Main themes, discussions and comments

(Compiled from Cardrona Minimum Flow Workshop #4– 28 June 2013)

Purpose of the meeting:

- To discuss with the community the presented regime options for surface and ground water with the community and other stakeholders

Presentation by ORC staff

Recap of main points from the previous workshop

Presentation by Cardrona Landcare Group

Mike Scurr - 5th generation farmer in the Cardrona Valley

Description: Cardrona Valley

- 28,000 ha pastoral farming
- 50,000 stock units (SU) (1ewe/lamb = 1 SU; 1 deer = 2 SU; 1 beef breeding cow = 6 SU)
- The valley supports 24 families, with often 3 or 4 generations working on 1 farm
- The Valley has one of the shortest growing seasons in NZ
- The catchment ecology is now better than it was in the 50's and 60's

Description: Farms in the Cardrona Valley

- The average sized farm in the valley comprises 2,800 ha, 200 ha of which is arable and only half of the arable land is irrigated.
- The average sized farm in the valley supports around 5000 SU.

Importance of irrigation farms in the Cardrona Valley

- Imbalance between feed demand & dry matter produced.
- Each farm needs to make approx. 1200 bales of hay/silage.
- 30 ha crops to feed during the winter (e.g. swede).
- Dry matter production maximised on small area of arable land.
- 30 – 40 times more production when irrigated
- Irrigation is needed to maintain soil moisture for growing
- Irrigation usually starts around middle of November /beginning December and runs until the end of March/beginning of April
- The catchment is largely supplied with irrigation water through an open race system 72 miles open race back in the day
- Extra NZ$180,000 cost to buy winter sup. Feed vs. growing per farm
- Timing of irrigation water is as critical

- In a dry year water is critical from the beginning of December. A take restriction in December is not desirable
- The use of efficient irrigation translates in the development of more land under irrigation.

Dennis Pezaro

- The Cardrona Valley has a high scenic value.
- The Cardrona Valley adapts to environmental challenges e.g. flooding
- Water quality varies, but returns quickly to good
- Farming stewardship has resulted in improved environmental state of the valley
- ORC should recognise the diversity and unique characteristics of rivers. (The Cardrona river flows underground)

Lane Hocking

- Farmers want status quo

Tim Scurr

- 2,250 ha farm supports 6,000 SU and is only just.
- 2/3 income lost if can't irrigate
- No suitable land for dam
- Most land is marginal, irrigated land key to farming
- Farmers want status quo

John Lee

- Farmers are environmental stewards (e.g. rabbit and weed control)
- Water and irrigation are intrinsically linked to the farming and gold mining history of the river. The gold mining industry used water from the Roaring Meg (400 l/s to 500l/s).
- 5km of water supply pipes needs to be laid to supply the valley with sufficient irrigation water
- Farmers had a hand in tourism development

Discussion topics:

General:

Q. How do you convert Mm^3 to Litres?

A. 1 m^3 = 1000 Litres. 1Mm^3 = 1,000,000 x 1,000 Litres

Groundwater

Q. How does irrigation practice impact on the recharge of the aquifer?

A. Overtime we will see a reduction in irrigation recharge as more flood or border dyke irrigation will be replaced with more efficient irrigation methods (spray irrigation).

Q: Will the 5 or 8 mills be enough to maintain the health of the aquifer?

A. Yes

Surface water

Primary allocation limit

Q: What is the default primary allocation limit? Is it 500l/s or 600l/s?

A. The default primary allocation limit is based on the Mean Annual Low Flow (MALF). The MALF is an average. And averages change slightly overtime as more flow data gets collected. In recent years we have had a few wet years.

Cardrona Landcare Group considers that:

> *"It is better to wait another 5 years to get sufficient monitoring data. This will allow any decision about allocation to be based on meaningful info."*
>
> *"An allocation cap is meaningless until such time as irrigators have exhausted their irrigable land area. New users and existing farmers want more water to irrigate new land area. Farmers want the option to expand and grow their business."*

Q: Why does ORC want to set an arbitrary figure now if the Cardrona River is already over allocated.

A. ORC is trying to manage water across the whole Otago region.

Q: Setting the primary allocation limit now is premature. Why do we need a primary allocation limit. Can we not just have a minimum flow?

A. The minimum flow and the primary allocation limit work together.

Q: We don't trust the process. Within 5 years' time there may be another person at the ORC interpreting the Water Plan provisions?

A. Policy 6.4.2 in the Water Plan sets out the mechanisms for setting a primary allocation limit.
   1. The default primary allocation limit is 50% MALF (500l/s)
   2. In over allocated catchments the primary allocation limit is the sum of consented takes (situation in the Cardrona today)
   3. Specify a number in Schedule 2A of the Water Plan = today's conversation

Q: ORC should wait until 2021 for setting the primary allocation limit. By 2021 everyone will know what they're taking?

A. We can't wait until 1 October 2021 to decide on the whole region. It will be harder then as farmers will have used all their water.

Q: Is it possible to take storage water as primary allocation? Is there scope to look at the timing of primary takes?

A. Once we get the situation around the primary allocation sorted, water taking will be available within supplementary allocation.

Workshop participants consider the following:

"A lot of work has been done on deep rooted species."

"Water retention is now much better than it used to be because the soil structure is changing."

"Snow-making is helping farmers. Water is coming through later due to snow melt."

"We had a Lancare Group meeting. All agreed about the primary allocation limit. Being 2021 when this comes into play. We just want to focus on the minimum flow now. It is a big topic that is not fully understood. We have a legal right to take water until 2021."

"Wait 5 years to get sufficient monitoring data & base these decisions on meaningful info. Need to earn trust. An allocation cap is meaningless until such time as we have exhausted our irrigation land area. New water users and existing farmers want more water to irrigate new land area. Farmers want the option to expand and grow their business."

Primary allocation minimum flow

ORC staff explains that when the minimum flow Is set a the Larches flow monitoring site it is impossible to maintain that flow below the Larches flow site as a considerable amount of surface flow gets lost to groundwater. A portion of the surface flow recorded at the Larches also gets diverted into water races below the Larches.

ORC staff discusses the outcomes of the proposed minimum flow options:

- A minimum flow of 700L/s @ the Clutha Confluence will ensure flow continuity at all times
- A minimum flow of 400L/s @ the Larches is negotiable.

Purpose of the meeting is to find out whether the 400L/s acceptable for upper irrigators?

Q: Are there any takes other than Hillend below the Larches?

A. Not really. All of the remaining surface flow is going to groundwater.

Q: What happens when the minimum flow is breached? Do water users have to wait until the surface flow level goes above the minimum flow level again?

A. Yes. The minimum flow options that are presented during this workshop do not provide for a bounce-back flow.

Supplementary allocation and minimum flow

Q: Why does ORC set a supplementary allocation? Why can't irrigators take what's available?

A. Other values are taken into account by the supplementary allocation e.g. fish.`

Q: Can you explain the concept of a supplementary allocation and associated minimum flows?

A. Supplementary allocation is different to primary allocation. Supplementary allocation is an allocated volume of water that can be taken at higher minimum flows.

Community based water management

Q: How does an allocation committee works?

A. It is a community run and voluntary instrument. The chairman of the allocation committee manages the takes.

Q: What about big irrigation companies? What if they won't cooperate?

A. ORC can step in and formalise the process. Consents can have a condition that the consent holder needs to be part of an allocation committee.