MINUTES FOR THE MEETING OF THE CANTERBURY WATER MANAGEMENT STRATEGY WAIMAKARIRI ZONE COMMITTEE HELD IN THE COUNCIL CHAMBERS 215 HIGH STREET, RANGIORA ON MONDAY 13 AUGUST 2018 AT 3.00PM.

PRESENT
David Ashby (Chair), Grant Edge (Deputy Chair), Carolyne Latham, Judith Roper-Lindsay, Gary Walton, Michael Blackwell, Claire McKay (Environment Canterbury Councillor), and Sandra Stewart (Councillor, Waimakariri District Council)

IN ATTENDANCE
Sophie Allen (Water Environment Advisor, WDC), Steve Chandler, (Rayonier Matariki Forests), Jessica Steel, (ECan), Anna Veltman (ECan), Andrew Arps (Zone Delivery Team Manager, ECan), Lesley Woudberg (ECan), Adrian Meredith (ECan), B Stokes (Farmer), B Sheen (Oxford), G McKenzie (Real Communications), Brent Walton (Waimakariri Irrigation Ltd), John Benn (Department of Conservation), Rachael Davidson (Economist DairyNZ), Katherine McCusker (Regional Sustainability Leader DairyNZ), Grant Edmondson (Helmore Stewart), Robert Johnston (Farmer, Ashley Gorge), Lionel Hume (FFNZ), Dave Winter (Farmer, W J Winter & Sons), Paul Reese (Waimakariri Irrigation Ltd), Michael Bate, (Kaiapoi), Murray Griffin (CWMS Facilitator, ECan) and Adrienne Smith (WDC Committee Advisor).

1 APOLOGIES

Moved C McKay seconded G Walton

THAT an apology for absence be received and sustained from Arapata Reuben (Te Ngāi Tūāhuriri Rūnanga).

CARRIED

REGISTER OF INTERESTS

Amendment recorded: Claire McKay no longer a member of P21 Canterbury Industry Advisory Group.

CONFIRMATION OF MINUTES

1.1 Minutes of the Canterbury Water Management Strategy Waimakariri Zone Committee meeting – 9 July 2018

Moved G Walton seconded G Edge

THAT the CWMS Waimakariri Zone Committee:

(a) Confirms the minutes of the Canterbury Water Management Strategy Waimakariri Zone Committee meeting, held on 9 July 2018, as a true and accurate record, noting amendment under M Bate presentation, should read “……..the impact of the brown slime on the rocks”.

CARRIED
MATTERS ARISING

The organisers of the visit to the deer farm on July 18 were thanked for arranging this and the Blakemore’s were thanked for hosting the committee members who were able to attend.

2 KAIAPOI RIVER INVESTIGATIONS AND PHOTOGRAPHS BY MICHAEL BATE—Adrian Meredith (Principal Scientist, ECan)

A Meredith spoke to a PowerPoint presentation in response to community monitoring photographs and videos that M Bate has shown to the committee over the past months. It was noted that tributaries such as Silverstream, Cust Main Drain and Ohoka Streams cover a significant area of land and there has been a range of photographs showing various ecosystem health issues involving:

- Riparian management
- Bankside spraying
- Sedimentation
- Anoxic sediments
- Stock access
- Algae growth
- Weed loss

These reinforce similar issues raised in reports to the committee (by Greer, Arthur and Hudson etc and are being considered in the development of the ZIPA recommendations and solutions.

There is a similar range of issues in the Kaiapoi River, but they are complicated because of the tidal nature. The Lower Kaiapoi River report is a result of investigations into the likely causes of the changed river environment.

The Kaiapoi River was previously always considered a tidal freshwater river and Port but there is now clear evidence that this is a river with significant periods of saltwater moving up the river on the tides.

The direct cause of why the Kaiapoi River has become salty may relate to possible change in both the Waimakariri and Kaiapoi River bed levels, as a result of the earthquakes, and greater periods of lower flows in the summer in the Waimakariri River. Both these appear to play a role and it was also noted that flows in the Kaiapoi River tributaries appear to have little effect unless they are in high flood.

The salinity in the river will be continue to be monitored. Also need to acknowledge the change and respond to it with any activities on the river.

