



MANAWHENUA ASSESSMENT OF THE LIMESTONE CREEK INTAKE STOCKWATER RACE

Prepared by	Aoraki Environmental Consultancy Limited
Authorised by	Ally Crane General Manager Aoraki Environmental Consultancy Limited (on behalf of Te Rūnanga o Arowhenua)
Date	5 February 2026
Reference	Limestone Creek Intake Stockwater Race Investigation Version: Final
Address for service	Aoraki Environmental Consultancy Limited 1/8A Washdyke Flat Road PO Box 885 Washdyke Timaru 7940
Prepared for	Ashburton District Council 2 Baring Square East Ashburton 770

Use and Reliance

This report has been prepared by Aoraki Environmental Consultancy Limited on behalf of Te Rūnanga o Arowhenua under the specific instruction of our Client (Ashburton District Council). It is solely for our client's use and for the purpose for which it is intended in accordance with the agreed scope of work.

This report provides input and feedback on the cultural impacts of the Limestone Creek Intake stockwater race transition. Aoraki Consultancy Limited does not accept any liability or responsibility in relation to the use of this report contrary to the above, or to any person other than the Client. Any use or reliance by a third party is at that party's own risk. Where information has been supplied by the Client or obtained from other external sources, it has been assumed that it is accurate, without independent verification, unless otherwise indicated. No liability or responsibility is accepted by Aoraki Environmental Consultancy Limited for any errors or omissions to the extent that they arise from inaccurate information provided by the Client or any external source.

Contents

1. Who is Arowhenua.....	3
2. Purpose of this Report	3
3. Background	3
4. Assessment of Effects on Values of Arowhenua.....	5
5.1 Site Descriptions	5
5.2 Fish Salvage and survey work needed.....	9
5.3 Water Returned to the Rivers	9
5.4 Stopping Raceways.....	10

1. Who is Arowhenua

Kāi Tahu are Takata¹ Whenua of the Canterbury Region. Kāi Tahu means “people of Tahu”. Kāi Tahu is the iwi comprised of Kāi Tahu Whānui; that is the collective of the individuals who descend from the five primary hapū; Ngāti Kurī, Ngāti Irakehu, Kāti Huirapa, Ngāi Tūāhuriri and Ngāi Te Ruahikihiki. The Charter of Te Rūnanga o Ngāi Tahu established under the Te Rūnanga o Ngāi Tahu Act 1996 (TRoNT Act) constitutes Kāi Tahu as kaitiaki of the tribal interests.

Papatipu Rūnaka are defined in Section 9 of the TRoNT Act. This includes Te Rūnanga o Arowhenua (Arowhenua). Aoraki Environmental Consultancy Limited (AECL) is a legal entity that has been given the mandate by Arowhenua to represent their interests in all environmental matters.

Arowhenua is the representative body of the takata whenua and who hold manawhenua in the traditional takiwā that includes the area between the Rakaia River and the Waitaki River which includes the Ashburton District Council.

Arowhenua also share the area with Ngāi Tūāhuriri and Te Taumutu Rūnanga who have a common interest in the area to the Hakatere (Ashburton River). The Rūnaka have agreed Arowhenua will respond on behalf of all three Rūnaka on Ashburton District Council (the Council) transitioning away from stockwater delivery.

2. Purpose of this Report

The purpose of this report is to provide a manawhenua assessment of the Limestone Creek Intake stockwater race. This report further provides considerations for the Stockwater Transition Working Group in making recommendations to Ashburton District Council as they seek to exit a system that provides stockwater through a stockwater network.

This report has been informed by the following information sources:

- Knowledge and information from Arowhenua Rūnaka.
- A site visit by AECL along with the Ashburton District Council Infrastructure Services Support Lead on 29 January 2026;
- Information provided by Ashburton District Council including photos and annotated maps; and
- Stockwater Exit Transition Plan – Exit of stockwater service 2024-2027; adopted by Ashburton District Council 18 December 2024.

