August 2026

Residual Effects Management Report

BULLER PLATEAUX CONTINUATION PROJECT

Prepared for Bathurst Resources Ltd

allianceecology.co.nz

Table of Contents

Glossary of terms

Abbreviation	Term	Description
BDC	Buller District Council	
BOAM	Biodiversity offset accounting model	A quantitative model used to evaluate biodiversity offsetting proposals in New Zealand, applied in accordance with the User Guide (Maseyk et al 2016).
BPCP	Buller Plateaux Continuation Project	
CCI	Chew card index	An index of abundance used to monitor pest densities.
DBEA	Denniston Biodiversity Enhancement Area	An approximately 4456 ha legacy management area established under authorisations for Escarpment Mine.
DOC	Department of Conservation	
DPPA	Denniston Permanent Protection Area	An approximately 742 ha legacy management area established under authorisations for Escarpment Mine.
EcIAG	Ecological Impact Assessment Guidelines	The Ecological Impact Assessment Guidelines prepared by the Environment Institute of Australia and New Zealand (Roper-Lindsay et al, 2018)
ED	Ecological District	A local part of New Zealand where the topographical, geological, climatic, soil and biological features, including the broad cultural pattern, produce a characteristic landscape and range of biological communities
ESE	Escarpment Extended Project sub-area	
EIANZ	Environment Institute of Australia and New Zealand	
FTAA	Fast-track Approvals Act 2024	
ha	Hectares	
m	Metres	
MFS	Mount Frederick South Project sub-area	
NES-F	National Environmental Standard for Freshwater	
NPCP	National Pest Control Programme	
NPS-IB	National Policy Statement for Indigenous Biodiversity	

Abbreviation	Term	Description
	2023 (Amended December 2025)	
NPS-FM	National Policy Statement for Freshwater Management 2020 (Amended December 2025)	
NZTCS	New Zealand Threat Classification System	System used within New Zealand to assess the conservation status of species
OSPRI	Operational Solutions for Primary Industries	A partnership between primary industries and government to reduce the occurrence of bovine tuberculosis.
RMA	Resource Management Act 1991	
SEA	Snail Enhancement Area	A legacy area of approximately 1,931 ha established to enhance and protect *Powelliphanta* land snail values and associated habitat. Established in accordance with Cypress Mine Resource Consent Conditions
SMI	Small mammal index	A standardised method used to estimate the relative abundance of invasive small mammals, primarily rodents and mustelids
TB	Bovine tuberculosis	
TEC	Threatened Environment Classification	
TT	Tracking tunnel	A monitoring tool designed for tracking small mammalian pests
UWHR	Upper Waimangaroa Haul Road Project sub-area	
WCRC	West Coast Regional Council	
WCRPS	West Coast Regional Policy Statement	
WHEA	Wider Habitat Enhancement Area	A legacy enhancement area of approximately 8,200 ha covering the wider surrounding landscape and intended to provide broader habitat- level biodiversity uplift Established in accordance with Cypress Mine Resource Consent Conditions
WMA	Weed Management Area	The area to which the Buller Plateaux Weed Management Plan applies

Glossary of technical terms

Term	Description
Biodiversity compensation	A conservation outcome that results from actions that are intended to compensate for any more than minor residual adverse effects on indigenous

Term	Description
	biodiversity after all appropriate avoidance, minimisation, remediation, and biodiversity offsetting measures have been sequentially applied
Biodiversity offsetting	Means a measurable conservation outcome that meets the requirements in NPS-IB Appendix 3 and results from actions that are intended to: (a) redress any more than minor residual adverse effects on indigenous biodiversity after all appropriate avoidance, minimisation, and remediation measures have been sequentially applied; and (b) achieve a net gain in type, amount, and condition of indigenous biodiversity compared to that lost.
Indirect Effects Contingency Area	A 128 ha Indirect Effects Contingency Area has been applied to the edge of the 755 ha 'Project Disturbance Areas' (Ecological Solutions 2026a). The Indirect Effects Contingency Area accounts for edge effects (e.g., alterations in hydrology, light penetration, exposure) and general disturbance, e.g. noise, dust, lighting and vibration effects that may adversely affect habitats adjacent to the Project Disturbance Area. This area has been conservatively considered as total habitat loss for the purpose of the assessment of ecological effects despite the fact that this area will not be directly disturbed.
Irreplaceability	A measure of the uniqueness, replaceability and conservation value of biodiversity and the degree to which the biodiversity value of a given area adds to the value of an overall network of areas. It interacts with vulnerability, complexity and rarity to indicate the biodiversity value and level of risk for a given area.
Legacy enhancement areas	Existing pest management areas established under previous mining consents on the Buller Plateaux for the purpose of habitat enhancement and/or compensation. This includes: • the SEA Snail Enhancement Area (SEA) (~1,931 ha)): • The Wider Habitat Enhancement Area (WHEA) (~8,200 ha): • The Denniston Permanent Protection Area (DPPA) (~742 ha): • The Denniston Biodiversity Enhancement Area (DBEA) (~4456 ha)
Like-for-like	The degree of similarity in biodiversity values between impact and offset sites across; the type of biodiversity; amount of biodiversity; biodiversity condition; equivalence over time; and spatial context. Biodiversity offsets are designed to ensure biodiversity impacts are offset with biodiversity that is very similar to the biodiversity that is being impacted in that it has the same ecosystems, vegetation, habitats and species.
Mapped Area	The approximately 10,129 ha area mapped for vegetation using high-resolution aerial imagery and plot-based analysis, as described in the Ecological Impact Assessment Report (Ecological Solutions 2026a).
Net Gain	Net gain is demonstrated by a like-for-like quantitative loss/gain calculation of the following, and is achieved when the indigenous biodiversity values at the offset site are equivalent to or exceed those being lost at the impact site: (a) types of indigenous biodiversity, including when indigenous species depend on introduced species for their persistence; and (b) amount; and (c) condition (structure and quality).
Net Positive	Where biodiversity compensation is expected to deliver a positive outcome for the ecological value based on professional judgement underpinned by desktop and field investigations. This outcome cannot be demonstrated using a biodiversity offset accounting model, due to: • challenges in obtaining or interpreting quantitative data that is representative of existing conditions at impact and offset sites, or

Term	Description
	• adequate information on the magnitude of response to habitat restoration or enhancement measures.
Non-vascular plants	Non-vascular plants are those without a vascular system (that is they lack xylem and phloem) and grow from spores. They do not have roots, stems, or leaves (although the lobes of some liverworts can look like leaves). Non-vascular plants include two groups - the bryophytes and algae. Also included here are lichens as they are a symbiosis between one or more algae and a fungus.
Pests	In the context of this report, the term refers primarily to introduced mammalian predators and browsers (e.g., rodents, stoats, possums, feral cats, and ungulates) that negatively affect native biodiversity through predation, browsing, competition, or habitat disturbance.
Project area	As described in the Terrestrial Ecological Impact Assessment report (Ecological Solutions 2026a), the Project would occupy 2,718 ha[1], including 755 ha[2] of new Disturbance Area (i.e., directly affected) and 128 ha of edge effects (the indirect effects contingency area which is treated as habitat loss)). 2,133.7 ha would be located on the Buller Plateaux, with 575.3 ha located off the Plateaux.
Project disturbance area	Includes disturbance that will occur within the Project area as enabled by the FTAA approvals associated with, for example: mining, mining infrastructure, roading, and buildings. As set out in the Terrestrial Ecological Impact Assessment report (Ecological Solutions 2026a, see Section 1.2.2), the Project disturbance area comprises approximately 755 ha.
Sequence	The change in ecosystem composition along environmental gradients. Sequences can contain many gradients and ecosystem transitions. They can encompass a full range of alpine to coastal ecosystems, including dunes, wetlands and forests.
Vulnerability	An estimate of the degree of threat of destruction or degradation that indigenous biodiversity faces from change, use or development. It is the degree to which an ecosystem, habitat or species is likely to be affected by, is susceptible to or able to adapt to harmful impacts or changes. It interacts with the irreplaceability, complexity and rarity to indicate the biodiversity value and level of risk for a given area.

[1] Based on the GIS shapefiles released 4 December 2025.
[2] Based on the GIS shapefiles released 15 October 2025.

Executive Overview

Bathurst Resources Limited ("**Bathurst**") is seeking authorisation through the Fast-track Approvals Act 2024 ("**FTAA**") to progress the development and mining of coal resources across the wider Buller Plateaux.

The Buller Plateaux Continuation Project ("the **Project**") will extend over areas of both the Denniston Plateau and Stockton Plateau, collectively referred to as the Buller Plateaux. The Buller Plateaux is located approximately 15 kilometres northeast of Westport, within the jurisdiction of the West Coast Regional Council ("**WCRC**") and Buller District Council ("**BDC**").

The purpose of the Project is to secure the approvals necessary to retain and continue the existing infrastructure and mining operations associated with the Stockton mine and provide access to additional mining areas across the Buller Plateaux.

The Project will enable approximately 20 million tonnes of coking coal to be mined, utilising the existing workforce and existing infrastructure facilities to support and extend the mine life of the current Stockton operations. Mining is by conventional drill and blast, load and haul open pit mining and is a 24/7 operation.

The total consenting footprint is 2,718 hectares (ha), comprising for the purpose of ecological assessment:

- a proposed project disturbance area of approximately 755 ha[3]
- an indirect effects contingency area of approximately 128 ha that, despite not being directly impacted, is conservatively treated as habitat loss; and
- existing consented disturbance areas.[4]

Alliance Ecology has been engaged to provide a Residual Effects Management Report to inform the application under the FTAA.[5]

The scope of this report is to:

- Set out the type, quantum and location of proposed measures for managing residual adverse effects on terrestrial and wetland ecological values, after the avoidance, minimisation or remediation of effects have been implemented.
- Assess the residual effects management measures against the relevant principles of the National Policy Statement for Indigenous Biodiversity ("**NPS-IB**") and the National Policy Statement for Freshwater Management ("**NPS-FM**"), for consideration in the subsequent application of the FTAA statutory weighting exercise.

[3] As described in Section 1.2.2 below, 755 hectares is the Disturbance Area assessed in the Terrestrial Ecological Impact Assessment Report (Ecological Solutions 2026a; see Section 1.2.2) on which this report is based.
[4] Existing disturbance authorised up to 31 March 2027.
[5] This work has been undertaken in accordance with an Offer of Service between Alliance Ecology and Bathurst Resources dated 24 September 2024 and the terms and conditions therein.

This report is informed by the Terrestrial Ecological Impact Assessment Report ("**Ecological Assessment**", Ecological Solutions, 2026a) and supporting documents, which describe the current environment to which the Project application relates, and the effects of the Project on ecological values.

Residual adverse effects overview

The Project will result in residual adverse effects on terrestrial and wetland ecological values, after efforts to avoid, minimise or remedy adverse effects have been undertaken.

Where residual adverse effects are assessed as moderate or greater, efforts to address these effects have been undertaken.

As set out in **Table E1** below, the Project is expected to result in moderate or higher residual effects for 13 terrestrial and wetland habitat types. To varying degrees, the project will also result in residual adverse effects on nationally Threatened or At Risk species associated with these habitat types including 19 vascular plant species, numerous non-vascular plant species,[6] 6 bird, 3 lizard and 4 invertebrate species.

Table E1. Level of residual effects on habitats assessed as moderate or higher after effects avoidance, minimisation and remediation measures have been considered (Ecological Solutions, 2026a).

Impacted habitat type	Total extent of impacted habitat (ha)[7]	Level of residual effect before residual effects management
Terrestrial habitats		
Southern rātā-mountain beech-podocarp forest	226.5	Very high
Sandstone erosion pavement	69.9	Very high
Mānuka -mountain beech-podocarp shrubland	98.1	Very High
Mixed beech-podocarp-broadleaved forest	15.4	High
Silver beech-mountain beech forest	6	High
Boulderfields of acidic rock	Several ha[8]	Moderate
Wetland habitats		
Low pākihi	237	Very high
Mānuka-tussock-wire rush shrubland	117.1	Very High
Tarns	Unknown[9]	Very high

[6] Forty species of bryophytes and 11 lichens classified as Threatened or At Risk (de Lange et al (2018, 2020) and Michel et al. (2026) are, or may potentially be, present within the Project Area. Two liverwort species are new records and not assigned a threat status.
[7] This includes habitat lost within the 755 ha project disturbance area and habitat within the 128 ha indirect effects contingency area which is treated as habitat loss for the purpose of the assessment of effects (Ecological Solutions 2026b)
[8] Boulderfields of acidic rock are not known to be present within the Project disturbance area or indirect effects contingency area. At least 400m^2 of vegetated boulderfields to be constructed as part of rehabilitation.
[9] At least 500m^2 of permanent tarn and 600m^2 of ephemeral tarn to be constructed as part of rehabilitation (Ecological Solutions 2026a).

Impacted habitat type	Total extent of impacted habitat (ha)[7]	Level of residual effect before residual effects management
Mānuka-gahnia-wire rush shrubland	10.3	High
Seepages and flushes	Unknown[10]	High
Mānuka-mountain flax-wire rush shrubland	4	Moderate
Tussock-mountain flax shrubland	2.5	Moderate

Residual effects management approach

The overarching objective and intended biodiversity outcome for addressing residual effects is to achieve, where practicable, demonstrable benefits to indigenous terrestrial and wetland biodiversity that outweigh impacts within an acceptable timeframe[11].

These outcomes will be achieved via a combination of extensive weed and mammalian pest management tailored to the specific requirements of each Project sub-area and the overall Project impacts.

The Residual Effects Management Package for the Buller Plateaux, Blackburn-Pakihi area, and surrounding landscape is designed to deliver substantial, measurable biodiversity improvement across the Buller Plateaux. The package includes a considerable increase in both scale and intensity compared to current weed and mammalian pest control efforts that runs up to 60 years.

The proposed package combines aerial and ground-based control of rodents, mustelids, possums, feral cats, and ungulates, supported by pest exclusion fenced areas, intensive ground suppression areas, and a wider aerial control halo coupled with weed management. This multi-tiered approach ensures both immediate and sustained reductions in mammalian pest and weed pressure, while providing ecological connectivity between core refuges and the broader landscape.

This Residual Effects Management Package directly addresses several major existing impacts – predation, browsing, invasive weeds and the associated habitat degradation – all affecting biodiversity in the region. The proposed approach represents a holistic, outcome-driven conservation model capable of delivering measurable evidence-based ecosystem recovery.

The Residual Effects Management Package (mammalian pest and/or weed control measures) will be undertaken across approximately 26,259 ha[12] and covers the Buller Plateaux and surrounding landscape to varying degrees of management intensity. The overarching approach is guided by the ecological values present and key priorities for mammalian pest and weed management coupled with the practicability of

[10] Seepages and flushes are small and widely dispersed (Ecological Solutions 2026a).
[11] Defined as not more than 35 years as stated in the NPS-IB Biodiversity Compensation Principles (Appendix 4)
[12] This areal extent of pest or weed control excludes approx. 1,363 ha of mammalian pest control undertaken for ecological rehabilitation within the existing Stockton mine that is currently undertaken.

implementing the proposed conservation actions. To this end, the residual effects management package includes:

- Approximately 911 ha of pest exclusion fenced areas (**Fig. 1**) on the Buller Plateaux within which all mammalian pests will be eliminated, weka will be removed and translocated, and ecological weeds will be controlled and/or, where achievable, eliminated. Pest exclusion fences will be maintained for 50 years from construction of the last fence with construction of the last fence expected to occur 10 years from the implementation of approvals. These areas contain significant representative vegetation communities, including forest, and comprise:
    - Denniston North pest exclusion fenced area (47.3 ha) on Denniston Plateau
    - Coalbrookdale pest exclusion fenced area (154.4 ha) on Denniston Plateau
    - Mt. Augustus pest exclusion fenced area (14.6 ha) on the Stockton Plateau
    - Whirlwind Rise pest exclusion fenced area (694.9 ha) on the Stockton Plateau
- The 1,505 ha Blackburn Pakihi intensive ground-control area on the north-eastern margin of Stockton Plateau (**Fig. 2**), encompassing lowland forest, pākihi wetlands and shrubland mosaics with high biodiversity values. Sustained suppression of rodents, mustelids, possums, feral cats and ungulates will reduce predation and browsing pressure throughout this area, allowing wetland and forest habitats to regenerate and populations of native fauna to grow. This programme will run for 35 years from granting of approvals.
- The Weed Management Area ('**WMA**') in which weed control will be undertaken across approximately 9,431 ha (**Fig. 3**) of the Buller Plateaux including the BlackburnPakihi area. Of this, 6,713 ha of weed management will be undertaken within compensation areas (for compensation purposes) with the remaining 2,718 ha of weed management undertaken within the consenting footprint for rehabilitation purposes. This programme will run for 35 years from granting of approvals.
- The wider managed landscape (control halo) (**Fig. 4)**, comprising the forested catchments and regenerating lands surrounding the Blackburn Pakihi intensive ground-control area and pest exclusion fenced areas that will function as a buffer and connect the core management areas with the broader landscape. This area of approximately 23,843 ha includes most of the Weed Management Area and will allow for recovery of forest vegetation and native birds, including the great spotted kiwi/roroa (*Apteryx maxima*). Periodic aerial 1080 operations and supporting ground-based stoat control will maintain low pest densities of key predators across this landscape. This programme will run for 60 years from granting of approvals.

Within the pest exclusion fenced areas, the objective is to achieve and maintain a mammalian predator- and ungulate-free environment, which is also free of weka (*Gallirallus australis*) enabling substantial population recovery of ground-dwelling and flightless species. This includes several Threatened and At Risk (‘**TAR**’) species including roroa, native forest birds, lizards, and invertebrates. Without intervention, and irrespective of mining activities, multiple TAR species will continue to decline and may become locally extinct in the medium or long-term due predominately to the ongoing impacts of introduced mammalian pests (in addition to high levels of weka predation).

In the 1,505 ha Blackburn Pakihi intensive ground-control area (**Fig. 2**), sustained suppression of rodents, mustelids, possums, feral cats and ungulates will reduce predation on native fauna and browsing pressure on native vegetation, improve the ecological integrity of wetland and terrestrial habitats within this area, and allow an increase in populations of bird species.

In the approximately 9,431 ha weed management area, weed control will be undertaken to maintain or increase indigenous dominance within high-value habitats that are at greatest threat from weeds that can be practicably controlled or eliminated.

In the wider approximately 23,843 ha managed landscape (**Fig. 4**) periodic aerial 1080 operations will be undertaken. This programme combines a baseline three-year aerial 1080 cycle with the flexibility to undertake mast-responsive control when monitoring indicates elevated pest risk. This will be supported by ongoing ground-based control to maintain low stoat densities. This wider area surrounds the 911 ha pest exclusion fence network and the 1,505 ha Blackburn Pakihi intensive ground-control area, with significant overlaps with the weed management area. The primary aim of the wider managed landscape area is to benefit native vegetation and native birds, particularly the great spotted kiwi, over a significant portion of their habitat, as well as to provide an effective buffer for the exclusion fence and intensive control areas.

A fundamental purpose of the Residual Effects Management Package is to sustain viable populations of native species in the surrounding landscape throughout the life of the Project, ensuring that when rehabilitation is completed and the site is closed, the original species assemblages remain present and capable of recolonising and occupying the restored habitats. The implementation and monitoring of these measures will be guided by four ecological management plans:

- The Pest Control and Elimination Plan (Bathurst Resources Ltd 2026e), which details how mammalian pests will be eliminated within the pest exclusion fences on the Buller Plateaux and controlled via ground and aerial baiting in the surrounding landscape.
- The Avifauna Management Plan (Bathurst Resources Ltd 2026a), which details how weka will be removed and relocated from within the pest exclusion fences on the Denniston and Stockton Plateaux to protect snails and lizards and subsequently monitored.

- The Buller Plateaux Weed Management Plan (Bathurst Resources Ltd 2026b), which details how ecological weeds will be controlled and/or eradicated and monitored within the Weed Management Area across the Buller Plateaux.
- The Biodiversity Outcome Monitoring Plan (Bathurst Resources Ltd 2026c), which sets out how stated Net Positive outcomes will be verified in the residual effects management (and rehabilitation) sites. This plan will inform adaptive management or contingency actions as required and together with applied research programmes, provide valuable contributions towards conservation management knowledge above and beyond this project.

Expected biodiversity outcomes following residual effects management

The baseline conditions from which the benefits of the proposed residual effects Management Package are assessed reflects the existing environment. This state is largely influenced by the existing community composition and relative abundance of weeds and pests and their corresponding impacts.

Within the residual effects management areas, the proposed habitat restoration and enhancement measures will ensure both immediate and sustained reduction (or elimination) in mammalian and weed pest pressure. This is expected to deliver significant landscape-scale gains for many Threatened and At Risk fauna and flora and restore the ecological integrity of associated habitats in these areas. When integrated with active biosecurity and landscape-scale controls as proposed, fenced sanctuaries deliver the highest confidence, longest-lasting conservation outcomes for predator-sensitive species such as the 'nationally critical' snail *Powelliphanta patrickensis,* lizards, and roroa*.* These species are also among the most threatened in the Ecological District, regardless of whether mining proceeds.

Overall as set out in **Table E2** and **E3** below, and within an acceptable timeframe[13], biodiversity outcomes for values impacted by the Project following residual effects management measures are expected to range from 'net positive', where benefits are expected to outweigh impacts, to 'uncertain' where the outcomes are unclear, to 'net loss', where impacts are expected to outweigh benefits. Net loss outcomes range from 'low' to 'very high' magnitude. In broad terms we expect:

- Net positive outcomes for all native bird populations (except long-tailed cuckoo) whereby the benefits associated with the scale and intensity of pest management, including fenced sanctuaries without weka, are expected to exceed losses associated with Project activities.
- Uncertain outcomes for two invertebrate species, and all lizard populations where the level of residual effect and the degree of benefit relative to impacts is less clear.

[13] Defined as not more than 35 years as stated in the NPS-IB Biodiversity Compensation Principles (Appendix 4)

- Net loss outcomes for all impacted populations of nationally Threatened or At Risk vascular and non-vascular plant species and two invertebrate species with the magnitude of net loss ranging from 'low' to 'very high'.
- Net loss outcomes for all habitat types and in the extent of available habitat for all flora and fauna species, including permanent loss for those habitat types that cannot be demonstrably rehabilitated, offset, or compensated. The magnitude of net loss ranges from 'low' to 'very high'.

Table 2. Expected outcomes for habitat types after the Residual Effects Management Package has been applied.

Impacted habitat type	Ecological value	Expected outcome after residual effects management and associated magnitude of net loss where net loss outcomes are anticipated
Terrestrial		
Southern rātā-mountain beech podocarp forest	Very high	Net loss in habitat extent and value (very high magnitude)
Sandstone erosion pavement (and associated vegetation)		
Mānuka -mountain beech-podocarp shrubland		
Mixed beech-podocarp-broadleaved forest	Very high	Net loss in habitat extent and value (high magnitude)
Silver beech-mountain beech forest		
Boulderfields of acidic rock	Very high	Net loss in habitat extent and value (moderate magnitude)
Wetlands		
Low pākihi wetland	Very high	Net loss in habitat extent and value (very high magnitude)
Mānuka-tussock-wire rush shrubland (wetland)		
Tarns		
Mānuka/gahnia-wire rush shrubland (wetland)	Very high	Net loss in habitat extent and value (high magnitude)
Flushes and seeps		
Mānuka-mountain flax-wire rush shrubland (wetland)	Very high	Net loss in habitat extent and value (moderate magnitude)
Tussock-mountain flax shrubland		

Table E3. Expected outcomes for indigenous species after the Residual Effects Management Package is applied.

