ecoLogical solutions ltd
195 main road, Ellerslie, auckland
www.ecoLogicalsolutions.co.nz

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Rua Gold

c/o Mitchell Daysh Limited

Auld Creek Mine Fast Track Referral Application – Ecology

Introduction and Project Description

Rua Gold (the applicant) is proposing to establish a new underground mine ('Auld Creek Mine') south of Reefton (hereafter the 'Project') through the Fast Track Approvals Act 2024 (FTAA). The location of the Project is shown in Figure 1 and the location of the key components is shown in Figure 2. The Project would involve:

Phase One:

- Construction of an access portal and adit (straight line mine drive) on public conservation land (PCL) administered by the Department of Conservation to mine the upper orebody.
- The adit and portal access will utilise existing access tracks (e.g. 4WD track and bike track to the north) and cleared drill pad areas (approved under existing exploration permits).
- Construction of a temporary haul road through Ngai Tahu owned land to the north of the deposit.
- The adit and related infrastructure (approx. 50 m x 50 m) will be removed following the completion of ore extraction, and geotechnical stabilisation works will secure the remaining rock mass to ensure safe ongoing mining from the underground portal.
- The existing bike track (located on PCL) may require re-routing in places.

Phase Two

- Construction of a twin incline/decline tunnel from the eastern side of Soldiers Big River Road approximately 1.2 km to the orebody. The tunnel access would be located on Ngāi Tahu owned land, while the tunnel would extend under PCL to reach the orebody.
- Creation of a number of ventilation shafts (localised areas of vegetation clearance) along the tunnels. Approximately 75% of these would be located within PCL, with the remainder on Ngāi Tahu owned land.
- Construction of a road/ track, suitable for a utility vehicle, between the processing plant and the mine access portal.
- Construction of surface infrastructure (processing plant and waste storage facility) on privately-owned farmland south of Soldiers Big River Road.

