation and new tools on farm, | Rosburn Receptions |
| 11 June 2018 | MEETING Sub-regional solutions programme schedule update Kaiapoi river rehabilitation update | WDC Council Chambers |
| 18 June 2018 | WORKSHOP Managing nitrates – technical advice towards draft recommendations | Rosburn Receptions |
| 2 July 2018 | WORKSHOP Review draft ZIPA and key messages for community meetings on nitrates | Rosburn Receptions |
| 9 July 2018 | MEETING Update on ZIPA progress Ngai Tahu Farming presentation on farming practices | WDC Council Chambers |
| 9 July 2018 | WORKSHOP | WDC Council Chambers |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|-------------------------|---|----------------------|
| | Draft ZIPA conversation on possible nitrates recommendations | |
| 30 July 2018 | WORKSHOP Agree on Nth Waimakariri Tribs draft ZIPA recommendations for water quantity including recommendations for coastal streams/lagoon | Rosburn Receptions |
| 13 August 2018 | MEETING Kaiapoi River investigations DairyNZ & Waimakariri Irrigation Ltd briefing | WDC Council Chambers |
| 20 August 2018 | WORKSHOP Farmers Panel and Next Generation Farmers Group presentations CWMZC presentation of feedback to the WWZC on the GW interzone issue and ZIPA approach | Rosburn Receptions |
| 27 August 2018 | WORKSHOP Biodiversity and SW draft recommendations Update on ZIPA consultation | Rosburn Receptions |
| 30 August 2018 | WORKSHOP Instream ecosystems and biodiversity draft recommendations Nitrate and Runoff Management solution – introduction | Rosburn Receptions |
| 3 September 2018 | WORKSHOP Te Aka Aka – climate change impact Kaiapoi River clarification of catchments SW summary tables Nitrate and Runoff Management solution Overallocation Priority Management Zones – soil drainage, DWS recharge Permitted Activity rules | Rosburn Receptions |
| 10 Sept 2018 | WORKSHOP Draft ZIPA – initial ZC review Review of amendments and confirmation of conventions | WDC Council Chambers |
| 10 Sept 2018 | MEETING | WDC Council Chambers |

| Date | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme | Location |
|-------------------------|---|----------------------|
| | WDC Stockwater race closures – ZC feedback Draft ZIPA engagement and feedback | |
| 24 October 2018 | WORKSHOP Draft ZIPA – summary of feedback Cust River flow and allocation recommendations | Rosburn Receptions |
| 29 Oct 2018 | WORKSHOP Instream and Biodiversity recommendations review | Rosburn Receptions |
| 5 Nov 2018 | WORKSHOP Reducing nitrates recommendations review Feedback on drinking water Nitrate floor option review Prioritisation Management Zones review | Rosburn Receptions |
| 12 Nov 2018 | WORKSHOP Quality & Quantity recommendations review | Rosburn Receptions |
| 19 Nov 2018 | WORKSHOP Final review of ZIPA | WDC meeting room |
| 19 November 2018 | MEETING ZIPA recommendations are finalised and signed off | WDC Council Chambers |
| 10 December 2018 | MEETING Final ZIPA presentation WDC Stockwater Race policy ad strategy for ZC feedback Woodend Stormwater consent presentation | WDC Council Chambers |

Waimakariri Water Zone Committee sub-committee

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|--------------------|-----------------------------------|----------|---|
| 31 Aug 2015 | Waimakariri Zone Committee | Rosburn | Zone update (Grant), Updates from Agencies and Stakeholders, next steps |

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|----------------------|--|-------------|--|
| | Biodiversity Working Group | | |
| 18 May 2016 | Waimakariri Zone Committee Biodiversity Working Group | Rosburn | Updates, Current Initiative on Biodiversity in The Zone, Strategy, next steps |
| 21 Sept 2016 | Waimakariri Zone Committee Biodiversity Working Group | Rosburn | Information updates, ZC programme update and ZIPA, strategy discussion |
| 19 April 2017 | Waimakariri Zone Committee Biodiversity Working Group | Rosburn | Info update; current state, current and alternative pathways, community comments, district development strategy, recommendations |
| 7 June 2017 | WDC/Ecan biodiversity meeting | Tuam Street | Discussion about a joint WDC/Ecan biodiversity meeting item and discussion about WWZC recommendations |