3. Background

On 26 June 2024, the Council adopted its 2024-2034 Long Term Plan (LTP) which included the decision to divest itself from the delivery of the stockwater services by 30 June 2027. To inform the effects of the closures the Council established a working group and prepared a plan on how to investigate each of the closures. The Council further determined that alongside seeking feedback from the community of the assessments that would be initiated to look at ecological, archaeological, stormwater and cultural reports. With a formal assessment being prepared by AECL on behalf of Te Rūnanga o Arowhenua being a part of this.

This report relates to the Limestone Creek Intake stockwater race – refer to Figure 1.

¹ Note on dialect: In Ngai Tahu/Kai Tahu dialect, 'k' is used interchangeably with 'ng'.

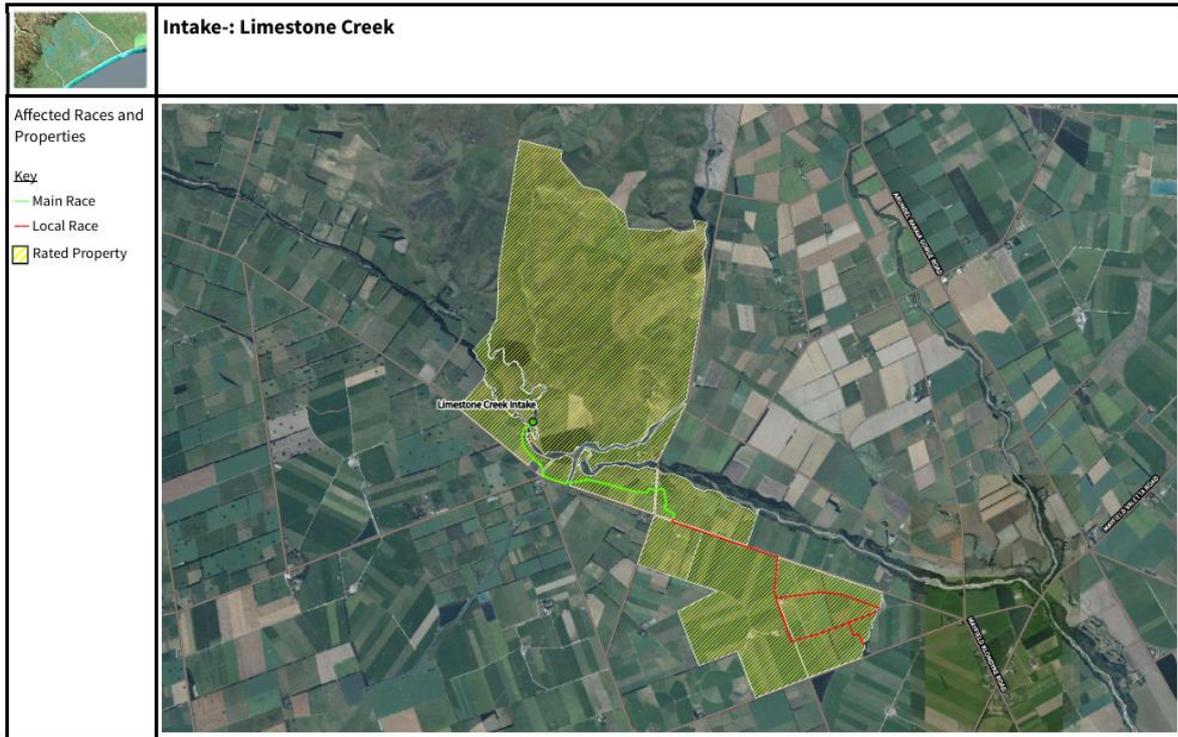


Figure 1: Limestone Creek Intake area – taken from ADC Stockwater Exit Transition Plan

4. Manawhenua description of Area

For Kāti Huirapa there has been considerable loss of the environment that their ancestors knew and alongside that the species of plants and animals that used to live in the habitat. The following describes the landscape as it was to the tupuna (ancestors) of Arowhenua.