Species	Ecological value	Expected outcome after compensation and the magnitude of net loss where net loss outcomes are predicted
Bearded orchid (*Calochilus paludosus*)*	Very high	Net loss in habitat extent and population size
*Bulbinella modesta**	High	Net loss in habitat extent and population size
*Caladenia alata**		
*Caladenia minor**		
Coal measures tussock (*Chionochloa juncea*)		
Dracophyllum densum		
Euphrasia wettsteiniana		
Long-leaved pimelea (*Pimelea longifolia*)*		
Astelia subulata	Moderate	Net loss in habitat extent and population size
*Brachyglottis traversii**		
Carse's sedge (*Carex carsei*)*		
Dall's sedge (*Carex dallii*)*		
Euphrasia disperma		
*Hymenophyllum pluviatile**		
Dwarf rush (*Juncus pusillus*)*		
*Pterostylis humilis**		
Travers horopito (*Pseudowintera traversii*)		
*Schizacme helmsii **		
*Townsonia deflexa**		
Sticherus tener		
Sticherus urceolatus		
Non-vascular plants		
Isolembidium anomalum var. anomalum (Bryophyte)	Very high	Net loss in habitat extent and population size
Neogrollea notabilis Bryophyte)		
Pycnothelia caliginosa (Lichen)		
Austropeltum glareosum (Lichen)		
Cladia fuliginosa (Lichen)		
Allisoniella scottii (Bryrophyte)		
Pseudolophocolea denticulata (Bryophyte)		
Cladia inflata (Lichen)	High	Net loss in habitat extent and population size
Knightiella splachnirima (Lichen)		
Saccogynidium decurvum (Bryophyte)		
Chiloscyphus gippslandicus (bryophyte)		

Species	Ecological value	Expected outcome after compensation and the magnitude of net loss where net loss outcomes are predicted
Porella cranfordii (bryophyte)	Not classified	Net loss in habitat extent and population size
Acromastigum mooreanum (bryophyte)	Moderate	Net loss in habitat extent and population size
Andreaea subulate (bryophyte)		
Blindia immersa (bryophyte)		
Calycidium cuneatum (bryophyte)		
Campylopus kirkii (bryophyte)		
Cryptolophocolea tuberculata (bryophyte)		
Dicnemon dixonianum (bryophyte)		
Herzogianthus sanguineus (bryophyte)		
Herzogianthus vaginatus (bryophyte)		
Heteroscyphus billardierei (bryophyte)		
Isotachis westlandica (bryophyte)		
Kurzia tenax (bryophyte)		
Kurzia nivicola (bryophyte)		
Lembidium longifolium (bryophyte)		
Lepidolaena novae-zelandiae (bryophyte)		
Pachyschistochila virescens (bryophyte)		
Pallavicinia rubristipa (bryophyte)		
Pleurophascum ovalifolium (bryophyte)		
Pyrrhobryum paramattense		
Riccardia furtiva (bryophyte)		
Trichotemnoma corrugatum (bryophyte)		
Zoopsis bicruris (bryophyte)		
Zoopsis ceratophylla (bryophyte)		
Zoopsis matawaia (bryophyte)		
Chiloscyphus gippslandicus (bryophyte)	Moderate	
Porella cranfordii (bryophyte)		
*Andreaea acuminata (bryophyte)**		
*Andrewsianthus perigonialis (bryophyte)**		
*Archeophylla schusteri (bryophyte)**		
*Bazzania exempta (bryophyte)**		
*Degeliella rosulate (bryophyte)**		
*Ditrichum strictum (bryophyte)**		
*Leiorreuma exaltatum (bryophyte)**		
*Lepidozia fugax (bryophyte)**		
*Micarea isabelline (bryophyte)**		

Species	Ecological value	Expected outcome after compensation and the magnitude of net loss where net loss outcomes are predicted
*Ochrolechia frigida (bryophyte)**		
*Pseudocyphellaria lindsayi (bryophyte)**		
*Riccardia multicorpora (bryophyte)**		
*Schistochila pluriciliata (bryophyte)**		
*Tayloria callophylla (bryophyte)**		
Avifauna		
Roroa/great spotted kiwi	Very high	Net loss in habitat extent. Net increase in population size
Kārearea/NZ bush falcon		
Koekoeā/long-tailed cuckoo		Net loss in habitat extent. Uncertain outcome for population size
Kakaruai/South Island robin	High	Net loss in habitat extent. Net increase in population size
Mātātā/South Island fernbird		
Kererū	Moderate	
Korimako/bellbird		
Tūī		
Lizards		
West Coast green gecko	Very high	Net loss in habitat extent. Uncertain outcome in relation to population size
Westland speckled skink		
Forest gecko	High	
Terrestrial invertebrates		
Powelliphanta patrickensis	Very high	Net loss in habitat extent. Net increase in population size
Avatar moth (*Arctesthes avatar*)		Net loss in habitat extent and population size (Very high magnitude)
Pseudaneitea sp. (slug)	Very high	
White-faced cave weta (*Occultastella morgana*)		Net loss in habitat extent and uncertain outcomes for population size
Forest ringlet butterfly (*Dodonidia helmsii*)	Moderate	Net loss in habitat size. Net loss in population size (Moderate magnitude)

Assessment against biodiversity compensation principles

Biodiversity offsetting was initially considered to address residual adverse effects on ecological values; however, Net Gain outcomes could not be demonstrated for any ecological values in accordance with biodiversity offset definitions in the NPS-IB and NPS-FM. This was because robust quantitative datasets, representative of both the total area of disturbance and the wider 26,259 ha area subject to residual effects management, were not available for any of the affected biodiversity values. As a result, all measures to address residual adverse effects are considered biodiversity compensation rather than offsetting.

A framework was applied to assess the degree to which proposed residual effects management adheres to the 13 biodiversity compensation principles in Appendix 4 of the NPS-IB (terrestrial ecosystems). The equivalent assessment was then applied to the aquatic compensation principles in Appendix 7 of the NPS-FM for wetlands.

The proposed residual effects package is generally consistent with key principles with the notable exception of the 'additionality principle', in areas where pest management is proposed but is already required by previous consent conditions and in relation to the 'limits to compensation principle'. Most importantly, the 'limits to compensation' principles as contained in the NPS-IB and NPS-FM are unlikely to be satisfied for the Project as a whole and for particular habitat types, species assemblages, and potentially species based on current information, due to:[14]

- their irreplaceability[15] or vulnerability[16]
- the significance of adverse effects
- the infeasibility of the residual effects package to demonstrably compensate residual adverse effects within 'acceptable timeframes[17]'.

In this regard, impacts on the following ecological values are unlikely to, or may not, align with the limits to compensation principles:

- Buller Plateaux terrestrial and wetland biodiversity values as a whole
- Southern rātā-mountain beech-podocarp forest
- Sandstone pavement and associated vegetation communities
- Mānuka-mountain beech-podocarp shrubland
- Low pākihi wetland
- Mānuka-tussock-wire rush shrubland (wetland)
- The bryophyte and lichen assemblage

[14] NPS-IB Appendices 3 and 4, principle 2, presents examples of when biodiversity offsetting/compensation may not be appropriate.
[15] Irreplaceability is defined in the NPS-IB as "*a measure of the uniqueness, replaceability and conservation value of biodiversity and the degree to which the biodiversity value of a given area adds to the value of an overall network of areas. It interacts with vulnerability, complexity and rarity to indicate the biodiversity value and level of risk for a given area*".
[16] Vulnerability is defined in the NPS-IB as "*an estimate of the degree of threat of destruction or degradation that indigenous biodiversity faces from change, use or development. It is the degree to which an ecosystem, habitat or species is likely to be affected by, is susceptible to or able to adapt to harmful impacts or changes. It interacts with the irreplaceability, complexity and rarity to indicate the biodiversity value and level of risk for a given area*".
[17] An 'acceptable timeframe' is stated as not more than 35 years in the NPS-IB Biodiversity Compensation Principles (Appendix 4)

- The Threatened (nationally critical) bryophytes or lichens *Isolembidium anomalum var. anomalum and Neogrollea notabilis*, and potentially *Allisoniella scottii* and *Pseudolophocolea denticulata* if present
- The Threatened (nationally critical) Avatar moth (*Arctesthes avatar*)
- *Pseudaneitea* sp. (undescribed slug species) that has not been classified, for which only two specimens have ever been detected, including one in the Project disturbance area.

Conclusion

For those residual adverse effects that cannot be avoided, minimised or remedied, a substantive residual effects package is proposed for biodiversity values across approximately 26,259 ha surrounding the Project disturbance area.

The measures comprising this package are based on well-tested conservation interventions implemented at landscape scales throughout New Zealand, where integrated predator control and pest-exclusion fencing have consistently delivered measurable improvements in the ecological integrity of targeted habitats and in the recovery of native species.

When effectively implemented in accordance with the proposed consent conditions, these measures would reverse the ongoing decline in the condition of native habitats caused by introduced weeds and mammalian pests and support the recovery of Threatened or At Risk taxa currently in decline due to ongoing predation and habitat degradation (irrespective of mining). In the absence of intervention, and irrespective of whether mining proceeds, some of these taxa are likely to face local extinction in the medium to long term.

Despite the scale, scope and robustness of the residual effects package and the positive ecological outcomes it is expected to deliver for some values, the Project will result in significant residual adverse effects on biodiversity values of the Buller Plateaux that will remain unaddressed. Where a Net Loss outcome is anticipated, the predicted magnitude ranges from Low to Very High. For several values from a policy perspective, the "limits to compensation" principles of the NPS-IB and NPS-FM are unlikely to be met. This reflects the irreplaceability and vulnerability of the Buller Plateaux and many of its associated biodiversity values, the magnitude of the predicted impacts, and the uncertainty inherent in demonstrating adequate ecological gains within acceptable timeframes.

For these irreplaceable and vulnerable habitats, communities, and species, Project-related losses will, in many cases, be permanent, or otherwise cannot be addressed within acceptable timeframes[18], which we consider to be the life of consent. Examples include the permanent loss of sandstone pavement, and the loss of mature forest, which would ultimately be reinstated but would take several hundred years to re-establish and would likely differ in composition and structure from the existing

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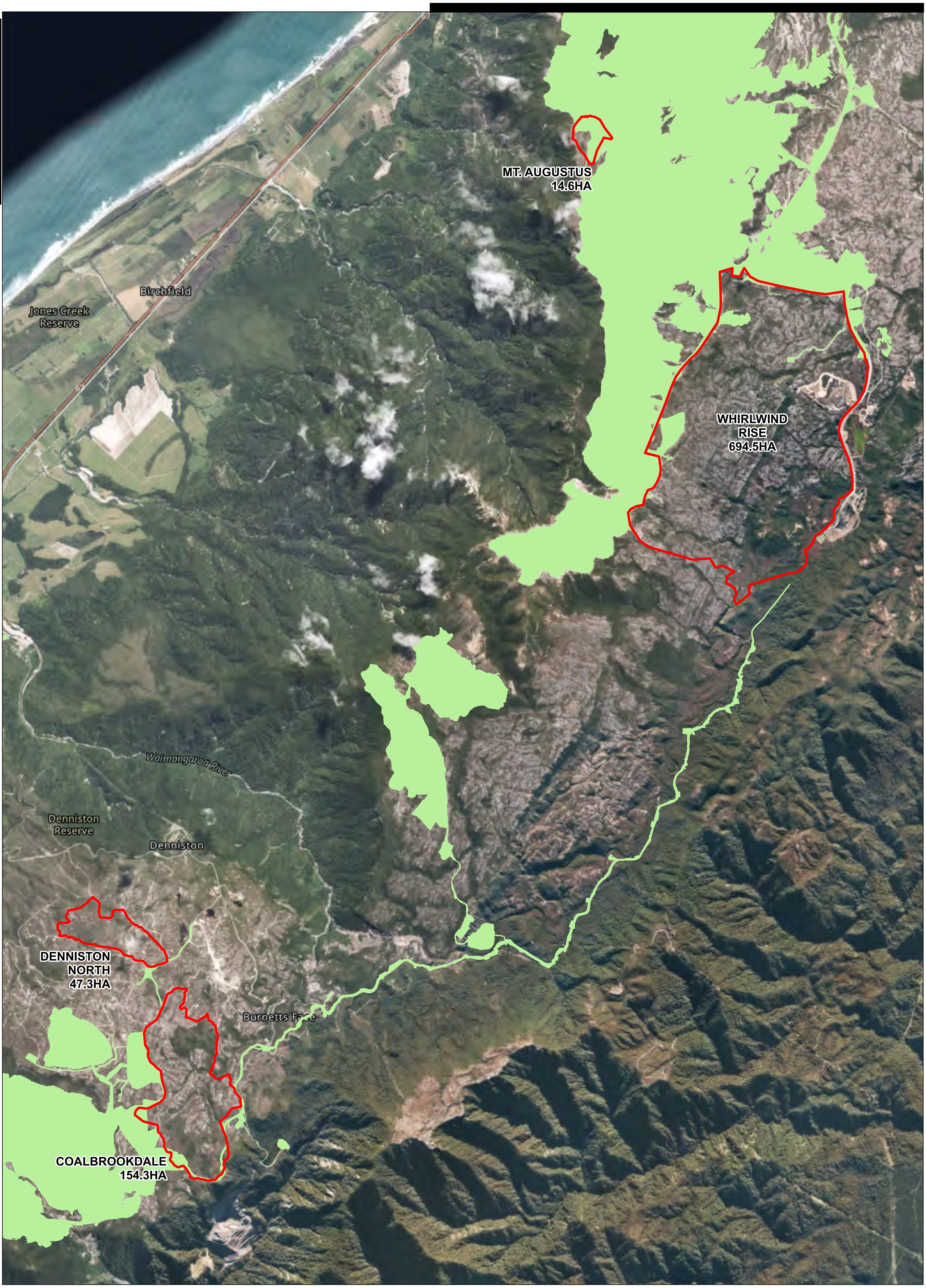
[18] We consider this to equate to the life of consent (35 years from granting of approvals)

vegetation. Such losses cannot be replaced, offset, or counterbalanced by alternative or larger actions elsewhere.

The net result is a comprehensive package of actions that will deliver broad, long-lasting benefits to many species and habitats and will substantially address some of the Project's ecological impacts and contribute to conservation management via the applied research and monitoring programmes proposed. These measures do not, however, counterbalance the Project's effects on the Buller Plateaux and associated values; rather, it is our professional opinion that the adverse effects on biodiversity values arising from Project activities will materially outweigh the benefits associated with the residual effects management package.

This conclusion is confined to the residual effects management package and to the ecological matters relevant under the FTAA, the NPS-IB and the NPS-FM. It is not intended to undertake the statutory weighting exercise required of the Expert Panel, which considers the residual ecological effects identified in this report alongside the wider matters set out in the Act, including the Project's purposes and benefits. In this regard, the role of this report is to provide a transparent ecological basis for that weighting.

The proposed habitat restoration and enhancement measures, together with the biodiversity outcome monitoring and adaptive management requirements designed to achieve the stated outcomes, are all integrated into the proposed consent conditions and ecological management plans.



Pest exclusion fenced areas

BATHURST PEST CONTROL

Plan prepared for Alliance Ecology | 24 March 2026

Alliance Ecology MapHouse

LEGEND

Pest exclusion fence

Disturbance area

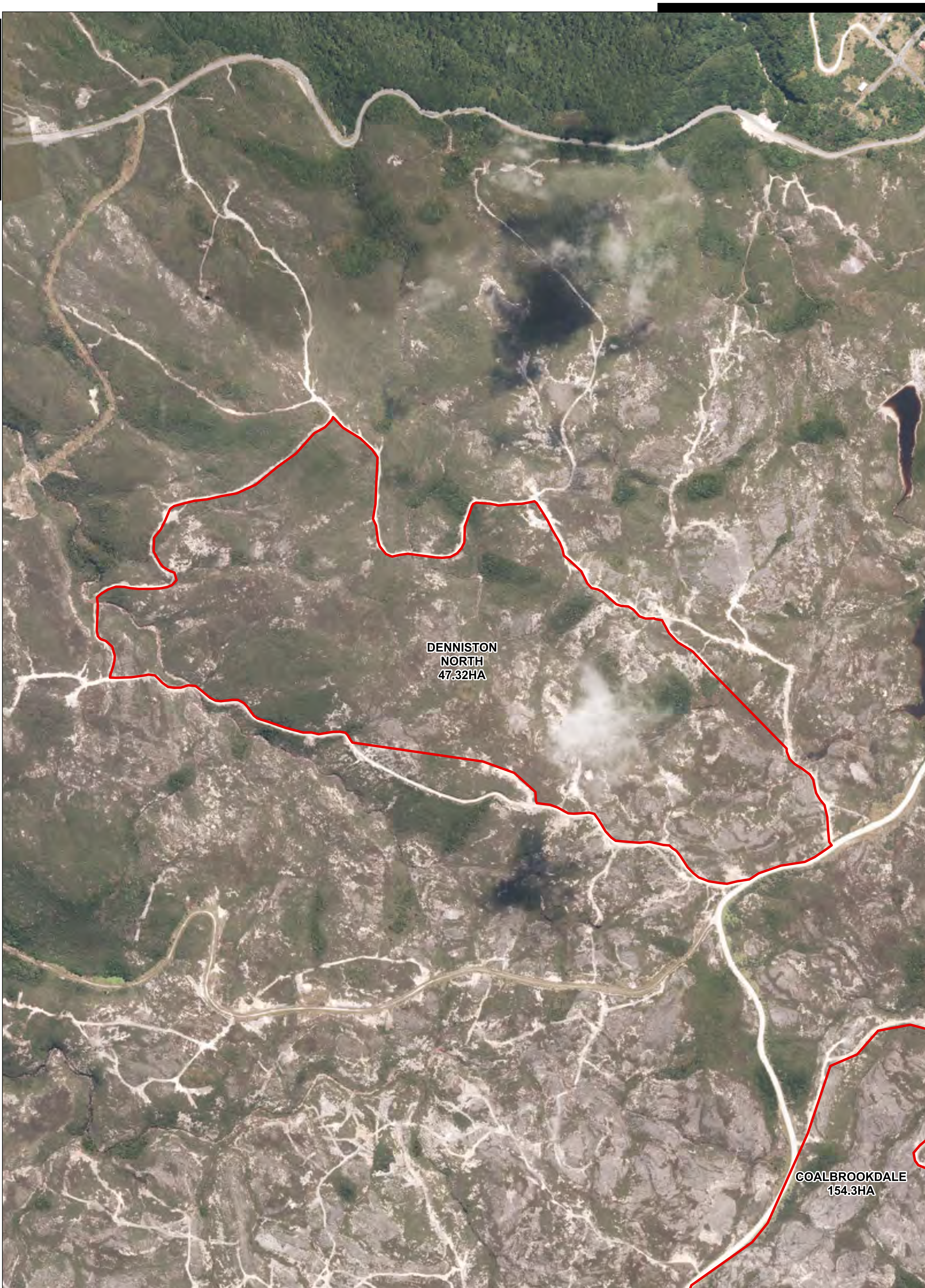
[redacted]

0 500 m

1:40,000 @ A3

Figure 1

[redacted]



Exclusion Fences: Denniston North

LEGEND

Pest exclusion fence

0 100 m

1:6,000 @ A3

Map 1A

BATHURST PEST CONTROL AND MANAGEMENT

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[redacted]

Exclusion Fences: Coalbrookdale

LEGEND

Pest exclusion fence

0 100 m
1:7,000 @ A3

Map 1B

BATHURST PEST CONTROL AND MANAGEMENT

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MapHouse

Exclusion Fences: Mt. Augustus

LEGEND

Pest exclusion fence

[redacted]

0 50 m

1:2,000 @ A3

Map 1C

BATHURST PEST CONTROL AND MANAGEMENT

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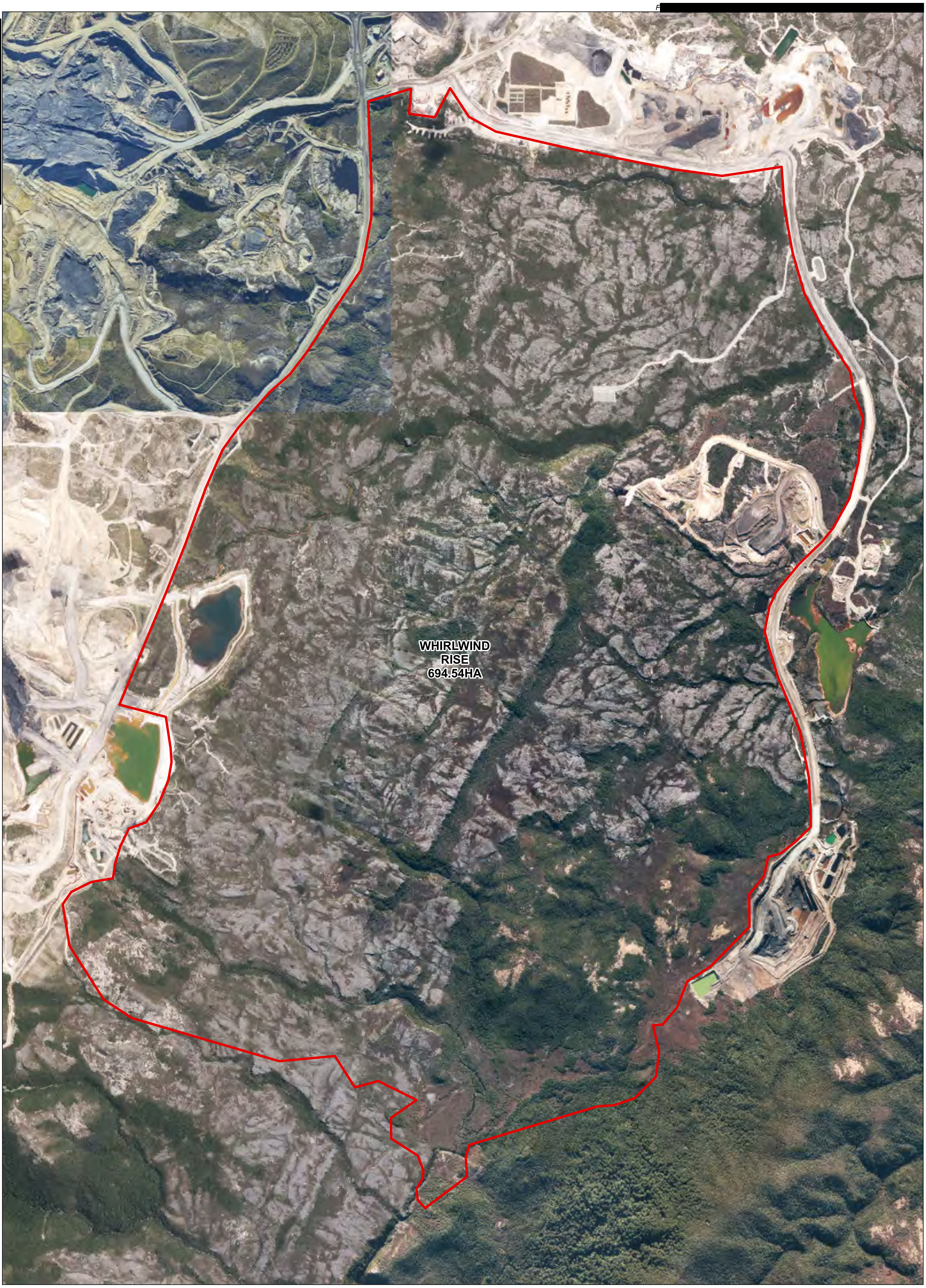
MapHouse

[redacted]



[redacted]

