

**Submission on Proposed Water Permits Plan Change (Plan Change 7)
to the Regional Plan: Water for Otago**
(Form 5, Clause 6 of the First Schedule, Resource Management Act 1991)

Form 5

Submission on publicly notified proposal for policy statement or plan
Clause 6 of First Schedule, Resource Management Act 1991

To: Otago Regional Council
policy@orc.govt.nz

Name of submitter: **Cardrona Water Users Incorporated**

Contact person: Mike Scurr, Chairperson

Address for service: [REDACTED]

Postal address: [REDACTED]

Ph: [REDACTED]

This is a submission on the following proposed plan change:
Proposed Water Permits Plan Change (Plan Change 7) to the Regional Plan: Water for Otago.

We could not gain an advantage in trade competition through this submission.
I am directly affected by an effect of the plan change that

- (a) Adversely affects the environment; and
- (b) Does not relate to trade competition or the effects of trade competition.

The specific provisions of the proposal that our submission relates to and the decisions we seek from Council are as detailed on the following pages.

We wish to be heard in support of our submission.
If others made a similar submission, I **will** consider presenting a joint case with them at a hearing.

(Delete if you would not consider presenting a joint case)

Signature of submitter: Date:

(Or person authorised to sign on behalf of person making submission.)

Signature not required if you make your submission by electronic means)

Cardrona Water Users **oppose all of Plan Change 7**. We ask that it be removed completely.

Cardrona Water Users particularly oppose the methodologies in Schedule 10A.4

The Cardrona Water Users support the submission by OWRUG.

PC7 does not meet statutory requirements for plan changes

1. PC7 does not meet the necessary statutory tests:
 - i. PC7 fails to provide a coherent and complete framework for managing the taking, damming, discharging, diverting and re-taking of water in Otago.
 - ii. The objectives and provisions of PC7 are not an appropriate way, or the most appropriate way to give effect to, or achieve Part 2 of the RMA. PC7 will not result in sustainable management, as it does not safe-guard life-supporting capacity, allow for mitigation of effects and does not provide for economic and social wellbeing.
 - iii. PC7 fails to give effect to National Policy Statement Freshwater Management.
 - iv. PC7 fails to give effect to the various versions of the Regional Policy Statement.
 - v. PC7 is based on an incorrect assessment of freshwater management in Otago and the outcomes achieved or able to be achieved under the RPW.
 - vi. The Section 32 Evaluation of PC7 is incomplete and incorrect. This has resulted in an evaluation which underplays the failures of PC7 and overplays its effectiveness.
2. Cardrona Water Users represent all the water permit holders on the main stem of the Cardrona River upstream of the Ballantyne Rd Cardrona River bridge. They are predominately pastoral farmers but the water permits are also used for a whiskey distillery, ski field, flower growing and lifestyle blocks
3. There are deemed permits and water permits yet to be replaced before the end of 2021 but a significant portion of the primary surface water take permits have been replaced already with terms up to 2050.
4. The permits yet to be replaced are primarily located on tributaries of the Cardrona River.
5. There are several water permit applications already lodged. These applications have been thoroughly prepared and address all relevant statutory documents including the National Policy Statement for Freshwater.

6. In good faith and as advised by the ORC the Cardrona Water Users have been applying for replacement water permits over the last five years. The applications have been assessed and the new permits have been in line with the guidance in the ORC document "Water Users' Handbook" produced in 2016(The Handbook). The assessment and consent conditions have been in line with the list provided by the ORC and are not at all simply rolled over as is suggested by the ORC Chairperson in Council meetings. *See Appendix 2 for the front page of the Handbook and Appendix 2A*

ORC Minimum flow plan change history in the Cardrona catchment

7. The farming and broader community have participated in the ORC led Plan change process for nearly 10 years now. Details of the first workshops are recorded on the ORC website. *See Appendix 1* copied from the ORC website.
8. There have been technical meetings, stakeholder field walks, meetings announcing flow decisions, meetings restarting the process with new catchment arrangements, farmer meetings with staff to assist with mapping irrigation, meetings with experts doing reports for social and financial impacts. And meetings with the ex Chair to highlight the frustration and futility of the ORC's new ideas.
9. It has been an incredibly frustrating, time consuming and expensive 10 years for the water users. The lack of progress on notification of a plan change lies completely at the feet of the ORC.
10. To introduce a short term Plan Change that further disadvantages the water users at the 11th hour is completely unbelievable.