Salinity intrusion is not the only issue for the Kaiapoi River, and the presentation noted issues with:

- Sedimentation – find sediment accumulation
- Eutrophication – nutrients – algal blooms and scums
- Biodiversity – loss of freshwater species
- Biosecurity – invasion or enhancement of unwanted species

There may be a range of potential causes for this river degradation, the report states that nutrient enrichment and salinity intrusion were the most plausible and consistent causes.

Illustrations of the sediment and algal mats in Kaiapoi River were shown (previously provided by M Bate in June/July 2018). Algal mats like Phormidium grow all year round fine sediments. The solutions noted were to manage the
sediment and nutrient sources in the tributaries. Tributary controls/solutions are a very good starting point.

It was noted the Kaiapoi estuarine zone is another sensitive receiving environment for catchment issues – like Te Aka Aka in the Ashley/Rakahuri catchment.

The Waimakariri River mouth/estuary was also discussed, with photo of the growth of sea lettuce on the rocks at higher tide marks. This is further indications of loads of find sediment and nutrients and effects in this habitat.

With regard to photos showing foaming and scum on Pegasus Bay beaches taken during 2016 and 2017 summers, ECAn Coastal Scientists identified them as microphytobenthos on the seabed and surf diatom blooms.

In response to a photo provided by M Bate, of Dead Surf Clams on a beach this has also been referred to Coastal Scientists. This is considered a natural event related to very high wave action and king tides.

In conclusion, A Meredith advised that the solutions should all start at the tributary levels and acknowledged that Kaiapoi River is the downstream receiving habitat. It was noted that algal growth can be natural and are not all toxic.

Community monitoring was acknowledged as good independent observations can be very useful indicating frequency and duration of events, and can assist when sampling is required and can indicate when the state of rivers change.

Moved C McKay seconded G Walton

THAT the CWMS Waimakariri Zone Committee:

(a) Receives this report for its information

CARRIED

3 DAIRYNZ NUTRIENT MITIGATION REPORT - BRIEFING -- presented by Rachael Davidson (Economist DairyNZ) and Katherine McCusker (Regional Sustainability Leader DairyNZ, Canterbury and West Coast) Report written by Charlotte Wright, (Senior Policy Advisor, DairyNZ)

R Davidson from DairyNZ presented the findings and implications from DairyNZ’s recently completed nutrient mitigation modelling report. Mitigation modelling of five case study farms in the Waimakariri zone has recently been undertaken by DairyNZ. Farms were selected to show diversity in physical and environmental parameters. This modelling compared reductions in nitrogen loss to meet GMP and beyond, with predicted impacts on farm profitability (or ability to remain viable), and found varying impacts from N loss reductions on farm profitability. Reductions to meet GMP are predicted to reduce profitability by up to 16 percent and scenarios beyond GMP targets -10%, -20% and -30% were also modelled. These mitigations beyond GMP for most farms involved de-intensification, requiring nitrogen fertiliser and stocking rate reductions which had significant impacts on profitability. Significant reductions in operating profit would impact on the viability of farm businesses and would have flow-on impacts for the regional economy.

Key points noted:

- Waimakariri Zone Committee solutions package aims to improve environmental outcomes as well as contribution to economy
• For some farmers achieving GMP will be a challenge, requiring time and possible changes to existing infrastructure (e.g. for effluent and irrigation).

• GMP seems reasonable for farmers to achieve if change is to occur within a short timeframe.

• Scientific evidence in combination with economic impact assessments should guide decisions as to what targets need to be achieved by farmers to meet desired water quality outcomes.

Questions

J Roper-Lindsay asked if DairyNZ had considered alternative – land use changes? R Davidson advised that reducing stocking rate would be required on some farms, but DairyNZ hadn’t looked beyond this mitigation.

G Edge, regarding the percentage of loss of profit based on level of reduction in nitrate levels, asked what level of assistance would a dairy farmer need to achieve the levels required? R Davidson said the timeframes are important, firstly for farms to have time for technologies to come on board and secondly changes in farming practice.

DairyNZ are working on projects in other areas to help farmers to meet the requirements of GMP and required nitrate levels.

K McCusker presented on farm implications of N loss reduction, noting that agriculture is in the top five sectors for employment in the Waimakariri zone. Of the agricultural land uses, dairy is the largest contributor to regional gross domestic product (GDP) and household income. K McCusker noted that the Zone Committee is working towards identifying a solutions package to achieve:

• Sustainable water management
• Optimal nutrient management and water quality outcomes
• Improved contribution to the regional economy

It was noted that GMP is a minimum requirement in the Waimakariri zone. Less clear is the extent of nutrient reductions required to achieve ecological, socio-cultural and economic goals for the zone. The presentation covered what is needed to get to GMP, N loss beyond GMP and beyond GMP on heavy soils.

