

**MINUTES OF THE 118<sup>th</sup> MEETING OF THE SELWYN WAIHORA ZONE COMMITTEE  
HELD IN THE TAI TAPU COMMUNITY CENTRE ON  
MONDAY 17 APRIL 2023 COMMENCING AT 4PM**

**Meeting Agenda**

<b>Item</b>	<b>Time</b>	<b>Description</b>
		<i>Public meeting begins</i>
1	<b>4.00 pm (15 min)</b>	Meeting commences with Karakia and formal order of business: <i>Chair</i> <ul style="list-style-type: none"> <li>• Welcome</li> <li>• Apologies</li> <li>• Identification of Urgent General Business</li> <li>• Register of Interests review</li> <li>• Confirmation of minutes 13 March 2023</li> <li>• Public contribution</li> <li>• Correspondence</li> </ul>
2	<b>4.15 pm (30 min)</b>	<b>Report on the MBIE research programme: Subsurface Processes in Braided Rivers – by Scott Wilson (Hydrogeologist - Lincoln Agritech) and Alice Sai Louie (Ph.D. student, University of Canterbury) – for discussion</b> <i>Scott Wilson and Alice Sai Louie will provide an introduction to the “subsurface processes in braided rivers” research programme and the implications for Waikirikiri/Selwyn River. Digital Thermal Sensing, an investigation method being used to understand and quantify the exchange of water between the river and groundwater will also be discussed.</i>
3	<b>5.00 pm (15 min)</b>	<b>Committee updates – for information</b> <i>Updates on CWMS Forums; Bioblitz at Muriwai o Whata/Coopers Lagoon; Tuna stranding near Taumutu Beach and Te Waihora; story noting ZCAP projects supported; date for Whakakōhanga Kōrero hui; Cawthron report on Catchment groups; ECan Science summary on nitrate lag times; Coes Ford Wetland; ECan Drop-in sessions; and the upcoming May Committee meeting and field trip.</i>
4	<b>5.15 pm (10 min)</b>	<b>General Business</b> <i>Any items confirmed by the Committee for follow up or information.</i>
	<b>5.25 pm</b>	Meeting closed
		<b><i>Workshop commences</i></b>
5	<b>5.30 pm (25 min)</b>	<b>Action Plan amendments</b> <i>An opportunity for the committee to consider its Action Plan to inform the priorities discussion at the May workshop.</i>
	<b>5.55pm</b>	Workshop finished with karakia

## **PRESENT**

Les Wanhalla (Te Rūnanga o Taumutu / Chair); Councillor Vicky Southworth (Environment Canterbury Regional Council); Simon Bryant (Community member), James Booker (Community Member); Karaitiana Taiuru (Te Rūnanga o Koukourarata); Khan McKay (Community Member); Allanah Kidd (Community Member); and Tayla Nelson-Tuhuru (Rāpaki Rūnanga).

## **ONLINE**

Councillor Sophie McInnes (Selwyn District Council); Benita Wakefield (Wairewa Rūnanga); and Helen Troy (Community Member).

## **IN ATTENDANCE**

Jaimee Grant (Facilitator, Environment Canterbury), Sandy Bowman (Zone Committee & Facilitator Support Co-ordinator, Environment Canterbury), Murray Washington (Selwyn District Council), John Benn (Department of Conservation).

## **PRESENTERS**

Scott Wilson – Lincoln Agritech Ltd

Alice Sai Louie – Researcher (PhD student, University of Canterbury)

Les Wanhalla welcomed everyone, and Jaimee Grant opened with a karakia.

## **APOLOGIES**

Cr Andrei Moore (Christchurch City Council) and Matt Dodson (Deputy Chair / Community Member)

**Moved** – J Booker / **Seconded** – A Kidd

*‘That the Selwyn Waihora Zone Committee receives the apologies for its information.’*

**CARRIED**

## **IDENTIFICATION OF URGENT GENERAL BUSINESS**

None.

## **CONFLICTS OF INTEREST**

No changes to the register were noted.

## **CONFIRMATION OF MINUTES**

**Minutes of the 117<sup>th</sup> Meeting of the Selwyn Waihora Zone Committee (Water Management) held on Monday 13 March 2023**

**Moved** – Cr Southwick / **Seconded** – K McKay

*'That the minutes of the 117<sup>th</sup> meeting of the Selwyn Waihora Zone Committee (Water Management) held on Monday 13 March 2023 be confirmed as circulated.*

**CARRIED**

## **MATTERS ARISING FROM THE MINUTES**

None.

## **PUBLIC CONTRIBUTION**

None.

## **CORRESPONDENCE**

None received.

L Wanhalla welcomed presenters Scott Wilson and Alice Sai Louie.

## **REPORTS**

### **1. MBIE research programme: Subsurface Processes in Braided Rivers**

S Wilson presented on the project, 'Subsurface processes in braided rivers: hyporheic exchange and leakage to groundwater.' The study involves three rivers: Selwyn/Waikirikiri (Canterbury), Wairau (Marlborough), Ngaruroro (Hawke's Bay).

The aim is to understand how braided rivers work hydrologically in the relationship between surface flow, subsurface flow (hyporheic exchange), and groundwater exchange (parafluvial flow and groundwater recharge). Understanding how braided rivers work conceptually, will highlight how different aspects of river management influence their ability to sustain flows during dry periods and provide groundwater recharge.

One of the main pieces of missing information about braided rivers is the extent and nature of subsurface saturation, and how it changes with different flow conditions. The importance of field observation data will enable it to be used as a basis for improved understanding and for future modelling. Also looking at different scenarios, economic implications, and mapping.