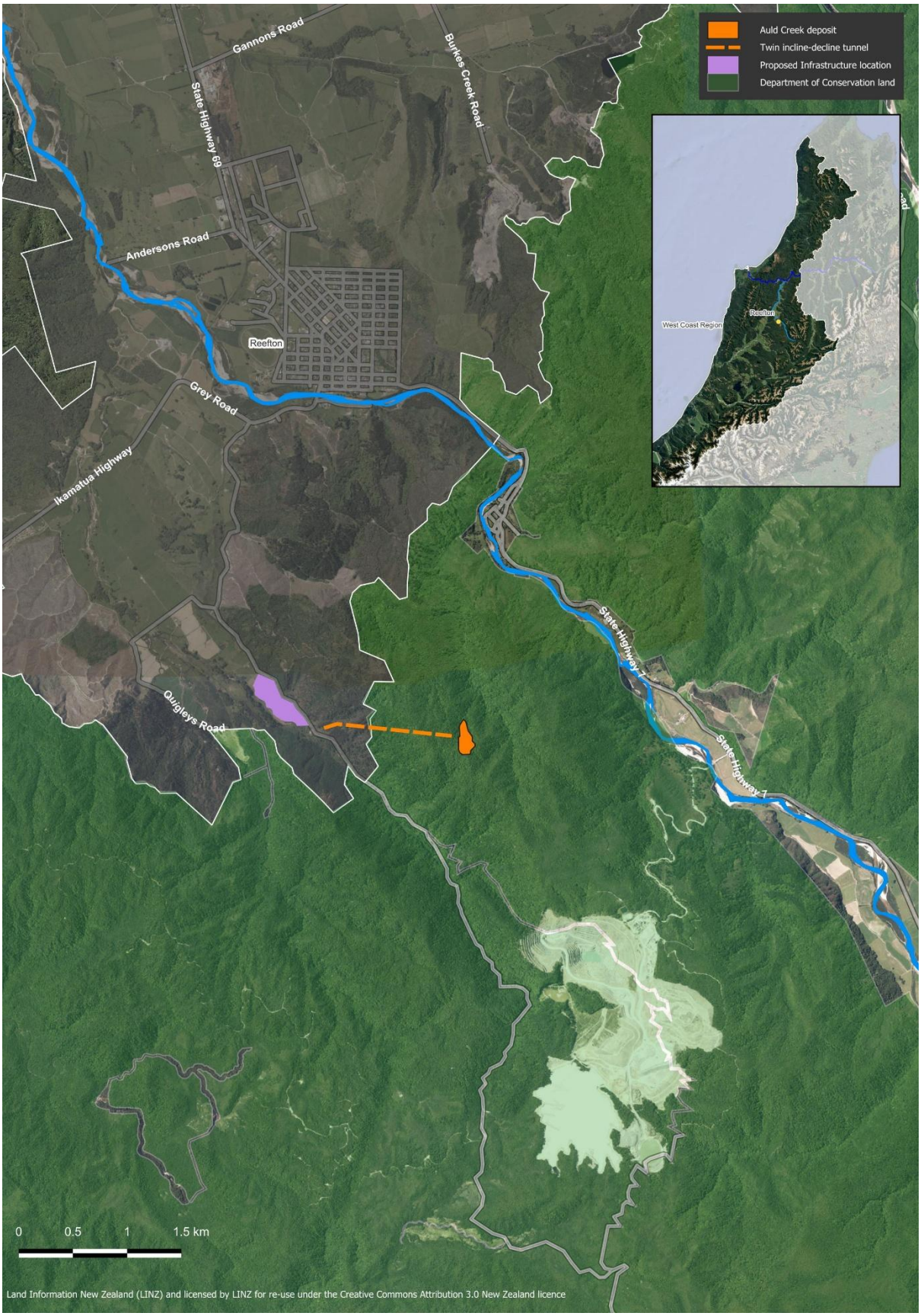

Figure 1: Proposed Auld Creek Mine location.

