

**BEFORE THE COMMISSIONERS APPOINTED ON BEHALF OF THE
OTAGO REGIONAL COUNCIL**

UNDER The Resource Management Act 1991
(the **Act** or **RMA**)

**IN THE
MATTER** of an original submission on the
Proposed Regional Policy Statement
for Otago 2021 (**PRPS**)

BETWEEN **OTAGO WATER RESOURCE USER
GROUP**

Submitter OS00235 and FS00235

FEDERATED FARMERS NZ INC

Submitter OS00239 and FS00239

DAIRY NZ

Submitter FS00601

AND **OTAGO REGIONAL COUNCIL**

Local Authority

SUMMARY OF EVIDENCE OF IAN LLOYD

DATED 3 MAY 2023



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Summary of evidence

1. My name is Ian Lloyd, I am a Principal Water Engineer in the Christchurch office of Davis Ogilvie and Partners Limited, a privately owned engineering, surveying and planning consultancy. I refer you to my full expertise and experience as outlined in my evidence.¹
2. My evidence provides a brief history of the various water related processes that have occurred within the Manuherekia Catchment and uses the catchment to highlight some of the challenges facing water management and water planning.
3. Where my evidence discusses freshwater issues, it is to highlight how land use and water use are directly connected, and to ensure the interactions between land and water are considered in the non-freshwater provisions of this RPS.

Irrigation in the Manuherekia

4. The Manuherekia Catchment has a long history of active water management which stretches back to the early gold mining days of the 1800s. Six main irrigation companies and numerous private irrigators, fully irrigate approximately 15,000 ha within the Manuherekia Catchment, with a further approximately 10,000 ha partially irrigated. The catchment contains a significant amount of irrigation infrastructure including: five main storage dams, over 600 km of scheme water races, numerous intake and discharge structures, numerous sub-catchment water transfers and reaches of numerous watercourses are used to transport irrigation water including water discharged from upstream storages.²
5. Hydrologically, the Manuherekia Catchment is complex due to the catchment's physical characteristics, the large amount of water infrastructure, the high demand for water and the extensive active water management practices. This complexity makes managing water in the catchment difficult. There is no formal flow regime for the

¹ At [1]-[4].

² At [8]-[15].

Manuherekia River system, and ORC are in the process of developing one. Currently the flow regime of the Manuherekia³predominantly managed by the existing water users who carefully balance storage, river flow, water demand and imposing water restrictions.⁴

6. The functionality of the existing infrastructure must be considered to ensure successful and workable future flow regimes in such a heavily modified catchment.⁵
7. For example increased minimum flows would lead to reduced supply reliability for water users, which would encourage irrigators to move to crops with a shorter growing season and to irrigate fully for a short period up until the storages are depleted and then move to maintenance watering. Such a regime would lead to storages being drained earlier in the season, removing the ability to release water from storage to augment downstream flow and shortening the period when flows are enhanced due to the transport of irrigation water.⁶

What I've learned from the Manuherekia

8. The experience of Manuherekia catchment is that the development of a flow management regime takes considerable time and is difficult. The uniqueness of this catchment (both naturally and through human use) requires a catchment specific approach to the development of flow management regimes.⁷
9. Establishment of, or changes to large water infrastructure requires significant investment and takes many years to design, fund and implement. Clear direction and long-term certainty are needed. Without this, there is often a reluctance to invest in the infrastructure required.⁸

⁴ At [15]-[18].

⁵ At [29].

⁶ At [21].

⁷ At [34].

⁸ At [21]-[23], [30]-[32].

10. Developing irrigation at either a farm or scheme level necessitates a significant change in farming practices and is a long term decision. Lack of long-term regulatory certainty reduces investment, causes delays and results in the need to repeat investigations.⁹
11. Regulatory changes that require changes in crop type, irrigation practices or water supply reliability can be very difficult to accommodate and lead to stalled development and maintenance.¹⁰

What do I want?

12. I hope that the Panel considers the experiences of the Manuherekia catchment and provides enough flexibility in the final document to allow catchment specific approaches to the development of flow management regimes.¹¹
13. **I would be happy to take any of the Panel's questions.**

Dated 3 May 2023

Ian Lloyd

⁹ At [33].

¹⁰ At [22].

¹¹ At [35].