L Wanhalla queried how braided river extraction affects the mean river flow for Selwyn-Waikirikiri. S Wilson noted that the river moves more rapidly in a flooding situation and in a dry season dries quickly. This means there will be a lot less recharge.

J Booker further queried whether this work took gravel entering the river into account. S Wilson noted that if the gravel builds up, there will not be an issue. If extraction exceeds the rate of deposit and there are not enough floods to rework the bed it can take hundreds of years to recover.

Cr Southworth noted Selwyn/Waikirikiriri does not have the same large-scale flow as the Wairau and Ngaruroro rivers. When there are peak flows gravel is spread out across the flood plain between braids. She queried whether there was a sense of how much water isn't captured into the aquifer during floods. S Wilson noted it depends on the hydraulic connection and whether it is hydraulically disconnected. He commented that aquifers are important for storage and even more important for climate change. If the water is going out to sea, the opportunity is lost to store water.

The question is what braided rivers in Canterbury region are most important in capturing water. S Wilson advised that a mapping programme would clarify this more which they are advocating for.

S Wilson noted flood management in the 1960s sped up water and moved gravel more rapidly and was the objective of the schemes. If river were widened, there would be more retention and a lot less sedimentation transport. There are advantages to widening sections of rivers which is the logical next step.

J Benn added it is not just the narrowing of rivers but also the straightening of river sections that has impacts. He commented the Selwyn/Waikirikiriri is different to the major rivers like the Ngaruroro and Waiau in that it is perched between the depression of major river fans.

### **Alice Sai Louie – Presentation on 'Quantifying losses from braided rivers using active distributed temperature sensing'**

Alice Sai Louie presented on the method of distributed temperature sensing.

Horizontal groundwater flow was measured with distributed temperature sensing along cables installed with direct-push equipment. These heat trace connectors estimate temperatures at high resolutions. The Selwyn District has four installations.

A Sai Louie noted this is the first time we have seen the Selwyn/Waikirikiriri braided river gravel structure which was estimated to be 20-25 m deep, when in fact it is only 5 m in depth. It is a powerful tool to understand how the waters flow.

L Wanhalla queried whether this method had been used to investigate the contaminants in the water and A Sai Louie noted this study is only looking at water flow.

J Booker queried if there is a commercial use of this model of technology. A Sai Louie noted yes, this technology is becoming more and more common, particularly in Europe. It can monitor wind currents, volcanos, rivers and has a wide range of other uses.

L Wanhalla thanked both presenters.

**Moved** – James Booker / Seconded – Khan McKay

*That the Zone Committee*

*Receives the information including project overview of Subsurface processes in braided rivers, Lincoln Agritech, and quantifying losses from braided rivers using active distributed temperature sensing.*

**CARRIED**

## **2. Committee Updates**

### **CWMS Committee Hui – North and South**

J Grant noted the forums introduced the partnership approach being developed to support integrated regional planning framework mahi, gained community feedback on what engagement tools could be used and a background to the CWMS. Notes for the two hui were being put together to be distributed to the zone committees.

T Nelson-Tūhuru found it very beneficial.

L Wanhalla suggested more time should be allocated for questions and answers. There was quite a bit on the future, where zone committees are heading, and issues. A Kidd reiterated there was limited amount of time for discussion.

There was general consensus that it was a good opportunity to speak/connect with other zone committee members.

### **Bioblitz at Muriwai o Whata/Coopers Lagoon – 18 March 2023**

J Grant noted it was a very successful day with over 1100 observations made. Highly recommend going along to future Bioblitz. A mini bioblitz is to be held on 29<sup>th</sup> April at Mahoe Reserve, Boundary Road, Lincoln.

L Wanhalla noted the kōrero given on the origin of tuna as a highlight of the day.

Cr McInnes took her children along and they found it very informative. Learnt the different ways (western and traditional) of bringing invertebrates up from the creek.

### **Tuna stranding near Taumutu Beach and Te Waihora**

J Grant noted the communications that have gone out regarding the tuna stranding.

L Wanhalla noted that the lake openings need to take tuna migration into account.

### **Plans firmly in place for the Selwyn Waihora Zone Committee**

Four Selwyn Waihora projects now in place to go ahead.

**Whakakōhanga Kōrero operational Forum**

This is being held on Tuesday 9<sup>th</sup> May and Les Wanhalla and Tayla Nelson-Tūhuru will be attending.

**Where next for catchment groups – Cawthron guidance report published**

A copy of this Cawthron report attached to the agenda groups for zone committees to read as a reference.

**Environment Canterbury Science Summary**

Environment Canterbury recently published a summary and gives key messages on the nitrate time lags being the time period between land use change and resulting change in nitrate concentrations at a monitoring location (week, spring, stream, river, wetland or lake) (summary attached to agenda)

**Coes Ford Wetland update – Mātauranga Māori assessment due May**

The Mātauranga Māori baseline assessment has been put back due to staffing availability.

**Environment Canterbury Drop-in sessions – intensive winter grazing**

These drop-in sessions to be discussed at the upcoming workshop.

**8<sup>th</sup> May Zone Committee meeting and Boat Creek visit**

Zone Committee 8<sup>th</sup> May Boat Creek visit - weather permitting. Will send out communications on this event. Committee confirmed to leave from Tai Tapu Community Centre and car pool to Boat Creek.

**Moved** - Karaitiana Taiuru / **Seconded** - Tayla Nelson-Tuhuru

**CARRIED**

**4 General Business**

Murray Washington advised Selwyn District Council annual plan open for engagement.

Jaimee Grant led the karakia to close the meeting.

The meeting closed at 5.25pm



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**CHAIRPERSON**

10-07-23  
\_\_\_\_\_  
**DATE**