Exclusion Fences: Whirlwind Rise

BATHURST PEST CONTROL AND MANAGEMENT

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Alliance Ecology MapHouse

LEGEND

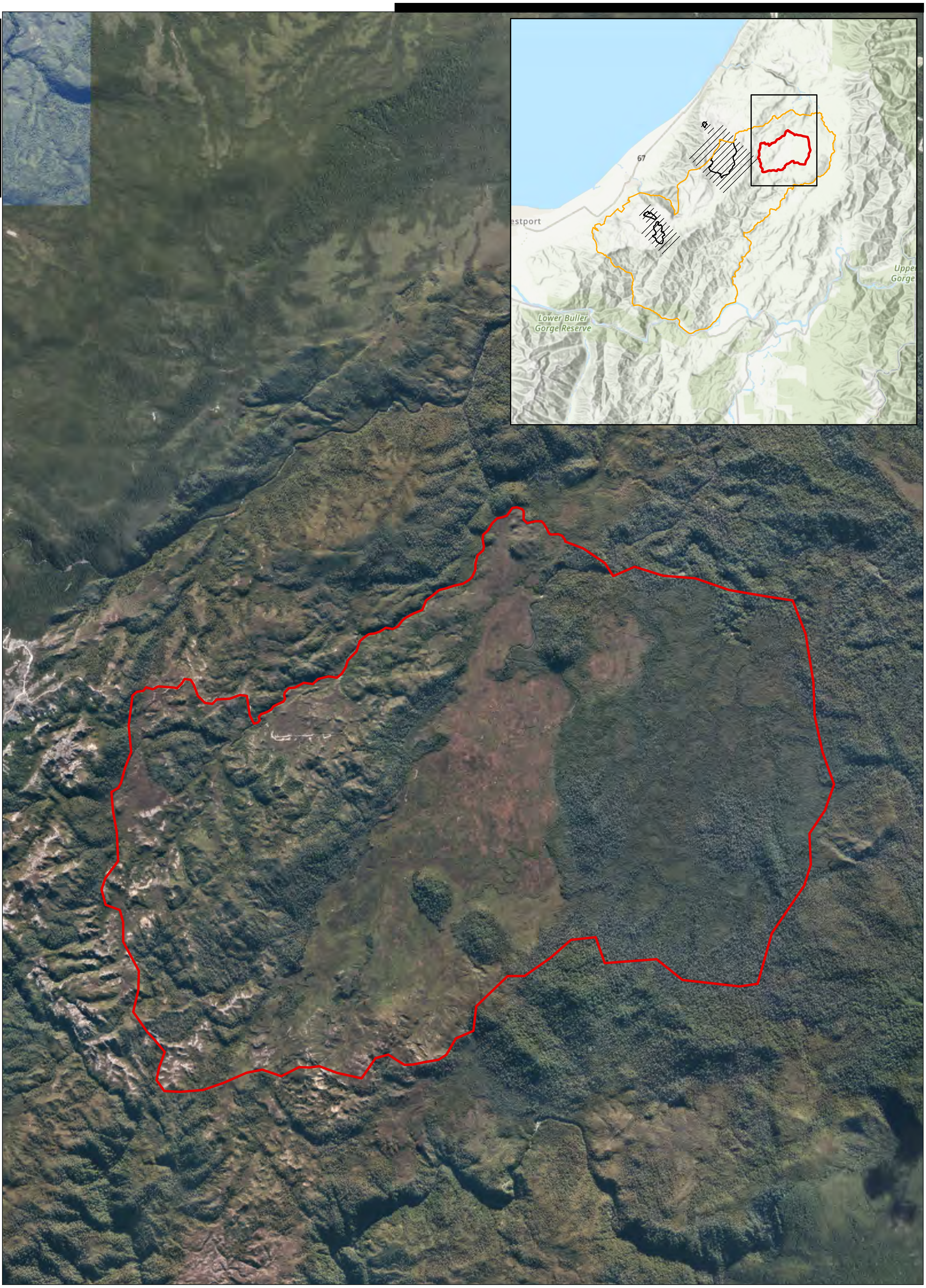
Pest exclusion fence

[redacted]

0 200 m

1:12,000 @ A3

Map 1D



Blackburn-Pakihi – Intensive Ground-Control Area

LEGEND

Intensive ground control area

0 500 m
1:25,000 @ A3

Figure 2

BATHURST PEST CONTROL

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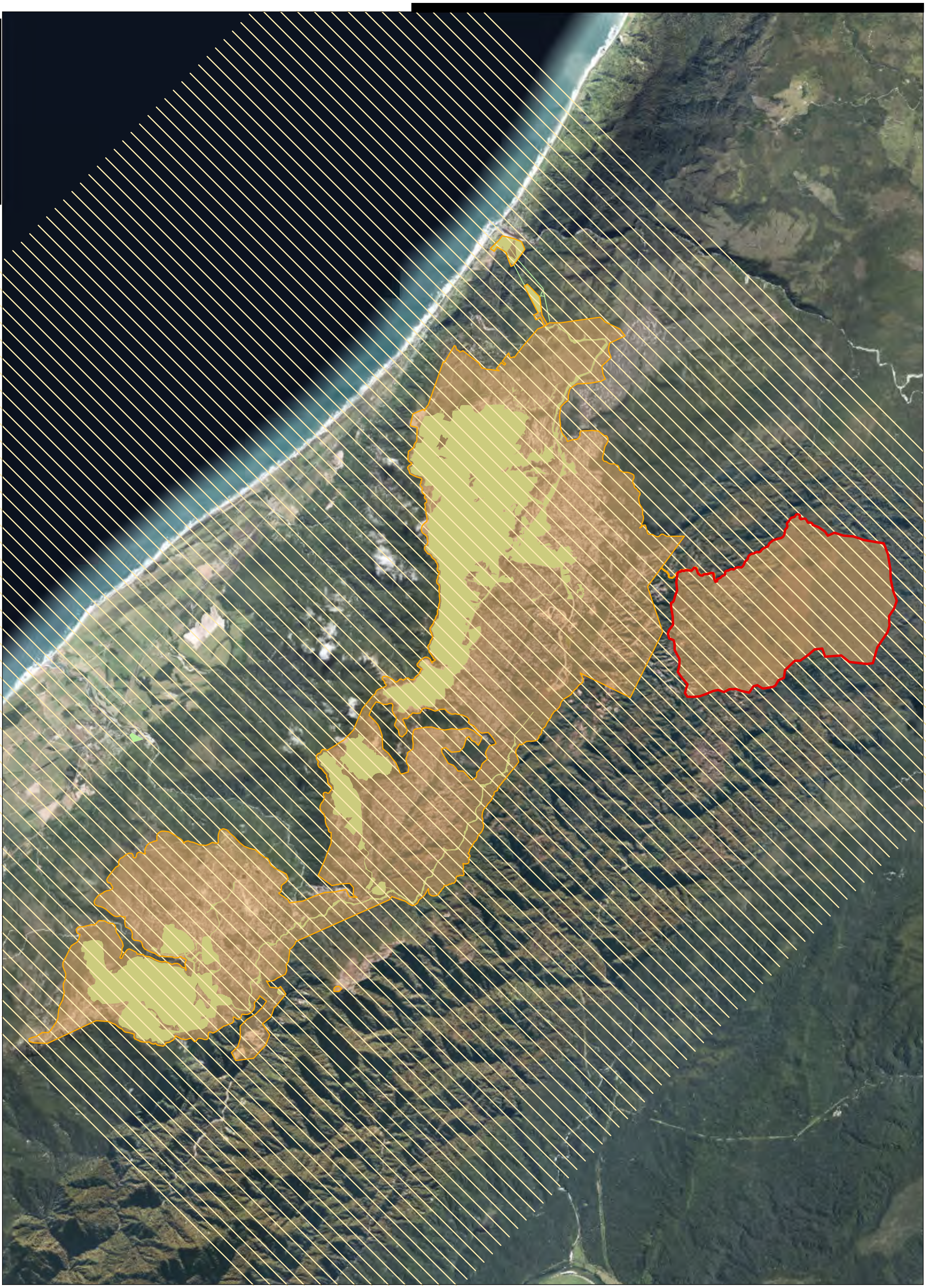
[redacted]

[redacted]



[redacted]

Buller Plateau – Weed management area

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LEGEND

- Weed management area
- Blackburn-pakihi intensive ground control area
- Disturbance area

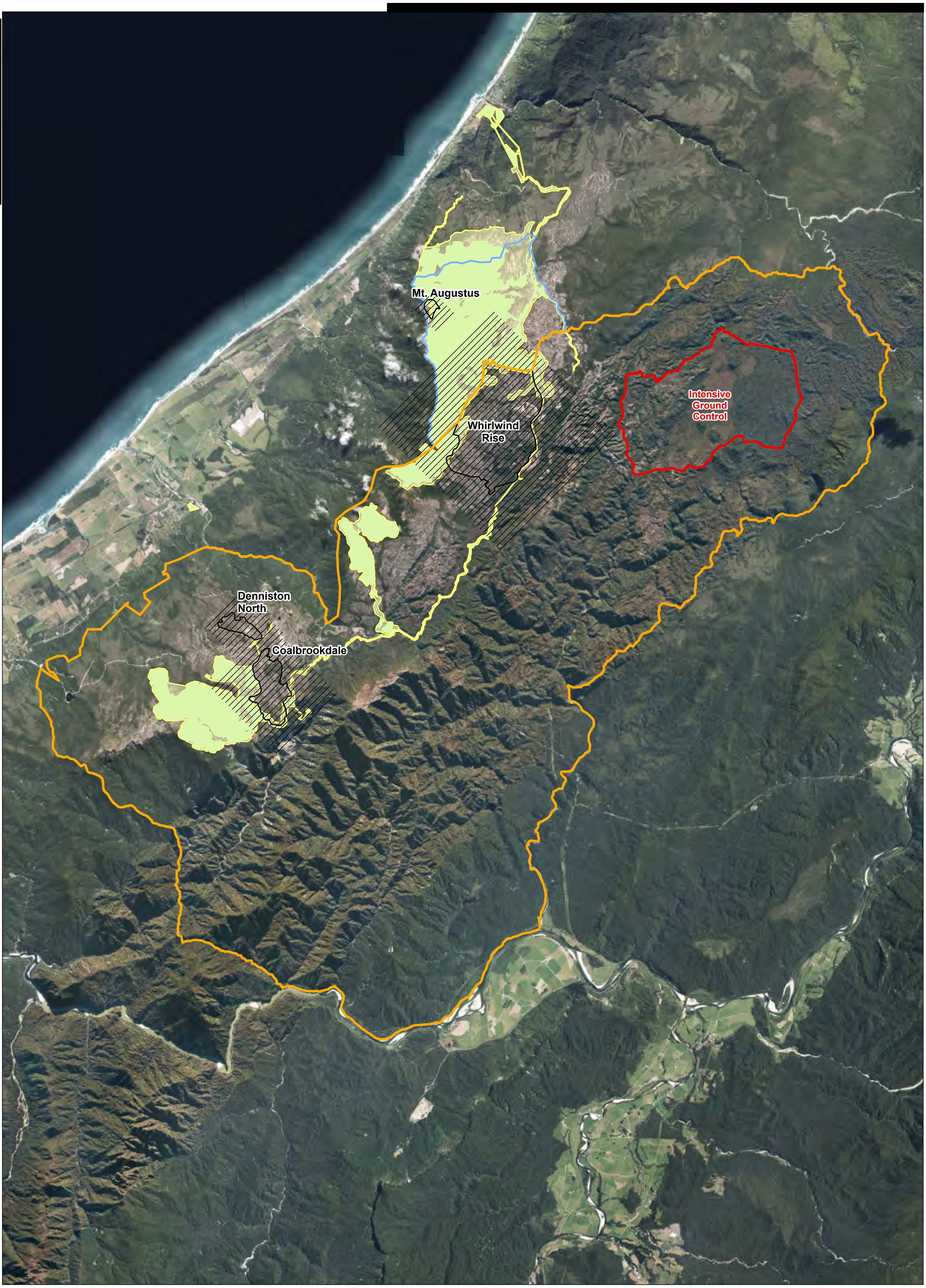
[redacted]

0 1,000 m

1:80,000 @ A3

Figure 3

[redacted]



[redacted]

Wider managed landscape - Control Halo

BATHURST PEST CONTROL

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LEGEND

- Landscape scale control
- Intensive ground control
- Pest exclusion fences
- Existing control maintained
- Project footprint
- Disturbance area

0 1,000 m

1:100,000 @ A3

Figure 4

[redacted]

1. Introduction

1.1 Background

Bathurst Resources Limited are seeking authorisation through the Fast-track Approvals Act 2024 to progress the development and mining of coal resources across the wider Buller Plateaux.

The Buller Plateaux Continuation Project (the **"Project"**) covers areas across both the Denniston and Stockton Plateau, collectively referred to as the Buller Plateaux. The Buller Plateaux is located approximately 15 kilometres northeast of Westport, within the jurisdiction of the West Coast Regional Council and Buller District Council.

The purpose of the Project is to secure the approvals necessary to retain the existing infrastructure and mining operations associated with the Stockton mine and provide access to additional mining areas across the Buller Plateaux, as the coal resources in the current operations are close to depletion and further coal resources for blending are required.

The Project will enable approximately 20 million tonnes of coking coal to be mined, utilising existing infrastructure facilities to support and extend the mine life of the current Stockton operations. All elements of the Project are essential for the Project to be economically viable and to meet the coal blend requirements. Mining is by conventional drill and blast, load and haul open pit mining and is a 24/7 operation. It will utilise existing coal handling infrastructure where possible.

The Project Area extends over a total consenting footprint of 2,718 ha and comprises a mix of Crown, private and Bathurst-owned land. As shown in the substantive application, the Project Area has been divided into five project sub-areas for the purpose of the FTAA application:

- Stockton (including the Ngakawau Coal Handling Facility and Aerial Ropeway)
- Cypress Mining Area ('Cypress')
- Mount Frederick South ('MFS')
- Escarpment Extended ('ESE')
- Upper Waimangaroa Haul Road ('UWHR').

For the purpose of the ecological assessment (Ecological Solutions 2026a), the total consenting footprint of 2,718 hectares (ha), comprises:

- the proposed disturbance area of approximately 755 ha[19]
- an indirect effects contingency area of approximately 128 ha that is conservatively treated as habitat loss; and

[19] As described in Section 1.2.2 below, 755 hectares is the Disturbance Area assessed in the Terrestrial Ecological Impact Assessment Report (Ecological Solutions 2026a; see Section 1.2.2) on which this report is based.

- existing disturbance areas.[20]

1.2 Report scope

1.2.1 Purpose

This report sets out:

- An overview of the residual adverse effects on terrestrial and wetland values to be addressed
- The objectives of Residual Effects Management Package and the opportunities presented by the current environment
- The habitat restoration or enhancement measures proposed to be implemented as compensation measures for the purpose of addressing residual effects on terrestrial and wetland ecological values
- Expected biodiversity outcomes for the habitat restoration and enhancement measures
- An assessment of the proposal against the biodiversity compensation principles in the NPS-IB, and for wetlands, the aquatic compensation principles in the NPS-FM.

1.3 Statutory context

The statutory and planning documents that provide the framework for this assessment of residual ecological effects are detailed in the substantive application and associated reports. In brief these documents include:

- The FTAA and the relevant legislation referred to therein, including:
  - The Resource Management Act (RMA), and amendments, including relevant matters for ecological assessment under Schedule 5 of the FTAA.
  - The Wildlife Act 1953
  - The Heritage New Zealand Pouhere Taonga Act 2014
- The National Policy Statement for Indigenous Biodiversity amended December 2025 ('NPS-IB')
- The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 ('NES-F')
- The National Policy Statement for Freshwater Management 2020 amended December 2025 ('NPS-FM')
- Conservation (Indigenous Freshwater Fish) Amendment Act 2019

[20] Existing disturbance authorised up to 31 March 2027.

- The Operative West Coast Regional Policy Statement 2020 ('WCRPS')
- The West Coast Regional Council Land and Water Plan 2014 (as amended 2021)
- The Te Tai O Poutini Plan (Decisions version 2025, Operative in Part)
- Buller District Plan (as amended 2011).

The application of the FTAA statutory weighting exercise is detailed in the main application. This report does not apply the FTAA statutory tests but provides ecological information on residual effects management to inform the Panel's decisions under the FTAA.

2. Residual adverse effects

The Project will result in various residual effects on terrestrial and wetland ecological values after efforts to avoid, minimise or remedy adverse effects have been undertaken.

Residual adverse effects were identified in the Ecological Assessment (Ecological Solutions, 2026a) in accordance with the Environment Institute of Australia and New Zealand ('EIANZ') Ecological Impact Assessment Guidelines ('EcIAG') (Roper-Lindsay et al., 2018).

Based on the Ecological Assessment, the Project is expected to result in moderate or higher residual adverse effects on 13 habitat types (**Table 2** below), and associated nationally Threatened or At Risk species including 19 vascular plant species, numerous non-vascular plant species[21], and 6 bird, 3 lizard and 4 invertebrate species (**Table 3** below). An additional invertebrate species (*Pseudaneitea* sp., a slug) is not classified but is of importance.[22]

Where residual adverse effects are assessed as moderate or greater, efforts to address these effects have been undertaken, with these efforts likely to also address many of the residual effects assessed as less than moderate.

Table 3. Level of residual effects on habitats assessed as Moderate or higher as derived from the Ecological Assessment (Ecological Solutions, 2026)

Impacted habitat type	Areal extent of loss within the Project Disturbance area (ha)[23]	Indirect effects contingency areal extent (ha)[24]	Total extent of impacted habitat (ha)	Level of residual effect before residual effects management
Terrestrial habitats				
Southern rātā-mountain beech-podocarp forest	177.1	49.4	226.5	Very high
Sandstone erosion pavement	63.6	6.3	69.9	
Mānuka -mountain beech-podocarp shrubland	84.7	13.4	98.1	

[21] Forty species of bryophytes and 11 lichens classified as Threatened or At Risk (de Lange et al (2018, 2020) and Michel et al. (2026) are, or may potentially be, present within the Project Area. Two liverwort species are new records and not assigned a threat status.

[22] Only two specimens have ever been described, one within the Project footprint.

[23] The Indirect effects contingency extent will apply in addition to this direct habitat loss, as detailed in the Terrestrial Ecological Impact Assessment Report. The disturbance area is based on shapefiles released by Bathurst Resources Limited on 15 October 2025 and excludes the Waimangaroa Storage Area. The Project area boundary is based on shapefiles released on 4 December 2025. The rehabilitated areas are based on final landform shapefiles released on 5 December 2025. There are minor variations in extent between all three of these shapefiles which account for minor differences in the estimates of extent provided throughout this report.

[24] This is conservatively treated as habitat loss in terms of the magnitude of effects assessment (i.e., it is included in the areal extent of loss calculations and the proportional loss calculations.

Impacted habitat type	Areal extent of loss within the Project Disturbance area (ha) [23]	Indirect effects contingency areal extent (ha) [24]	Total extent of impacted habitat (ha)	Level of residual effect before residual effects management
Mixed beech-podocarp-broadleaved forest	5.5	9.9	15.4	High
Silver beech-mountain beech forest	5.5	0.5	6	
Boulderfields of acidic rock	several ha [25]	Unknown	Several ha	Moderate
Wetland habitats				
Low pākihi	213.9	23.1	237	Very high
Mānuka-tussock-wire rush shrubland	104.2	12.9	117.1	
Tarns	Unknown [26]	Unknown	Unknown	
Mānuka-gahnia-wire rush shrubland	9.2	1.1	10.3	High
Seepages and flushes	Unknown [27]	Unknown	Unknown	
Mānuka-mountain flax-wire rush shrubland	3.7	0.3	4	Moderate
Tussock-mountain flax shrubland	1.7	0.8	2.5	

Table 4. Level of residual effects on species assessed as Moderate or higher

Species	Threat status (NZTCS) [28]	Areal extent of habitat loss (ha) [29]	Residual effect
Plant species (*= not detected to date in Project Area)			
Bearded orchid (*Calochilus paludosus*)*	Nationally Threatened (nationally vulnerable)	370.8	Very high
*Bulbinella modesta**	At Risk declining	370.8	Very high
*Caladenia alata**		244.1	High
*Caladenia minor**		470.6	
Coal measures tussock (*Chionochloa juncea*)		633.1	

[25] Boulderfields of acidic rock are not known to be present within the Project Area. At least 400m^2 of vegetated boulderfields to be constructed as part of rehabilitation.
[26] At least 500m^2 of permanent tarn and 600m^2 of ephemeral tarn to be constructed as part of rehabilitation (Ecological Solutions 2026a).
[27] Seepages and flushes are small and widely dispersed (Ecological Solutions 2026a).
[28] Threat status is based on the most recent New Zealand Threat Classification System publication, including de Lange et al 2023 (vascular plants), de Lange (2018, 2020) and Michel 2026 (non-vascular plants); Hitchmough et al 2025 (reptiles); Robertson et al 2021 (birds); Walker et al 2022 (carnivorous snails); relevant NZTCS publications for invertebrates.
[29] This represents the areal extent of loss in the Project disturbance area (755 ha) and conservatively includes the indirect effects contingency area (122 ha) which will remain but will be adversely affected.

Species	Threat status (NZTCS)[28]	Areal extent of habitat loss (ha)[29]	Residual effect
Dracophyllum densum		517.9	
Euphrasia wettsteiniana		356.6	Very high
Long-leaved pimelea (*Pimelea longifolia*)*		716.1	High
Astelia subulata	At Risk – naturally uncommon	215.6	Moderate
*Brachyglottis traversii**		466	High
Carse's sedge (*Carex carsei*)*		429.8	Moderate
Dall's sedge (*Carex dallii*)*		429.8	
Euphrasia disperma		215.6	High
*Hymenophyllum pluviatile**		272.8	Moderate
Dwarf rush (*Juncus pusillus*)*		332.6	
*Pterostylis humilis**		398.7	
Travers horopito (*Pseudowintera traversii*)		272.8	
*Schizacme helmsii**		383.4	High
*Townsonia deflexa**		285.3	Moderate
Non-vascular plants (*= not detected in Project Area to date)			
*Allisoniella scottii (bryophyte)**	Threatened – nationally critical	368.3	High
Isolembidium anomalum var. anomalum (bryophyte)	Threatened – nationally critical	800.6	
Neogrollea notabilis (bryophyte)	Threatened – nationally critical	455.4	
*Pseudolophocolea denticulata (bryophyte)**	Threatened – nationally critical	462.2	
Pycnothelia caliginosa (lichen)	Threatened – nationally endangered	361.9	Very high
Austropeltum glareosum (lichen)	Threatened – nationally vulnerable	424.1	Very high
*Cladia fuliginosa (lichen)**		440.8	
Knightiella splachnirima (lichen)		440.8	
Austropeltum verticale (bryophyte)		344.9	High
Telaranea inaequalis (bryophyte)		669.2	
Acromastigum interstisiale (bryophyte)	At Risk - Declining	361.9	High

Species	Threat status (NZTCS) [28]	Areal extent of habitat loss (ha) [29]	Residual effect
Saccogynidium decurvum (bryophyte)		786	
Cladia inflata (lichen)		468.9	
Chiloscyphus gippslandicus (bryophyte)	Not classified, new record, treated as Threatened.	Uncertain	Assumed Very high
Porella cranfordii (bryophyte)			
Acromastigum mooreanum (bryophyte)	At Risk – Naturally Uncommon	Uncertain	Assumed Moderate
Andreaea subulate (bryophyte)			
Blindia immersa (bryophyte)			
Calycidium cuneatum (bryophyte)			
Campylopus kirkii (bryophyte)			
Cryptolophocolea tuberculata (bryophyte)			
Dicnemon dixonianum (bryophyte)			
Herzogianthus sanguineus (bryophyte)			
Herzogianthus vaginatus (bryophyte)			
Heteroscyphus billardierei (bryophyte)			
Isotachis westlandica (bryophyte)			
Kurzia tenax (bryophyte)			
Kurzia nivicola (bryophyte)			
Lembidium longifolium (bryophyte)			
Lepidolaena novae-zelandiae (bryophyte)			
Pachyschistochila virescens (bryophyte)			
Pallavicinia rubristipa (bryophyte)			
Pleurophascum ovalifolium (bryophyte)			
Pyrrhobryum paramattense			
Riccardia furtiva (bryophyte)			
Trichotemnoma corrugatum (bryophyte)			

Species	Threat status (NZTCS)[28]	Areal extent of habitat loss (ha)[29]	Residual effect
Zoopsis bicruris (bryophyte)			
Zoopsis ceratophylla (bryophyte)			
Zoopsis matawaia (bryophyte)			
*Andreaea acuminata (bryophyte)**		Uncertain, not detected in Project Area	
*Andrewsianthus perigonialis (bryophyte)**			
*Archeophylla schusteri (bryophyte)**			
*Bazzania exempta (bryophyte)**			
*Degeliella rosulate (bryophyte)**			
*Ditrichum strictum (bryophyte)**			
*Leiorreuma exaltatum (bryophyte)**			
*Lepidozia fugax (bryophyte)**			
*Micarea isabelline (bryophyte)**			
*Ochrolechia frigida (bryophyte)**			
*Pseudocyphellaria lindsayi (bryophyte)**			
*Riccardia multicorpora (bryophyte)**			
*Schistochila pluriciliata (bryophyte)**			
*Tayloria callophylla (bryophyte)**			
Avifauna			
Roroa/great spotted kiwi	Threatened - nationally vulnerable	800.6	High
Kārearea/NZ bush falcon	Threatened- nationally increasing	801.4	
Koekoeā/long-tailed cuckoo	Threatened - nationally vulnerable	472.5	
Kakaruai/South Island robin	At Risk - declining	476.5	
Mātātā/South Island fernbird	At Risk - declining	786.9	
Kererū	Not Threatened – but moderate value	480.8	Moderate
Korimako/bellbird	Not Threatened – but moderate value	493.6	
Tūī	Not Threatened – but moderate value	493.6	
Lizards			

Species	Threat status (NZTCS) [28]	Areal extent of habitat loss (ha) [29]	Residual effect
Westland speckled skink	Threatened – Nationally Vulnerable	879.1	Very high
Forest gecko	At Risk - declining	800.5	
West Coast green gecko	Threatened – Nationally Vulnerable	800.5	
Invertebrates			
Avatar moth (*Arctesthes avatar*)	Threatened – Nationally Critical	440.7	Very high
Powelliphanta patrickensis		716.1	
White-faced cave weta (*Occultastella morgana*)	Not classified but treated as Nationally Threatened	716.1	High
Forest ringlet butterfly (*Dodonidia helmsii*)	At Risk -relict	701.7	Moderate
Pseudaneitea sp. (undescribed slug species)	Not classified, of importance; treated as nationally threatened	Unknown	Very high

*=not detected in the Project Area to date.