Water management in the Cardrona Catchment

11. PC7 has completely ignored any of the facts about the Cardrona Catchment.
12. There are no details about the Cardrona Catchment in the Section 32 Report, and no evaluation of how PC7 will impact water users or the environment in the Cardrona Catchment
13. Many water permits are already replaced in the catchment. A fair portion of them had expiry dates before 2021. Once the minimum flow is operative we anticipate the ORC will use the review clause to add the minimum flow condition where appropriate.
14. It is unfair to push the remaining water permit holders through PC7 and have them apply for permits at least twice while ORC sorts out its Plan because it is now viewed as outdated. . The few remaining permits should be given the same assessment as described in the Handbook and at the ORC's cost the minimum flow can be applied by review at a later date. It is after all the ORC's delay not the water users.

15. The ORC reported that the Cardrona water quality is good in 2016 and have been promoting good management ever since. See Appendix 3
16. More recently the ORC completed a report card of the last five years water quality data. See Appendix 4. The water quality was found to meet the Schedule 15 Water Plan Limits.
17. Given those two reports by the ORC we were baffled to read in the Investigation of Freshwater Management and Allocation Functions at the Otago Regional Council by Professor Skelton (Skelton Report) that **“nitrogen and E. coli appear to be the main water quality issues. MCI scores highlighted probable impact on water quality and or habitat.”** See Appendix 5 page 17 of the report.
18. The Skelton Report led to the Minister’s recommendation to the ORC. In the case of Cardrona water quality the Skelton Report conclusions were based on the *appearance* and probable causes - one of which the water users have absolutely no control over (habitat). Meanwhile the material available to the farmers as summarised by the ORC scientists portrays a different picture.
19. The Cardrona catchment’s climate is extreme. The landscape is a narrow valley floor bordered by mountain ranges on the east and west. The small areas of irrigation support much larger tracts of dryland hill country. There are no dairy farms. The water use purposes have been diversifying lately with the introduction of a whiskey distillery and flower grower.
20. The risk to water quality is low. The mountain tributaries are mostly untouched.
21. The Cardrona farmers have a long history of working as a group. They formed the Cardrona Landcare Group over 25years ago and Secondly the land care group has been operational for over 25 years and has now morphed into several groups.
 - a) Cardrona Pest Management company
 - b) Cardona Water users group incorporated.
 - c) Cardrona residents association
 - d) Cardrona school bus committee (now wound up)
 - e) Cardrona catchment land management group.
 - f) Cardrona Nassella tussock action group.
22. The Cardrona farmers have a close affinity with the Wanaka community and are committed to looking after the environment as a wider community.
23. If any investigation on the Cardrona Catchment had been done for PC7 it would have been obvious the catchment would be severely disadvantaged by the plan change for no environmental gain.

PC7

24. PC7 introduces a restriction on the area irrigated associated with the controlled activity rule. The random year of 2017-18 as the limit for area irrigated is not based on any effects or



reasoning. It is an unnecessary and dangerous concept that ORC is introducing a retrospective limit of irrigation area.