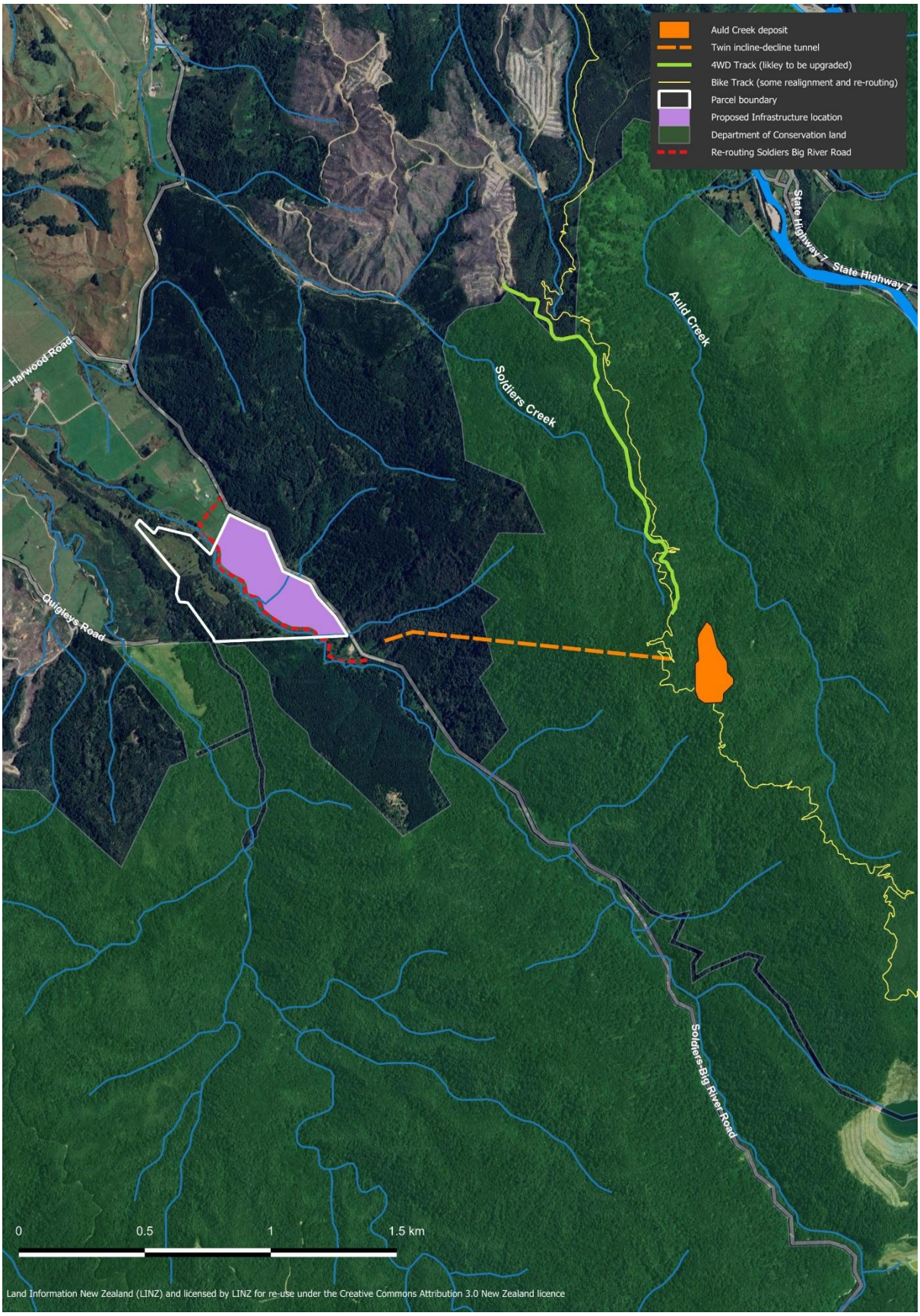

Figure 2: Proposed Auld Creek Mine project.

- The re-routing and upgrade of Soldiers-Big River Road and / or other local roads (including upgrades to intersections, culverts, and river crossings, road widening and relocation and / or protection of power poles).
- Construction and upgrades of culverts and river crossing to formalise site access via Quigleys Road.
- Spoil deposition post-processing is proposed on the Tai Poutini Polytechnic site south of Harwood Road.

Approach to Effects Management

Ecological Solutions Limited was engaged to undertake an initial high-level terrestrial and aquatic ecology assessment for the Project including the identification of any anticipated or known adverse effects on the environment. Suitably qualified and experienced ecologists will prepare a report for the substantive application that describes the current ecological values, assesses the actual or potential effects of the Project and a describes the effects management measures to be undertaken including (as necessary) any measures to avoid, remedy, mitigate, offset or compensate for adverse effects on the values identified.

Specific detailed ecological management plans required to address any adverse effects on ecological values will be prepared for the substantive application. Once the necessary resource consents are obtained, appropriately qualified and experienced ecologists will assist with implementing any ecological management plans as required.

Background Analysis

The ecological values of the Project Area have been described and characterised using desktop investigations of existing ecological databases (New Zealand Freshwater Fish Database (NZFFDB), DOC Bioweb and eBird), GIS information (Land Information New Zealand), a review of available literature, and from observations made during a site walkover within the Project Area on 28 January 2026.

Comprehensive field studies, especially with respect to detailed watercourse and water quality surveys, vegetation assessments, wetland identification and mapping, and specific fauna surveys will be undertaken to inform the substantive application, should the application be accepted and listed under the Fast Track Approvals Act (2024).

Ecological Context

The Project Area is situated within the Totara Flat Ecological District nearing the boundary of the Totara Flat Ecological District and Reefton Ecological District. The Inangahua River and Victoria Range occur to the east of the Project Area, and the Paparoa Range to the west. The Victoria Forest Park (New Zealand's largest forest park, which is administered by the Department of Conservation in accordance with the Conservation Act (1987)), covers most of the Project Area. Ngāi Tahu owned forestry land occurs to the north of the Project Area, while privately owned farmland occupies the valley floor to the west.

Terrestrial Ecological Values

Vegetation and Habitats

Vegetation within the Victoria Forest Park is largely unmodified, and consists of podocarp-beech forest, grading into pure beech with altitude and alpine tussock and herbfield above the treeline. The dominant forest type on lower and mid-altitude ranges comprises red beech, silver beech forest with occasional to frequent rimu (*Dacrydium cupressinum*) and hardwoods. Red beech (*Fuscospora fusca*) – silver beech (*Lophozonia menziesii*) forest is

the most extensive of all beech forest types – particularly in the north-west of the South Island (Franklin and Nicholls 1974, Wardle 1991, Singers and Rogers 2014).

The portal and access adit (Phase One), and tracks requiring upgrades to reach this area are situated within forested vegetation typical of that within the Victoria Forest Park as set out above.