3. Residual effects management

3.1 Overview

Management of residual effects that remain after requirements to avoid, minimise or remedy adverse effects, involves implementing ecological restoration and/or habitat enhancement measures that provide positive benefits for those same indigenous biodiversity values that are adversely affected by the Project.

For this Project, habitat restoration and enhancement measures outside the Project disturbance area are classified as 'compensation' (rather than minimisation, mitigation or remediation) as they generate positive benefits but do not directly reduce the severity of adverse effects at the point of impact. A grey area in this regard is the compensation proposed in areas adjacent to the Project disturbance area which — while generally considered compensation—also contributes to:

- effects minimisation/mitigation by reducing ecological or disturbance-related edge effects; and
- ecological rehabilitation within the Project disturbance area by providing ongoing seed sources, propagules and colonising fauna to support rehabilitation of the Project disturbance area.

For simplicity, however, habitat restoration or enhancement measures undertaken in habitats adjacent to the Project disturbance area are referred to as residual effects management actions.

A key difference between offsets and compensation is that offsets must be demonstrated via a like-for-like quantitative loss/gain calculation. In contrast, compensation does not require this calculation, but indigenous biodiversity values lost must be addressed by positive effects that outweigh the adverse effects. These requirements are outlined in the offsetting and compensation principles of relevant statutory planning documents (the NPSIB, NPSFM and WCRPS, and subject to weighting under the FTAA).

In accordance with the effects management hierarchy, biodiversity offsetting was initially considered to address residual adverse effects on ecological values. However, Net Gain outcomes could not be demonstrated for any ecological values in accordance with biodiversity offset definitions in the NPS-IB and NPS-FM. This is due to the lack of a robust, quantitative dataset for any biodiversity values representative of the Project footprint or the proposed compensation sites.

As a result, all measures to address residual adverse effects are considered biodiversity compensation rather than offsetting.

3.2 Residual effects to be compensated

For all values for which residual effects are assessed as 'moderate' or higher, recommended habitat restoration and enhancement measures have been classified as 'compensation'. This is because neither the Project impacts nor the benefits associated with the proposed compensation measures can be quantifiably measured with an adequate degree of precision or certainty. This is attributed to either:

- The absence of robust and representative quantitative data (at the level of detail needed to inform an offset model) at both the impact and residual effects management sites
- constraints in obtaining or interpreting data, particularly for lizards, invertebrates or plants where detection probability and small datasets are an issue
- difficulties in predicting a quantitative future response to restoration or enhancement actions with a high level of confidence, due to the absence or near absence of information on how these habitats or species respond to such measures, which is often context or site specific.

Notably, however, there is currently no statutory mandate to apply a particular loss/ gain method to demonstrate the scale of compensation required, nor a particular approach for compensation when offsetting cannot be demonstrated.

The assessment in the following sections describes the expected outcome for each ecological habitat or species value after all compensation measures have been considered.

4. Residual effects management objectives

The proposed residual effects management package has been designed in accordance with good practice and, where possible, to align with the biodiversity compensation principles in the NPS-IB and NPS-FM.

To this end, the proposed habitat restoration and enhancement measures for biodiversity values have been designed to achieve the following objectives:

- Be proportionate to the adverse effect where this is practicable. Specifically, the proposed measures should be of sufficient scale to ensure that the positive effects on biodiversity values effectively counterbalance residual adverse effects to the extent practicable.
- Be undertaken in locations where it will result in the best practicable ecological outcome, preferably close to the Project location on the Buller Plateaux and within the Ngakawau ED. This will ensure the proposed measures benefit the same biodiversity values impacted by the Project, with measures preferentially implemented adjacent to known locations of existing high-value habitat. It will also permanently safeguard and maintain species and populations in the vicinity of the Project to enable recolonisation of the site post-mining. Without the active management being proposed, several nationally Threatened or At Risk species may become locally extinct over time.
- Achieve positive outcomes for indigenous biodiversity that would not have occurred in the absence of the Project to the extent possible. It is acknowledged that the degree to which this is achieved varies spatially and temporally and cannot be readily quantified. Section 7.1 of this report describes the existing environment used as the basis for assessing biodiversity outcomes.
- Minimise the delay between the loss of biodiversity values caused by the Project and the gain or maturation of the compensation's biological diversity outcomes.
- Be long term with the duration of the Residual Effects Management Package to run for:
    - 35 years: weed management and intensive mammalian pest control Blackburn Pakihi ground-control area;
    - A minimum of 50 years for the mammalian pest exclusion fences with construction of the last fence expected to occur 10 years from the implementation of approvals; and
    - 60 years: landscape scale pest control.

5. Residual effects management opportunities

5.1 Overview

The ecological values of the current environment within the Project disturbance area and proposed residual effects management sites are affected to varying degrees by existing pests and weeds as described below.

Long-term biodiversity outcomes at ecological restoration and enhancement sites will be supported by a combination of extensive, landscape scale weed and mammal pest control combined with 911 ha of pest elimination and management tailored to the specific requirements of each area.

In systems where the habitat already exists, biodiversity recovery is most strongly constrained by biotic pressures rather than by habitat availability (Innes et al., 2010). The emphasis on pest management as the primary mechanism for achieving biodiversity gains reflects the reality that predation and browsing by introduced mammals (and in some cases weka predation) are the dominant limiting factors on native species persistence, both nationally and across the Buller Plateaux and associated landscapes.

Much of the indigenous habitat within and around the Project area remains structurally intact and of high ecological value; however, without sustained control of invasive mammals, additional measures such as planting or habitat rehabilitation and re-creation alone would be insufficient to secure long-term outcomes. Habitat creation or enhancement cannot substitute for pest exclusion or suppression because without pest management, extinction risk remains, regardless of habitat condition. Consequently, addressing invasive species impacts is a prerequisite for other restoration actions to be effective.

International and national literature consistently demonstrates that removal or sustained suppression of invasive species is among the most effective and reliable forms of biodiversity offsetting and impact compensation, particularly where impacts threaten extinction-prone taxa (Norton & Warburton, 2015). Norton and Warburton (2015) explicitly identify invasive species control as a legitimate, and often superior, form of enhancement offset, noting that it can deliver measurable, additional, and durable biodiversity gains when implemented at sufficient scale and maintained for an appropriate duration. This is particularly relevant in New Zealand, where endemic fauna evolved in the absence of mammalian predators and browsers, and where even low densities of invasive species can prevent population recovery or cause local extinctions (McLennan et al., 1996; Innes et al., 2010).

Introduced mammalian predators and browsers—including rodents, possums, ungulates and mustelids—are widely recognised as the principal drivers of biodiversity loss in New Zealand terrestrial ecosystems (Innes et al., 2010; Department of Conservation, 2020a). For several high-value taxa present or potentially present within the Project Area—such as *Powelliphanta patrickensis* land snails, lizards, and kiwi—ongoing predation pressure represents an existential threat (Walker et al. 2024).

The threats posed by introduced pest mammals are so significant that the New Zealand Government established the Predator Free 2050 initiative, a nationwide programme aimed at eliminating key invasive predators to enable recovery of native species and ecosystems (New Zealand Government, 2016; Russell et al. 2015).

There is also growing international evidence that invasive species removal as a nature-based solution enhances ecosystem resilience to climate change by allowing vegetation recovery, stabilising soils, and restoring ecosystem processes (Honzák et al., 2024). In New Zealand's context, sustained pest control contributes to climate resilience by supporting forest regeneration, wetland integrity, and ecological resilience and redundancy[30]—outcomes that cannot be achieved through planting alone where browse and predation pressures persist.

Finally, the prioritisation of pest management is consistent with New Zealand Government guidance on biodiversity offsetting, which emphasises that offsets must follow avoidance, minimisation, and rehabilitation, and must deliver outcomes that are additional, measurable, and secured for at least the duration of Project impacts (Department of Conservation, 2014). Long-term pest exclusion and suppression meet these criteria by directly addressing the principal threat to biodiversity, protecting existing high-value ecosystems, and ensuring that gains are durable over multi-decadal timeframes.

5.2 Legacy enhancement areas (SEA, WHEA, DBEA, DPPA)

5.2.1 Overview of legacy areas

Several existing "enhancement/compensation" pest management areas have been established as part of previous mining consents on the Buller Plateaux. For the purposes of this Fast track application, these are referred to as 'legacy' management zones with existing pest control obligations (see **Fig. 5**). These various legacy areas were initially set up to address potential adverse effects on species on the Buller Plateaux impacted by previously consented mining operations.

These existing legacy management zones (except for the Oparara Kiwi Area), are either maintained or integrated into this new package, albeit with the majority of the areas of existing control being subject to increased intensity of control efforts (including pest elimination within pest exclusion fenced areas). In addition to the current 12,626 ha of existing control[31] (noting that some of these areas overlap) which will be maintained or intensified, a further 13,633 ha of new control will be undertaken (effectively increasing the total area under active pest management to 26,259 ha).

[30] Ecological redundancy refers to multiple species fulfilling similar ecological functions (e.g. seed dispersal), increasing ecosystem resilience by ensuring these functions are maintained even if individual species are reduced or lost.
[31] This excludes the 1,263 ha of pest control operations within the existing Stockton mine footprint

For these legacy management zones, an outline of the existing pest control within them versus the revised control regimes proposed here are set out below. These areas are also shown in **Fig. 5** and include the following:

SEA – Snail Enhancement Area (~1,931 ha): The SEA was established as part of the Cypress mining consents specifically to enhance and protect *Powelliphanta* land snail values and associated habitat. It is a consented predator management zone intended to reduce predation pressure on snails. The SEA control work currently targets rats and possums with aerial 1080 approximately every three–five years,

WHEA – Wider Habitat Enhancement Area (~8,200 ha): The WHEA covers a much larger surrounding landscape intended to provide broader habitat level biodiversity uplift (including forest birds and ecosystem condition). The WHEA management is primarily possum focused with only sporadic rat and stoat control, again relying on aerial 1080 on an approximate three to five year cycle.

DPPA – Denniston Permanent Protection Area (~742 ha): The DPPA was established to achieve and sustain improvements in key biodiversity attributes via a 'best endeavours' approach to address the residual adverse effects on biodiversity values from the original Escarpment Mine consents. The DPPA is another legacy enhancement/protection area managed via the same general aerial control approach (aerial 1080).

DBEA – Denniston Biodiversity Enhancement Area (~4456 ha): The DBEA was established in order to provide a weed and animal pest control buffer around the DPPA. This has been historically managed largely through hand spraying of weeds and aerial toxin operations (mainly undertaken as part of mast year responses to target possums) rather than permanent ground networks.

Part of the original Cypress mining consenting also included the development of the Cypress Oparara Offset Kiwi Treatment Area, which includes 1000 ha of aerial and ground control near the Oparara basin. This programme has been very successful at reducing pests and achieving consequent biodiversity gains. For example, great spotted kiwi — the sanctuary's key performance indicator — have shown an increase in call counts rising by 30% since 2015 (Mclennan and Jones 2021). Existing management at the Oparara Kiwi Treatment areas is not impacted in any way by this new package. It is, however, a useful comparison in terms of a successful project delivered under existing consents with similar pest control methods to those proposed in the Blackburn Pakihi area.

5.2.2 Performance and limitations of legacy management regimes

Overall, the legacy management zones on the Buller Plateaux have successfully delivered the planned periodic knockdowns of possums, but they were not designed to maintain other key pests (such as rats and stoats) at the consistently low levels which are now recognised as necessary for sensitive fauna such as snails (Walker 2003), lizards (Reardon et al. 2012, Norbury et al. 2014), and kiwi (Murphy & Dowding, 1994; Innes et al., 2010), to recover between aerial events.

Control has historically consisted of occasional aerial 1080 operations (coordinated with Operational Solutions for Primary Industries (OSPRI) in response to mast events) over parts of the wider landscape (including the Blackburn Pakihi area), aimed primarily at possum and rat suppression for biodiversity and bovine tuberculosis (TB) management. This work has been supplemented by local traplines and bait stations near infrastructure, access routes and specific biodiversity sites. The control work undertaken historically by OSPRI to reduce the incidence of TB will have had a substantial impact on driving possum densities to the current low levels. However, the success of reducing the incidence of TB means that OSPRI currently has no future plans for aerial control work across this site (Pest control in the West Coast | OSPRI). The benefits of any ecological gains from previous OSPRI operations will be quickly lost, particularly as possums reinvade and reestablish (with subsequent browsing and predation impacts).

Aerial 1080 is highly effective at rapidly suppressing rodents and possums over large, rugged landscapes, but its biodiversity benefit is largely confined to a short window unless repeat operations and/or ground follow-up prevent recovery of pests (Brown & Urlich, 2005). Rat populations commonly recover within three to five months following an aerial 1080 operation, particularly at treatment margins where reinvasion from unmanaged forest occurs, and rodents can return to high tracking-tunnel indices within 6–24 months depending on surrounding pressure and habitat productivity (Barron et al., 2016). Similarly, stoats re-establish as rodents recover and can increase sharply after mast-driven rodent peaks if not kept suppressed by ongoing control (PCE, 2011). Considerable uncertainty remains about long-term population benefits of repeated aerial 1080 operations without complementary ongoing ground-based control for many species (Innes et al. 2023). Consequently, occasional 1080 alone is unlikely to reduce and sustain predator levels below the consistently low thresholds needed for durable gains.

A review of pest management regimes on the Buller Plateaux was undertaken by Parkes (2020) which concluded that pest suppression to date has been infrequent, uneven, and often below the level needed for reliable biodiversity gains. Parkes (2020) emphasises that the only significant control over the wider Plateaux has been periodic broad-scale aerial 1080, with long gaps where little or no follow-up occurred, meaning that predators can rebound between drops. The 2015 aerial operation reduced possums by an average of only ~69%, which is lower than typical aerial outcomes, and while possums did not fully recover, high variability makes confidence in sustained suppression uncertain. Parkes (2020) concluded that rodent monitoring since 2014 shows that rat and mouse indices remain highly patchy, do not follow expected mast-driven population patterns, and the reduction after the 2015 operation was modest compared with most DOC aerial projects and did not achieve the ~90% reductions typically needed to stop stoat population build-ups).

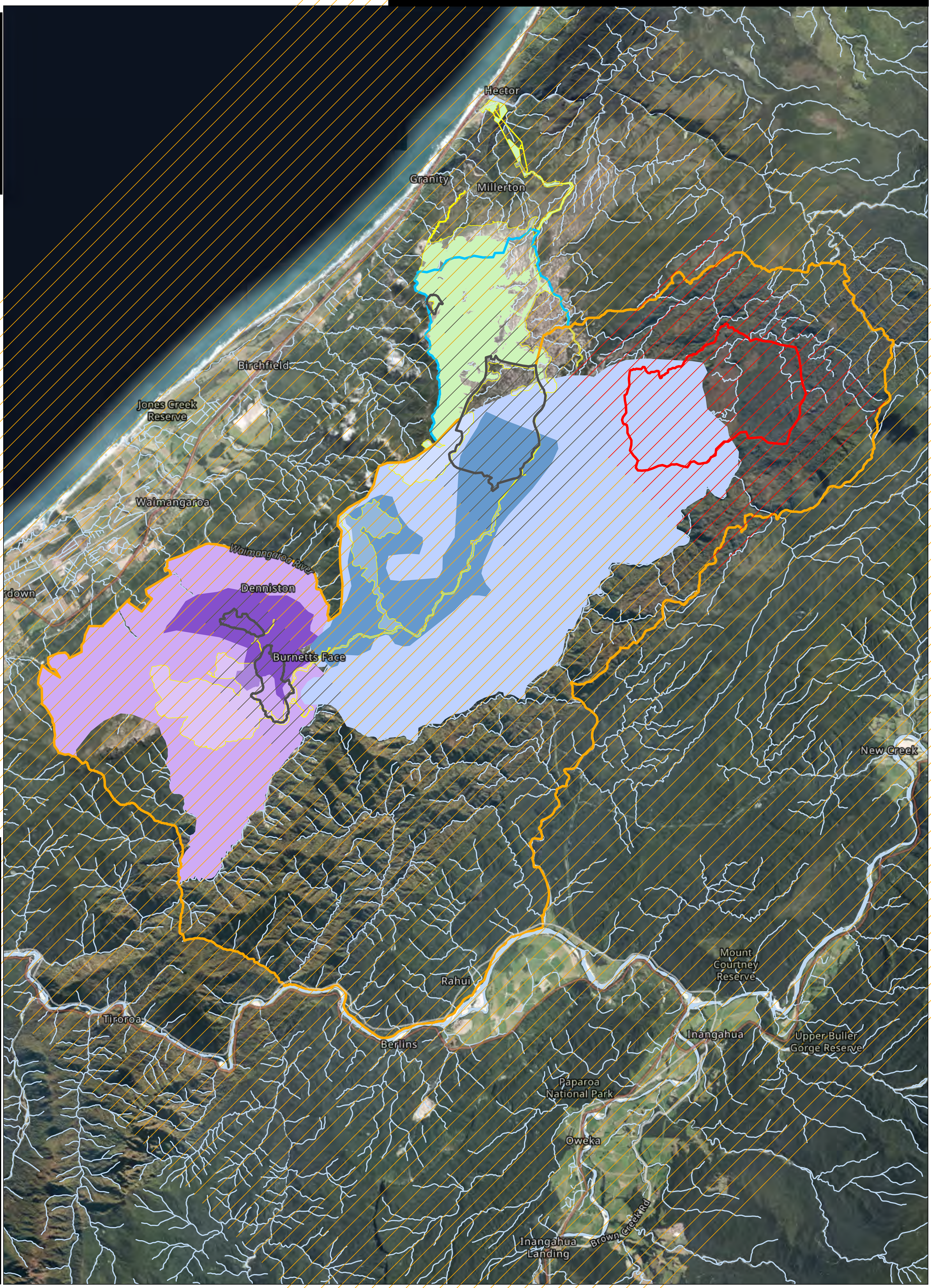
Overall, the review undertaken by Parkes (2020) concludes that because control had been set on a roughly five-year cycle, and because monitoring is not currently linked to responsive control decisions, the existing programme has likely delivered little biodiversity benefit beyond possum browse relief, reinforcing the need for tighter, sustained, multi-tool suppression.

In addition, mice have not been specifically targeted for control on the Buller Plateaux at any stage, and represent a major unmanaged risk under an aerial-only regime. While 1080 can reduce mice in some circumstances, control is often inconsistent or weaker than for rats, and mice can rapidly increase following predator reductions or mast food pulses (Norbury et al., 2014; Wilson et al., 2017). Crucially, mice are now recognised as biodiversity pests in their own right: a five-year mainland sanctuary experiment demonstrated that mice alone significantly reduce litter invertebrates and affect seedling and fungal communities, meaning that even "low-profile" mouse populations can suppress ecological recovery when larger predators are controlled (Wilson et al., 2017; Manaaki Whenua, 2022). In relation to the specific Buller Plateaux values — especially *Powelliphanta* snails and lizards — mice will prey on large invertebrates and small reptiles and can contribute to ongoing declines even when rats and stoats are periodically reduced in number (DOC, 2013; Norbury et al., 2014).

Prediction modelling has also shown that warm summers may occur more frequently with climate change and that widespread heavy fruiting (masting) will be more common (DOC 2016), meaning that pest numbers will peak more frequently and that ongoing suppression will become increasingly difficult using existing approaches.

Many of the native species present on the Buller Plateaux, including great spotted kiwi and large endemic land snails such as *P. patrickensis*, exhibit slow life history strategies. Species with slow life histories typically have low reproductive rates, delayed maturity, long lifespans, and low recruitment of juveniles into the adult population. These characteristics mean that populations recover only slowly following declines and are particularly vulnerable to sustained predation pressure (Innes et al., 2010; Walker, 2003).

For example, great spotted kiwi are long-lived and reach breeding maturity only after several years and produce relatively few offspring each season. In unmanaged environments, predation by introduced mammals such as stoats can result in very low juvenile survival, meaning that populations may remain stable or decline unless predator numbers are consistently suppressed. Similarly, *Powelliphanta* land snails grow slowly, may take more than a decade to reach maturity, and produce very few offspring each year. As a result, populations cannot rapidly recover following predation events and can decline substantially if predators are present even at relatively low densities (Walker 2003).



Legacy management zones with existing pest control obligations

BATHURST PEST CONTROL

Plan prepared for Alliance Ecology | 24 March 2026

Alliance Ecology MapHouse

LEGEND

- SEA
- DPPA
- WHEA
- DBEA
- New pest exclusion fence
- New intensive ground control
- New landscape scale control
- Existing control maintained
- Project footprint
- Disturbance area

0 1,000 m
1:100,000 @ A3

Figure 5

[redacted]

5.3 Mammalian pest management

5.3.1 Overview

New Zealand-wide evidence shows that predators such as mice, rats, stoats, ferrets, weasels, possums and cats, together with browsing ungulates (deer, goats, pigs), have had substantial effects on native forests and wildlife, altering forest composition, suppressing regeneration and driving declines and local extinctions of vulnerable fauna (DOC, 2024a; PCE, 2011).

These predatory and browsing mammals exert a chronic, landscape-scale pressure across New Zealand. They depress populations of key taonga species (particularly kiwi, wetland and forest birds, lizards, and large invertebrates), through direct predation impacts; simplify forest and vegetation structure, reduce understorey complexity, remove or substantially reduce palatable or otherwise vulnerable species, reduce litter depth and microhabitat diversity for invertebrates and ground birds; and increase vulnerability of soils and wetlands to erosion, drying and weed invasion. Collectively these impacts reduce ecosystem resilience under increasing climatic pressures (DOC, 2019, 2024a; Forsyth et al., 2013; PCE, 2011).

Unsurprisingly, pest management in New Zealand is now well recognised as being a critical component of biodiversity recovery. A national meta-analysis of restoration projects found that pest-managed sites showed positive effect sizes for native birds, invertebrates and vegetation compared with unmanaged sites, with the strongest gains in ring-fenced sanctuaries and large areas with sustained, multi-species control (Binny et al., 2017; Binny et al., 2021). Deeply endemic bird species, such as kiwi, wētā and other invertebrate species, benefited particularly strongly when pests were eradicated or suppressed to very low levels for more than seven years (Binny et al., 2017; Binny et al., 2021).