Community Engagement Table

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|--------------------|------------------------------|------------------------|--|
| 2015 | | | |
| 28 Apr 2015 | Community Meetings – Round 1 | West Eyreton Hall | <p>All 10 meetings followed the same format, based on two presentations.</p> <p>•This first presentation is an overview of the Canterbury Water Management Strategy (CWMS) and water management priorities for the Waimakariri Zone. This was presented by the Zone Committee Chairperson, Claire McKay. Deputy Chairperson, Grant Edge, presented at the Rangiora and Kaiapoi meetings.</p> |
| 29 Apr 2015 | | Oxford Jaycee Hall | |
| 30 Apr 2015 | | Clarkville Hall | |
| 5 May 2015 | | Waikuku Beach Hall | |
| 6 May 2015 | | Loburn Domain Pavilion | |
| 7 May 2015 | | Cust Hall | |
| 8 May 2015 | | Lees Valley School | |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|-------------------------------------|---|---|--|
| 24 May 2015 | | Tuahiwi Marae with Ngāi Tūāhuriri Rūnanga | <ul style="list-style-type: none"> The second presentation focused on nutrient management rules of the Canterbury Land and Water Regional Plan, and how they affect farmers and land owners. This was presented by the Zone Committee member, David Ashby |
| 26 May 2015 | | Rossburn Receptions, Rangiora | |
| 28 May 2015 | | Kaiapoi Community Centre | |
| 21 Sep 2015 | Presentation to the Kaiapoi Community Board | Kaiapoi Service Centre | This presentation provided an overview of the 10 meetings held across the District and a summary of the presentation from those meetings. |
| 28 Sept 2015 | Loburn Community Meeting | Loburn Reserve Pavilion | Background to Waimakariri Zone Committee and work programme; Monitoring update; Community feedback |
| 29 Sept 2015 | Clarkville Community Meeting | Salmon Smolt NZ Hatchery at 430 Heywards Road | Proposal for additional monitoring 2015-16: 3. Key values and key concerns in the area - Community feedback |
| 11 Sept 2015 | Saltwater Creek Estuary Group | Svens house | Discussion on current water quality and health of Saltwater Creek catchment and Ashley estuary; need to review monitoring data and estuary report; worth in starting local monitoring programme |
| 18 Nov 2015 | Saltwater Creek Estuary Group | Sven Koops house | Monitoring programme for the estuary, Mana whenua engagement |
| Community meetings – Round 2 | | | |
| 23 Nov 2015 | | Oxford, Town Hall | Zone & Regional Committees; Sub-Regional Plan Process; Technical work programme; Current State of the Environment; Water Management Groups; GMP and Farm Environment/Lifestyle Block Management Plans |
| 24 Nov 2015 | | West Eyreton, West Eyreton Hall | |
| 26 Nov 2015 | | Ohoka, Ohoka School Hall | |
| 9 Dec 2015 | | Rangiora, Rangiora showground | |
| 10 Dec 2015 | | Pegasus, Flat White café | |
| 14 Dec 2015 | Oxford Community Meeting | Jaycee Hall – Oxford | Background to Waimakariri Zone Committee and work programme; Community feedback |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|---|--|--|---|
| 16 Dec 2015 | West Eyreton Water Management Group Meeting | West Eyreton Hall | Background to Waimakariri Zone Committee and work programme; Community feedback |
| 17 Dec 2015 | Lower Cust & Ohoka Water Management Group | Ohoka Domain Pavilion | Background to Waimakariri Zone Committee and work programme |
| 2016 | | | |
| 22 Mar 2016 | West Eyreton Water Management Group Meeting | West Eyreton Hall | Claire's update on ZC matters; MGM, Farm Portal and Nutrient Management Plan Change; Review of ZIP Priority Outcomes; Actions / Clarifications sought |
| 31 Mar 2016 | Oxford Water Management Group/Community Meeting | Town Hall A&P Room | Update on Environmental Quality of the Inland areas of the Waimakariri Zone; GMP, MGM & Farm Portal; Feedback on ZIP Priority Outcomes; History of land use change |
| 15 Aug 2016 | U3A (University of the 3 rd Age) presentation | Rangiora Showgrounds Function Centre | Grant provided an overview of the CWMS, role of the zone committee and sub-regional process as part of a series of presentations in August on water quality and the rivers in the Zone. |
| 10 Oct 2016 12 Oct 2016 17 Oct 2016 | Current State Community Meetings | Cust Community Hall, Rosburn Receptions, Waikuku Beach Hall | |
| | Beef + Lamb catch up | Environment Canterbury | Meeting with Julia Beijeman to discuss process and opportunities for engaging with Beef+Lamb farmers |
| 14 Nov 2016 16 Nov 2016 21 Nov 2016 | Current Pathways Community Meetings | Cust Community Hall Cancelled because of Kaikoura earthquake), Rosburn Receptions, Waikuku Beach Hall | |
| 05 Dec 2016 | Beef+Lamb Meeting | Oxford Working Men's Club | Beef+Lamb NZ providing information about Sub Regional Planning processes & providing guidance on how farmers can effectively engage in such processes |
| 2017 | | | |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|---|--|---|--|
| 16 Jan 2017 | Lees Valley Meeting | Lees Valley | Three landowners represented, Federated Farmers representative and Beef+Lamb representatives. Two Zone Committee Members attended. |
| 15 Mar 2017 20 Mar 2017 22 Mar 2017 | Alternative Pathways Community Meetings | Cust Community Hall, Rosburn Receptions, Kaiapoi High School | |
| 23 May 2017 | Cam River water Allocation | Ecan offices Matt Dodson Alastair Picken Mark Megaughin Richard Stalker | Discussion on solutions for water allocation on the Cam, including augmentation of the waterbody |