25. We assume the area irrigated is being set with some sort of intent to control perceived water quality and efficiency issues. Given the Water Plan already has water quality rules that are meant to apply to all farming operations not just irrigators this is extremely unfair.
26. The locking in of area irrigated in 2017/18 through PC7 is a very blunt instrument that gives no regard to the more relevant facts and efforts of the community.
27. The water data assessment in the Schedule will result in a significant loss of actual abstracted volumes on the permits yet to be replaced. We understand from the attached correspondence that the ORC did not even assess the volume implications. *See Appendix 6*
28. The inadequacy of the Section 32 Report is further exposed when ORC staff acknowledge even the most basic of assessments of impacts on irrigators was not completed as part of the plan change evaluation.
29. Using the data set from 2012 to 2017 is also a very poor decision. Otago experienced difficulty getting service providers to install and service faulty equipment in the early years of the metering regulations. The data gathered in 2012, 2013 and 2014 had more errors than desirable. In all other aspects of environmental data collection we aim for the most recent data possible.
30. Given the criteria for the controlled activity rule are so poor, the bulk of the water permit holders would be forced down the non-complying pathway. That result is a long way from the conclusion of the Skelton Report that recommended an extension of term for deemed permits through a change to the RMA.
31. We don't agree with the way the ORC have implemented the Minister's Recommendation as this leaves the farmers to carry the costs of the ORC incompetence. The Skelton Report recommendation would have significantly reduced cost for farmers, as it would have been a simple extension at no cost to farmers.
32. We ask the PC7 be removed and the water permit applications be processed under the existing plan. The ORC can apply the minimum flow conditions in a review clause.




Appendix 1 ORC Webpage noted the start of the Cardrona plan Change process

Cardrona Plan Change - Community Consultation








A first community workshop was held at the Lake Wanaka Centre on Monday 21 June 2010. The purpose of this workshop was to listen to people's views on what they consider to be important values and uses supported by the Cardrona River.

-  Workshop 1: Key themes (342 KB)
-  Workshop 1: Policy Presentation (2 MB)
-  Workshop 1: Science Presentation (9 MB)

A second community workshop was held on Thursday 23 February 2012. During this workshop ORC staff talked about the interaction between the Cardrona River and Wanaka Basin Cardrona Gravel Aquifer, the impacts of water taking on the river and aquifer and what this means for those taking or wanting to take water.

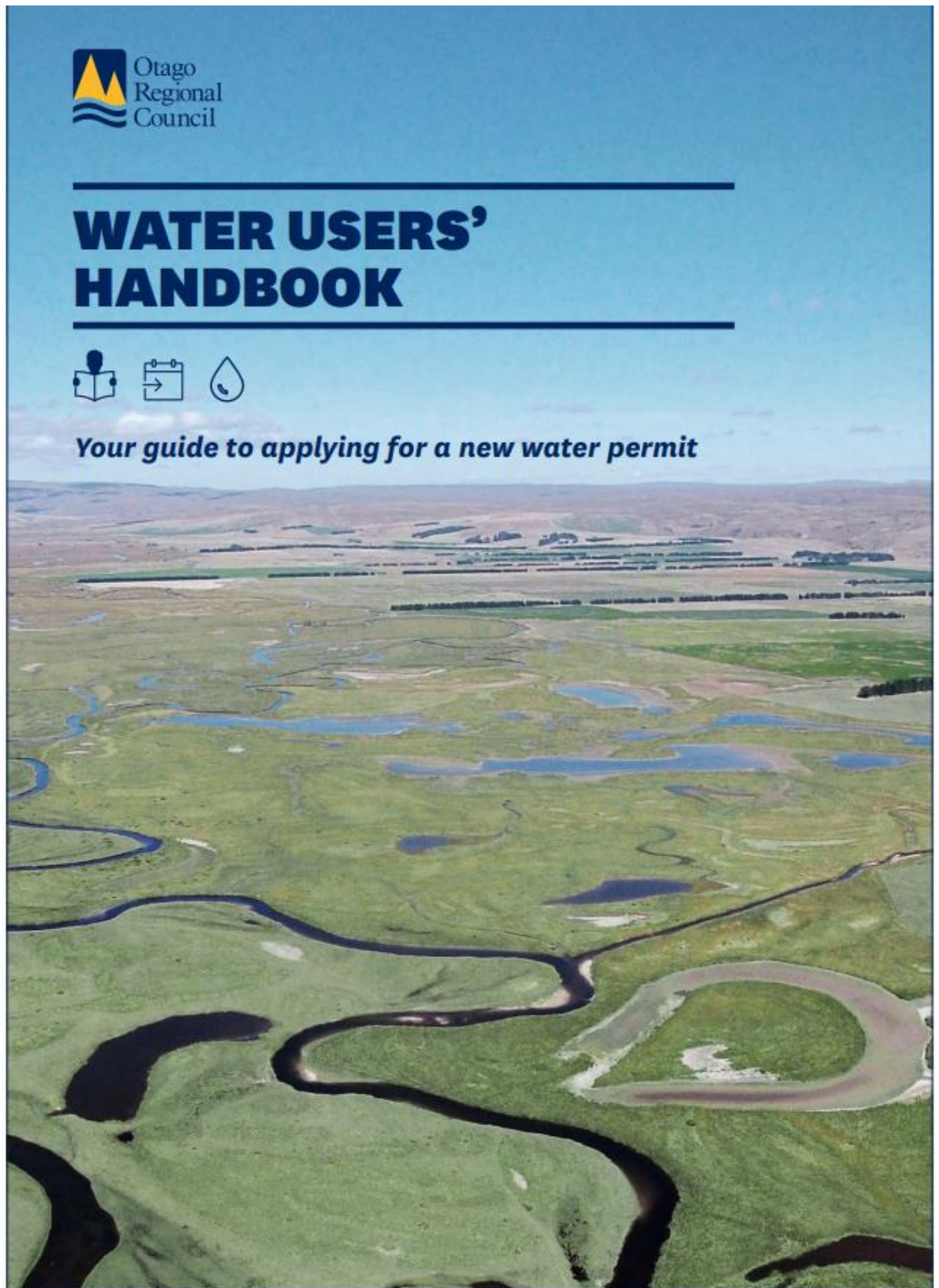
-  Workshop 2: Key themes (123 KB)
-  Workshop 2: Policy Presentation (1 MB)
-  Workshop 2: Science Presentation (4 MB)