The Limestone Creek intake is taken from a tributary that flows into the Hekeao (Hinds) River. Like other rivers in the area the Hekeao, its tributaries and wetlands have long been an important landscape and mahika kai. The Hekeao being known for its tuna. Mahika kai was harvested from the area supported by the Limestone Creek Intake stockwater race including kiore (Polynesian rat), and plant species including ti-kōuka (cabbage tree), āruhe (fernroot), tutu, and pūrau.

Part of the Limestone Creek Intake stockwater race terminates at Brothers Creek which is also a small tributary of the Hekeao.

5. Assessment of Effects on Values of Arowhenua

5.1 Site Descriptions



Figure 2. Locations of sites visited on 29 January 2026.

Site 1

Water is diverted from Limestone Creek via an artificial weir that diverts a small proportion of the flow from a backwater, created at the true right of the creek just before it falls over an artificial dam (Figures 3 - 6). During low flow periods, this backwater reduces and the diversion ceases.

Lowering the weir plate (Figure 6) would cease the diversion and water would return to Limestone Creek. Limestone Creek then joins the Hekeao South Branch (Figure 7). The lowering of the plate should be made permanent to prevent future diversions from the creek in the future.

At the diversion, the flume is bank-to-bank with cress (Figure 8). The overall fish habitat score was 59, indicating a 'good' quality habitat for tuna and other fish. Fish cover, shading, and bank stability all scored high for suitable habitat. Habitat survey of Limestone Creek was not able to be assessed due to lack of access.

Site 2

Site 2 consisted of a narrow channel of shallow water flowing through pasture. Habitat quality decreased slightly compared to Site 1, due to decreased riparian protection (width) but did improve in terms of both flow and macroinvertebrate habitat heterogeneity. Duckweed, and periphyton were present on the margins, while grasses dominated much of the wetted habitat (Figure 9).

Site 3

Site 3 crosses under the RDR canal. Flow at Site 3 is augmented by a small take from the canal, controlled by a valve (Figure 10). At the time of the site visit, the valve was open. As with the previous site, Site 3 is an open channel flowing through pasture. Duckweed and periphyton are present on the margins and grasses in the main channel (Figure 11). Habitat quality is 'fair'.

Sites 4 - 7

The channel narrows as it moves downslope through the catchment. High sedimentation and pastoral ingress into the channel further degrades the aquatic habitat, with a resulting habitat quality score of 'fair' to 'poor' (Figure 11 - 12). At Site 6, the stock water channel terminates into the Brothers Stream. 

Site 7 was not visited on the day.



Figure 3 - Limestone Creek, just upstream of the dam and weir



Figure 4 (left). Dam on Limestone Creek

Figure 5 (Right). Dam on Limestone Creek (left) and weir (right). Flow diversion can be altered by raising and lowering the weir.



Figure 6 (Right). Weir plate that allows flow diversion to be adjusted. Permanently lowering the plate would stop the diversion but would need to be made permanent to prevent future unauthorised takes from Limestone Creek.

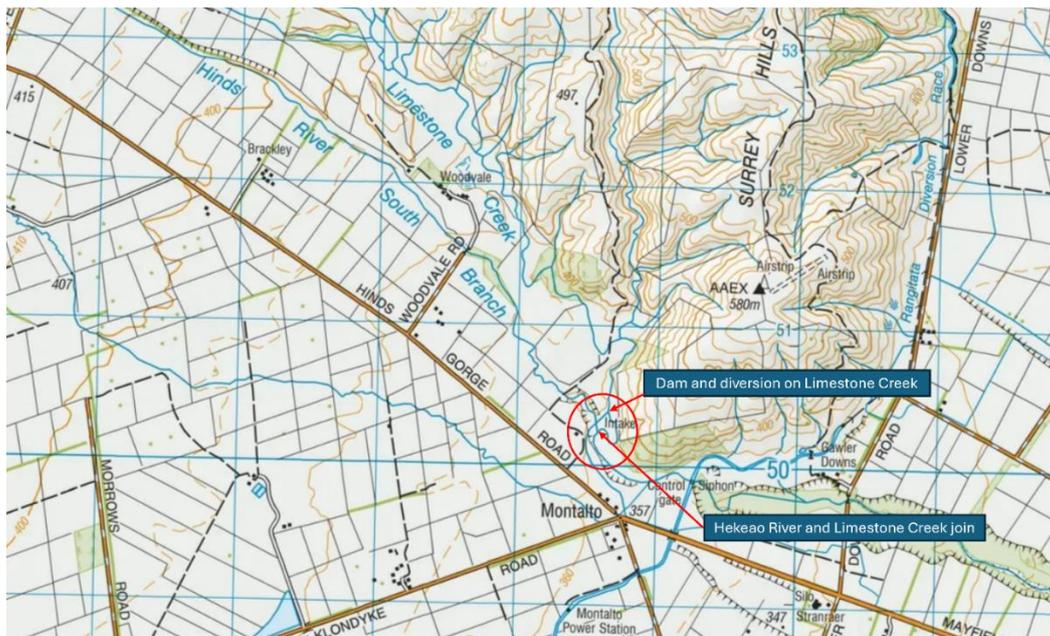


Figure 7. Topomap showing location of dam and water diversion on Limestone Creek and junction of Limestone and Hekeao.



Figure 8 (left). Bypass flume covered with puha (watercress)

Figure 9 (right). Site 2 of the Limestone Creek stockwater race.



Figure 10 (Left). Site 3, just downstream of the RDR canal. Flow is augmented with a small flow from the RDR, via a valve (wooden grey box)

Figure 11 (Right). Stockwater race channel reduced in width due to riparian ingress.



Figure 12. High sedimentation in the stockwater race, representing poor aquatic habitat quality.

5.2 Fish Salvage and survey work needed

Fish salvage must be carried out immediately after the weir has been closed. Due to the high plant biomass, high sediment and low water volume, there is a risk of deoxygenation of the water column during fish salvage, which could stress and / or kill the fish. The following protocols can minimise risk to fish:

- Where practical, fish salvage should be carried out when daytime air temperatures are moderate and overnight temperatures are low. Springtime is ideal
- Hīnaki and gee-minnow nets should be set in areas away from the cress. Nets should be checked and cleared before dusk and again early morning.
- The use of a scoop bucket on a digger can assist with fish salvage. The scoop should be slowly removed from the flume onto the bank where spotters can quickly salvage any tuna, or other fish, as they move out of the scoop. Scooping of the flume should be carried out no earlier than late morning, when dissolved oxygen levels in the flume have increased from the overnight low.

An eDNA sample is required from Site 2 and Site 6 within a month prior to the planned closure. This will assist with designing the fish salvage strategy for this stretch of the channel.

5.3 Water Returned to the Rivers

Arowhenua has consistently raised concerns about the irrigation network mixing water with water in the system coming from as far away as the Rakitata River. Arowhenua considers that water has its own mauri (lifeforce). Water is known for what it supports with each waterway supporting different species within it as water flows through different habitats. The tūpuna of Arowhenua also put water to different uses depending on where it come from and what was needed of that waterbody, or what that waterbody provided. Arowhenua respected the waterbody for the uses and resources that waterbody provided to Arowhenua – whether for food, drinking water or spiritual uses. For Arowhenua there are also the unknowns and the effects that can be had, for example to tuna who can track to a specific river across the ocean.

Arowhenua seeks that the water that was taken from Limestone Creek at the Limestone Creek Intake is closed off at the dam and weir area and the water is retained in the river.

Closing the intake would result in the raceways being permanently closed.

The augmentation from RDR Canal at Site 3 also needs to be permanently stopped / capped.

5.4 Stopping Raceways

Where raceways are closed, there is a preference by Arowhenua that these are filled in. Where this is not practical, for example because of land drainage functions, then they are closed so there is no flow of water into the closed portion from a river or drain.

The closed raceway at Site 6 terminates at Brothers Creek. This portion of the stockwater race should be closed or managed in such a way that there is no risk of fish getting into the closed raceway, for example when land drainage water drains through the raceway. Where this section remains open to convey drainage / stormwater then it is managed to ensure sediments and contaminants cannot directly enter the river. Stormwater detention ponds, or stormwater filtration devices should be implemented.