| 15 Jun 2017 | Cam River Irrigators Meeting | Rosburn Reception in Rangiora | Called by Richard Stalker to discuss Irrigators concerns regarding minimum flows and allocation |
| 28 Jun 2017 | Salmon Smolt | Silverstream Hatchery | Discussion about the issues in Silverstream and its effects on Salmon and possible ways forward. |
| 15 Aug 2017 | Lees Valley Meeting | Lees Valley function room | <ul style="list-style-type: none"> to know is what the farms are doing now in terms of land use (so ECan can compare to our current dataset); and what the farms want to do in the future – any significant changes to land use (this will enable modelling to identify likely change or impact going forward) |
| 7 Oct 2017 | Cam catchment meeting | Judith Roper-Lindsay (Waimakariri Zone Committee). Grant Edge (Waimakariri Zone Committee), Andrew Arps (ECan), Anna Veltman (ECan), Jason Butt (ECan). Apology: Sandra Stewart (Cam River | to discuss opportunities for integrated management of land and water in the Cam catchment under the CWMS. |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|---|---|--|--|
| | | Enhancement Committee Chair) | |
| 6th to 23 November 2017 | TARGETED Consent holder workshops: Cust Main Drain/Cust River/No 7, Cam and 3 Brooks and McIntosh, Ohoka, Lower Ashley/Waikuku/Taranaki/Saltwater Creek, Ashley, Kaiapoi (Silverstream)/Courtenay, Greigs | Fernside Hall Woodend Community Centre Ohoka Hall Pegasus Community Centre Loburn Domain Pavilion Clarkville Hall | To gain an understanding from the community what reliability abstractors are currently experiencing |
| 23 November 2017 | Catch up with John Talbot | Local café – Mark M, Matt D and Meredith M | Inform him of the process and ask him about his appeal to the LWRP |
| 2018 | | | |
| 9 February 2018 | Simon Fraser and his son (Westburn Farm) | Ecan Offices | Discussion with Alastair and Jess about his consent, minimum flows on the Cust River and the process |
| 22 February 2018 | Christchurch West Melton ZC and ECan staff | ECan offices | Introducing nitrate issue (cross boundary) |
| 18 April 2018 | TARGETED Consent holder workshops: Ashley catchment community meeting on minimum flows and allocation | Woodend Community Centre | To discuss proposed changes to minimum flows and allocation regime |
| 19 April 2018 | | Loburn Domain Pavilion | |
| 24 April 2018 | | Waikuku Beach Hall | |
| 2 May 2018 | Meeting on nitrates in the Interzone | West Eyreton Hall | Inform landowners within the Interzone area, that nitrates leaking from this area have been modelled to be travelling to deep aquifers under Christchurch. |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|-------------------|--|--------------------------------|---|
| 7 May 2018 | Briefing on Interzone Issue – WWMZC and Christchurch West Melton ZC | Rossburn Reception | Briefing on Interzone |
| 30 May 2018 | TARGETED Consent holder workshops: | Rossburn Receptions, Rangiora | To discuss possible recommended changes to minimum flows and allocation regime |
| 31 May 2018 | Northern Waimakariri | Fernside Hall | |
| 6 June 2018 | Tributaries meeting on | Ohoka Hall | |
| 7 June 2018 | minimum flows and allocation | Clarkville Hall | |
| 8 June 2018 | CCC and ECan councillors briefing | CCC offices | Briefing on Interzone |
| 13 June 2018 | Christchurch West Melton ZC members workshop on interzone nitrates issue | ECan offices | Receive a further technical briefing from ECan on interzone nitrate modelling |
| 13 July 2018 | Cust Surface water users | Cllr McKay's House | Discuss hydrological and ecological information |
| 18 July 2018 | Community Meeting on Nitrates | Riverside Church Hall, Kaiapoi | Briefing on current and modelled nitrate concentrations. Stepped approach to solutions |
| 19 July 2018 | | Oxford Town Hall | |
| 25 July 2018 | | Rossburn Receptions, Rangiora | |
| 9 August 2018 | CCC and ECAN staff | CCC building | Briefing on Interzone |
| 10 August 2018 | CHWM ZC Groundwater Working Group | ECan building | To discuss feedback on first attempt are draft recommendations regarding nitrate management cross zones |
| 20 August 2018 | CHCHWM-ZC Groundwater & Drylands Working groups | Rossburn reception | Feedback to WWZC on first draft on managing nitrates cross zones |
| 13 September 2018 | Infrastructure and Environment Committee of CCC | CCC building | Update on ZIPA process |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|--------------------------|---|--------------------------------|--|
| 14 September 2018 | CCC Water Forum | | Update on ZIPA process |
| 21 September 2018 | Community engagement on draft ZIPA | Ohoka Market | Seeking feedback on draft ZIPA |
| 5 October 2018 | | | |
| 24 September 2018 | Combined Community Board presentation on draft ZIPA | WDC Chambers, Rangiora | Briefing on the draft ZIPA recommendations and community consultation for the draft ZIPA to WDC Community Board members. |
| 26 September 2018 | Two community workshops each day on draft ZIPA | Riverside Church Hall, Kaiapoi | Seeking feedback on draft ZIPA |
| 27 September 2018 | | Pegasus Community Centre | |
| 3 October 2018 | | Oxford Town Hall | |
| 1 October 2018 | Community drop in session with ZC on draft ZIPA | John Knox Church, Rangiora | Seeking feedback on draft ZIPA |
| 4 October 2018 | A community workshop on each day on the draft ZIPA | Belfast Rugby Club | Seeking feedback on draft ZIPA |
| 10 October 2018 | | Rosburn Receptions, Rangiora | |
| 30 October 2018 | Cust Surface water users | Cllr McKay's House | Discuss ZC draft recommendation and listen to feedback on it |

