

## *Meeting notes – additions to the annotated agenda*

### **Hurunui Science Stakeholders Group**

**3.00 – 6.00pm Wednesday 08 November at Council Chambers, Hurunui District Council, AMBERLEY**

Attendees:

*Hurunui Waiau Zone Committee:* John Faulkner, Winton Dalley, Cynthia Roberts, Ben Ensor, James Costello, Michele Hawke

*Peer Reviewers:* Greg Burrell, Melissa Robson, John Bright

*Environment Canterbury:* Ian (Whit) Whitehouse, Ned Norton, Ognjen Mojsilovic, Adrian Meredith, Suz Gabities, Hamish Graham, Kimberley Dynes, Jeanine Topelen, Lisa Scott, Leanne Lye, Mike Bennett, Lisa Jenkins

*Hurunui Water Project:* Christina Rob

*Amuri Irrigation:* Andrew Barton, Gavin Kemble, Peter Brown

*Emu Plains Irrigation:* Brian Elwood

*Te Rūnanga o Ngāi Tahu:* Matt Dale

*Ngāi Tahu Farming:* George Mauger, Pete Roberts

*Hurunui District Landcare Group:* Joshua Brown

*Beef and Lamb NZ:* Julia Beijeman

*Diary NZ:* Justin Kitto, Shaun Burkett

*Federated Farmers:* Lionel Hume

*Cheviot Irrigators Collective:* Robb MacBeth

*Fish and Game NZ:* Scott Pearson

*Ravensdown:* Kelly Morris, Anna Wilkes

*Others:* Jane Demeter

## **Welcome and introductions**

### **Key points**

- Participants introduce themselves.
- The zone committee's focus is on being able to make recommendations by the end of March 2018 in relation to:
  1. Fixing the 10%-rule issue;
  2. Considering whether to recommend deferring a review of water take consents (in relation to HWRRP minimum flows) to lever more actions to improve water quality and biodiversity;
  3. Whether water quality limits for Waiau catchment need to be strengthened and if so whether this needs to be done now or in 2023.
- The zone committee is asking the Science Stakeholders Group to review technical information and ensure it is "fit for purpose" to help the committee make its recommendations.

## **Sources of manageable phosphorus losses – Adrian Meredith, ECan**

### **Key points**

- Various lines of evidence indicate that irrigated land is likely to be a significant source of **manageable** P losses.

### **Related material**

*"Sources of manageable phosphorus losses in Hurunui and Waiau", Adrian Meredith*

*"Amuri irrigation nutrient loads and management", Peter Brown. See section 5 "AIC in-river load trends in the Hurunui Catchment" showing reductions in P losses that are attributed to changes to irrigation systems in the Amuri Basin (i.e. reduction in borderdyke irrigation).*

### **Additional points:**

- Significant gains have been made as border dyke areas have converted to spray irrigation. Future gains will be important but not likely on the scale that we have seen in that conversion.
- Not all hotspots are the result of P lost through farming, e.g. other sources such as salmon farms, forestry and sewage treatment may be the cause of some of the hotspots.
- Understanding where manageable P loss is is important but not likely a significant issue with regard to fixing the 10% rule.

## **Waiau nitrogen losses from consented and proposed irrigation development – Brian Elwood, Lowe Environmental Impact**

### **Key points**

- Unimplemented consented irrigation development is likely to increase Waiau River N loads by 2.8%.
- The proposed Emu Plains irrigation development is estimated to increase Waiau River N load by a further 4.4%.

### **Related material**

*“Nitrogen Load Estimate for Emu Plains and Unimplemented Consents in the Waiau River Catchment”, Brian Ellwood.*

### **Additional points:**

- Some additional questions but SSG appeared reasonably comfortable with the information presented.

### **Estimating the area of (dryland) winter forage cropping – Ogi Mojsilovic, ECan and Ned Norton**

#### **Key points**

- Permitting dryland farming could increase the area of winter forage crops and increase N losses in the Hurunui and Waiau catchments. Estimates are provided of the dryland areas that has the potential to be used for winter forage cropping in the Hurunui and Waiau catchments.
- Further work will be done to ascertain a realistic estimate of the increase in area of winter forage crops that could be reasonably expected if dryland was permitted.