Pest management is therefore an increasingly used tool for addressing residual effects in New Zealand, as introduced mammals are a dominant, ongoing driver of indigenous biodiversity loss, and consequently reducing their abundance can deliver measurable, durable improvements in ecological condition. However, achieving sustained suppression of mammalian predators across large landscapes in New Zealand remains challenging due to the substantial costs associated with ongoing pest control and the limited resources available to conservation agencies. As a result, management programmes frequently rely on periodic large-scale interventions, such as aerial toxin operations, rather than continuous predator suppression across entire ecosystems.

The Department of Conservation manages approximately one-third of New Zealand's land area with limited operational funding, meaning that pest control programmes must often be prioritised spatially and temporally rather than implemented continuously across all vulnerable ecosystems (Department of Conservation, 2020; Parliamentary Commissioner for the Environment, 2017). Consequently, intermittent pest management remains common across mainland ecosystems despite strong evidence that sustained suppression of mammalian predators is required to achieve long-term biodiversity recovery.

Sustained pest control fits the requirements of the Government's *Guidance on Good Practice Biodiversity Offsetting* (DOC, 2014), because it directly removes a key limiting pressure on threatened fauna and habitat, enabling increases in survival, recruitment, and ecosystem function that can be monitored against clear performance indicators. Where residual project effects cannot be fully avoided, a science-led pest management programme can credibly "trade up" to achieve no-net-loss or net-gain outcomes for sensitive native species, provided the programme is targeted to like-for-like values, maintained long term, and verified through robust monitoring and adaptive management.

5.3.2 Pest mammal impacts in New Zealand

Aotearoa New Zealand's terrestrial fauna evolved for millions of years in the absence of terrestrial mammalian predators, resulting in many species exhibiting life-history traits such as ground nesting, low reproductive rates, and limited behavioural responses to mammalian predation (Holdaway, 1999; Towns et al., 2006). As a consequence, birds, reptiles, amphibians, and many large invertebrates are particularly vulnerable to introduced predators. The arrival of humans and the subsequent introduction of mammals has profoundly restructured New Zealand's ecosystems and biota (Atkinson, 2006; Russell et al., 2015).

Introduced mammals are responsible for exceptionally high rates of native species loss and extinction compared with most other regions globally (Doherty et al., 2016; Parliamentary Commissioner for the Environment, 2017). Following human settlement, successive waves of mammalian introductions caused rapid and widespread declines in native fauna, and predation and browsing by introduced mammals are now recognised as among the most significant ongoing pressures affecting New Zealand's terrestrial ecosystems (Department of Conservation, 2020; Innes et al., 2010).

Predatory mammals affect native fauna through both direct predation and broader ecosystem effects, including the restructuring of food webs and competition for resources. For example, introduced predators such as ship rats prey on a wide range of native species, including birds, lizards and invertebrates, and frequently consume eggs and chicks from bird nests while also competing with native fauna for seeds and fruit resources (Innes et al., 2010; Towns et al., 2006). Rats are highly adaptable omnivores capable of exploiting multiple food sources, allowing them to significantly alter ecological interactions within forest ecosystems.

Predator–prey dynamics in New Zealand forests are also strongly influenced by periodic mast seeding events in southern beech (*Nothofagus*) forests. During mast years, large seed crops drive rapid increases in mouse and rat populations, which in turn trigger population irruptions of stoats. As rodent numbers subsequently decline, stoats shift their diet toward native birds and invertebrates, leading to severe predation pressure on vulnerable species, particularly those that nest on the ground or in tree cavities (King, 1983; Murphy & Dowding, 1994; Parliamentary Commissioner for the Environment, 2017).

These predator irruptions have been linked to major declines in several native bird species, including kiwi, where stoat predation is a primary cause of chick mortality and can remove a large proportion of juveniles in unmanaged populations (Innes et al., 2010; Parliamentary Commissioner for the Environment, 2017).

Possums impose predominantly herbivory-mediated impacts—selective browsing that causes canopy defoliation and mortality of key forest dominants reshaping forest composition and function; they also occasionally prey on nests and compete for limited resources (Rose et al. 1993). Possums add a further layer of impact by both preying on eggs/chicks and competing for food resources, while also browsing canopy and understory species.

Meta-analyses and national reviews show that when these mammals are controlled, forest bird populations increase, nest success improves, and vegetation and invertebrate communities recover, confirming their pervasive limiting role (DOC, 2025a; PCE, 2011; Walker et al., 2019).

5.3.3 Current pest densities on the Buller Plateaux

Pest mammals are currently present and widespread across the Buller Plateaux and surrounding landscape and are having quantified impacts (see previous section). To determine the existing pest densities on the Buller Plateaux, pest mammal surveys were undertaken in 2024/2025 (**BPCP-ENV-PLN-022**), which confirmed that key pest species were present across both the Denniston and Stockton Plateaux (and immediate surrounds) even in a non-mast year.

Surveys were completed in two survey rounds: December 2024 (early summer) and March 2025 (early autumn), to capture seasonal variability and establish a baseline suitable for assessing potential current impacts and treatment effects post -control implementation. To target the full suite of pest mammals, three methods for pest detection and monitoring were deployed: tracking tunnels, chew cards and camera traps.

In summary, monitoring across all methods detected pests at levels well above ecological thresholds for biodiversity recovery. Ecological research and predator control programmes in New Zealand indicate that native species recovery generally requires predator populations to be maintained at very low densities. Rodent control targets commonly aim for tracking indices of ≤5% rodent tracking, while highly sensitive species and ecosystems may require predator densities to be reduced to around 1% tracking or lower to minimise predation impacts and allow population recovery (Gillies & Williams, 2013; Innes et al., 2010; Department of Conservation, 2020). Predator densities approaching ~1% tracking or near-zero predator detection may be necessary to adequately protect highly vulnerable lizards or invertebrates such as *Powelliphanta* from ongoing predation (Walker, 2003; Gillies & Williams, 2013; Barker, 2016).

Results of monitoring on the Buller Plateaux included:

- Chew cards recorded moderate rodent activity in both survey rounds. In summer, mice averaged 29% Chew Card Index (CCI) and rats 21% CCI; in autumn, mouse CCI increased to 40% (with one line recording 90%), while rat CCI fell modestly to 12%. Tracking tunnels showed summer tracking tunnel index (TTI) results of 29% for mice and 10% for rats, dropping to 17% and 6% respectively in autumn, but with both species remaining widespread. Camera detections (see **Fig. 6**) increased strongly between rounds: rats rose from 135 to 430 images and mice from 190 to 486 images, with autumn detections on ~54% and ~58% of cameras respectively and only three camera stations free of rodents. The increase in detections on cameras in the second round was likely due to addressing the issues encountered in the first round where weka removed meat lures very rapidly after deployment.
- Stoats were detected on both plateaux in both rounds, increasing from eight images in summer to 15 images in autumn, consistent with expected seasonal peaks. One Denniston camera line [redacted] also detected weasel/s and multiple stoats. Stoats were recorded at stations also used by kiwi, including sequences where stoats visited shortly after kiwi (i.e. within hours).
- Possums, feral cats and hedgehogs: These species were not detected by chew cards, tunnels or cameras in either round. It is likely that possum absence reflects suppression as a result of historical aerial control using toxins, while noting that undetected pests can be a reflection of the short duration of monitoring rather than proof of absence.
- Browsing pests: Deer and lagomorphs (rabbits/hares) were detected on the Stockton Plateau in both rounds, confirming browsing pressure within at least part of the management landscape.
- Native fauna context: Cameras recorded adult kiwi in both rounds (43 images in summer and 13 images in autumn) and one juvenile kiwi, indicating breeding persists, but overlaps with stoat activity. Weka were extremely abundant (>3,000 images per round) and significantly interfered with the lure in round one.

The Alliance Ecology (2025) monitoring (**BPCP-ENV-PLN-022**) confirmed that rodents and stoats are relatively common and widespread across the Buller Plateaux even in a non-mast year. This indicates potential year-round predation and competition pressure, with an expectation of substantially worse conditions in mast years. The increase in rodent detections between rounds also demonstrates how rapidly pest pressure can rise over short timescales (i.e., months). Overall, the baseline indices were often well above levels required for recovery of predation sensitive taxa (being either 5% or 1% as typical tracking targets for biodiversity recovery), reinforcing that intermittent aerial control alone is unlikely to deliver durable biodiversity gains.

Figure 6: Pests detected on the Buller Plateaux during 2024-2025 camera monitoring including rats (top), stoats (middle left), mice (middle right), deer (lower left) and hare (lower right).

Figure 7: A great spotted kiwi captured on trail camera during pest monitoring. Kiwi detections overlapped with detections of stoats, an important kiwi predator.

The Department of Conservation's (DOC) own long-term monitoring on the Buller Plateaux also confirms that densities of key predators are frequently above levels required to achieve biodiversity recovery, particularly for sensitive species. According to the '*Heaphy and Denniston Biodiversity Projects Annual Report 1 July 2024–30 June 2025'* (DOC, 2025b), DOC's recent monitoring on the Denniston plateau shows that key mammalian pests are still periodically reaching levels above biodiversity-protection targets (see **Figure 8**), particularly in mast/irruption contexts. Results show the October 2023 New Creek aerial 1080 operation (represented by the yellow arrow on **Figure 8**) successfully suppressed rats but mice rebounded rapidly, with May 2025 mouse tracking rising steeply to ~20% — the highest level since the 2019 mast — well above levels considered protective for sensitive plateaux fauna (notably lizards and *Powelliphanta* snail eggs).

Collectively, these results show that without intensified and sustained suppression, predator pressure on sensitive native fauna on the plateaux will remain too high for durable biodiversity gains and is more likely to result in gradual decline of sensitive resident populations.

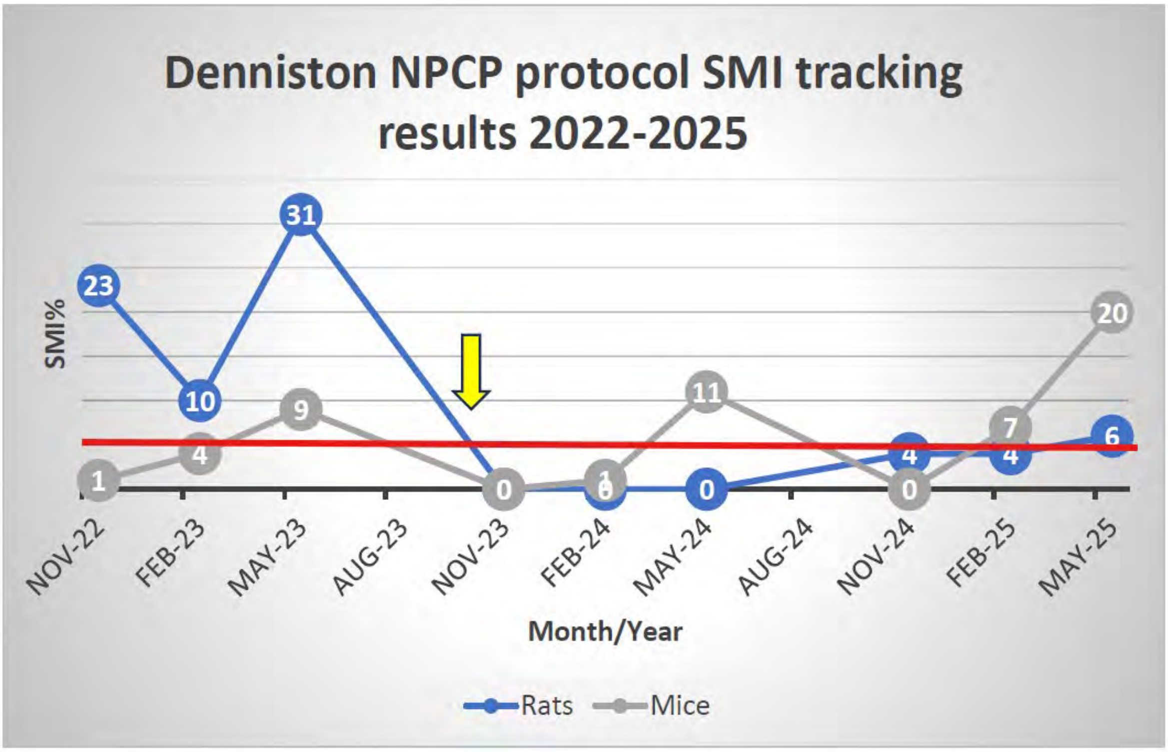


Figure 8. **Results from rodent tracking tunnels on the Denniston Plateau demonstrate that rodents frequently track above the required targets for biodiversity gain (the red line shows 5% SMI – small mammal index tracking, a frequently used threshold for ensuring pests are at low enough levels to ensure biodiversity gain, noting that 1% is more usually applied for sensitive species such as lizards and invertebrates). Figure sourced from:** ***Heaphy and Denniston Biodiversity Projects Annual Report 1 July 2024–30 June 2025.***

5.3.4 Pest densities in the Blackburn Pakihi and surrounding landscape

Initial pest monitoring within the Blackburn area, undertaken in late 2025 – early 2026 using trail cameras, confirmed the presence of multiple mammalian pest species (**Fig 9**)(**BPCP-ENV-PLN-022**). Trail cameras were deployed following the interim Department of Conservation camera trap protocol (Gillies et al. 2020), which recommends cameras spaced approximately 200–500 m apart along monitoring lines, with lines separated by approximately 1000 m to maximise the probability of detecting low-density predators such as stoats, cats and possums. Initial results from this monitoring period, showed rats (at 25% of cameras), with stoats and deer also detected (**Fig. 9**), demonstrating that key predators and browsing pests are present at the site. Monitoring was ongoing at the time of this report.

Importantly, this monitoring period coincided with the lead-in to a predicted mast year, a condition known to drive rapid increases in rodent populations and subsequent irruptions of stoats and other predators (King, 1983; Murphy and Dowding, 1994; Kelly et al., 2013). Without proactive and sustained pest control, even low baseline pest numbers are likely to escalate quickly during mast events, resulting in elevated predation pressure on vulnerable native fauna, particularly ground-nesting birds and invertebrates. The confirmed presence of rats and stoats, combined with the expectation of mast-driven population increases and ongoing connectivity with the surrounding landscape, provides a strong justification for implementing intensive pest control within the Blackburn area to prevent rapid pest mammal population build-up and associated biodiversity impacts.

Figure 9. Trail camera images of pest species detected at the Blackburn Pakihi area during monitoring, including rats (top), stoats (bottom left) and deer (bottom right).

There was also substantial evidence of browsing pests (including deer and goats), demonstrated via the presence of scats, clear movement pathways, trampling and footprints (see **Fig. 10**) as well as trunk rubbing (Ecological Solutions Ltd 2026b). As concluded by Ecological Solutions (**Appendix B)**, the area is currently being affected by browsers (particularly deer) and if possum control is not continued, the vegetation could be expected to be significantly affected by increasing possum densities, along with sustained higher numbers of rodents. Whilst the ecological values of the vegetation are generally 'very high' removing the effects of introduced mammals would improve these ecological values further.

Great spotted kiwi and kea were also captured on cameras during pest surveys, demonstrating that their ranges overlap with that of a key known predator (stoats). While recent monitoring has not detected possums on parts of the Buller Plateaux and surrounding landscape (suggesting that they are currently present at very low detectability), this does not reduce the justification for ongoing pest management. The low densities of possums are likely due to the historic OSPRI control work (now ceased).

Possum re-infestation following control is a well-documented challenge in New Zealand pest management. A comprehensive review of factors affecting possum re-infestation conducted for the Department of Conservation highlights that reinvasion and population recovery are common following control operations, with surviving individuals and immigrants from neighbouring areas rapidly expanding into previously cleared zones once control pressure is relaxed (Cowan, 2000). Even areas initially reduced to very low possum densities can be repopulated within months to years if surrounding sources are not concurrently managed.

For browsing pests their impacts on forest regeneration can occur even at relatively modest population densities, with impacts often expressed as long-term shifts in species composition rather than immediate canopy collapse. Selective browsing by possums, deer and other herbivores suppresses recruitment of palatable species and favours less palatable plants, gradually altering forest structure and diversity over time (Nugent et al., 2001; Tanentzap & Lloyd, 2017). Similarly, where feral pigs occur, their ecological impacts are often spatially patchy but locally severe, as rooting and trampling disturb soil structure, destroy seedlings, and damage sensitive habitats such as wetlands and riparian margins—effects widely recognised in New Zealand wetland and forest conservation contexts (Tanentzap & Lloyd, 2017; Atkinson & Towns, 2005; Nugent et al., 2001; Choquenot et al., 1996).

For other target predators (particularly feral cats), low density/detectability does not equate to low risk, because impacts can be disproportionate even when few individuals are present. The Department of Conservation recognises feral cats as a significant threat to native fauna and manages them at a number of conservation sites to protect highly threatened species, noting that even low-density cat incursions can cause substantial mortality before animals are detected and removed (Department of Conservation, 2020; Gillies & Clout, 2003; Fitzgerald & Turner, 2000).

Overall, the monitoring results confirm that key pest species capable of affecting native biodiversity are present within the Blackburn Pakihi landscape. Although some species currently occur at low detectability, New Zealand research shows that predator populations can increase rapidly through reinvasion and mast-driven cycles, while even modest densities of browsing mammals can cause long-term changes to forest regeneration and composition (Cowan, 2000; Nugent et al., 2001; Tanentzap & Lloyd, 2017). In addition, predators such as stoats and feral cats can cause significant impacts even at low densities (Innes et al., 2010; Department of Conservation, 2020). Sustained pest management is therefore required to prevent population build-up and reinvasion, particularly during mast years, and to protect the vulnerable native species known to occur within the Blackburn–Pakihi area (EcoLogical Solutions, 2026).

5.3.5 Pest impacts on the Buller Plateaux and surrounding landscape

Overview

Although the Buller Plateaux is relatively remote and elevated, available evidence demonstrates that these ecosystems are not insulated from the impacts of introduced mammalian predators. The Department of Conservation's own management planning identifies introduced mammals—including ship rats, stoats, possums, and mice — as the primary threats to ecosystem functioning and species persistence on the Denniston Plateau and surrounding areas (Department of Conservation, 2025c). These predators affect multiple components of the ecosystem, including birds, reptiles, and endemic invertebrates, and are implicated in both gradual ecosystem degradation and species decline (Department of Conservation, 2025c).

Monitoring results from the Department of Conservation's Denniston biodiversity programme (funded via Bathurst) provide direct evidence that introduced predators are already impacting vulnerable native species. For example, long-term monitoring of the endemic carnivorous land snail *Powelliphanta patrickensis* has shown a declining trend in live snail numbers since monitoring began, with recent 2024 surveys recording the lowest number of live individuals observed across monitoring plots (DOC, 2024c). At the same time, the absolute number of shells showing evidence of rat predation has increased significantly since 2012 (P = 0.01), indicating increasing predator-driven mortality over time (DOC, 2024c).

Shell remains collected during monitoring also indicate that rats are the most frequently identified introduced predator affecting these snails, with rat-predated shells becoming increasingly common in recent surveys (DOC, 2024c). These findings are consistent with wider ecological research demonstrating that introduced rodents can have substantial impacts on large endemic land snails and other slow-reproducing invertebrates. Predation by rats has been widely documented in *Powelliphanta* populations, where shell damage and population declines have been linked to predation by rodents and other introduced mammals (Meads et al. 1984; Walker, 2003; Walker et al., 2024) and weka (Walker et al. 2024). *P. patrickensis* is now classified as Nationally Critical, with predation explicitly identified as one of the drivers contributing to its conservation status (DOC, 2024c).

Vegetation

Introduced herbivores and omnivores will be exerting ongoing pressure on the Buller Plateaux (and surrounding landscape) vegetation, particularly in forested and pakihi margin habitats (see **Figure 10** and **Figure 11**). When possums are present they are known to browse preferential canopy and subcanopy species (including southern rātā and kāmahi), causing defoliation, canopy thinning, reduced flowering/fruiting, and, in some West Coast forests where browsing is sustained, canopy collapse and tree mortality (Payton, 2000; Nugent *et al.* 2010).

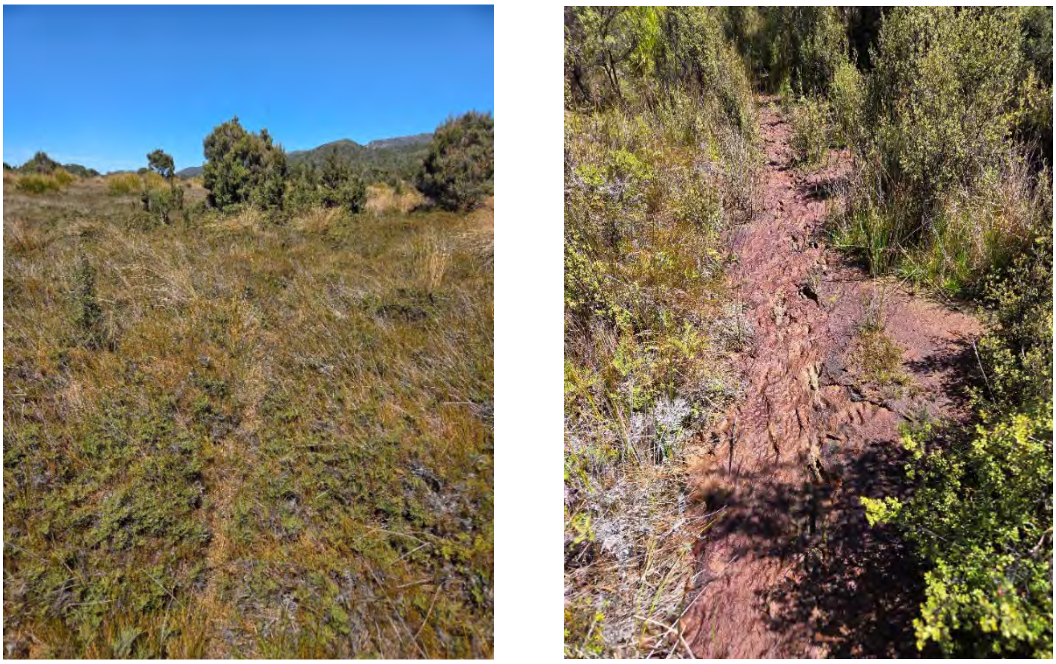


Figure 10. Field imagery of ungulate hoof sign (L) and hoof marks and travel path creation at the Blackburn Pakihi.

Figure 11. Ongoing ungulate impacts, including distinct travel pathways and tramping impacts, at the Blackburn Pakihi.

Ungulates (especially red deer, goats and pigs when present) further simplify forest structure by selectively browsing palatable seedlings and understorey shrubs, suppressing regeneration and shifting composition toward less palatable or exotic species (Coomes et al., 2003; Forsyth et al., 2002). Pigs also cause localised but severe disturbance with their rooting and wallowing behaviour, which damages pakihi margins, wet hollows, and forest floors, increasing bare ground and erosion risk (Forsyth et al., 2002). Without comprehensive control, vegetation impacts accumulate over time. Repeated browsing and suppression of regeneration will progressively reduce canopy health and understorey complexity, limiting food and habitat for other taxa increasing vulnerability to weed invasion and climate stress dieback and altering community succession (Payton, 2000; Nugent et al., 2010).

Ship rats can also have significant indirect and direct impacts on vegetation by consuming seeds, fruits, and seedlings, suppressing regeneration of palatable plant species and altering forest and pakihi successional trajectories. In sensitive pakihi and wetland-margin systems, rat predation on seeds and invertebrates also disrupts key ecological processes, compounding the effects of browsing and trampling by larger pests.

