

From: [Adele Coombs](#)
To: [Plan Hearings](#)
Cc: [Hilary Iles](#); [Bryan Clearwater](#); [Drew & Sally Brown](#)
Subject: Summary of our evidence to support Submission 80 to the Plan Change 7
Date: Friday, 17 July 2020 3:35:35 pm
Attachments: [Submission-80.pdf](#)
[EVIDENCE for PLAN CHANGE 7 HEARING.docx](#)
[RegenAg Resources ver3_06October2019v1 \(1\).pdf](#)
[OrariRiverCatchmentEcologicalValuesandFlowRequirementsGolderAssociatesFebruary2013 \(1\).PDF](#)
[OrariRiverCatchmentManagementStrategy.pdf](#)
[ICMP list of presentations Evidence for Plan 7.docx](#)

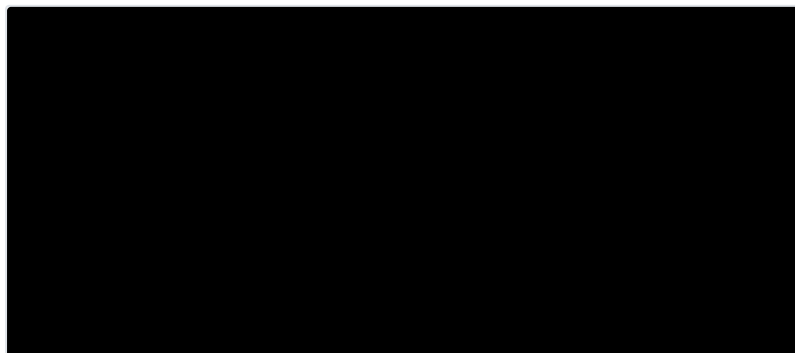
Hello Tavisha,

I have attached a summary list of our evidence we will present at the Plan Change 7 Hearings. This summary includes links to reports available online.

I have also attached articles of primary evidence that are not included in the links to reports in the attached summary.

Would you also please correct the record on our Submission 80 to "Yes" we will be presenting at the Hearings? I have attached my copy of our submission that records "No" in error.

Finally, here is a link to a film about our group's work. We may present this film at the Hearing if we have enough time: [Orari River Protection Group](#)



Orari River Protection Group

With thanks,
Adele Coombs
Orari River Protection Group
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EVIDENCE for PLAN CHANGE 7 HEARING

Submission 80 Point topics	Evidence
<p>1. The Orari river is home to the rare Blue Gilled Bully, Canterbury Galaxid, Tuna, and upland Bullies. The Orari river needs to be included in the mapping of habitats of these threatened indigenous fish.</p>	<p>The current list of NZ native fish that are threatened & declining: https://www.sciencelearn.org.nz/resources/2539-freshwater-fish-of-new-zealand</p> <p>Deteriorating water bodies are causing decline in NZ native fish species: https://www.doc.govt.nz/about-us/our-role/legislation/indigenous-freshwater-fish-management-reform/</p> <p>Bluegill Bullies are at risk and declining: https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs24entire.pdf</p> <p>It is not wise to wait until they are nationally threatened before acting to protect them. We need to reverse the deterioration in our water bodies sooner rather than later.</p> <p>Report: <u>Orari River Catchment: Ecological Values and Flow Requirements</u> (Golder Associates - attached) recommends a protected ecological flow for the Orari River of 1496 L/s (naturalised MALF) for the wildlife living on the river, which includes Blue-Gilled Bully, Canterbury Galaxid, Torrentfish and Koaro.</p> <p>Three-quarters of New Zealand's 51 native fish are threatened (Dr Nicholas Dunn, DOC Report 2018) https://www.doc.govt.nz/news/media-releases/2018/canterbury-mudfish-slipping-towards-extinction/</p> <p>Another Report by Dr Mike Joy (Sept 2018) https://www.publish.csiro.au/mf/MF18028 showed the biggest drops in redfin and bluegill bully, lamprey, brown trout, shortjaw and giant kokopu, black flounder and torrentfish. These declines have been since the 1990's. To quote Mike Joy: "We need to match land use to soil types and slopes to control runoff, we need major reductions in intensity, and we need to look hard at the way local councils are charged with protecting both the economy and the environment when they apply the Resource Management Act - and yet somehow always end up letting the economy win," he said. We need to make better choices than this for our valuable & endangered native fish.</p>
<p>2. Environment Canterbury needs to review consents on the Orari river immediately, and ... introduce a higher minimum flow and a reduction in over-allocation. The planned target date for reviewing consents of 2023 is not soon enough for the</p>	<p>Report: <u>Orari River Catchment: Ecological Values and Flow Requirements</u> (Golder Associates - attached) recommends a protected ecological flow for the Orari River of 1496 L/s (naturalised MALF) for the wildlife living on the river, which includes endangered Black-fronted Terns, Black-billed Gulls, Blue-Gilled Bully, Canterbury Galaxid, Torrentfish and Koaro.</p> <p>Plan Change 7 aims for 500L/s by 3 years after the Plan becomes operative in 2023, and 900 L/s by 2040. This is nowhere near enough environmental flows for the endangered wildlife to survive in the Orari River, and could risk their survival.</p> <p>The <u>Orari River ICMP</u> (2008) attached was developed over 4 years with extensive representation and consultation with farmers,</p>