The proposed processing plant area would be situated on pastoral farmland on the valley floor of Devils Creek. Vegetation there was predominantly modified exotic pasture species and common weeds, with occasional indigenous paddock trees. The incline/decline tunnel access (phase two) would be located at the foot of the forest slopes in an area of modified scrub and pasture.

Fauna

Birds

The eBird database[1] holds records for 55 species of birds within 10 km of the Project Area. Thirteen of these species are of conservation concern, including nine 'At Risk' species, and four 'Threatened' species (Robertson et. al. 2021). Of these species, falcon (*Falco novaeseelandiae*), kākā (*Nestor meridionalis*), kea (*Nestor notabilis*), South Island robin *(Petroica australis),* and *Cyanoramphus* parakeet (unspecified kākāriki, most likely *C. auriceps*, yellow-crowned kākāriki) may be in the area, as they are forest species that utilise mature indigenous vegetation for foraging, roosting and breeding.

Other species of conservation concern identified, such as pipit *(Anthus novaeseelandiae),* white heron (*Ardea alba*), and South Island pied oystercatcher *(Haematopus finschi*) are species that occasionally use pasture habitat for foraging and sometimes nesting. These species may infrequently occupy farmland where the construction of infrastructure is planned.

Great spotted kiwi (*Apteryx maxima*) are not expected to occur within the Project Area, since it is outside their known range (Toy et.al., 2021).

Lizards

Three lizards of conservation concern have been identified within 15 km of the Project Area[2] including forest gecko (*Mokopirirakau granulatus*) ('At Risk – Declining'), Nelson green gecko (*Naultinus stellatus*) ('Threatened – Nationally Vulnerable') and Alborn skink (*Oligosoma albornense*) ('Threatened – Nationally Critical'). An additional two skink species have also been identified in the vicinity, Westport skink (*Oligosoma* aff. *infrapunctatum* "Westport") ('Data Deficient') and northern grass skink (*Oligosoma polychroma*) ('Not Threatened').

Forested vegetation, debris and rank grassland are all habitats that may support one or more of the species identified above and these habitats are all present in the Project Area.

Alborn skink were discovered in the 1990s, but have only recently been described by Melzer et al. (2019). They are currently only known from a small area of modified habitat and wetland near the Alborn coal mine located approximately 4 km south of the Project Area. They are known to occur in beech forest clearings, regenerating scrub and wetlands and will use anthropogenic debris as a refuge at times. Some of these micro-habitats could be present within the Project Area and could provide habitat for Alborn Skink, however it is noted that the Project Area is outside their known range. Little else is known about the ecology and behaviour of Alborn skink and their presence in the Project Area cannot be ruled out. Lizard surveys will be undertaken to inform lizard presence.

[1] Accessed February 2026.

[2] DOC Bioweb database, accessed February 2026.

Bats

There are 34 detections of long-tailed bats (*Chalinolobus tuberculatus*) ('Threatened - Nationally Critical') within 25 km of the Project Area recorded on the DOC Bioweb database[3]. However, most of these date from the late 1990s (1998/1999) with the only more recent records being a single detection in the Inangahua Valley in 2016 and two detections on the Victoria Range in 2019.

More recently (summer 2022–2023), and directly relevant to the Project, Wildland Consultants Limited (2023) undertook bat surveys in Auld Creek, near the proposed location of the adit portal access and the Auld Creek deposit. The habitat comprised mixed beech-podocarp forest. This survey resulted in 322 nights of recording and no long-tailed bats were detected. Wildland Consultants Limited (2023) concluded that given the timing and duration of the survey, and the habitat types present, it was highly unlikely bats were present.

Wetland Ecological Values

Wetlands which meet the definition provided in the Resource Management Act and National Policy Statement for Freshwater, 2020 (NPS-FM) may be present within the Project Area, including within the farmland where infrastructure is proposed, along the proposed tunnel alignment, within indigenous vegetation (which is relevant in the event that the tunnel or, proposed openings along the tunnel adversely affect their hydrology) and adjacent to existing roads and tracks proposed for upgrade.

Any wetlands located within indigenous vegetation could provide habitat for Alborn Skink, noting that while its possible they may occur, the Project Area is outside their known range. Wetlands will be identified and their values quantified to inform the application.