Birds

Bird communities on the plateaux and surrounding habitats (including great spotted kiwi and forest passerines) are highly vulnerable to introduced predators. Ship rats and mice prey on eggs, chicks and adults of small to medium forest birds and also compete for fruit, seeds and invertebrates (Innes et al. 2010; Ruscoe et al., 2011). Stoats and other mustelids are major predators of kiwi chicks and juveniles, as well as robins, kākā, kākāriki, tomtits, fernbirds and other ground/low nesting species. Stoat populations typically rise after rodent booms following mast events, intensifying predation in the post-mast period (King, 2011; O'Donnell & Hoare, 2012). Feral cats add strong predation pressure on birds at low densities, particularly on fledglings, ground-nesters and wetland edge species (Gillies & Clout, 2003; van Heezik, Smyth, Adams, & Gordon, 2010). Possums contribute both indirectly (through canopy/food loss) and directly through nest predation (Innes et al., 2010).

The national population of great spotted kiwi, is currently estimated at 14,000 adults (Department of Conservation, Kiwi Recovery Plan, 2018-2028). The national population is considered to be declining at between 1.6 - 2% per annum, mainly because of stoat predation on juveniles (Roroa Practitioner Group 2021). Great spotted kiwi are classified as Nationally Vulnerable (Robertson et al., 2021), and the majority of the population is currently unmanaged, meaning that predation continues to drive declines.

The population of great spotted kiwi on and near the Buller Plateaux has been well studied over a long timeframe (McLennan, 2010; McLennan 2011). Kiwi call counts from the Buller Plateaux show the population is sparsely distributed (relative to those in other elevated sites further north), and to those in mid-altitude habitats near the Buller Plateaux (McLennan 2020). Call counts at various locations over the last few decades suggest the kiwi population on the Buller Plateaux is stable or slowly declining. Telemetry monitoring data from the Stockton and Cypress mine areas also shows multiple instances of successful incubation followed by early chick loss consistent with predation, including cases where chicks are inferred to have been predated shortly after hatching based on sudden changes in adult movement patterns and absence of chicks on follow-up monitoring [redacted])

In order to increase great spotted kiwi numbers, current modelling predicts that sustained, effective predator management is required (Roroa Practitioner Group 2021). This includes the effective and widespread management of stoats. Stoats were detected on both Denniston and Stockton Plateaux during pest surveys (see previous section), and the number of detections suggests a relatively uncontrolled population that will almost certainly be having impact on great spotted kiwi populations. Stoats are prolific and very successful hunters, which means that their potential impacts far outweigh their numbers in an area.

Without comprehensive pest control, and irrespective of impacts from mining activities, bird survival and recruitment will remain strongly mast limited. Periodic rodent and stoat irruptions will continue to cause high nest failure and kiwi chick mortality, at least during/following mast years, thereby preventing durable population growth and risking long term declines of the most sensitive species (King, 2011; O'Donnell & Hoare, 2012).

Lizards

As outlined in the Ecological Assessment (Ecological Solutions 2026a), at least 1,191 individual lizards have been recorded on the Buller Plateaux between November 1995 and April 2025. Lizard species known to be present include:

- West Coast green gecko (Nationally Threatened – Nationally Vulnerable)
- Forest gecko (Nationally At Risk – declining)
- Westland speckled skink (Nationally At Risk – declining)

The Buller Plateaux lizard assemblages are expected to be constrained primarily by mammalian predation. Introduced mammalian pests are a widely acknowledged threat to New Zealand's lizard species (Nelson et al., 2014, Hare et al. 2016; Nelson et al. 2016). Rodents, mustelids, cats and hedgehogs prey on native lizards and negatively impact their populations (Jones et al., 2013; Middlemiss, 1995; Murphy et al., 2004; Norbury et al., 2014b; Whitaker et al., 1978). Additionally, mammalian pests have indirect impacts on lizards through resource competition for food or refugia (Norbury 2001; Towns et al. 2016, Turner and Norbury 2023).

Evidence of the impacts of mice on lizards, is also well established. Norbury *et al.* (2023) found evidence that geckos, skinks and wētā are all strongly impacted when mouse abundance exceeds 5% tracking. Monks *et al.* (2024), undertook a long-term study which concluded that skink abundance declined over time and was negatively correlated with mouse abundance. Furthermore, the Monks *et al.* (2024) paper also concluded that current predator control regimes in place to protect vulnerable forest birds and bats, are insufficient to protect ground-dwelling lizards, and may in fact result in even higher predation events because mouse numbers increase following widespread rat suppression. The types of predator control regimes identified by Monks et al. (2024) as inefficient for lizards include those currently undertaken by DOC in areas adjacent to the Buller Plateaux (aerial 1080 regimes designed to suppress rats and possums in mast years). The periodic masting of some tree and tussock species leading to rodent irruptions, with resultant spikes in mustelid populations and occasional prey switching to native species, also poses a risk to lizard populations (Dilks et al. 2003; Monks and O'Donnell 2017; O'Donnell and Phillipson 1996; Pryde et al. 2005).

Recent research has now confirmed that most lizards will only benefit from very intensive control regimes which suppress all predators, including mice, to low levels, e.g. 1% tracking (Reardon et al. 2012, Norbury et al. 2014), with optimal population growth likely to occur in the complete absence of all predators (Newman 1994).

Without comprehensive pest control, lizard populations are likely to remain at low density patchy distributions, with slow recovery after any brief predator suppression window. Continued rodent dominance and episodic stoat predation will limit adult survival and recruitment, risking localised losses in more open habitats (Watts et al., 2011; Towns et al., 2001).

Invertebrates (including land snails)

Large-bodied and ground active invertebrates on the Plateaux (wētā, beetles, spiders, and especially *Powelliphanta* land snails) are heavily affected by invasive mammals. Mice and rats are significant predators of large forest and alpine invertebrates and can reshape communities by selectively removing big, slow species (Towns, Atkinson, & Daugherty, 2006; Watts et al., 2011). Rats are also known to consume native snails, larvae and wētā and reduce litter dwelling fauna (Towns et al., 2006). Stoats and cats contribute indirectly by reducing birds and lizards that help structure invertebrate communities, simplifying trophic webs (King, 2011; Towns et al., 2006).

On the Buller Plateaux there are two species belonging to the endemic snail genus *Powelliphanta, P. augusta* and *P. patrickensis.* Both species are classified as 'Threatened – Nationally Critical'. A key agent in the ongoing decline for *Powelliphanta* is predation from rats, possums, pigs and weka (Walker et al. 2024). Mice are also likely to have a key predation role, potentially preying directly on smaller, thinner shelled *Powelliphanta* (Walker 2003 and Bennet *et al*. 2002) and eggs. The role of weka in ongoing predation is also becoming better understood (and is clearly evidenced on the Plateaux, see Lloyd 2024). Further evidence of direct predation of snails on the Buller Plateaux by rodents is provided in Lloyd 2024b, with 16% of 388 snail shells examined during 2024 having evidence of predation by rats and 35% evidence of predation by weka.

Papworth (2024) also recorded an increased number of rat-predated *P. patrickensis* shells during 2024 monitoring on the plateaux, with predation increasing since 2012. The percentage of shells identified as being killed by rats increased from 10% in 2017, to 28% in 2021, to 38% in 2024 (Papworth 2024). There is also evidence that warmer winters have allowed the altitudinal range of ship rats to expand, leading to increased rat predation at higher altitudes (Harris et al. 2022). The recommendation of the Papworth (2024) report was that rat control would likely be beneficial over the Denniston Plateau. DOC (2025c), recorded a steep rise in mouse tracking in the Denniston Plateau in May 2025, and also mention their concern about increased impacts on snail eggs and lizards. Bait station deployment in areas of high lizard and snail density was recommended (DOC, 2025c).

Modelling of population trends for *P. patrickensis* (Lloyd 2025), demonstrates that under the current 'status quo' scenario, predator exclusion (including weka), is the only long-term strategy capable of reversing the ongoing population decline for *P. patrickensis*. Without additional management, it is likely that *P. patrickensis* will become extinct in the medium to long-term. Pest exclusion fences which protect habitat and eliminate predation risk are the only practicable option for avoiding this extinction.

Three of the four proposed pest exclusion fences will support *P. patrickensis*, with the three different fences allowing for support of genetic diversity. The fourth and smallest fence (the 14.6 ha Mt. Augustus fenced area) is intended to support the recovery of *P. augusta* as outlined in the Snail Management Plan (Bathurst Resources Ltd, 2026f). *P. augusta* is not impacted by the proposed Project activities, but is affected by similar threats and has also had a proportion of its natural habitat removed in the past.

Without more effective and targeted pest control, invertebrate biomass and diversity will remain suppressed, with repeated losses (including local extinction) of large-bodied taxa following peaks in rodent abundance and ongoing pig/rat/possum pressure on snails and other large-bodied invertebrates, reducing ecosystem functions such as litter breakdown and soil turnover (Buckland et al., 2014; Towns et al., 2006).

5.3.6 Future pest projections

In the absence of an improved, sustained and integrated pest control on the Buller Plateaux, introduced mammals would be expected to persist at moderate densities and periodically irrupt to very high levels following beech masting in surrounding forests. Where pest management consists only of occasional aerial 1080 operations, reductions in possums, rodents and stoats are expected to be temporary, with pest populations rebounding, often relatively quickly (within months), between drops.

Climate change is expected to intensify these dynamics by altering mast occurrence, improving pest survival, particularly at higher altitudes. Beech masts are partly driven by warm-summer temperature cues, and projections and recent evidence indicate that warming climates may increase the frequency and/or spatial extent of heavy mast events in some regions, particularly in the western South Island (Landcare

Research, 2024). More frequent or larger mast events would generate more regular rodent irruptions and subsequent stoat outbreaks, creating repeated high-risk periods for predator-sensitive fauna (Landcare Research, 2024). In addition, warmer winters can increase overwinter survival and lengthen breeding seasons for rodents, accelerating rebound rates after control and increasing reinvasion pressure. There is also increased risk from longer dry spells directly affecting species such as snails (via desiccation) and kiwi (via reduced foraging ability). Prolonged dry spells can adversely affect large endemic land snails by increasing desiccation risk, reducing activity and feeding, and suppressing recruitment, particularly in slow-recovering species.

Prolonged dry periods reduce soil moisture and leaf litter humidity, which directly lowers the abundance and availability of soil and litter invertebrates that kiwi rely on for food (McLennan et al., 1996; Pierce & Westbrooke, 2003). It also leads to harder substrates for kiwi beaks to penetrate. Reduced food availability can lead to lower body condition in adults, decreased breeding effort, and reduced chick growth and survival, particularly in seasons following drought (Robertson et al., 2011). Dry conditions can also reduce the suitability of burrows and daytime shelters, as soils become harder to excavate and existing burrows may lose the cool, humid microclimate that kiwi require to avoid dehydration and thermal stress. In exposed or pakihi-adjacent landscapes, these effects may be amplified, increasing energetic costs for birds and potentially elevating predation risk as individuals range more widely in search of food (McLennan et al., 1996; DOC, 2019).

Importantly, climate change projections for the West Coast indicate increased frequency of extreme weather variability, including longer dry spells. In this context, pest management plays a critical buffering role by maximising food availability and reducing predation pressure, helping kiwi populations remain resilient to climate-driven stressors even when environmental conditions become less favourable (Walker et al., 2019).

In the absence of comprehensive pest control, great spotted kiwi, *Powelliphanta* snails, wetland birds and other native taxa will continue to decline. Ongoing mast events will drive rat and stoat irruptions, occasional 1080 operations will provide only temporary relief, and ungulate and pig browsing and rooting will further degrade forest and pakihi systems. Over 10–20 years, this would be expected to manifest as measurably reduced densities of kiwi and other ground birds, progressive loss of large snails and invertebrates, and a gradual shift towards more open, browsed forest and wetland margins with lower structural complexity and resilience (DOC, 2019, 2024a, 2025a; Forsyth et al., 2013; Peltzer-Nugent, 2023).

5.4 Weed management

5.4.1 General impacts

Weeds can degrade natural communities in a number of ways including, but not limited to, by displacing indigenous vegetation, altering plant succession, creating habitat less suitable for native species, supporting pest animal species and altering the natural character. Some weeds already present within the WMA have the capacity, if unmanaged, to continue to increase in extent and dominance, altering and degrading the habitats and ecological values.

5.4.2 Weeds on the Buller Plateaux and surrounding landscape

Ecological Solutions (2026b) mapped 15 vegetation types across the Buller Plateaux, with weedy vegetation comprising approximately 2% of the mapped area of the Buller Plateaux and surrounds. These weeds are currently heavily concentrated within or near disturbed areas associated with roads, mining and associated infrastructure. The highest densities were recorded in the vegetation types identified by Ecological Solutions (2026b) as 'shrubland with exotic component' (204.3ha), 'low pākihi with exotic component'(12.5ha) and 'exotic grassland' (2.3ha), although they also occur at lower densities at other locations. The two most common, and therefore highest priority, weeds are gorse and heath rush, with a total of 34 species considered environmental weeds (Ecological Solutions 2026b; McAlpine and Howell 2024).

5.4.3 Weed impacts on the Buller Plateaux and surrounding landscape

The vulnerability of vegetation on the Buller Plateaux to weed invasion varies considerably depending on vegetation structure and canopy cover. Shorter, more open vegetation types such as pākihi, tussockland and herbfield are significantly more vulnerable than taller, denser groups like forest and shrubland.

Across the 13 vegetation types and three other landcover types present within the Weed Management Area, approximately 49% of vegetation is regarded as either most vulnerable (c. 4.2%), highly vulnerable (c. 40.1%) or vulnerable (c. 4.8%) to weed invasion, with the remaining 51% considered least vulnerable.

The most vulnerable areas (328ha, c.4.2%) are those where vegetation has been cleared and soil has been disturbed, because this removes competition from existing vegetation and can expose or introduce weed propagules and increase the viability of those propagules. Stockton and Cypress mines are included in the 'most vulnerable' habitat category due to the large amount of disturbed ground and the relatively high presence of weed species, even though weed control already takes place at these locations. The presence of weeds increases the chances of them increasing in extent and biomass and dispersing beyond their current limit if not controlled.

Blackburn Pākihi has lower elevation and lower relief than the Buller Plateaux (EcoLogical Solutions 2026). It is downstream, and downwind, of areas previously disturbed by mining, has existing access tracks and is used by feral animals, all of which increase the weed pressure. The vegetation comprises tussockland and pākihi habitats surrounded by taller shrubland and forest. Spanish heath (*Erica lusitanica*), gorse, wildling pine and heath rush are known to be present, including along the access track.

5.4.4 Benefits of weed management on the Buller Plateaux and surrounds

Weed management is an essential complement to pest-mammal control on the Buller Plateaux, where the ecological values of forest–pakihi mosaics, high-rainfall wetlands and upland shrublands are highly vulnerable to plant invasions. The region's nutrient-poor, leached soils, unique sandstone pavements and peat-forming pakihi communities support native vegetation assemblages that are both slow-growing and poorly adapted to competition. Invasive weeds such as gorse (*Ulex europaeus*), broom (*Cytisus scoparius*), Himalayan honeysuckle (*Leycesteria formosa*), buddleia (*Buddleja davidii*), and introduced grasses readily establish after disturbance and can outcompete native species, alter light and nutrient regimes, and accelerate drying of wetland margins. Across the West Coast, weeds have been shown to significantly reduce native plant diversity and modify successional pathways, leading to long-term loss of wetland and shrubland character (Williams & Timmins, 2003; Department of Conservation [DOC], 2020).

Weed management also enhances forest and wetland resilience, particularly when combined with mammalian pest control. Browsing by deer, goats and possums opens the understorey and canopy, creating light gaps that favour invasive plant establishment. If weeds establish before pest control stabilises vegetation recovery, they can lock ecosystems into degraded states, limiting the recovery of palatable early seral native shrubs such as māhoe, five-finger, pate and coprosma. Removing or suppressing invasive plants therefore helps ensure that the gains from mammal control — such as increased seedling recruitment, deeper litter layers and improved microclimates — are not undermined by aggressive colonisers. Research in New Zealand forest systems demonstrates that integrated weed and pest management leads to faster native canopy regeneration and improved habitat structure for invertebrates and native birds (Peltzer et al., 2014; DOC, 2020).

In pākihi and wetland ecosystems, weed control is especially critical. These habitats are defined by waterlogged, acidic soils and low nutrient status, making them highly sensitive to changes in hydrology or shading. Invasive shrubs and grasses can alter water tables, sequester nitrogen and alter soil fertility, shade out sedges and wire-rush, and increase evapotranspiration leading to the gradual drying of pakihi surfaces. Once established, woody weeds shift these ecosystems towards forested or shrub-dominated states, undermining their ecological distinctiveness and threatening fernbird habitat, indigenous invertebrate communities and peat formation processes. Sustained weed management maintains the open, low-stature vegetation matrices characteristic of high-value pākihi and supports long-term conservation of these nationally uncommon ecosystems (Overton et al., 2016; Clarkson et al., 2004).

Weed management also reduces weed reinvasion risk and long-term maintenance costs. Left unmanaged, weed seedbanks expand and weed dispersal increases along tracks, roads, historic mining areas and exposed ridgelines, making future control significantly more difficult and expensive. Early intervention over the Buller Plateaux, Blackburn Pakihi and surrounding control halo contributes to site biosecurity, preventing small weed incursions from becoming entrenched and protecting restoration investments such as pest-exclusion fencing, intensive predator control, rehabilitated sites and other habitat enhancement. When integrated across the landscape, weed control strengthens ecosystem function and resilience, enhances the effectiveness of animal-pest management, and provides a critical foundation for long-term biodiversity gains.

5.4.5 Current weed control regimes

Current weed control regimes for the Buller Plateaux are detailed in the Buller Plateaux Weed Management Plan. In summary, weed management over the Buller Plateaux is currently funded by BRL and undertaken in part by DOC as part of the Denniston Plateau Biodiversity Management Plan 2013-2063 (Gruner 2013), and in part by contractors employed at Stockton Mine and surrounds on behalf of BRL.

The Denniston Biodiversity Management Plan applies to the DBEA and includes most of the Denniston Plateau and the northern slopes of Mt William. Preparation and implementation of the Denniston Plateau Weed Control Plan 2020–2025 (Huggins and Williams 2020) was a requirement of the Access Arrangement for BRL to undertake opencast coal mining at the existing Escarpment Mine. The Denniston Plateau Weed Control Plan lists 38 species to be controlled, with an additional nine species that have not been recorded recently (Huggins and Williams 2020). DOC (2024) reported that in 2023-2024 a total of 641 hours of weed control was undertaken across 140ha (c. 4.6 hours/hectare). Weeds controlled included gorse, Scotch broom, heath rush, matt grass (*Nardus stricta*), banana passionfruit (*Passiflora tarminiana*) and Kahili ginger (*Hedychium gardnerianum*).

Weed management on the Stockton Plateau is undertaken by contractors on behalf of Bathurst, including at Cypress Mining Area in accordance with the Cypress Mine Rehabilitation Plan and the Stockton Mine Weed Control Environmental Management Sub Plan, which defines a weed as "undesirable plants that are growing where they are not wanted and/or recognised through the West Coast Regional Pest Plant Management Plan 2018-2028". The focus of weed management at Cypress Mining Area to date has been gorse, Scotch broom and Juncus spp. which threaten closure targets. Non-native species that do not pose a particular threat to the establishment of native vegetation are not specifically targeted unless they develop colonies of a size that is likely to impede reestablishment of native vegetation or jeopardise achievement of mine closure targets in accordance with the Cypress Weed Management Plan.

5.4.6 Future projections without weed management

The entirety of New Zealand (including the Northern West Coast Region), faces a growing and unpredictable threat from exotic plant invasions. As of 2024, the number of naturalised exotic plants had reached 2,600 and continues to grow (McAlpine & Howell 2024). Even without further introductions, the substantial 'invasion debt' means that many exotic species are currently in a 'lag phase' of population growth (Stanley et al. 2015) and will likely naturalise and spread in the coming years. Consequently, future weed invasions are inevitable, but unpredictable in terms of timing, species identity, and location, presenting an ongoing and evolving threat to biodiversity management. In the absence of weed management it is expected that weeds will increasingly compromise the ecological integrity of indigenous biodiversity on the plateaux through a general increase in the prevalence of weeds across the plateaux.

6. Proposed residual effects management package

6.1 Overview

The proposed pest and weed Residual Effects Management Package represents a significant step change in biodiversity management within the areas subject to residual effects management rather than an incremental extension of the status quo. It combines:

- **911 ha of pest-exclusion fenced areas** delivering a pest (and weka) free stronghold that current operations cannot provide.
- **A 1,505 ha intensive Blackburn Pakihi ground-control area**, with intense, multi-species ground-based trap and bait-station networks, aerial control and targeted ungulate control to consistently maintain low predator an ungulate abundance.
- **A 9,431 ha** weed management programme, of which 6,713 ha is in proposed compensation sites, to maintain or increase indigenous dominance and ecological integrity in high value habitat types.
- **A 23,843 ha wider aerial 1080 and ground-suppression halo**, reducing reinvasion pressure and providing connectivity around the pest exclusion areas and Blackburn Pakihi ground-control area areas, as well as providing for a large kiwi safe-haven via ongoing ground-based stoat control.

Critically, the new programme targets multi-species, is continuous and explicitly outcome-driven, with embedded monitoring (cameras, chew cards, tracking tunnels, kiwi and biodiversity monitoring) to demonstrate trends over time. Where current controls deliver short-term, partial benefits that quickly erode, this proposed tiered system is designed to shift whole-ecosystem trajectories from gradual decline to stabilisation and recovery, while providing the level of security and certainty required for robust biodiversity protection and long-term conservation of the Buller Plateaux threatened fauna and ecosystems.

The proposed Buller Plateaux residual effects package absorbs and overtakes legacy regimes (outlined in **Sections 5.2.2, 5.3.5 and 5.4.5**) in two ways:

- First, where existing protection areas (SEA/WHEA/DBEA/DPPA) overlap the new pest management areas (see **Figure 5**), their aerial-only or intermittent pest control will be replaced by an integrated system including:
    - o pest eradication and weka exclusion within pest-exclusion fenced areas
    - o intensive year-round ground suppression in the Blackburn Pakihi block, and

  - landscape scale aerial 1080 paired with ongoing stoat maintenance trapping.

- Second, to a large degree, benefits are explicitly uplifted rather than duplicated: and will demonstrate a clear step change in effectiveness and confidence of biodiversity protection—particularly for *Powelliphanta* and other predation-sensitive taxa, for which pest exclusion fences and continuous suppression are the only credible pathway to recovery.

While it is not practicable to explicitly address residual effects on all impacted ecological values on a like-for-like basis, the proposed package is expected to confer considerable benefits to many biodiversity values.

Table 4 below outlines the proposed residual effects management package including existing control regimes (the locations of which are shown in **Figure 5**) and expected benefits from this weed and pest management regime (the locations of which are shown in **Figures 1-5**).

Table 5. Outline of proposed residual effects package, including existing control regimes, the revised proposed control and expected additional benefits. Full details of control regimes are provided in the Pest Control and Elimination Plan.

Management area / cell	Area (ha)	Current control (baseline)	Proposed control (Project target)	Increase in benefits
Denniston North fenced area	47.3	No ground network. Occasional possum and rats/stoat control via irregular 1080 coverage only.	Pest eradication (i.e. pests at 0% density) inside fence plus ongoing biosecurity; weka exclusion for snail recovery. Weed management	Shifts from low/medium, intermittent suppression to zero density pest state, enabling step-change recovery of lizards, *P. patrickensis* snails and other invertebrates.
Coalbrookdale fenced area	154.4	As above, Limited weed control.	Pest eradication (0% density) plus weka exclusion inside fence; long-term pest-free maintenance. Weed management	Converts an aerial-only baseline with rapid rebound into a long-term zero-density pest state, giving very high confidence in lizard/snail and forest bird population gains. Potential kiwi refugia. Improved

Management area / cell	Area (ha)	Current control (baseline)	Proposed control (Project target)	Increase in benefits
				ecological integrity and resilience as a result of weed control.
Mt. Augustus fenced area	14.6	Limited ground control. Limited weed control.	Pest eradication (0% density) plus weka exclusion inside fence. Weed management	Creates new pest-free habitat for *P. augusta* where none existed; high value as a secure micro-refuge.
Whirlwind Rise fenced area	694.9	Possum control with occasional rats/stoats via sporadic aerial work. Limited weed control.	Pest eradication (0% density) plus weka exclusion inside fence; sustained pest-free maintenance. Weed management	Largest uplift: from periodic knockdown to permanent zero density pest state, enabling long-term recovery of *PP. patrickensis*, geckos, and forest bird communities including kiwi).
Blackburn–Pakihi Intensive Ground Control Area	1,505	Sporadic aerial 1080 only, no permanent suppression network; benefits expected to be minimal due to rapid pest rebound. No weed control.	Ongoing ground control with 3-yearly (or mast-triggered) aerial 1080; ground work. Target rats and possums <5% CCI mustelids <2/2000 CH, cats <3/2000 CH* Weed management	Moves from short-lived knockdown to permanent low-pest suppression, eliminating rebound between aerial cycles and producing high gains for kiwi, fernbird/kākāriki, wetland birds, and invertebrates. Improved ecological integrity and resilience as a result of weed control.
Weed management area (within the landscape / halo control area)	6,713 ha	Some weed management but difficult to quantify	Progressive Reduction of weeds by 10% every 5 years, and achieve zero densities of Eradication & Surveillance weeds by 2035	Increase in indigenous vegetation dominance and ecological integrity

Management area / cell	Area (ha)	Current control (baseline)	Proposed control (Project target)	Increase in benefits
Landscape / halo control area	23,843 ha	Sporadic 1080 (mostly possum-focused)	Aerial 1080 across + ongoing stoat traplines (1 km line spacing, 200 m between traps) to hold mustelids low between aerial cycles. Stoat target near 0 detections or <2 per 2000/CH.	Upgrades baseline from irregular, possum-biased control to predictable multi-predator suppression matched to beech mast cycles, giving medium-to-high kiwi recruitment benefits and improved forest bird breeding success.

6.2 Residual effects management site selection

6.2.1 Guiding principles

Residual effects management sites and the resulting residual effects management network was selected based on the following guiding principles:

- Identification and focus on biodiversity hotspots on the Buller Plateaux and immediate surrounds that optimised the restoration and enhancement of values impacted by the Project and also offered trade-up opportunities that conferred benefits to habitats or associated species that were not impacted by the Project. These biodiversity hotspots were identified using the approach described in the Conservation Map Zonation (Ecological Solutions 2026c), which applies Zonation 5 software to ecological data to determine the relative conservation value of areas within the mapped extent, thereby informing conservation and land use planning decisions.
- Identification of those sites that meet the above principles but where intended outcomes could practicably be achieved with a high degree of certainty, most notably where:
  - Sites could be accessed and maintained with relative ease due to existing infrastructure or relatively accessible landscapes in the case of the proposed pest exclusion fences, where fences could be practicably constructed and maintained to minimise risk of mammalian pest incursions.
  - Potential impacts associated with the conservation actions were unlikely to generate significant adverse impacts, e.g., where effects associated with construction of predator fences or ground-baiting through high value

or sensitive habitats such as sandstone pavement or wetlands could be minimised via use of existing tracks or cleared areas.

  - The collective network of residual effects management sites provided benefits to the full suite of impacted biodiversity at scale and spatially complemented each other, for example, pest suppression was undertaken around pest exclusion fences to provide a buffer that reduced incursion risk.

6.2.2 Spatial design of pest management areas

The spatial design of the pest management areas, including the size and configuration of pest exclusion fences, has been developed to align with the ecological requirements of key species which are a focus of biodiversity recovery and the scale at which different pest management outcomes can be achieved.

- Smaller pest-exclusion fenced areas (i.e. Denniston North and Mt Augustus) are designed to provide highly secure, predator-free environments for taxa with limited mobility and small home ranges, such as *Powelliphanta* snails, lizards, and large invertebrates. These species are particularly vulnerable to even low densities of mammalian predators or weka and require near-complete pest exclusion to achieve meaningful population recovery. Relatively small fenced areas are sufficient to support viable populations of these taxa, provided habitat quality is maintained and biosecurity is effective.

- The smaller pest-exclusion fenced areas (Denniston North and Mt Augustus) also perform distinct but complementary functions within the residual effects management programme. Denniston North provides an early-established secure refuge for translocated fauna and supports recovery of threatened lizards, snails and invertebrates during the initial stages of the Project, while the Mt Augustus fence has been specifically designed to protect the highly localised *Powelliphanta augusta* (see below). Both fences provide highly secure predator-free environments for species with limited mobility and small home ranges, where near-complete exclusion of mammalian predators and weka is required to achieve long-term population recovery.

- The proposed *Augusta* snail pest-exclusion fence has been designed specifically to secure one of New Zealand's most range-restricted and conservation-dependent invertebrates. Unlike the larger pest-exclusion fences proposed elsewhere on the Buller Plateaux, which are intended to protect multiple ecological communities and support recovery of a range of threatened taxa (and particularly *Powelliphanta patrickensis)*, this fence has a more focused objective: to provide permanent protection for *P. augusta* populations from mammalian predators.

- *P. augusta* is a highly localised endemic land snail with naturally low reproductive rates, limited dispersal ability, and high adult longevity. Population recovery following predator impacts is therefore inherently slow, and even relatively low densities of introduced predators, particularly rats, can result in continued mortality that exceeds recruitment (Walker, 2003; Walker et al., 2022). Unlike more mobile vertebrate species, Augusta snails cannot readily recolonise areas following local decline, making long-term protection of existing populations critical to the species' persistence. The relatively small size of the proposed fence reflects both the ecology and spatial distribution of the target species. *P. augusta* occupies discrete habitat patches and typically has very small home ranges, with individuals often remaining within tens of metres throughout their lives (Walker, 2003). Consequently, effective conservation does not require large landscape-scale protected areas, but rather secure, predator-free habitats encompassing occupied populations and sufficient surrounding habitat to allow natural recruitment and population expansion.
- Larger fenced areas (i.e. Coalbrookdale and Whirlwind rise) are required to support species with greater spatial requirements, including forest birds and wide-ranging ground-dwelling species (namely great spotted kiwi). Increasing fence size improves habitat heterogeneity and allows for the development of more resilient and self-sustaining populations. For some species, including kiwi, sufficient area is required to support multiple territories.
- Collectively, the four fenced areas encompass habitats on both the Denniston and Stockton Plateaux, including original forest remnants, sandstone pavement, pakihi wetlands, shrublands and forest–wetland ecotones. This ensures that predator exclusion benefits are distributed across the range of ecosystems supporting threatened flora and fauna, rather than being concentrated within a single locality. The network also captures important populations of *Powelliphanta* snails, nationally threatened lizards, forest birds, rare plants, bryophytes and invertebrates, thereby reducing the risk that conservation outcomes become dependent on the persistence of a single population or site.
- The pest exclusion fenced network approach also provides ecological resilience. By establishing multiple independently protected areas, the consequences of an unforeseen pest incursion, natural disturbance or localised ecological change within any one fenced area are substantially reduced. Individual fenced areas effectively function as separate secure populations, providing redundancy that contributes to the long-term persistence of threatened species and increasing the overall resilience of the residual effects management programme.
- The proposed Blackburn pest management area is of a scale that is expected to support meaningful recovery of forest bird communities and facilitate the establishment and growth of great spotted kiwi populations (EcoLogical Solutions 2026). It will also facilitate vegetation recovery. Kiwi require relatively large home ranges and low predator densities to achieve sustained recruitment,

and management at this scale increases the likelihood that predator populations can be suppressed to levels where chick survival is sufficient for population growth. In addition, the size of the Blackburn area allows for landscape-scale pest suppression providing a more stable ecological environment for recovery.

- The wider landscape control area plays a critical role in supporting biodiversity outcomes by reducing predator pressure over a much larger spatial scale. This broader control network helps to buffer the fenced areas and Blackburn area from reinvasion, supports mobile species that move beyond fence boundaries, provides a large area for kiwi recovery via ongoing stoat control and contributes to wider ecosystem recovery. Together, the combination of small, intensively managed fenced areas and larger-scale landscape control represents a complementary and scalable approach to pest management, enabling protection of highly vulnerable species while also delivering broader ecosystem benefits.

6.2.3 Criteria for pest exclusion fenced areas

Areas selected for pest exclusion fencing (Section 6.3 below) were based on various site selection criteria, including:

- An overlap with high priority habitats – fence locations were selected to overlap with high priority habitat types wherever possible, as described in the Conservation Map Zonation (Ecological Solutions 2026c).
- An overlap with known high densities of *Powelliphanta* snails and/or their habitats, and to provide for several fenced areas to maintain genetic diversity in the snail populations.
- Reduction of impacts of fence build - Locations of fence lines were selected to coincide with existing (or planned) tracks or disturbed areas to minimise any impacts of the fence build itself.
- Variety of habitats included – Efforts were made to include a variety of habitats, including the "old growth/original" forest at the Coalbrookdale site.
- Logistical feasibility - A feasibility study of potential fence locations was undertaken by Pestproof Fences Ltd. Selected fenceline locations were walked by [redacted] (experts in the construction and builds of pest exclusion fences) to ensure the builds were practicable.

6.2.4 Intensive ground control area site selection

The Blackburn Pakihi area was selected for intensive ground control because it represents one of the most responsive biodiversity sites within the wider Ngakawau Ecological District, while also sitting in a position where sustained control will deliver benefits beyond the management block itself because of the nearby/adjoining

Mokihinui/Charming Creek/Orikaka forests and Stockton Plateau. It also supports spillover benefits from the pest exclusion fenced areas of the Plateaux.

Results from a recent ecological survey (Lloyd 2026) show that there is a rich native bird community in the area with 22 native bird taxa, including three Threatened taxa (great spotted kiwi, kea and long-tailed cuckoo) and 5 At Risk taxa (kaka, yellow-crowned kākāriki, fernbird, NZ pipit, and South Island robin). Kiwi were at relatively high density and both fernbirds and kākāriki were common in the area. The area also contains an ecologically sensitive pākihi wetland complex and adjoining forest with a faunal assemblage vulnerable to rodent, mustelid, possum and cat impacts (EcoLogical Solutions 2026).

An intensive, year-round ground network will "lock in" aerial knockdowns, reduce post-mast predator rebounds, and provide a stable safe-breeding landscape for kiwi and other threatened fauna.

6.2.5 Wider aerial 1080 and ground-suppression halo site selection

The wider managed landscape surrounding the Buller Plateaux was selected because it also acts as the ecological buffer linking the intensive Blackburn Pakihi control area and the 911-hectare pest exclusion-fenced core areas with surrounding forested uplands and valleys. This landscape supports extensive indigenous forest and shrubland, interspersed with regenerating vegetation, providing continuous habitat for native birds, invertebrates, and forest reptiles.

6.3 Pest exclusion fenced areas network

6.3.1 Proposed pest exclusion fenced areas

The pest exclusion fenced areas on the Buller Plateaux, which are surrounded by protective buffer areas, form the central focus of the pest control programme (see **Fig 1**). The plateaux comprises a mix of gentle upland ridges, dissected valleys, and low-gradient basins supporting a complex mosaic of vegetation types.

The Buller Plateaux will have four separate pest exclusion fenced areas, to be constructed in stages to align with disturbance and construction activities. These comprise:

- Denniston North fenced area (47.3 ha) on Denniston Plateau, which is proposed to be constructed during the initial construction phase of the Project, and serve as a translocation site for any high-value native fauna required to be translocated during initial disturbance.
- Coalbrookdale fenced area (154.4 ha) on Denniston Plateau. This fence is proposed to be constructed approximately three to four years following the commencement of the Project. The entire area of the 'original patch', a 17 ha area of indigenous vegetation regarded by experts appearing at the 2013 EMP

Environment Court hearing to be the largest existing remnant of remaining original forest on the Plateau, will be contained within this fence. Within this are thought to be some of the best-known examples of mountain beech-pink pine forest, manuka bog and non-woody (e.g. coal measure pakihi) wetland, and ecotonal and vegetation community sequences on the Denniston Plateau.

- Mt. Augustus fenced area (14.6 ha) on the Stockton Plateau. It is proposed to construct this fence in Years 4 – 6 following the commencement of the Project.
- Whirlwind Rise fenced area (694.9 ha) on the Stockton Plateau. This fence will be established around 10 years following the commencement of the Project.

These fences are proposed to be maintained for a 50-year period (this allows for biodiversity recovery over multiple life cycles and coincides with the maximum expected longevity of the pest exclusion fence).

The advantages of pest-exclusion fencing and specific benefits expected for the Buller Plateaux are described in Sections 6.4.2 and 6.4.3 below.

[redacted]

6.4 Benefits of pest exclusion fences

6.4.1 Outline

Empirical evidence from pest exclusion fenced areas in New Zealand demonstrates substantial biodiversity gains following the removal of introduced mammals, including rapid increases in native bird abundance, improved recruitment of forest vegetation, and recovery of reptiles and large invertebrates (Burns et al., 2012; Innes et al., 2012; Scofield et al., 2011; Saunders & Norton, 2001). Fully fenced sanctuaries are therefore considered an important component of ecosystem restoration and species protection, especially in areas heavily impacted by human and pest activities in New Zealand (Innes et al., 2012). Multiple studies (e.g. Innes et al. 2019, Parkes et al. 2017; Linklater & Steer 2018), have provided evidence to support the idea that the best path to achieving known benefits from current pest control tools is a network of pest-fenced eco-sanctuaries with surrounding "halos" or "buffers" of less intensive control. Flora and fauna inside the fence are free from predation and competition from pests year-round, offering the maximum biodiversity benefit. Research from DOC (Clapperton and Day, 2001), concludes that once a fence has been constructed and pests eradicated from the area enclosed by it, the conservation outcome for that site are likely to be better than if pest numbers are just suppressed but not eliminated.

Despite the conservation outcomes within these areas being significantly higher than if pest numbers are simply suppressed, ring-fenced sanctuaries are still relatively uncommon in New Zealand. This is likely due, at least in part, to the significant costs of construction and maintenance. Pest exclusion fences in New Zealand have repeatedly demonstrated strong effectiveness at excluding most mammalian pests, with incursions generally linked to discrete events or infrastructure weak points (e.g., gates/airlocks, culverts, storm damage) rather than failure of intact fence design.

Mice are widely recognised as the most challenging species to exclude from pest exclusion fences because of their small body size, ability to pass through very small gaps, and high reproductive capacity. Consequently, they are often considered the most likely species to reinvade fenced sanctuaries. Extensive experience from New Zealand's predator-exclusion reserves demonstrates that mouse incursions can be effectively managed when supported by rigorous surveillance systems and rapid-response eradication protocols (e.g. Turner and Norbury 2023).

Several fenced sanctuaries have documented successful detection and elimination of mice following fence breaches, with no measurable long-term impacts on biodiversity values. For example, at Mokomoko Dryland Sanctuary (14 ha), mice have breached the fence on multiple occasions but were successfully eradicated each time within approximately one month of detection (Turner and Norbury 2023). Similarly, Rotokare Scenic Reserve (approximately 230 ha) has maintained mouse-free status despite occasional detections, with incursions rapidly eliminated through coordinated surveillance and control programmes. These examples illustrate that while mice present a particular management challenge in fenced reserves, well-designed monitoring systems and rapid-response protocols allow sanctuaries to maintain effective predator-free conditions and protect native biodiversity (Burns et al., 2012; Innes et al., 2012; Scofield et al., 2011; Byrom et al., 2016). More broadly, the successful operation of numerous pest exclusion sanctuaries throughout New Zealand—including Zealandia, Maungatautari, and Orokonui—demonstrates that fenced reserves can reliably maintain pest-free conditions over long timeframes when supported by ongoing surveillance and incursion management (Burns et al., 2012; Innes et al., 2012).

As outlined in Innes et al. (2019), fences offer three significant advances for management:

- pest reinvasion can be limited to near zero;
- many more pest species (up to 14 mammals) can be targeted at once, thus limiting interspecific responses to the removal of a predator or competitor and enabling more diverse restoration gains;
- toxin use can be greatly reduced as only occasional re-invaders need to be targeted.

6.4.2 General biodiversity benefits

As detailed below, pest exclusion fenced areas have repeatedly shown strong positive responses across taxa: rapid increases in survival and breeding success of predator-sensitive birds, recovery of large invertebrates, increased lizard abundance, and measurable restoration of forest structure and function once browsing and predation pressure are removed. Studies of fenced sanctuaries show increased survival and breeding success of native fauna, higher abundance of native birds, and improved vegetation regeneration compared with surrounding unmanaged or partially managed landscapes (Innes et al., 2012; Burns et al., 2012; Saunders & Norton, 2001). This is particularly important for species with slow life histories—such as kiwi, long-lived forest birds and large endemic land snails—whose populations respond most strongly when predator densities are reduced to near-zero levels (Burns et al., 2012; Innes et al., 2012; Saunders & Norton, 2001). In addition, long-term studies show that predator exclusion does not only benefit "inside the fence": fenced sanctuaries can generate spill-over effects to adjacent habitats by increasing native bird abundance and seed dispersal near boundaries, and by reducing local predator pressure when paired with outside-fence control (e.g. at Karori, Wellington).

Collectively, there is now a substantial body of evidence which supports pest-exclusion fences as a highly effective cornerstone tool for achieving demonstrable, enduring biodiversity gains in high-value mainland landscapes when integrated with wider halo management. A summary of relevant published examples of benefits include:

- Whole-ecosystem recovery across multiple trophic levels. National syntheses report that fenced ecosanctuaries consistently show increases in endemic birds and recovery of other biota (reptiles, invertebrates, vegetation) following eradication of pest mammals (Miskelly, 2018; Scofield et al., 2011);

- Densities of endemic bird species are higher in fenced sanctuaries. Strong population recovery occurs and introduced bird species are outcompeted once predation is reduced (Bombaci et al,, 2018; Miskelly 2018; Binny et al. 2021; Fea et al, 2020, Tanentzap et al., 2019);
- The abundance of mammal-sensitive vegetation, lizards, and large invertebrates increases (Burns et al., 2012; Reardon et al. 2012; Lettink & Cree, 2012; Innes et al. 2019; Watts et al. 2022);
- Nesting success and survival of native birds increase markedly when mammalian predators are removed or excluded. Studies from fenced sanctuaries and predator-controlled ecosystems show significantly higher nesting success and juvenile survival, particularly for predator-sensitive species such as kiwi, tīeke (saddleback), kākāriki, and hihi, as predation pressure from rats, stoats and possums is greatly reduced (Fea & Hartley, 2018; Innes et al., 2012; Burns et al., 2012).
- Predator exclusion is associated with large increases in native bird richness and abundance. Long-term monitoring within pest-exclusion sanctuaries has documented substantial increases in both the number of species present and their population sizes, with many forest bird populations increasing several-fold following predator removal (Miskelly, 2018; Saunders & Norton, 2001; Innes et al., 2012). These increases reflect improved survival, recruitment and dispersal into restored habitats once mammalian predators are eliminated. Lizard abundance increases strongly once mammalian predators are removed and excluded (Lettink & Cree, 2012; Turner & Norbury, 2023);
- Beneficial mutualisms re-establish (for example, resulting in greater pollination) (Isles & Kelly, 2014);
- Increases in sapling recruitment of fleshy-fruited forest species that are sensitive to browsing and seed predation. Predator and browser control has been shown to promote the regeneration of fleshy-fruited trees such as tawa (*Beilschmiedia tawa*), kohekohe (*Dysoxylum spectabile*), pigeonwood (*Hedycarya arborea*) and karaka (*Corynocarpus laevigatus*), which are often suppressed by browsing mammals and seed predation by rodents and possums. Studies in New Zealand forests show that reducing mammalian pests can lead to increased seedling and sapling recruitment of these species, indicating improved forest regeneration processes (Tanentzap & Lloyd, 2017; Nugent et al., 2001; Innes et al., 2010).
- Translocation and reintroduction potential – Predator-free environments created by exclusion fences can provide suitable conditions for the translocation or reinforcement of highly predator-sensitive species. In the Buller Plateaux context, fenced areas will support recovery of taxa such as

Powelliphanta snails, threatened lizards, and forest birds, while also providing secure breeding refugia for species already present in the landscape such as great spotted kiwi, whose recruitment is strongly limited by mammalian predation (Burns et al., 2012; Innes et al., 2012).

- Spill-over benefits provide a "source" population, which provides gains over to the wider region (Clarkson & Kirby, 2016; Fitzgerald et al., 2019; Tanentzap & Lloyd, 2017). For example, enhanced seed dispersal processes inside the fence and into nearby unfenced forest (Ruffell et al., 2018).
- Improved ecosystem resilience by preventing reinvasion and 'boom-bust' predator cycles. Fences provide long-term pest-free refugia for species that cannot persist where predators intermittently rebound between control cycles (DOC, 2021).
- Fenced sites are also more accessible to the public than offshore islands so can bring valued biodiversity into the life experiences of more people where access to those sites is provided. They can also provide for visitor opportunities and can be valuable research sites.

6.4.3 Specific benefits for the Buller Plateaux

Pest-exclusion fencing on the Buller Plateaux will create secure, pest free and ungulate-free refugia in sites identified as a high priority via Zonation and a feasibility/constructability analysis.

By enabling eradication of pest mammals (and weka) and long-term prevention of reinvasion by these species, these pest exclusion fenced areas are expected to deliver the most reliable and enduring biodiversity gains in the plateaux landscape, especially for species that are highly sensitive to even low predator densities and are already subject to ongoing decline. The benefits outlined below describe the ecological recovery anticipated within fenced areas:

- High-confidence in recovery of *Powelliphanta* snails and other large invertebrates. *Powelliphanta* are extremely vulnerable to rodents, possums and weka; and predator-free refugia are the most reliable pathway to prevent continued decline and local extirpation (DOC, 2013). Results from monitoring programmes using sub-surface searches indicate there was a 60% decline in *P. patrickensis* populations on the two plateaux between 2012 and 2024, demonstrating the current ongoing effects of predation (Lloyd 2024a and 2024b);
- Papworth (2024) and Walker (2003) and other sources identify rats and possums as major predators of *Powelliphanta*, and note that even low densities of these mammals can drive continued snail decline. Because *Powelliphanta* take many years to mature and reproduce slowly, total elimination of predators

(rather than intermittent control) is required to shift populations from decline toward recovery (DOC, 2025);

- The pest exclusion areas will provide for immediate elimination of predation on lizards (namely West Coast green gecko, forest gecko and Westland speckled skink) creating conditions shown nationally to drive strong skink recovery (Lettink & Cree, 2012);
- Aside from the small Atarau Sanctuary predator-proof crèche (12.5 ha) operated by the Paparoa Wildlife Trust to raise great spotted kiwi chicks to independence, there are currently no large mainland predator-exclusion fenced sanctuaries established specifically to hold or grow self-sustaining great spotted kiwi populations; most great spotted kiwi strongholds are managed in open landscapes using trapping and/or aerial 1080. These exclusion fences would be one of the first predator-free mainland sanctuaries for great spotted kiwi (Environmental Services 2025). The pest-free areas proposed here can act as a long-term breeding nucleus, supporting dispersal/translocation into adjacent managed zones and reducing overall reinvasion pressure when paired with adjacent landscape control.
- At-risk forest birds have been recorded in or near the proposed exclusion fenced areas (Yellow-crowned kākāriki, South Island robin, tomtit, fernbird, and NZ pipit,). These species are particular beneficiaries of predator-free cores because they're limited by rats and stoats, even at low densities.
- The Buller Plateaux supports specialised, slow-recovering pakihi and other low-stature vegetation found in few other places. Excluding ungulates (and eliminating possum browse) protects these communities from trampling, rooting, and selective browse.
- The four pest exclusion fenced areas will provide a large, rare, predator-free mainland stronghold in the South Island. The combined 911 ha fenced complex would be the largest ring-fenced sanctuary in the South Island, providing landscape-meaningful refugia for Threatened and At Risk species.
- Exclusion fences provide a secure source area for future lizard and snail translocations into rehabilitated areas and for spill-over of more mobile species into the halo. Pest-exclusion fenced areas can build high-density 'source' populations that support assisted dispersal or natural spill-over into surrounding areas, including rehabilitated areas as they become suitable, and where ground and aerial suppression are maintained (DOC, 2021; Ruffell et al., 2018).
- The pest exclusion sanctuaries are also designed to strengthen the overall landscape pest management package. The fenced refugia, when paired with surrounding halo control, aligns with national strategy for combining 'mainland islands' with wider suppression to maximise regional recovery (DOC, 2021).