Two community meetings were held in June 2013. The first of these two meetings was held at the Presbyterian Church Community Centre on Tuesday 11 June 2013, while a follow-up meeting was held at the same venue on Thursday 27 June 2013. During these meetings, ORC staff presented the local community and other stakeholders with different options for the management of the Cardrona's water resources and asked for feedback on these options.

-  Workshop 3: Presentation (4 MB)
-  Workshop 3: Key themes discussion topics (151 KB)
-  Workshop 4: Presentation (1 MB)
-  Workshop 4: Cardrona Landcare Group Presentation (7 MB)
-  Workshop 4: Key themes and discussion topics (141 KB)
-  Options for managing the Wanaka Basin Cardrona Gravel Aquifer (1 MB)
-  Options for managing the Cardrona River and connected groundwater resources (Cardrona Alluvial Ribbon Aquifer) (1 MB)

Source: <https://www.orc.govt.nz/plans-policies-reports/regional-plans-and-policies/water/cardrona-integrated-water-management/cardrona-community-consultation>

Appendix 2 Front page ORC water user handbook



Source: <https://www.orc.govt.nz/media/4287/water-users-handbook-2016.pdf>

STEP 4.2 Check

...you understand the consent conditions and how to abide by/implement them.

Changing from a deemed permit to a new water permit means these are likely to be quite different from your existing conditions. Things to look for include:

- › **surrendering old permits** that are still current before you can use the new one(s);
- › **having a reduced take compared to your historic permit.** Old permits often allowed takes far in excess of the water available in the waterway (known as paper allocation). New permits will only be issued for amounts of water that a user can demonstrate that they need. Refer to page 27 for an explanation of paper allocation;
- › **being subject to minimum or residual flow limits**, where you will not be able to take water once those limits are reached. Under a WMG consent you will be able to operate to a rationing regime (approved by us) as flows start to drop towards the minimum flow limits. Refer to page 28 for how minimum and residual flows are used to protect waterway values and page 29 for how rationing regimes work;
- › **instantaneous, monthly and seasonal limits** on how much water you can take;
- › **measuring and monitoring requirements** that you must undertake so that you only take what has been allocated; and
- › **review conditions** that allow us to make changes to your conditions in the future.

If your application is declined, or if it's granted subject to conditions that you are unhappy with, you have a couple of options. If your application:

- › **was non-notified** you have 15 working days to lodge an objection. Objections are usually settled by agreement between you and our delegated staff.
- › **went to a hearing** you, and any other party to the hearing, have 15 working days after receiving the decision to lodge an appeal with the Environment Court. Appeals are usually settled by agreement in mediation with an Environment Court mediator. If not, they go on to be heard by the Environment Court.