Freshwater Ecological Values

Background and Freshwater Setting

The Project Area lies within the catchment of the Inangahua River, with operations proposed to occur in one or more sub-catchments; Soldiers Creek to the north, Devils Creek to the west and Auld Creek to the east. The Inangahua is a large river, draining the forested slopes of the Victoria Ranges from its origin near Rahu Saddle. It meanders along an often wide and flat valley floor, particularly below Reefton, in a northwest direction alongside SH7 before entering the Buller River at the township of Inangahua.

Originating just north of the former Globe Progress Mine, Auld Creek is a small stream draining a predominantly forested catchment which joins the Inangahua River at Blacks Point.

Soldiers Creek originates immediately to the north of the Auld Creek deposit, and drains indigenous forest in the upper reaches, and harvested forestry and farmland in the mid-lower reaches before converging with Devils Creek.

Devils Creek and its tributaries are the main watercourses which could be affected by the Project. The processing plant and infrastructure, as well as roading upgrades (culverts and bridge crossings) would all be located within the Devils Creek catchment.

Devils Creek originates below the disused Alborn Mine and becomes a medium sized stream below its confluence with Carton Creek. Vegetation across much of the upper catchment of Devils Creek is indigenous forest, although it also receives treated water from the former opencast Globe Progress Mine in the upper reaches. Exotic forestry and farming occur in the lower catchment.

[3] Accessed February 2026.

A number of small and modified tributaries of Devils Creek occur within farmland where infrastructure is proposed. These modified tributaries lack riparian vegetation and are open to grazing livestock at some locations.

Water Quality

As a result of the development and operation of Globe Progress Mine between 2005 and 2016, Devils Creek has been regularly monitored over the last 20 years by OceanaGold, with at least annual, and since 2025 four seasonal surveys per year of stream habitat, water quality, benthic invertebrates and fish at multiple sites. This data provides a very robust basis for assessing the historic, current and future water quality and ecological health of Devils Creek and the Inangahua River in the vicinity of its confluence with Devils Creek.

Based on raw water quality data collected by Rua Gold for the Project to date and reviewed in February 2026, the baseline water quality of Devils Creek, Soldiers Creek and Auld Creek is high. Waters are characterised by near-neutral pH, low alkalinity and hardness, and low nutrient and metal/metalloid concentrations. Rua Gold is undertaking on-going surface water monitoring in the aforementioned streams which will be used to inform the substantive application.

Instream and Riparian Habitat

Golder (2007) reported that Devils Creek provides 'good' to 'excellent' instream and riparian habitat quality characterised by a moderate gradient cobble dominated streambed suited to supporting a diverse benthic invertebrate community.

Macroinvertebrate Community

Macroinvertebrate communities in Devils Creek are generally characterised by Macroinvertebrate Community Index (MCI) scores and water and habitat sensitive EPT taxa numbers that indicate 'good' water and habitat quality in the upper reaches (e.g., Golder 2007, Babbage 2018, Viridis 2025). MCI scores have typically shown a decline in the lower reaches of Devils Creek (Babbage 2018, Viridis 2025).

Fish

Seven native fish have been recorded in the Inangahua River catchment to its confluence with the Buller River[4], six of which are considered 'Threatened' or 'At Risk' (Dunn et. al. 2025). Kōura (*Paranenphrops planifrons*) ('At Risk -Declining', Grainger et. al. 2018) were also identified. No records of native fish were within Soldiers Creek or Auld Creek.

Longfin eel (*Anguilla dieffenbachii*) ('At Risk – Declining'), redfin bully (*Gobiomorphus huttoni*) ('At Risk – Naturally Uncommon') and upland bully (*Gobiomorphus breviceps*) ('At Risk – Naturally Uncommon') have been recorded within Devils Creek, as well as the introduced brown trout (*Salmo trutta*). The Devils Creek fish community has been characterised by low diversity and abundance throughout the last 20 years (Babbage 2018, Viridis 2025).

Known and Anticipated Ecological Effects

The Project will involve works that have the potential for adverse effects on ecological values within the area. The potential effects if not managed appropriately include:

- Loss of botanical values due to vegetation removal.
    - Vegetation removal adjacent to existing tracks within native forested vegetation (PCL) to facilitate access to the portal and adit (Phase One).

[4] NZFFDB accessed on February 2026.