Ngāi Tūāhuriri Rūnanga engagement

| Date | Hui | Location | Agenda items/discussion points |
|-------------------------|---|--------------------------|---|
| 18 December 2016 | Hui between Mahaanui Kurataiao Ltd (MKT), Ngāi Tūāhuriri and Environment Canterbury staff | Tūāhuriri Marae | Discussion on the first draft report on Wāhi taonga me Wāhi tapu in the Waimakariri area |
| 27 February 2017 | Comar report provided to Waimakariri Zone Committee | Rosburn receptions | Overview of the COMAR recommendations, including Whanau flow preferences and ecological minimum flows |
| 28 June 2017 | Waimakariri Rūnanga reps/ TRONT staff/Matt D | Te Rūnanga | Workshop with Te Rūnanga staff on Waimakariri Zone outcomes |
| 10 August 2017 | Matt Dale (TRONT)/ Jarred and Matt D | Tuam Street | TRONT wanting/asked to undertaking an stock take on the state of scientific knowledge in the Waimakariri zone as it relates to the key values identifies in the Cultural Impact Assessment undertaken by Gail |
| 23 May 2018 | Arapata, Murray, Lyn and Meredith | Te Whare o Te Waipounamu | To initiate discussions on how to work with Arapata, the new representative for Ngāi Tūāhuriri around the Zone Committee table |
| 20 June 2018 | First hui between staff and Ngāi Tūāhuriri Rūnanga | Tūāhuriri School | To discuss the Comar and MKT reports, the options presented in targeted engagement and where the ZC is sitting on preferred options to date. |
| 30 July 2018 | Second hui between staff and Ngāi Tūāhuriri Rūnanga | Tūāhuriri Marae | Further develop understanding of cultural recommendations |
| 8 August 2018 | WWZC and Ngāi Tūāhuriri rūnanga | Tūāhuriri Marae | WWZC listened and discussed cultural preferences with Representatives from Rūnanga |