Find out how to lodge an appeal/objection in the resource consents section of www.orc.govt.nz

Source: <https://www.orc.govt.nz/media/4287/water-users-handbook-2016.pdf>



The Cardrona River from above the water (left) and underneath (right).

Much to be proud of with Cardrona water quality

A major ORC study of water quality in the Cardrona River catchment has found that it is generally very good.

The study combines the results of long-term (State of the Environment or SoE) monitoring at one site in the Cardrona River and intensive water quality monitoring and ecological surveys at seven additional mainstem sites and three tributary sites undertaken in 2014-2015.

The results indicate that water quality in the upper Cardrona is generally very good, but the lower catchment downstream of the SH6 bridge has high concentrations of total nitrogen (TN) and nitrate-nitrite nitrogen (NNN), which are likely to exceed the Otago Water Plan standards.

Analysis of data collected from the Mount Barker SoE monitoring site between 2000-15 showed that changing irrigation practices (conversion of flood irrigation to spray irrigation) may have brought about an improvement in water quality, due to significant reductions in concentrations of *E. coli* and suspended solids.

Brown trout and rainbow trout are able to thrive in much of the mainstem of the Cardrona and most of its tributaries.

Nitrate concentrations in the lower Cardrona don't pose any risk to the Clutha/Matau-Au because the water volume leaving the catchment during summer when groundwater in the Cardrona dominates is low compared to the Clutha/Matau-Au.

The length of the Cardrona is about 40km from its confluence with the Clutha/Matau-Au to its headwaters.

ORC manager resource science Dean Olsen said the local community could be proud of the study results, even though some improvements in water quality are needed in parts of the river to meet the standards contained in the water plan.

Dr Olsen said the study results will be used to guide future policy decisions and promote good practice among the community and other stakeholders to maintain and enhance water quality in the catchment.

The full technical report is available on our website www.orc.govt.nz

Source: <https://www.orc.govt.nz/media/2812/waterlines-winter-2016.pdf>

Appendix 4. Cardrona water quality report card. ORC website

Water quality report card

July 2014 to June 2019

Cardrona/Pisa area

State of the Environment (SOE) water quality testing results

This information sheet gives you details about the quality of the water in your catchment.

Otago Regional Council carries out monthly State of the Environment (SOE) water quality testing. Our SOE sampling sites around Otago generally focus on areas at the bottom of catchments so we can make informed decisions about the wider catchment area.

SOE monitoring results are based on five years of data taken when the flow site was at or below median flow (note that the top 20% of the data is removed from the final information so the data isn't skewed by extreme results). The results for the Cardrona/Pisa area are shown in the table below:

Rivers	Nitrogen (NNN mg/l)	Ammonium (NH ₄ -N mg/l)	Dissolved phosphorus (DRP mg/l)	Bacteria <i>E. coli</i> (cfu/100ml)	Turbidity NTU
Cardrona at Mt Baker	0.0852	0.01	0.004	163.4	1.81
Luggate Creek at SH 6 Bridge	0.003	0.0085	0.013	289	1.47
Water Plan limit	0.075	0.10	0.010	260	5.0

Lakes	Nitrogen (TN mg/l)	Ammonium (NH ₄ -N mg/l)	Phosphorus (TP mg/l)	Bacteria <i>E. coli</i> (cfu/100ml)	Turbidity NTU
Lake Dunstan at Dead Mans Point	0.09	0.005	0.009	4.98	1.2
Water Plan limit	0.1	0.01	0.005	10	3.0

The figures in red show results that exceed the river or lake water quality limit. In this area, Cardrona at Mt Baker exceeds the water quality limits for nitrogen. Luggate Creek exceeds limits for phosphorus and *E. coli*.

What is the water tested for and why?

Nutrients	Nitrite-nitrate nitrogen (NNN)	Can cause nuisance plant/algae growth, which can affect stream life, block water intakes and make water unpleasant for swimming and drinking. Can be toxic to fish.
	Ammoniacal nitrogen (NH ₄ -N)	
	Dissolved reactive phosphorus (DRP)	
Bacteria and turbidity	Escherichia coli (<i>E. coli</i>)	<i>E. coli</i> is an indicator of the suitability for swimming or stock drinking water.
	Turbidity	Turbidity is a measure of the cloudiness of water, which may affect stream ecosystems.