For some farms reductions required to achieve their GMP Loss Rate from their base are significant. N loss reductions to meet GMP range from no reductions to 48% reduction from the baseline N loss. This will require changes to farm practices and some upgrading of irrigation systems and effluent systems. To meet GMP, farmers need sufficient time to gain clarity on GMP actions required and then to implement them. K McCusker spoke on the upgrade to the PC5 Irrigation system in Waimakariri area and noted that over 4,000 ha of land in Waimakariri zone will require an upgrade of irrigations systems to meet the GMP requirements. In getting irrigation to GMP and beyond it was noted that with this system:

• Soil water content is routinely measured using soil moisture sensors or soil moisture monitoring service.
• The irrigation application system can apply relatively small amounts of water. The depth depends on the soil water holding capacity (PAW).
• The irrigation system has a relatively short return period.
• There is good maintenance and decision making.
• Reliable irrigation water supply is needed.

Information was provided on the ECAn Portal, noting that a change in irrigation scheduling is needed and some farms will need to reduce N fertiliser use and change fertiliser timing.

For N loss beyond GMP, there is no silver bullet and mitigations are specific to each farm system and the farmer’s aspirations, but principles are the same:

• Improved efficiency of water, effluent, fertiliser
• Reduced N inputs: less fertiliser, low-N feeds
• Less urine patches in autumn

It was noted that work is underway in other catchments.

The issue of farms with deep poorly drained soils was discussed, noting that there is very low N leaching vulnerability, and often have natural waterways and drains that connect to these natural waterways. Getting 10 – 15% beyond GMP would be a challenge for these properties.

In summary it was noted that all farms need to get to GMP. A very high degree of certainty in terms of nitrate modelling is required to justify reductions beyond 10%. There are significant potential economic impacts to the dairying community and flow on impacts to the district/regional economy. A suitably staged transition time would allow farmer adoption of N reductions such that:

• Farmers can more easily absorb economic costs and be given time to understand, select and implement mitigation options; starting with options to achieve GMP
• Learnings from other zones and catchments are utilised.

For heavy soils (high PAW) better environmental outcomes maybe achieved by mitigations that reduce P and sediment to surface water than N loss reductions beyond GMP

S Stewart asked if there had been any monitoring undertaken on dairy farms before and after any work has been done? K McCusker agreed to source this information and make it available to the committee members.

G Edge commented that he supports having generous setbacks from any waterways on farmland.

Moved C McKay seconded J Roper-Lindsay

THAT the CWMS Waimakariri Zone Committee

(a) Receives this report for its information and with regard to the committee’s preparation of the Waimakariri Land and Water Solutions Programme draft recommendations, and 2018 community engagement priorities.

CARRIED
WAIMAKARIRI IRRIGATION LIMITED – UPDATE – presented by Brent Walton (CEO Waimakariri Irrigation Ltd) and Paul Reese (Environmental Manager, Waimakariri Irrigation Ltd)

P Reese and B Walton spoke to a PowerPoint presentation providing an update of information from Waimakariri Irrigation (WIL).

WIL overs a total of 34,000ha, of which 23,000ha is irrigated. There is over 250km of water race. A total of 108 shareholder farms, with FEPs in place, and employ over 480 people. There is also 65 smaller shareholder properties. The predominant land use of the irrigated and dryland area is dairy platform, dairy support, both irrigated and dryland, and arable irrigated.

Good Management Practice was discussed, noting that it is to achieve resource use efficiency, and minimise contaminants loss to the environment. What it will NOT achieve is catchment based actions, or coordinated stream and waterway enhancement. This is because there is a lack of direction and stream/catchment based plans and FEPs are focusing within the farm boundaries. There is an opportunity for the Zone Committee to initiate, inform and lead a catchment based approach and be more specific/flexible around mitigation measures. WIL has looked at four different farms and how they are run and the different requirements of each to achieve GMP. Some had many challenges to reach this and it will be difficult for them to achieve the required standards. It was noted that the work towards farms reaching GMP is already making significant impact and achieving good nitrogen losses.