Technical Engagement Table

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|------------------|---------|----------------------|---|
| 16 February 2015 | SSAG | Rosburn | Discussion with stakeholders about how they want to be involved in the process, regarding the science. Outcome was to explore forming some advisory groups. |
| 19 March 2015 | SSAG | Rosburn | Discuss proposal of the SSAG and TLAG with stakeholders. |
| 22 April 2015 | SSAG | Rosburn | TOR for the SSAG, selection method of members of the TLAG |
| 3 June 2015 | SSAG | Rosburn | TOR; TLAG members selected |
| 15 July 2015 | SSAG | WDC Council Chambers | Presentation by Dan C, Adrian M and Matt D about Ecan's science data |
| 9 September 2015 | SSAG | WDC Council Chambers | Presentation by Mary Sparrow about the Social Assessment |
| 16 October 2015 | SSAG | Rosburn | Introducing the TLAG and discussion about priority (community) outcomes and discussion about key issues of contention requiring scientific input |
| 26 November 2015 | SSAG | Rosburn | Presentation from Simon H about the Economic Assessment |
| 28 January 2016 | SSAG | Rosburn | Waimakariri Sub-Regional Plan Overview by Jason Holland |
| 16 February 2016 | SSAG | Rosburn | Surface Water Hydrology & Ecology by Michael Greer |
| 13 April 2016 | SSAG | Rosburn | Conceptualisation of the Waimakariri Zone hydrogeology: Zeb Etheridge |
| 11 May 2016 | SSAG | Rosburn | Urban Stormwater Quality Programme by Kalley Simpson & Alicia Kos (WDC); Groundwater Model by Fouad Alkhaier |
| 15 June 2016 | SSAG | Rosburn | Waimakariri Hydrology – Mark Megaughin; Ashley/Rakahuri Estuary and contact recreation programme – Lesley Bolton-Richie |
| 13 July 2016 | SSAG | Rosburn | Waimakariri farm system and environmental economics project Justin Kitto (DiaryNZ); Administration and where here to from here |
| 5 October 2016 | SSAG | Rosburn | Proposed structure and timing of future SSAG workshops |
| 26 October 2016 | SSAG | Rosburn | Feedback from SSAG to Zone Committee from current state community meetings |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|-------------------------|----------------|-----------------------------|--|
| 25 January 2017 | SSAG | Rosburn | SSAG Feedback on Current Pathways |
| 5 April 2017 | SSAG | Rosburn | SSAG feedback on Alternative Pathways Scenario |
| 17 May 2017 | SSAG | Rosburn | Managed Aquifer Recharge – Bob Bower of Golder and Associates |
| 28 June 2017 | SSAG | Rosburn | Surface water values mapping exercise |
| 23 August 2017 | SSAG | Rosburn | Groundwater modelling preliminary findings and explanation of why we needed more time |
| 15 February 2018 | SSAG | Rosburn | Waimakariri groundwater investigation results |
| 27 September 2018 | SSAG | Rosburn | Update on draft ZIPA recommendations – asking for feedback |
| 17 August 2015 | TLAG | Boardroom, Cafe Kudos | Start-up meeting: intro and workplan |
| 7 and 11 September 2015 | TLAG | Birmingham Drive, Middleton | Overview of technical team work plans |
| 16 October 2015 | TLAG | Field trip and Rosburn | Field trip: Introducing the TLAG to SSAG and discussion about priority (community) outcomes and discussion about key issues of contention requiring scientific input |
| 29 October 2015 | TLAG | Birmingham Drive, Middleton | Review session and where to from here |
| 25 January 2016 | TLAG | Birmingham Drive, Middleton | Review session 2 |
| 6 July 2016 | TLAG | Tuam Street, Christchurch | Discussion about indicators and scenarios |
| 8 November 2016 | TLAG | Tuam Street, Christchurch | Pre- current pathways scenario meeting |
| 15 February 2017 | TLAG | Tuam Street, Christchurch | Pre-alternative pathways scenario meeting |
| 20 April 2017 | TLAG | Tuam Street, Christchurch | Solutions phase planning |
| 16 May 2017 | TLAG | Tuam Street, Christchurch | Solutions phase meeting (1) |
| 15 June 2017 | TLAG | Tuam Street, Christchurch | Solutions phase meeting (2) |
| 6 September 2017 | TLAG | Tuam Street, Christchurch | Solutions phase meeting (3) |
| 3 November 2017 | TLAG | Tuam Street, Christchurch | Solutions phase meeting (4) |
| 8 February 2018 | TLAG | Tuam Street, Christchurch | Solutions phase meeting (5) and tech lead hand over |
| 27 Mar 2018 | TLAG/Tech team | Tuam Street, Christchurch | Solutions phase and debrief from Community workshops |
