

Southern Link Inland Port
Dr Richard Allibone – for SLPL - Summary Statement on Freshwater Ecology (Freshwater Fish)

Introduction

1. My section 55 evidence addresses how the design and management of the Southern Link Inland Port (**SLIP**) protects freshwater fish values in the Silver Stream, in particular brown trout spawning and lamprey habitat, and is supported by my review of the Freshwater Ecological Impact Assessment (FEcIA, April 2026, Part B.04 of the substantive application).
2. I would like to amend one part. Since writing the evidence I have visited the Silver Stream SLIP site and the reach for 1 km downstream of the SLIP site. This site visit confirmed my assessment of the Silver Stream and the habitat available in the reach adjacent to the SLIP site and further downstream.

Summary of the fish community assessment

3. I have provided a species-by-species characterisation of the wider fish community of the Silver Stream and in the vicinity of the discharge. I have used information provided in the FEcIA, the New Zealand Freshwater Fish Database (**NZFFD**), eDNA sampling, the Department of Conservation's non-migratory galaxiid spatial layer, and my own long-standing knowledge of the catchment. Lamprey, brown trout, giant kokopu, eels, inanga, non-migratory galaxiids and redfin bully were all considered, with brown trout identified as the fish species that routinely spawns in the Silver Stream in the vicinity of the SLIP development. However, the spawning reach for brown trout extends over at least 17 km of the Silver Stream occurring both well upstream and downstream of the SLIP site.
4. With regard to species other than brown trout, the spawning habitat requirements of each species have been considered, and I have demonstrated that native fish spawning in the SLIP area of the Silver Stream is unlikely. Lamprey spawning habitat, boulder substrate, is present upstream of the site rather than in the proposed discharge area itself; the giant kōkopu population occurs in an upstream tributary and spawning will occur amongst riparian vegetation of the tributary stream; inanga spawn in the tidal reach of the Taiari River, downstream of the Silverstream confluence; and no non-migratory galaxiid spawning is expected in the main-stem of the Silverstream. The two eel species, longfin and shortfin eels, both spawn at sea.

Brown trout spawning protection

5. My spawning site assessment has used nine years of Otago Fish and Game redd survey data (2008 to 2021) for the Silverstream, which shows clusters of redds at or near the proposed discharge locations and much more widely both upstream and downstream of the localised work sites.
6. Protection of brown trout spawning is addressed through a defined instream works exclusion period, which I recommend be set from 15 May to 30 September each year, extending beyond the 15 May to 15 September exclusion period used in the National Environmental Standard for Commercial Forestry. This will provide time for brown trout egg hatching and fry emergence for the stream bed gravels. If instream work occurs outside the exclusion period any disturbance of remaining unhatched eggs at the two localised SLIP discharge sites will not have a detectable effect on brown trout spawning success, as the very wide extent of spawning (over 17 km of the Silver Stream) means almost all spawning sites cannot be affected by the instream works and the annual brown trout fry production will be retained.

Lamprey monitoring

7. For lamprey, the proposed monitoring programme focuses on the juvenile ammocoetes life history stage, which lives in freshwater for two to four years. The other life history stages of lamprey are more transient; the downstream migratory phase resides in the Silver Stream for one to three months in late summer and autumn. The adult lamprey live at sea and for spawning, migrate upstream to spawn in the upper reaches of the Silver Stream.
8. Proposed consent condition B.33 requires a baseline lamprey ammocoetes habitat survey, using NIWA (2024) methods, to first locate suitable mud or silt habitat and then sample for ammocoetes, coupled with the fine sediment surveys already required for the Aquatic Habitat and Macroinvertebrate Monitoring programme using the Protocol 2 methods of Clapcott et al. (2011).
9. Existing data, including the New Zealand Freshwater Fish Database and the two-site survey of Richardson and Kavazos (2024), indicate lamprey are rare in the Silver Stream and that suitable ammocoete habitat is limited near the SLIP site. However, the monitoring imposed by the

condition is designed to detect the presence of any lamprey and inform management in consultation with Te Rūnanga o Ōtākou, who requested this monitoring.

Fish migration and water quality assessment

10. Neither the construction nor operational phase intermittent stormwater discharge creates any physical barrier to upstream or downstream fish passage, and the only potential effect could be via water quality during a discharge event. Because the discharge is intermittent, estimated at around 12 events a year and each short-lived, and because each fish species' migration season extends over several months, the Silverstream will be free of any discharge-related effects for most of any migration period.
11. In relation to water quality guidelines for trout, the short-duration, low-frequency nature of the stormwater discharges means the SLIP cannot exert the long-duration or continuous discharge effects that are understood to reduce trout growth and abundance as reported by the Cawthron guidelines (Hay et al., 2006), and any discharge will occur during and immediately after rainfall events that are already part of the existing Silverstream flow and turbidity regime.

Engagement with ORC and Fish and Game

12. I understand from feedback from ORC that they consider my section 55 evidence as to lamprey has answered some questions they have, and there are no outstanding issues in respect of my evidence.
13. I have also engaged with Fish and Game since lodging my evidence and these discussions are ongoing.

Summary of recommendations

14. I recommend that:
 - (a) Instream works be excluded from 15 May to 30 September each year to protect brown trout spawning;
 - (b) The lamprey ammocoete baseline habitat survey under condition B.33 be developed and undertaken in consultation with local rūnanga; and

- (c) No additional spawning assessment be required for non-migratory galaxiids, redfin bully, giant kokopu or inanga, given the absence of suitable spawning habitat or behaviour in the discharge reach.

15. I understand that SLPL has adopted recommendation (a) and (b) in its s 55 condition set.
16. In my opinion there will be no loss of or effect on brown trout spawning success, as the proposed 15 May to 30 September exclusion period protects spawning. The intermittent nature of the stormwater discharge means there will be no effects on upstream or downstream fish migration.
17. The lamprey ammocoete monitoring programme is proposed will use the baseline survey data collected under condition B.33, and will be developed in conjunction with rūnanga, will provide the required information to monitor any effects on lamprey.



Richard Mark Allibone
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