Source: <https://www.orc.govt.nz/media/8289/cardrona-pisa-area.pdf>

Appendix 5 Skelton Report page 17.

Water quality

While the overall water quality of most Otago rivers in the Land, Air, Water Aotearoa (LAWA) database⁴ is considered “good”, there is evidence of some degradation in those catchments or parts of catchments where intensification has occurred, such as in some of the tributaries or lower reaches of some rivers, including the Manuhereki, Cardrona, parts of the Taieri, and around Lake Hayes in the Arrow catchment.

In the Manuhereki catchment, for example, water quality shows declining trends for phosphorus, *E. coli* and turbidity. In the Arrow catchment, the condition of Lake Hayes may be close to a tipping point. Eutrophication and pathogens are an issue, with swimming warnings becoming more frequent, and Macroinvertebrate Community Index (MCI)⁵ scores for the inflows to Lake Hayes also indicate water quality issues.

In the Cardrona catchment, nitrogen and *E. coli* appear to be the main water quality issue. MCI scores highlighted probable impact on water quality and/or habitat conditions. The Taieri catchment has variable quality along its length, with *E. coli* and phosphorus being the main water quality parameters of concern. Lake Waiholo is particularly sensitive (due to its shallow nature) and has some signs of poor water quality and eutrophic status.

Water flows

There is a high level of water abstraction in Central Otago. For instance, it is estimated that 75% of the available flow in the Manuhereki River is taken for irrigation and stock water. This compares with about 25% in other regions of New Zealand. In the Manuhereki catchment, which has the Falls Dam, multiple water storage sites and a complex network of water races, water quantity is poorly understood, but likely to be severely over-allocated in terms of abstractions and flow.

The Arrow is also considered to be severely over-allocated, though actual usage of water is low compared to paper allocation. The Cardrona River too is considered by ORC to be over-allocated. It has a natural drying stretch which recharges groundwater while impeding the summertime passage of trout and migratory fish passage. Although the Taieri catchment has water storage on some tributaries and has minimum flow limits set at multiple places throughout the catchment, the river

⁴ LAWA is a partnership between the 16 regional and unitary councils, the Cawthron Institute, and the Ministry for the Environment. It is the most comprehensive source of water quality data in New Zealand.

⁵ Macroinvertebrate Community Index (MCI) is an index used to measure the water quality of fresh water streams. The presence or lack of macroinvertebrates such as insects, worms and snails in a river or stream can give a biological indication of the health of that waterway.

Appendix 6 Response from ORC on data testing for PC7 enquiry

RE: Proposed Plan Change 7 (Water Permits) - Extension to submission timeframe



Tom De Pelsemaeker <Tom.DePelsemaeker@orc.govt.nz>
To: Susie McKeague

Reply

Reply All

Forward



Fri 24/04/2020 7:06 PM

You replied to this message on 26/04/2020 3:18 PM.



Dear Susie,

I am sending you this email to respond to your outstanding question and information request.

Did the data testing undertaken by ORC include some mapping of irrigated area?

The data testing undertaken by ORC did not include mapping of irrigated area.

Request for table of consented rate and volume, assessment of rate and daily, monthly and annual volume through the methodology?

As part of the process to inform the development of proposed Methodology 10A.4 under PC7 ORC looked at approximately 130 deemed permits. ORC's analysis looked at the rate of take only. The analysis was undertaken for rate of take only.

The table attached shows for each of the deemed permits run through the methodology the following information:

- Purpose of use
- Consented rate of take
- Average max rate of take

It should be noted that:

- All the permits considered have a one to one relationship with their water meter, i.e. one water meter per consent, and this water meter is only being used for the measurement of taking under that consent.
- There may be differences between the results that were generated by the analysis undertaken to inform the method and the rates of take that will be determined through future consent processes.

If you have any questions feel free to contact me

Kind regards

Tom