### **Related material**

*“Estimates of area for winter forage crops in Hurunui and Waiau catchments”, Ogi Mojsilovic and Ned Norton.*

### **Additional points:**

- Beef and Lamb and Cheviot Irrigators Collective indicated they can assist in providing information to inform an estimate that is realistic for dryland forage crop area.
- It was noted that Southland Regional Council have recently introduced provisions similar to PC5 that may be useful to consider.

### **Update on evaluating the impact on nutrient losses from permitting dryland farming – Ned Norton**

#### **Key points**

- At the end of November, Josh Brown, Hurunui District Landcare Group, will be providing information on dryland development and the likely impact of permitting dryland farming. This will be presented to the Zone Committee on 11 December and circulated to Science Stakeholders Group.
- In 2015, as part of the Nutrient Working Group discussions, Peter Brown modelled the effect of dryland farming being made a permitted activity. He concluded that the nitrogen headroom being offered by irrigators should offset the intensification of dryland farming systems so there would be no net increase in N load in the Hurunui River at SH1.

### **Related material**

*“Hurunui River nutrient modelling: impact of dryland intensification”, Peter Brown.*

### ***AIC's consented N load and GMP – Peter Brown, AIC***

#### **Key points**

- The in-river N load for Hurunui River at SH1 is fully allocated through consents to AIC, HWP, NTFE and other irrigators.
- AIC, HWP and NTFE use a “look-up table” approach for N accounting, not Overseer (to establish consented N loads and monitoring compliance with these).
- AIC has a consented N load of 956tN/yr for the Hurunui catchment based on 2013 land use, stocking rates and irrigation practices.
- The N accounting captures the reduction in N losses with increasing irrigation efficiency, such as through the decrease in border dyke irrigation. AIC's 2016/17 reported N load was 901 tN for the Hurunui catchment.
- The N loss gains from irrigation improvements allow AIC to increase its irrigated area.
- The N accounting approach does not capture the reduction in N losses that are expected with the uptake of (non-irrigation) good management practices (GMP) such as improved nutrient and effluent management.

#### **Related material**

*“Amuri Irrigation nutrient loads and management”, Peter Brown.*

#### **Additional points:**

- AIC are stocktaking to understand if the 50tonnes of N loss that was offered through the nutrient working party is available or if it needs to be retained by AIC as a buffer.

### ***Opportunity to remove N by pumping St Leonard's Drain – Peter Brown, AIC***

#### **Key points**

- St Leonard's Drain contributes about a quarter of the Hurunui River N load.
- Pumping N-rich water from St Leonard's Drain and using this for irrigation could reduce the N load and N concentrations in Hurunui River.

#### **Related material**

See Section 8 in *“Amuri Irrigation nutrient loads and management”, Peter Brown.*

#### **Additional points:**

- AIC are looking at costs etc to understand if tributary pumping is a viable option, and are unclear if savings in N losses could be distributed outside of the Amuri scheme.

## **Next Steps – Ian “Whit” Whitehouse, ECan**

### **Key points**

- In July 2018 ECan will notify changes to HWRRP based on the zone committee’s recommendations.
- The zone committee will make recommendations by the end of March 2018 in relation to:
  - Fixing the 10%-rule issue;
  - Considering whether to recommend deferring a review of water take consents to lever more actions to improve water quality and biodiversity;
  - Whether water quality limits for Waiau catchment need to be strengthened and if so whether this needs to be done now or in 2023.
- Over the next three months results from technical work will be provided to the zone committee to inform their decision making. Where time constraints allow, technical work will be presented to the Science Stakeholders Group prior to the zone committee. This will not always be possible.
- Key dates for technical information:
  - 11 December** (Zone Committee meeting, Cheviot):  
Briefing from Josh Brown, Hurunui District Landcare Group on likely impacts of permitting dryland farming;
  - 07 February** (joint workshop of Science Stakeholders Group & Zone committee, Amberley):  
Briefing from Ned Norton on risks to freshwater objectives with irrigation development and permitted dryland farming in Waiau catchment.

### **Related material**

*“Draft Hurunui Waiau Zone Committee work programme to March 2018”.*