| 24 April 2018 | TLAG/Tech team | Tuam Street, Christchurch | Solutions phase and debrief from Community workshops |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|------------------|--------------------|------------------------------------|---|
| 24 May 2018 | TLAG/Tech team | Tuam Street, Christchurch | Solutions phase and debrief from Community workshops |
| 26 June 2018 | TLAG/Tech team | Tuam Street, Christchurch | Solutions phase and debrief from Community workshops |
| 24 July 2018 | TLAG/Tech team | Tuam Street, Christchurch | Solutions phase and debrief from Community workshops |
| 30 November 2015 | Farmers panel | WDC Council Chambers | Start-up meeting and overview |
| 7 January 2016 | Farmers panel | WDC Council Chambers | PC 5 implications and land use mapping |
| 3 March 2016 | Farmers panel | Rangiora Town Hall Function Centre | Land use mapping and Matrix of Good Management (Melissa Robson) |
| 31 March 2016 | Farmers panel | Rangiora Town Hall Function Centre | Irrigation mapping; Simon starting the economic assessment and data sources |
| 28 April 2016 | Farmers panel | Rosburn | Steps in the sub-regional planning process; Typical farm financials |
| 26 May 2016 | Farmers panel | Rosburn | Economics and Nutrient modelling |
| 4 August 2016 | Farmers panel | Rosburn | Financial modelling; Modelling for overseer; Diary support |
| 24 November 2016 | Farmers panel | Rosburn | Mitigation measures |
| 2 February 2017 | Farmers panel | Rosburn | Nitrate Modelling: Zeb Etheridge. Leo Fietje: review of mitigation options for costing |
| 16 March 2017 | Farmers panel | Rosburn | Mitigation and options |
| 4 May 2017 | Farmers panel | Rosburn | Ina Pinxterhuis (DairyNZ) - results of the P21 study, discussion; Cost-benefit results - incorporation of feedback from previous meeting and progress report |
| 22 June 2017 | Farmers panel | Rosburn | Leo and Simon will be discussing with you the finalised the modelling, and confirming the classification of farm types for the economic impact report. |
| 31 August 2017 | Farmers panel | Rosburn | Leo and Simon will present the final results of technical and economic investigation; Matt Dodson will provide an outline of the timetable for the remainder of the work for the Waimakariri Zone |
| 9 October 2017 | Farmers panel/WWZC | WDC Council Chambers | Presentation by DairyNZ and of the results of the work of the farmers' panel to the Zone Committee |
| 25 January 2018 | Farmers panel | Rosburn | Groundwater flow results presentation, Zeb |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|------------------|---|--|---|
| 12 July 2018 | Farmer Panel | Rosburn receptions, Rangiora | To discuss feedback on draft recommendations |
| 15 December 2015 | Model Conceptualisation workshop | Ward Room, Commodore Airport Hotel, Christchurch | Major rivers conceptualisation project (Aqualinc); Aquifer properties and Eyre zone hydrostratigraphy investigation (PDP); Hydrogeology and water quality of the Kaipoi River catchment (Zeb); Land surface recharge project (Fouad); Coastal discharge boundary investigation (Zeb) |
| 24 August 2015 | Waimakariri Hydrological Model progress meeting | Birmingham Drive | Project scope |
| 5 April 2016 | Model Conceptualisation workshop | Birmingham Drive | Model development |
| 7 April 2016 | Model Conceptualisation workshop | Birmingham Drive | Discuss conceptual understanding of coastal zone, key questions to be addressed and how groundwater model should be built to represent coastal stratigraphy |
| 13 June 2016 | Numerical model optimisation review | Birmingham Drive | Scoping meeting for the GW flow investigation |
| 31 May 2016 | Model Conceptualisation workshop | Tuam Street | Discuss groundwater model build progress |
| 29 June 2017 | Waimakariri GW Model Advisory Team | Tuam Street, Christchurch | Assumptions, Approach Null Space Monte Carlo, Define probability distributions; Main model elements: coastal boundary, LSR, Southern model boundary conditions, spring-fed streams, Off-shore flow, Groundwater abstraction, Layering, Loss/gain rates for streams and rivers, Northern model boundary influx |
| 21 August 2017 | Groundwater Model Parameter Expert Judgement Workshop | Tuam Street, Christchurch | Waimakariri GW model input parameters probability distribution expert judgement workshop |
| 27 October 2017 | Waimakariri inter-zone transfer expert judgement workshop | Tuam Street | Evidence for under-river transfer: geochemistry & end member mixing. Evidence for under-river transfer: transfer pathway data |