<p>protection of wildlife on the river as well as Geraldine’s drinking water supply. The Integrated Catchment Management Plan (ICMP 2008) for the Orari River developed by ECan with extensive community consultation needs to be included in the Land & Water Regional Plan, with its strategies implemented as soon as possible.</p>	<p>land-holders and irrigators, Tangata Whenua, industry, recreationalists, educators and environmentalists. <u>List of Presentations & Reports for the development of the ICMP (2008)</u> (attached)</p>
<p>3. The Orari gorge has been recognised as an “ Area o Naturalness ” a protected across the whole catchment. We seek a stop to further intensification in farming or forestry along the upper Orari in the McKenzie district, to protect the upper Orari River natural tussock land.</p>	<p>The recent report “Our Freshwater 2020” https://www.mfe.govt.nz/publications/environmental-reporting/our-freshwater-2020 shows the significant pressures facing freshwater decline from land use changes to urban, farming or forestry areas. Land use clearly affects the water in its catchment area. We can heed the warnings, and policy-makers in Canterbury can use this chance to make the changes we need to save our valuable & endangered wildlife.</p> <p>Te Mana O Te Wai is the principle that recognises the whole of a river catchment has been embraced by the NZ government for planning: https://www.planning.org.nz/Attachment?Action=Download&Attachment_id=4330 This principle of Te Mana o te Wai “protects the integrated and holistic wellbeing of a freshwater body. Protecting Te Mana o te Wai provides for the mauri of the water. This includes providing for te hauora o te taiao (health of the environment), te hauora o te wai (health of the waterbody) and te hauora o te tangata (the health of the people). All New Zealanders have an obligation to achieve Te Mana o Te Wai whereby the water body has its own mauri and its own mana which must come first to protect the integrity of the river. This will be the basis for community discussions on freshwater values, objectives and limits.” This principle needs to govern our planning for land use in the upper Orari catchment, as this will affect the whole river.</p>
<p>4. The recognition of the Orari gorge as an area of “High Naturalness” needs to be included in the Land & Water Regional Plan, along with a clear statement of how this will</p>	<p>Professor Alan Mark’s research on Maximising Water yield with indigenous non-forest vegetation: a New Zealand Perspective: https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1890/060130 shows how alpine tussock plants filter & store water, helping to ensure environmental flows, water quantity as well as quality in rivers flowing from high country catchments.</p> <p><u>Bruce Allan</u>, PhD pasture ecology, will present evidence on the effects of various forms of high country pastoral intensification on native tussock grassland biodiversity, with emphasis on limiting inputs to achieve a compromise of desired outcomes for</p>

<p>protect the catchment area in the upper Orari to keep the water quality pure. This also needs to include a policy about preventing further intensification (by irrigation or forestry) to protect any further deterioration of water quality in high naturalness water bodies.</p>	<p>both the environment and farm production.</p>
<p>5. We seek a stop to further intensification of farming or forestry along the upper Orari in the McKenzie district, to protect the upper Orari natural tussock land. The tussock land has high value for its biodiversity and sequestration of water which protects the flow in the Orari River.</p>	<p>As above</p>
<p>6. We seek the tightening of water quality targets in high nitrate zones.... but the target time-frames need to be much sooner to allow the Orari and other rivers and aquifers in the OTOP zone to recover safe nitrate levels. Reducing nitrate levels by only 10% in eleven years is far too long a time-frame for the health of the water in the OTOP zone rivers & aquifers! A much better target would be to reduce nitrate-limits by 10% in 3-5 years. The targets for reduction of nitrates</p>	<p>Dr Alistair Humphreys will give evidence of nitrate limits that are dangerous to human health.</p> <p>NZ's current allowable limit of nitrates in our water is very high at 11 mg/l. A recent Danish study involving 2.7 million participants has shown that more than 2.1 mg/Ll gives rise to a significant increase in bowel cancer. There has rightly been widespread concern about this, along with calls for additional research into the Drinking Water Standard.</p> <p>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6068531/ https://pubmed.ncbi.nlm.nih.gov/29435982/ https://www.stuff.co.nz/environment/110205437/is-nzs-drinking-water-dangerous-major-international-study-links-nitrates-with-bowel-cancer</p> <p>Further study in the US confirms the Danish results: https://www.rnz.co.nz/news/national/395386/health-expert-renews-call-for-study-on-nitrates-in-drinking-water https://www.sciencedirect.com/science/article/pii/S001393511930218X</p> <p>These studies are recommending 0.14mg/L as a safer nitrate limit in water.</p>