    - Vegetation removal within previously cleared areas and native forested vegetation to construct the portal and associated infrastructure (50 x 50 m) (PCL).
    - Vegetation removal to construct a temporary haul road from the portal and adit (Phase One) to the processing plant (Ngai Tahu owned land).
    - Vegetation removal (mostly exotic weeds, pasture and occasional natives) to enable access to the incline/ decline tunnel (Ngai Tahu owned land).
    - Limited vegetation removal (native vegetation) to allow for ventilation shafts along the tunnel.
    - Vegetation removal (a potential combination of exotic forestry plantation, native vegetation and pasture) to enable road upgrades (Soldiers Big River Road and/ or other local roads e.g., Quigleys Road).
    - Vegetation removal (exotic pasture) to enable the construction of infrastructure.
- Direct effects (injury or mortality) on native fauna including birds, lizards and possibly bats due to vegetation removal.
- Indirect effects on native fauna (loss of habitat) including birds, lizards and possibly bats due to vegetation removal and construction of necessary infrastructure.
- Loss and/or alterations to hydrology of highly modified wetlands (in pasture and on road sides) and/ or natural wetlands (situated in indigenous vegetation), due to construction of infrastructure, road and track upgrades and as a result of constructing vertical shafts along the tunnel.
- Introduction of weed and pest species due to construction and ongoing operations.
- Alteration (e.g. diversion, culverting) and/ or unavoidable loss of highly modified tributaries of Devils Creek (located in farmland) as a result of infrastructure. These tributaries may contain native fish (such as shortfin eel).
- Upgrading Soldiers Big River Road and / or other roads is expected to involve replacing a number of stream culverts that would need to be managed so as to maintain and improve fish passage.
- Direct effects (injury or mortality) on native fish during stream diversion, removal, culverting or during culvert upgrades.
- Potential adverse effects on water quality due to sediment mobilisation and/or contaminant discharges and/or dust during earthworks and construction of infrastructure.
- The development of the processing plant and unmanaged treated wastewater discharges has the potential to adversely affect the water quality and ecological health of Devils Creek and the Inangahua River.

Approach to Addressing Effects

The general approach to addressing potential terrestrial and freshwater effects is outlined below:

- Implement the effects management hierarchy in addressing any potential or actual adverse effects attributable to the proposed works (i.e., avoid, remedy, mitigate, offset in order of preference as practicable and achievable).
- Any unavoidable loss of indigenous vegetation, streams and natural inland wetlands will be addressed via mitigation and/or offsetting/compensation measures consistent with the applicable National Policy Statement (NPS, including the NPS for

Indigenous Biodiversity (2023) and the NPS for Freshwater Management (2022)), including via management plans setting out the applicable creation and restoration actions).

- The removal of vegetation or habitats could result in both direct and indirect adverse effects on native terrestrial fauna (i.e., birds, lizards, bats and fish) if not managed appropriately. These effects will be managed through the use of species-specific Management Plans. The management of native fauna is subject to the provisions of the Wildlife Act 1953, and depending on the approach, a Wildlife Act Authority (WAA) may be required.
    - The approach to managing effects on bats would be conservative, and involve applying the Department of Conservation protocols for tree felling (Department of Conservation 2024). When implemented effectively, use of the Bat Roost Protocols avoids felling of any active bat roosts and therefore direct effects on bats and avoids the need for a WAA.
    - Direct effects on birds will be managed by avoiding vegetation clearance during the peak breeding season and/or the establishment of setbacks for identified nests. Assuming this approach, a WAA for bird management is unlikely to be needed.
    - Management of lizards will require a Wildlife Act Authority (WAA) in order to handle, capture and relocate salvaged lizards, or any incidental killing of lizards.
- The removal and / or modification of streams (including culvert upgrades) may directly affect native fish. A Fish Management Plan will address fish salvage and transfer in order to avoid fish mortality.
- Any proposed culverts (including culvert upgrades) will be designed in accordance with best practice solutions, drawing on the New Zealand Fish Passage Guidelines (NIWA 2024).
- The magnitude of adverse effects on water and aquatic habitat quality during earthworks can be minimised through best practice approaches to the timing of works, construction methodologies and application of best practice erosion and sediment control measures.
- Robust, best practice stormwater and wastewater management plans (prepared by appropriately qualified specialists) will form part of the substantive application. Existing water quality will be accounted for in the design of the wastewater treatment plan and its outputs. Stormwater and wastewater will be treated using both active and passive systems to ensure relevant discharge and receiving water qualities guidelines are met. Consent conditions relating to water discharges and effects on receiving waters will ensure there are no effects on aquatic biota.
- The potential for the introduction of weeds and pests can be managed via a weed and pest management plan which will include biosecurity protocols and detail weed and pest management.

Conclusion

The known and anticipated adverse effects of developing Auld Creek Mine can be managed via the development and effective implementation of suitable consent conditions, and the use of site-specific management plans for particular habitats and species.

Where residual effects are such that offset/compensation is required (e.g., unavoidable loss of high value indigenous vegetation, wetlands or modified natural watercourses), a detailed offset / compensation plan as appropriate for the affected habitats will form part of the substantive application.

Prior to a substantive application being lodged, the water quality of the receiving environment (depending on the option selected) will be sampled to establish a baseline. Existing water quality will be accounted for in the design of the wastewater treatment plan and its outputs.

Qualifications and Experience

Ecological Solutions Limited (formerly Freshwater Solutions Limited and The Ecology Company Limited) are expert freshwater and terrestrial environmental consultants with offices based in Northland, Auckland, Tauranga and Nelson from where we service our national client base. The company is managed by Richard Montgomerie who founded Freshwater Solutions Limited in 2009. Dr Gary Bramley and Nick Carter are directors and the terrestrial and freshwater team lead, respectively, each with more than 20 years' experience managing a diverse range of environmental projects, including significant mining projects, throughout the country. Ecological Solutions Ltd are experienced in developing appropriate mitigation and biodiversity offsets required to offset terrestrial, wetland and stream habitat loss and for a range and flora and fauna.

Dr Mike Fitzpatrick has been a scientific consultant for 33 years, working primarily in the areas of aquatic chemistry, analytical chemistry, medical chemistry, toxicology, and water quality criteria. He has been a director of Mike Fitzpatrick Consulting Ltd since 2003 and associated with Ecological Solutions Ltd since 2011, doing all his environmental consulting via them. His relevant work experience includes geochemical, water quality and aquatic toxicity assessments relating to mineral extraction projects including those at Golden Cross (1997–2007), Mataura (1997–1998), Granity (1997–1998), Rotowaro (1998–2009), Benneydale (1999–2006), Macraes (1999–2010), Endako (Canada, 2000), Reefton (2000–2006), Te Kuha (2002), Stockton (2002-2006), Sadiola (Mali, 2003), Kapan (Armenia, 2006–2011), Waihi (2006–2010), Jinfeng (China, 2007–2009), Tsuneb (Namibia, 2009–2011), Greymouth (2014), and more recently at Coaldale (2021), Takitimu (2022), Maramarua (2022–2025), Barrytown (2023-2025), Rotowaro (2024-2025), Glencoal (2024–2025), Mananui (2024–2025), and Barrytown South (2024–2026).

Dr Gary Bramley is a highly experienced terrestrial ecologist with a wealth of experience working for a wide range of clients throughout New Zealand, particularly in the mining sector including gold, coal, mineral sand mining and quarrying clients. Mining work has included risk assessments, ecological due diligence/estimates of future liability, assessments of ecological opportunities and constraints, ecological surveys, monitoring, design and management of pest control programmes, translocation of threatened and other native species, the planning and management of restoration projects and the management of external contractors and ecological projects. Gary has recently led the ecology work for the Bathurst Resources Limited's Buller Plateau Continuation Project, Westland Mineral Sands, Birchfield Mining and Tāiko Critical Minerals mining projects on the West Coast. Gary has prepared and presented evidence to the Environment Court and the Environmental Protection Agency for a range of mining projects and large-scale land developments.

Nick Carter has over 20 years' experience as a freshwater ecology consultant having worked previously for Kingett Mitchell Ltd and Golder Associates. As a freshwater scientist and environmental consultant, Nick's mining work has included assessment of effects, and compliance monitoring and for a wide range of mining projects throughout New Zealand including Oceana Gold, Bathurst Resources Ltd, Birchfield Ltd, Westland Minerals Ltd, TIGa Minerals and Metals Ltd. He was also the lead freshwater ecologist on large mining related projects in Fiji, Solomon Islands and the Philippines for IFC compliant ESIAs.

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