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|------------------|--|-------------|---|
| 20 November 2017 | Waimakariri groundwater model results evaluation | Tuam Street | Model optimisation and results; Null space monte carlo modelling; NSMC for Waimakariri Model; Nitrate load uncertainty analysis etc |
| 22 August 2016 | Water quality and ecology expert panel | Tuam Street | Discuss scope of work and objectives, including timeline, current state report, methods etc |
| 12 Sept 2016 | Water quality and ecology expert panel | Tuan Street | Discuss assumptions around GMP, Discuss values map, method etc |
| 21 October 2016 | Water quality and ecology expert panel | Tuam Street | Current pathways assessment meeting |
| 1 March 2017 | Water quality and ecology expert panel | Tuam Street | Alternative pathways assessment meeting |
| 28 April 2017 | Water quality and ecology expert panel | Tuam Street | panel discussed what the core environmental issues are for the Waimakariri Zone and mechanisms for mitigating them. Assessments included prioritising mitigations from most desired to least in terms of environmental impact. Also, likely magnitude of effect in terms of each mitigation's ability to reduce the severity of each issue. |

Other Technical Meetings

| Date | Meeting | Location | Agenda items/discussion points relating to the Waimakariri Land and Water Solutions Programme |
|---------------|---|---|--|
| 31 March 2015 | DairyNZ | Café near Birmingham Drive | Discussion around SSAG and TOR |
| 31 March 2015 | Maka Makarini /David Just and Matt Dodson | Kainga and Waimakariri spring-fed streams | what different allocations are in place (SW and GW), how allocations limits are determined, how we determine stream depletion effects, the general consenting process. |