<p>in high nitrogen concentration areas need to be sooner than 5 years after 2023.</p>	<p>Fish & Game report: https://fishandgame.org.nz/nelson/news/canterbury-water-testing-alarming/</p> <p>ECan groundwater nitrates report 2019: https://ecan.govt.nz/get-involved/news-and-events/2019/groundwater-quality-survey-released/</p>
<p>7. We do not support the change to stock exclusion from freshwater bathing areas. We want ECan to exclude stock from swimming areas in the Orari gorge and other rivers in Canterbury to protect water quality for swimming & recreation.</p>	<p><u>Coordinates of Andrews Stream swimming area:</u> 43o55'21.55"S 171o10'29.51"E</p> <p><u>Coordinates of swimming area at north bank access from Orari River road:</u> 43o55'40.89"S 171o11'29.51"E</p> <p><u>Drew Brown</u>, Outdoor & Environmental Educator, will give evidence of recreational use of the Orari river.</p>
<p>8. Nitrogen fertilisers need to be restricted with limits enforced and alternative fertilisers encouraged that do not contain water-soluble nitrates. Soil management systems that support soil micro-organism biodiversity and clover can be encouraged, such as soil regeneration farming, as these methods enable pasture soils to sequester carbon.</p>	<p>Evidence for regenerative agriculture attached.</p> <p><u>Professor Jack Heinemann</u> will present evidence of the use of glyphosate joining with nitrates to make water toxic.</p> <p>Film of the future of NZ agriculture using regenerative farming methods produced by Zespri NZ: https://youtu.be/std-fRut47o</p>
<p>9. The Orari gorge needs to be included as an "Area of High Naturalness" in significant natural features. The Orari gorge is mentioned in the table as a significant landscape feature, but not that it has been recognised as an "Area of High</p>	<p>The upper Orari river and its tributaries were awarded the title "Area of High Naturalness" by Environment Canterbury in 2011 as part of its Land & Water Regional Plan. This was awarded to those Hapūa, wetlands and natural state water bodies which are considered to have outstanding or significant characteristics and which are listed as such in the LWRP. https://opendata.canterburymaps.govt.nz/datasets/fd02a18e391b4d8b81f01026acf01506_11?selectedAttribute=HIGH_NATURALNESS</p> <p>The Orari Gorge still has outstanding and significant characteristics: a high proportion of native plants along the river gorge</p>

<p>Naturalness.”</p>	<p>with associated native wildlife, including 4 species of rare lizards, rare Canterbury broom and rare pink flowering native jasmine. Recognition as an “Area of High Naturalness” needs to continue in the new Plan Change 7. Hermann Frank, a local naturalist and long-time observer of the Orari landscape will provide first-hand evidence of the high bio-diversity value of the upper Orari river and gorge.</p>
<p>10. We wish the OTOZ Zone committee to proceed with the implementation of their ZIPA and Plan Change 7 sooner than five years beyond 2022, as we believe this delay will cause further degradation of our Canterbury water. It also needs to plan goals that align with international standards for clean water called for in recent studies which link nitrate limits higher than 0.8mg/litre to higher rates of bowel cancer. Our native indigenous fish and invertebrates have been found to need much lower nitrate levels to thrive – between 0.4 and 0.5mg maximum. It is socially, morally and ecologically unacceptable that short-term profits for a few should be permitted to put at risk a public resource needed by many thousands of people and also endangered wildlife.</p>	<p>Evidence that nitrate contamination levels of 3.8 mg/l that are proposed are far too high, as this level is dangerous for ecosystems and human health.. Graham Fenwick and Chris Hickey Both have evidence suggesting levels 1mg/l as higher than a safe level of nitrates. The levels need to be set below this level. In order to move toward a positive future we need to prioritise the well-being of human health and the environment over financial gain.</p> <p>Graham Fenwick, leading groundwater ecosystem scientist at NIWA, suggests in his evidence to the Water Conservation Order hearing for Te Waikoropupu springs, that a trigger value of 0.4–0.5 mg/l as a precautionary value to ensure ecosystem health. In his presentation to commissioners on behalf of Wellington Regional Council in 2018 he states: <i>“Available research evidence empirically demonstrates that this standard, designed to protect human health, is inappropriate for ensuring the health of aquatic ecosystems and invertebrates under long-term exposure.”</i></p> <p>Report: https://tasman.govt.nz/my-community/community-support/community-boards-and-advisory-groups/fresh-water-land-and-advisory/takaka-fresh-water-and-land-advisory-group/</p>