It was advised that data has been collected from four wells since 2000 of nitrate-nitrogen concentration (mg/L). This shows no significant increase over this time.

WIL will be undertaking a biodiversity stocktake, which will look at any opportunities to link any sites.

The challenge noted is that the Waimakariri zone has varied physical environments and contributing factors influencing the environments and critical environmental sources. There were questions that need to be asked:

- Where are the priorities and what are the best measures to achieve these?
- Will a blanket N reduction target achieve what is required across all the outcomes?
- How can the science done be utilised to greater effect and using targeted solutions to issues?

WIL believes that the Zone Committee has the influence and opportunity to bring the community together and to drive change.

WIL are also contributing with:

- NEWMS (Nutrient, Environment, Water Management System Programme) a total data single source reporting
- Regen – irrigation and effluent management software
- Dedicated support for all farms to help achieve GMP
- Storage
- Biodiversity opportunity study
- MAR trial
WIL offers opportunities to its members including:

- Cooperative structure
- Collective effort
- Direct influence and leverage on 200 shareholders
- Scale – catchment and sub catchment approach for environmental monitoring and actions
- Consistent Monitoring measuring and benchmarking
- Ability to provide some specific/dedicated resource
- Ability to target specific actions to specific areas of need
- Structure – ASM and EMS programmes
- Engaged and trusted
- Connected.

In conclusion, challenges highlighted include:

- The varied physical environments and varied contributing factors influencing the environments
- There are farms with significant hurdles just to get to GMP.
- There is significant actions occurring now – asked how far will this get us?
- Reducing N loss may not always be the priority on any given property.

Following a question, it was confirmed that WIL refer to lifestyle blocks as those which are 20ha or less.

Regarding fertiliser applications, it was noted that sometimes there were some large applications, but most of these are backed up by scientific data.

Moved C Henderson seconded G Edge

**THAT** the CWMS Waimakariri Zone Committee

(a) **Receives** this report for its information and with regard to the committee’s preparation of the Waimakariri Land and Water Solutions Programme draft recommendations, and 2018 community engagement priorities.

**CARRIED**

5 **OPPORTUNITY FOR PUBLIC TO SPEAK**

**Grant Edmondson**

Mr Edmondson is a partner in Helmore Stewart in Rangiora and had attended the public consultation meeting on 25 July in Rangiora. He was speaking here at this meeting on behalf of several of his clients who were also at the consultation meeting. He found that the meeting at times was fairly hostile and divisive and in the context of what is being recommended in working collaboratively, suggested there is some work to be done in that respect. The concern for his clients is the cost implications in relation to nitrates and nitrate leaching and was suggesting that a voice of moderation was required. Mr Edmondson believes there needs to be community understanding between all stakeholders, and that economic implications should be more visible in consultation discussions. The suggestion Mr Edmondson is making is that the catchment areas should take stronger and more vital control of their situation, as there is not one solution for all. Compliance with the base line requirements will come with its own level of stress even for the most successful farmers. Water and nitrates are the by-product of one particular issue, and that is money. Mr Edmondson commented that the ability for a farmer to pivot from a nitrate issue, to a phosphate issue, to a silt issue when
there is only one dollar to go around. Would like to caution the focus that has been put on the nitrate issue and that there is still other challenges to come. The suggestion Mr Edmondson makes would be for a graduated process for compliance. This would allow for small gains to be made and for the community to be aware of these gains. Another comment was that best practice should be leveraged from other districts. There are some accommodations being made in Selwyn district and maybe we should be looking at these flexibilities from other regions. With water and land inextricably linked, any improvements that a farmer makes to enhance either of these, should be recognised and the value to the proprietor acknowledged. Farmers have to run their operations in line with overseer and there is an enormous amount of time spent on compliance, would like to see some return back to the farmer. Monitoring - it is recommended that this is done independently. Finally it was suggested that there needs to be a better culture of understanding within lifestyle block owners and for these property owners to be aware of the compliance requirements of commercial farms and some education programmes initiated to undertake this.

In conclusion Mr Edmondson said there is a lot of collective goodwill with his clients, but also noted that the farmer’s dollar is being squeezed and the economic effects need to be taken into account.

G Edge, asked if central government had some responsibility to provide some funding or incentive for land users. Mr Edmondson responded that his clients now feel they are being left to their own devices to make this plan work and suggested that there could be some harmonisation of the data required for compliance figures. On a large scale there needs be channels for the farm dollar to come back to the farmer. There is a sentiment that the tide is going out and they are being left to do it by themselves, particularly the dairy farmers. A graduated approach to compliance is very important.

**Robert Johnston**

Mr Johnston spoke on his concerns with the Ashley River and noted that the geomorphic report has been received. A Arps advised that the report has been received by ECan and is currently being reviewed by Scientists and River Engineers. Mr Johnston said he would like to see a copy of this. Mr Johnston spoke on the history of the issue with his farm property eroding into the riverbed and reiterated his concerns that there has been no action to remedy the situation. The Chairperson responded that this committee is also concerned with the issue that Mr Johnston is having, and will look to include some appropriate recommendations in its ZIPA. It was also pointed out that this is a non-statutory committee and to actually get work undertaken, is work of the ECan River Engineers. Mr Johnston’s wish is for the Zone Committee to have an understanding of the issue and to support for him in his dealings with ECan on this issue.

Mr Johnston said that a high percentage of the Christchurch water supply (90 – 95%) comes from river loss in the Halkett area and the issue of the amount of water from the Waimakariri deep aquifers into the Christchurch zone is being exaggerated.

Mr Johnston also mentioned a radio discussion he had heard on an enzyme that had been introduced to rice fields in Vietnam which had a marked impact on reducing the nitrogen levels and also increased yield. Mr Johnston suggested this could be used here to solve the nitrogen issue. C McKay had endeavoured to source a copy of this article, but been unsuccessful to date.

Mr Johnston also expressed his concern with the use of Overseer programme for regulatory purposes, highlighting the large percentage of variances.
An invitation was extended again to members of the committee to view the problem that Mr Johnston said needs addressing. The two issues are the building up of vegetation and erosion.

S Stewart suggested that this issue needs an acceleration of an answer to this issue. The issue is not just the loss of farm land but the impact of the river system downstream.

**Michael Bate**

M Bate shows photos of toxic algae in the oxidation ponds at Kaiapoi, which he believes are not working properly as the system is overloaded. There are deaths of native birds and ducks as a result of the avian botulism.

There were also photos of the beach effected by sea foam, and M Bate suggests this is a result of the ocean outfall system not functioning as it should be.

S Stewart, as WDC Councillor and Chair of the Utilities and Roading Committee, agreed that this presentation be made at the upcoming meeting of this committee, on Tuesday 21 August.

6 **COMMITTEE UPDATES** – Zone Committee Members, Murray Griffin, (CWMS Facilitator, ECan)

6.1 Waimakariri Land and Water Solutions Programme – Update

6.2 **CWMS Regional Committee working group meeting 10 July 2018** – Carolyne Latham, (Waimakariri Zone Regional Committee Representative)

6.3 **Regional Infrastructure Working Group Briefing Paper, 10 July 2018**

6.4 **CWMS Fit for the Future Project** – Murray Griffin (CWMS Facilitator)

This has been initiated by the Mayoral Forum and is in a working group formation at this stage and will be coming back to the Zone Committees in the coming months to source feedback on how the targets could be developed and what they might focus on.

6.5 **CMMS Fit for the Future Project – Key Dates**

A timeline was provided.
6.6 **Media and Communications – August Update** – Gina McKenzie  
(Director – Real Communications)

Moved C Henderson seconded J Roper-Lindsay

**THAT** the CWMS Waimakariri Zone Committee:

(a) **Receive** these updates for its information and with regard to the committee’s 5 Year Outcomes, drafting of the Land and Water Solutions Programme recommendations, and 2018 community engagement priorities.

**CARRIED**

7 **GENERAL BUSINESS** – Dave Ashby (Committee Chairperson)

C McKay provided an update on the Plan Change 5 process. There had been four remaining appeals. Agreement was reached with ECan, there were errors of law and the parties have come to an agreement. The High Court was happy to accept that agreement. There is another appeal which is still to be determined, on Part B only. ECan is confident that it will have Plan Change 5 operative by the end of the year. 1 July 2020 is the date that Plan Change 5 states that all farmers in Canterbury have to be farming at GMP. It was confirmed that those landowners who have other consents are able to operate until the end date of these consents.

8 **NEXT MEETING**

The next meeting of the CWMS Waimakariri Water Zone Committee will be held on Monday 10 September 2018 at 4.00pm.

**CONFIRMED**

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Chairperson

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Date