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| 23 June 2015 | Stream walk Silverstream with David B and Karl F | Silverstream | Field measurements from the river and general catch up |
| 13 July 2015 | DOC | Birmingham Drive | DOC: Ecan technical engagement |
| 23 September 2015 | Mahinga kai field trip with Makarini | Waimakariri spring-fed streams (field trip) | Field trip of the spring fed streams to discuss Mahinga kai with tech team members |
| 6 October 2015 | Economic data – Dairy NZ, B&L, FAR and WIL | Birmingham Drive | Sourcing economic data from key rural stakeholders |
| 27 October 2015 | Doug Rankin | Birmingham Drive | Social assessment and kayaking issues |
| 28 October 2015 | Irrigation Field Day | Larundel Dairy Partnership, 1901 Tram Road, Swannanoa | Farm and Irrigation System Information. Climate – Looking ahead – what will the season bring? Water wastage and how to improve. Irrigation research in the Waimakariri area |
| 30 October 2015 | Shane Kelly (NTF), PDP, Zeb and RMO | ECAN Offices Ellesmere Centre - 24 Edward Street, Lincoln. | Consent conditions and monitoring. One outcome from the meeting was that NTF would drill more monitoring bores |
| 18 Nov 2015 | ESR | ESR, Chch | Discussion about the TPP proposal |
| 29 Jan 2016 | ESR | ESR, Chch | Discussion about P for the TPP proposal |
| 1 February 2016 | Chris Bacon (WDC) | WDC, Rangiora | WDC flood modelling |
| 2 February 2016 | Richard Spencer-Bower | Claxby farmstead | Discussion about GW levels in their wells and general conversation about process |
| 7 April 2016 | Tuahiwi Organics | 496 Tuahiwi Road | Site visit and spring mapping |
| 12 April 2016 | DairyNZ | Canterbury Agriculture & Science Centre, Gerald Street, Lincoln | Justin taking over from Shirley H – general catch up and talk about process |
| 14 June 2016 | Fish and Game | Tap N Grind | Ecological assessment and conclusions |
| 5 May 2016 | WIL | Artisan Cafe 18 High St, Rangiora | Summer student: would we do it again? What where the good things? What would we change?; Map to identify what farms are covered by WIL, so we know those farmers are ‘sorted’ in terms of FEP’s and consents for farming; Any info about the water use, the stockwater scheme |
| 17 May 2016 | ESR | Tuam Street | Site selection for the TPP |

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| 8 September 2016 | Richard Stalker and Sven Koops | Tap N Grind Cafe | Discussion about process and how to engage with farming sector, and their information requirements |
| 18 September 2016 | TPP | Tuam Street | TPP overview and discussion on Year 1 work in the zone |
| 22 September 2016 | TPP | Lincoln Agritech offices, Lincoln | Transfer Pathways Programme Research Partners – End Year 1 meeting |
| 6 April 2017 | Zeb/WIL meeting | Rangioura | Discussion of MAR and stream augmentation |
| 23 May 2017 | Richard Stalker | Tuam Street | Discussion about Cam River flows and min flows |
| 15 June 2017 | Cam irrigators | Rosburn | Discussion points include changing minimum flows and all other aspects of stream health and effect of irrigation, surrendering of inactive consents and possibility of augmentation from Waimakariri Irrigation Ltd (WIL) water. |
| 1 August 2017 | Staff briefing to WDC Council | WDC Council Chambers | As partners, staff informed WDC Councillors the initial results of the GW model and that the ZC schedule needed to be changed. |
| 25 October 2017 | TPP | Lincoln Agritech offices, Lincoln | Transfer Pathways Programme Research Partners – End Year 2 meeting |
| 13 December 2017 | Craig McIntosh | Phone call with Matt Dodson | Discussion about min flows on the Cam and process |
| 16 March 2018 | Alan Hawkins | Phone Call with Zeb E. | Discussion of groundwater model uncertainty and measured stream nitrate concentrations |

File reference: