



Memorandum

Auckland	Whangarei	15 Porowini Avenue, Morningside, Whangarei 0110	+649 358 2526
Level 3	Hamilton	PO Box 1094, Hamilton 3240	+647 960 0006
82 Wyndham Street	Tauranga	PO Box 13373, Tauranga 3141	+647 571 5511
Auckland 1010	Wellington	PO Box 11340, Wellington 6142	+644 385 9315
PO Box 91250	Nelson	27 Vanguard Street, Nelson 7010	+643 548 8551
Auckland 1142	Christchurch	PO Box 110, Christchurch 8140	+643 366 8891
+649 358 2526	Queenstown	PO Box 1028, Queenstown 9348	+643 441 1670
	Dunedin	49 Water Street, Dunedin 9016	+643 470 0460

Attention: FTAA-2603-1185 Expert Panel

Date: 24 August 2026

From: Katrina McDermott and Ian Boothroyd

Message Ref: FTAA-2603-1185 - Hunua Quarry – response to Panel Minute 4

Project No: BM250767

Introduction

Boffa Miskell were engaged by Winstone Aggregates to respond to comment 5 of Panel Minute 4 in relation to Tributary 4 of the Mangapū Stream. Accordingly, we investigated Tributary 4 for evidence of the presence, or absence, of shortjaw kōkopu. We also include additional observations and assessments of Tributary 3.

In response further field investigations have been undertaken by Boffa Miskell freshwater ecologists. Surveys were undertaken of Tributary 4 on 28 July 2026 and Tributary 3 on 4 August 2026.

Tributary 4

Fish Surveys

Environmental DNA (eDNA)

On 28 July 2026 six replicate eDNA samples were collected from the lower reaches of Tributary 4 to detect for the presence of shortjaw kōkopu. The location of the DNA sample is shown in Figure 1. The results of the eDNA sampling revealed no detection of shortjaw kōkopu, but shortfin and longfin eels were both detected as present.

Fish Survey – Spotlighting

Nighttime spotlighting surveys were undertaken in Tributary 4 on 28 July 2026 by two freshwater ecologists to search for freshwater fish, including shortjaw kōkopu. Spotlighting methods followed those described in the New Zealand Freshwater Fish Sampling Protocols (Joy et al., 2013¹). Spotlighting commenced 45 minutes after sunset, with clear conditions during the survey. No fish were observed during the survey. Abundant kōura were observed along the survey, with visual estimates of size of approximately <10mm to >60 mm.

Habitat observations

Habitat within the stream channel was predominantly fine sediment, with occasional gravels and cobbles. The lower reaches of the stream, near the confluence, contained some larger boulders and cobbles. The channel was predominantly comprised of pools and small runs or cascades over bedrock. The largest pool

¹Joy, M.; David, B; Lake, M. 2013: New Zealand freshwater fish sampling protocols: part 1—wadeable rivers and streams. Massey University, Palmerston North.

was estimated to have a maximum depth of 0.3 m. A large slip was evident part way up the tributary, with the stream flowing underneath it. Photographs of the habitat within Tributary 4 are provided in Figure 2.

The largely soft sediment of Tributary 4 and minimal cobble habitat both upstream and downstream is not favoured shortjaw kōkopu habitat (adult fish are typically found in relatively small, bouldery, intact bush-covered streams²).

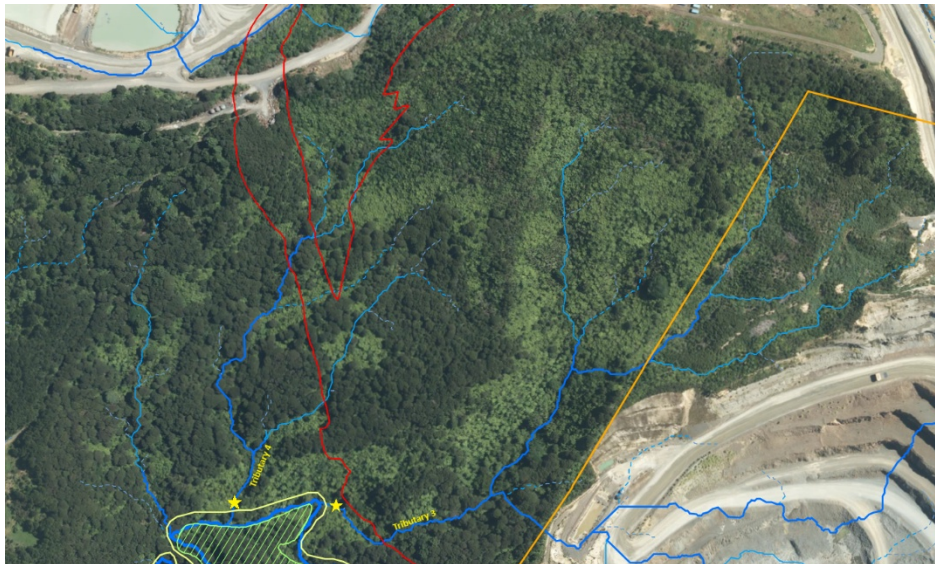


Figure 1: Locations of eDNA samples (yellow stars) in Tribs 3 and 4, Mangapū Stream, Hunua.

Presence of shortjaw kōkopu

Spotlighting of Tributary 4, lack of detection in from eDNA sampling, and observations of mostly unfavourable habitat, strongly suggest that shortjaw kōkopu are not present in Tributary 4. This finding is consistent with the existing known information that shortjaw kōkopu have not been observed or detected (through eDNA sampling) in Mangapū Stream or its tributaries upstream of, and including, Tributary 3 (see below).



Figure 2. Examples of the habitat within Tributary 4. Note koura in central photograph.

Tributary 3

Further surveys were undertaken of Tributary 3 on 4 August 2026, in the same manner as those undertaken at Tributary 4 except night spotlighting was not undertaken at Tributary 3 due, noting that previous eDNA

²<https://niwa.co.nz/freshwater/kaitiaki-tools/mahinga-kai-what-species-interests-you/shortjaw-kokopu>

samples of Mangapū Stream have been undertaken at a sample location downstream of its confluence with Tributary 3.

Fish Surveys

Environmental DNA (eDNA)

On 4 August 2026 six replicate eDNA samples were collected from the lower reaches of Tributary 3 to detect for the presence of shortjaw kōkopu. The location was recorded on Fieldmaps. The results of the eDNA sampling revealed no detection of shortjaw kōkopu, but shortfin eels, longfin eels and banded kōkopu were detected as present.

Fish Survey – Habitat observations

Habitat within the Tributary 3 stream channel was predominantly fine sediment, with occasional gravels and cobbles and boulders. Higher up in the catchment bedrock become the dominant substrate in areas, with numerous waterfalls and cascades present. The lower reaches of the stream contained many run and small riffle habitats and higher proportions of cobbles and boulders. Overhanging banks were abundant. Further upstream in the catchment the channels became highly incised, with numerous pool, cascade sequences. Bank erosion was abundant, with many areas of fresh slips and high levels of fine deposited sediment noted within the channel. Photographs of the habitat within Tributary 3 are provided in Figure 3.

While undertaking the habitat assessment kōura were observed. No aquatic fish species were observed.

The largely soft sediment of Tributary 3 and minimal cobble habitat both upstream and downstream is not favoured shortjaw kōkopu habitat (adult fish are typically found in relatively small, bouldery, intact bush-covered streams³).

Presence of shortjaw kokopu

The lack of detection of shortjaw kōkopu from eDNA sampling, the observations of mostly less favourable habitat, and the results of previous sampling for fish strongly suggest that shortjaw kōkopu are not present in Tributary 3. This finding is consistent with the existing known information that shortjaw kōkopu have not been observed or detected in Mangapū Stream or its tributaries upstream of, and including, Tributary 3.



Figure 2. Examples of the habitat within Tributary 3. (left) downstream habitat higher presences of cobbles and boulders. (middle) typical habitat in mid reaches, with abundant deposited fine sediment. (right) waterfall approx. 6 m high.

³<https://niwa.co.nz/freshwater/kaitiaki-tools/mahinga-kai-what-species-interests-you/shortjaw-kokopu>

Effects management

Fish salvage and relocation

Notwithstanding the less favourable habitat and the absence of observations of shortjaw kōkopu in Tributaries 3 and 4 in the present surveys, the FTAA-2603-1185 application provides for the salvage and relocation of native fish, which will include native fish from Tributaries 3 and 4. Salvage will occur from the reaches of Tributaries 3 and 4 where culverts will be placed as part of Stage 2 of the expansion (construction of new haul road), as well as upstream of the culvert at Tributary 4 (upstream as a precautionary measure). Salvaged fish will be relocated to the lower reaches of each respective tributary.

The proposal has been amended to provide for fish passage in the Tributary 3 culvert. However, challenges within the Tributary 4 culvert relating to low flow and steep gradient result in a high degree of uncertainty as to the ability to successfully provide for fish passage. Accordingly, the proposal maintains blocking of fish passage in the stage 2 culvert at Tributary 4.

There is no intention to undertake a fish salvage and relocation for the entirety of the lengths of Tributaries 3 and 4 at the time of installing the Stage 2 culverts.

Salvage and relocation of native fish from the entirety of Tributaries 3 and 4 will be considered at the time of the quarry expansion into these areas, which is expected to occur during Stages 7 and 8 of the expansion some 43-73 years hence.

Offset/compensation

We also note that offset/compensation provides for the complete removal of culvert installation locations of Tributaries 3 and 4, and for the reaches upstream of the culvert location in Tributary 4 (151 m of intermittent stream) as part of Stage 2. This means that the offset/compensation for the loss of values and extent associated with the stage 2 culverts occurs immediately and should future works be approved, will contribute to some 43-73 years of benefit in advance of the actual loss of the tributaries planned in Stage 7.