6.5 Blackburn Pakihi intensive mammalian pest control area

6.5.1 Outline

In addition to the fenced pest exclusion areas, the proposed residual effects package includes the implementation of 1,505 ha of intensive, ongoing pest suppression operation within the Blackburn-Pakihi area.

The Blackburn Pakihi Intensive control area covers approximately 1,505 hectares on the north-eastern margin of the Stockton Plateau. Although parts of the Blackburn–Pakihi landscape have received occasional aerial 1080 control operations in previous years, these applications have been infrequent and inconsistent, providing only short-term suppression of possums, rats, and secondary stoat control. Without sustained follow-up, mammalian pest and browser populations are expected to have quickly rebounded, meaning that the long-term biodiversity benefits of such operations are likely to have been minimal (Forsyth et al. 2013).

To address these limitations, the proposed intensive ground-control programme will implement a comprehensive, year-round pest suppression regime, integrating trapping and bait-station networks for rodents, mustelids, possums, and feral cats (if detected). Ongoing ungulate management will also occur. This approach will provide a consistent, low-pest environment required to support population recovery of great spotted kiwi, forest birds, and wetland specialists such as fernbird, while improving vegetation structure, wetland function, and overall ecosystem resilience across the Blackburn–Pakihi landscape.

Table 6 below shows the areal extent of intensive pest control in each habitat type and for each species within the Blackburn–Pakihi area (**Figure 2**).

Table 7. Habitat composition and areal extent within the Blackburn Pakihi mammalian pest control area for each habitat type (Figure 2)

Habitat availability (ha) within the Blackburn–Pakihi area	Ground baiting pest control
Terrestrial habitats	
Mixed beech-podocarp-broadleaved forest	140.8
Southern rātā-mountain beech podocarp forest	255.5
Mānuka -mountain beech-podocarp shrubland	295.6
Sandstone erosion pavement	13.1
Shrubland with exotic component	1.4
Herbfield	0.5
Vegetation cleared	1.9
Wetland habitats	

Habitat availability (ha) within the Blackburn–Pakihi area	**Ground baiting pest control**
Mānuka/gahnia-wire rush shrubland	133.7
Mānuka-flax-wire rush shrubland (wetland)	34.5
Tussock-mountain flax shrubland	42.3
Low pākihi wetland	585.5
Tarn	0.4
Vascular plants	
Bearded orchid (*Calochilus paludosus*)	796.0
Bulbinella modesta	796.0
Caladenia alata	465.1
Caladenia minor	720.6
Coal measures tussock (*Chionochloa juncea*)	1107.9
Dracophyllum densum	768.6
Euphrasia wettsteiniana	627.8
Long-leaved pimelea (*Pimelea longifolia*)	1348.5
Red mistletoe (*Peraxilla tetrapetala*)	693.3
Astelia subulata	627.8
Brachyglottis traversii	810.9
Carse's sedge (*Carex carsei*)	1092.9
Dall's sedge (*Carex dallii*)	1092.9
Euphrasia disperma	627.8
Hymenophyllum australe	0.0
Hymenophyllum pluviatile	691.9
Dwarf rush (*Juncus pusillus*)	796.0
Lobelia fatiscens	629.7
Pterostylis humilis	826.9
Travers horopito (*Pseudowintera traversii*)	691.9
Schizacme helmsii	640.9
Townsonia deflexa	693.3
Sticherus tener	552.5
Sticherus urceolatus	552.5
Non-vascular plants	
Allisoniella scottii	753.7
Isolembidium anomalum var. anomalum	1502.3
Neogrollea notabilis	810.4
Acromastigum verticale	719.3
Telaranea inaequalis	1277.4
Acromastigum interstisiale	902.3

Habitat availability (ha) within the Blackburn–Pakihi area	Ground baiting pest control
Pseudolophocolea denticulata	1500.9
Pycnothelia caliginosa	13.1
Austropeltum glareosum	598.6
Cladia fuliginosa	809.0
Knightiella splachnirima	809.0
Saccogynidium decurvum	1500.9
Cladia inflata	1091.5
Chiloscyphus gippslandicus (bryophyte)	Uncertain
Porella cranfordii (bryophyte)	Uncertain
Acromastigum mooreanum (bryophyte)	Uncertain
Andreaea subulate (bryophyte)	Uncertain
Blindia immersa (bryophyte)	Uncertain
Calycidium cuneatum (bryophyte)	Uncertain
Campylopus kirkii (bryophyte)	Uncertain
Cryptolophocolea tuberculata (bryophyte)	Uncertain
Dicnemon dixonianum (bryophyte)	Uncertain
Herzogianthus sanguineus (bryophyte)	Uncertain
Herzogianthus vaginatus (bryophyte)	Uncertain
Heteroscyphus billardierei (bryophyte)	Uncertain
Isotachis westlandica (bryophyte)	Uncertain
Kurzia tenax (bryophyte)	Uncertain
Kurzia nivicola (bryophyte)	Uncertain
Lembidium longifolium (bryophyte)	Uncertain
Lepidolaena novae-zelandiae (bryophyte)	Uncertain
Pachyschistochila virescens (bryophyte)	Uncertain
Pallavicinia rubristipa (bryophyte)	Uncertain
Pleurophascum ovalifolium (bryophyte)	Uncertain
Pyrrhobryum paramattense	Uncertain
Riccardia furtiva (bryophyte)	Uncertain
Trichotemnoma corrugatum (bryophyte)	Uncertain
Zoopsis bicruris (bryophyte)	Uncertain
Zoopsis ceratophylla (bryophyte)	Uncertain
Zoopsis matawaia (bryophyte)	Uncertain
*Andreaea acuminata (bryophyte)**	Uncertain
*Andrewsianthus perigonialis (bryophyte)**	Uncertain
*Archeophylla schusteri (bryophyte)**	Uncertain
*Bazzania exempta (bryophyte)**	Uncertain

Habitat availability (ha) within the Blackburn–Pakihi area	Ground baiting pest control
*Degeliella rosulate (bryophyte)**	Uncertain
*Ditrichum strictum (bryophyte)**	Uncertain
*Leiorreuma exaltatum (bryophyte)**	Uncertain
*Lepidozia fugax (bryophyte)**	Uncertain
*Micarea isabelline (bryophyte)**	Uncertain
*Ochrolechia frigida (bryophyte)**	Uncertain
*Pseudocyphellaria lindsayi (bryophyte)**	Uncertain
*Riccardia multicorpora (bryophyte)**	Uncertain
*Schistochila pluriciliata (bryophyte)**	Uncertain
*Tayloria callophylla (bryophyte)**	Uncertain
Avifauna	
Roroa/great spotted kiwi	1502.3
Kārearea/NZ bush falcon	1502.3
Koekoeā/long-tailed cuckoo	825.6
Kererū	727.7
Yellow-crowned kakariki	903.7
Korimako/bellbird	903.7
South Island robin	860.0
Brown creeper	861.4
Tūī	903.7
Mātātā/South Island fernbird	1361.6
Pīhoihoi (New Zealand pipit)	1107.9
Lizards	
Westland speckled skink	1504.2
Forest gecko	1502.3
West Coast green gecko	1502.3
Invertebrates	
Avatar moth (*Arctesthes avatar*)	809
Powelliphanta patrickensis	1348.5
White-faced cave weta (*Occultastella morgana*)	860
Forest ringlet (*Dodonidia helmsii*)	1319.7
Pseudaneitea sp. (slug)(undescribed species)	Uncertain

6.5.2 Expected biodiversity gain

Intensive, ongoing ground control in the Blackburn–Pakihi area is expected to deliver strong biodiversity gains via control targeting the key predators and browsers known to limit West Coast forest and wetland ecosystems. By controlling rats, stoats, possums and cats (if detected) at consistently low levels between aerial operations, the pest management programme will disrupt the mast-driven rodent–stoat cascade that produces periodic predation pulses well above thresholds required for sensitive native fauna recovery (PCE, 2011; Brown 2015).

Evidence from integrated mainland control programmes shows that sustained suppression of rats and stoats, combined with possum reduction, increases forest bird abundance and breeding success over the long term compared with areas receiving intermittent or single-tool control (O'Donnell & Hoare, 2012; Innes et al., 2010). In the Blackburn–Pakihi context this is expected to translate into improved survival and recruitment for great spotted kiwi and other predator-sensitive birds recorded in the area (e.g., fernbird, kākāriki, robin, tomtit), as these species are strongly limited by rat predation on nests and stoat predation on chicks and adults during and following mast events (Innes et al., 2010; Brown 2015).

Great spotted kiwi in the Blackburn–Pakihi intensive control area are expected to show strong positive demographic responses because their populations are chiefly limited by introduced predators—particularly stoats during beech mast–driven rodent irruptions—and benefit most when predation pressure is kept consistently low through time (DOC, 2024). DOC identifies stoat predation on roroa chicks as a key driver of ongoing decline in South Island beech systems, with risk peaking after mast events when rodents boom and stoats subsequently increase and prey switch as rodent numbers decline (DOC, 2024). Intensive ground trapping that suppresses stoats and rats year-round therefore directly lifts chick and juvenile survival, which is the critical lever for kiwi population growth in long-lived, low-fecundity species (Innes et al., 2015; DOC, 2024). Sustained trapping provides the stable multi-year "safe-rearing" conditions needed to carry kiwi through successive mast cycles, rather than allowing periodic predator rebounds to reset gains (Innes et al., 2015). In Blackburn–Pakihi, combining aerial 1080 knockdowns with continuous ground suppression should therefore deliver higher and more reliable chick recruitment than currently, reduce mast-year mortality spikes, and shift the local roroa trajectory from stagnation/gradual decline toward measurable and sustainable long-term increase (Innes et al., 2015; DOC, 2024).

Predator suppression is also likely to generate rapid benefits for the pākihi wetland vegetation complex and its margins. Wetland and riparian ecotones are recognised predator travel corridors, and best-practice wetland protection in NZ explicitly recommends controlling possums, rodents and mustelids because these predators drive nest failure and adult mortality in wetland birds (Predator Free NZ Trust, n.d.). Experimental and operational wetland programmes show that reducing these predators increases the persistence and detectability of wetland specialists such as fernbird and other low-nesting taxa (O'Donnell, 2018). As rodent and mustelid pressure drops in Blackburn–Pakihi, wetland-edge food webs are expected to recover (especially in relation to large invertebrates), improving breeding habitat quality and supporting higher fernbird occupancy and productivity over time (O'Donnell, 2018).

An additional major benefit is improved forest health and regeneration through reduced browsing pressure. Possums are a key driver of canopy decline in West Coast southern rātā/kāmahi forests, and long-term studies show that effective possum control leads to recovery of canopy condition and reduces the risk of sustained defoliation and mortality (Payton, 2000; Pekelharing et al., 1998). Reduced possum and ungulate browsing also lifts flowering/fruiting and promotes understorey regeneration, which in turn improves food supply and nesting habitat for birds and increases litter depth and moisture that supports lizards and invertebrates (Payton, 2000; Brown, 2015). In Blackburn–Pakihi, these responses should be strongest along forest–pakihi margins where seedling layers and palatable shrubs are most exposed to browse and where habitat recovery will amplify predator-control benefits for kiwi and passerines using these ecotones (Payton, 2000).

6.6 Proposed weed management

The objective of the residual effects weed management programme is to improve the ecological integrity and indigenous dominance of native vegetation across 6,713 ha of habitat on the Buller Plateaux and Blackburn Pakihi. This is intended to counter-balance the long term net loss in areal extent of indigenous vegetation due to Project effects (**Figure 3**). This will be achieved by:

- Effective site biosecurity (as detailed in the Biosecurity Management Plan, Bathurst Resources Ltd, 2026d).
- Maintaining and protecting currently weed-free (intact) habitats within weed management areas.
- Progressive reduction of established "Priority Weeds" where they occur to reduce their impacts. This includes a reduction in the spatial extent and biomass of particularly gorse (*Ulex europaeus*), *Juncus canadensis* and *Juncus squarrosus*, which are already widely established and are compromising indigenous communities.
- Eradication of weed species which are present, but not well established. Examples of these weeds include Scotch broom (*Cytisus scoparius*) and ragwort (*Jacobaea vulgaris*).

Together, in addition to the 2,718 ha of weed management within rehabilitated areas, the residual effects weed management programme will contribute to restoration of ecological integrity and function across the Buller Plateaux so that key species, processes and features, as well as their inter-relationships, are protected and maintained.

Table 7 below shows the areal extent of weed management proposed in each habitat type (**Figure 3**).

Table 8. Areal extent of weed management proposed in each habitat type within the Residual Effects Weed Management Area[32]

Ecological value (ha)	Proposed weed management habitat extent*
Terrestrial habitats	
Mixed beech-podocarp-broadleaved forest	306.9
Southern rātā-mountain beech podocarp forest	1759.1
Silver beech-mountain beech forest	39.4
Mānuka -mountain beech-podocarp shrubland	1020.2
Shrubland with exotic component	130.7
Leatherwood shrubland	19.8
Sandstone erosion pavement	811.0
Exotic grassland	2.5
Herbfield	0.5
Vegetation (cleared)	327.5
Wetland habitats	
Mānuka/gahnia-wire rush shrubland	219.7
Mānuka-tussock-wire rush shrubland (wetland)	576.0
Mānuka-flax-wire rush shrubland (wetland)	129.5
Low pākihi wetland	2259.9
Weedy low pākihi	11.5
Tarn	0.4

* This extent relates to weed control undertaken in residual effects management areas and is additional to the quantum of weed control within rehabilitation sites.

6.7 Landscape-scale mammalian pest control

6.7.1 Outline

The wider managed landscape surrounding the Buller Plateaux, including the ecological catchments adjoining the Buller, Orikaka (Mackley), and Ngākawau Rivers, forms the broader management zone for the 23,843 ha of ongoing landscape mammalian pest management for the purpose of biodiversity enhancement, particularly for the recovery of vegetation and avifauna.

Although aerial 1080 control has been conducted intermittently in parts of the Buller and Orikaka catchments, the entire landscape remains subject to reinvasion from uncontrolled neighbouring habitats.

[32] Also includes umapped area (1216 ha) and water (20.7 ha) and lumps weed

The proposed aerial control programme combines a baseline three-year cycle of aerial 1080 operations with the ability to implement mast-responsive control when monitoring indicates elevated pest risk. The three-year interval reflects typical recovery times for rodent populations following aerial control in New Zealand forests, where rodents commonly return to ecologically damaging levels within several years in the absence of further control (Innes et al., 2010; Parliamentary Commissioner for the Environment, 2011). However, beech mast events can trigger rapid irruptions of rodents and stoats independent of this cycle, and therefore require flexibility in control timing, integrated with ground-based trapping networks and the predator exclusion areas. Key aims of this component of pest management are to maintain low predator densities and reduce the reinvasion pressure on the fenced and intensively managed core areas, with a specific focus on large-scale stoat suppression to benefit great spotted kiwi over a landscape scale.

6.7.2 Expected biodiversity gains

The proposed ~23,843 ha landscape-scale pest management area is expected to deliver substantial biodiversity gains, particularly as it operates at the spatial scale needed to suppress mast-driven predator plagues and sustain low predator pressure.

Great spotted kiwi are a primary beneficiary: as their population trends are strongly shaped by beech mast events that trigger rodent irruptions and subsequent stoat increases (DOC, 2019). By combining aerial 1080 (to achieve broad, rapid knockdowns of rats, possums and stoats across rugged terrain) with continuous ground suppression for stoats, the programme will interrupt the mast–rodent–stoat cascade over a large, connected and contiguous area. This is expected to increase kiwi chick survival and recruitment in the years between mast events rather than allowing repeated predator rebounds to reset gains.

Evidence from other large-scale operations shows that kiwi chick survival and breeding success are significantly higher in the first 1–2 breeding seasons after aerial 1080 than later in the toxin cycle, underscoring the value of pairing aerial knockdown with ongoing ground control to extend that safe-breeding window (Sutton et al., 2019; PCE, 2011). In practice, this integrated, landscape-scale approach represents a step change from previous efforts in the area and is the most realistic pathway to shifting roroa trajectories from slow decline toward stable growth across successive mast cycles (DOC, 2019).

Finally, incorporating ungulate management across the wider 23,843 ha strengthens both biodiversity and long-term ecosystem resilience. Deer, goats and pigs are widely recognised as major drivers of forest degradation through suppression of palatable seedling and shrub layers, trampling and rooting, and long-term simplification of forest structure (New Zealand Plant Conservation Network, 2025; Forsyth et al., 2002). These impacts compound possum browse, increasing the risk of regeneration failure and gradual canopy/understory collapse in sensitive West Coast systems (Payton, 2000).

Reducing ungulate pressure is therefore expected to accelerate recovery of understory and seedling tiers, improve habitat structure for birds and lizards, and protect fragile vegetation from disturbance—benefits that will persist and expand as predator suppression enables native fauna to recolonise and increase (Forsyth et al., 2002; New Zealand Plant Conservation Network, 2025). Together, the integrated aerial- plus ground-based predator programme and ungulate control provide a coherent landscape package capable of delivering durable, measurable gains for great spotted kiwi and the wider biodiversity suite on the Buller Plateaux.

Table 8 below shows the areal extent of landscape mammalian pest control proposed in each habitat type per se and for bird species (**Figure 4**).

Table 9. Habitat composition and areal extent within the proposed landscape mammalian pest control area for each habitat type and bird species

Habitat availability within the 23,843 ha Landscape Mammalian Pest Control Area (ha)	Areal extent (ha)
Habitats	**23,843**
Beech forest	**12,160**
Beech forest	5,638
Beech forest, unspecified scrub	858
Beech forest, Lowland podocarp-hardwood forest	5,065
Beech forest, Mid-altitude podocarp-hardwood forest	599
Lowland Podocarp hardwood forest	**3,437**
Lowland podocarp-hardwood forest, manuka kanuka, mixed native scrub	323
Lowland podocarp-hardwood forest, beech forest	1,289
Lowland podocarp-hardwood forest, beech forest, unspecified scrub	1,456
Lowland podocarp-hardwood forest, beech forest, Mixed native scrub, low producing pasture	368
Manuka kanuka	**2,317**
Manuka kanuka, Mixed native Scrub	742
Manuka kanuka, Lowland-podocarp-hardwood forest, fern, beech forest	934
Manuka kanuka, Lowland-podocarp-hardwood forest, Mixed native scrub, beech forest	641
Mixed native scrub	**1,058**
Mixed native scrub	298
Mixed native scrub, beech forest	483
Mixed native scrub, Lowland podocarp-hardwood forest	277
Subalpine scrub	**785**
Subalpine scrub, snow tussock grassland, manuka kanuka	762
Subalpine scrub	24
Snow tussock grassland	**4,982**

Habitat availability within the 23,843 ha Landscape Mammalian Pest Control Area (ha)	Areal extent (ha)
Snow tussock grassland, manuka kanuka, low producing pasture, gorse, beech forest	2,317
Snow tussock grassland, manuka kanuka, gorse	1,551
Snow tussock grassland, manuka kanuka, Low producing pasture, gorse	1,021
Snow tussock grassland	93
Pakihi vegetation	**5**
Pakihi vegetation	5
River	**9**
River	9
Nationally Threatened or At Risk Avifauna	**Available habitat (ha)**
Kākā (forest and scrub)	ca 19,000
Kārearea/NZ falcon (all habitats)	ca 23,843
Koekoeā/long-tailed cuckoo (forest and scrub)	ca 19,000
Mātātā/South Island fernbird (forest and scrub)	ca 19,000
Pīhoihoi (New Zealand pipit) (snow tussock grassland)	ca 5,000
Roroa/great spotted kiwi (forest and scrub)	ca 23,843
South Island robin (forest and scrub)	ca 19,000
Yellow-crowned kakariki (forest and scrub)	ca 19,000

6.8 Potential influence of pest control on weka and implications for lizards and snails

Weka (*Gallirallus australis*) are an indigenous component of West Coast ecosystems and are recognised as opportunistic omnivores capable of preying on a wide range of fauna, including lizards, large invertebrates and terrestrial snails. Consequently, there is potential for changes in weka abundance to influence vulnerable prey populations, particularly where species occur at low densities or have limited capacity to recover from predation (Carpenter et al., 2021).

Successful suppression of introduced predators may improve weka nesting success and juvenile survival through reduced predation by stoats and, to a lesser extent, rats. Local increases in weka abundance have been observed following long-term predator management programmes, including within the Oparara Kiwi Sanctuary where weka were among the native bird species showing increased abundance over time (McLennan & Jones, 2024). However, the magnitude of any increase is uncertain and is likely to depend on a range of ecological factors including habitat quality, food availability, territorial behaviour and interactions with other native fauna. There is currently limited evidence demonstrating predictable or consistent increases in weka populations following predator control across mainland New Zealand.

Importantly, any response by weka must be considered within the broader ecological context of the proposed pest management programme. The same predator control that may benefit weka will also substantially reduce populations of introduced predators including stoats, rats, possums and feral cats (where present), all of which are recognised as major predators of indigenous birds, lizards and invertebrates. Reducing these introduced predators is also expected to improve survival and recruitment of native fauna and may increase prey availability throughout the managed landscape. Consequently, the net ecological outcome cannot be determined simply by considering potential changes in weka abundance alone. Rather, it reflects the balance between reduced impacts from introduced predators, potential changes in native predator populations, and the capacity of native prey populations to recover under improved environmental conditions.

Given these interacting ecological processes, the overall influence of predator control on weka-mediated predation is inherently uncertain. The proposed management approach has therefore been designed to remain effective irrespective of the precise response of weka populations.

Central to this approach is the establishment of 911 ha of pest-exclusion fenced habitat, which will exclude weka as well as introduced mammalian predators. These fenced areas provide long-term refuges for the most vulnerable biodiversity values, including threatened lizards and *Powelliphanta* snails, ensuring that core populations are protected from predation by both introduced mammals and weka. This provides a high level of certainty that these species will be able to recover and persist over multiple generations regardless of changes in weka abundance elsewhere within the landscape.

Outside the fenced areas, the proposed tiered management framework combines intensive predator suppression in priority habitats with broader landscape-scale pest management. This approach recognises that while fenced refuges provide the highest level of protection for the most vulnerable species, landscape pest control remains essential for achieving wider biodiversity outcomes, including improved habitat quality and reduced impacts of introduced predators across the Buller Plateaux. Collectively, these complementary management approaches provide substantially greater ecological benefit than reliance on either strategy alone.

The programme also incorporates adaptive monitoring of predator populations and biodiversity outcomes. Monitoring of lizard populations, *Powelliphanta* populations and weka distribution will enable ecological responses to be assessed over time. Should monitoring indicate that increasing weka abundance is resulting in unanticipated impacts on vulnerable species outside the fenced refuges, a process will be undertaken to investigate the causes of those effects and implement appropriate management responses where justified.

Accordingly, while an increase in weka abundance is recognised as a potential consequence of successful predator control, this possibility has been explicitly considered during the development of the proposed management strategy. The combination of permanent weka-free refuges, intensive pest management and adaptive monitoring ensures that uncertainty regarding weka population responses does not compromise the long-term protection and recovery of the project's highest-value lizard and snail populations.

[redacted]

[redacted]

The implementation and monitoring of residual effects management measures will be guided by four ecological management plans:

- The Pest Control and Elimination Plan (Bathurst Resources Ltd, 2026e), which details how mammalian pests will be eliminated within the pest exclusion fences on the Buller Plateaux and controlled via ground and aerial baiting in the surrounding landscape.
- The Avifauna Management Plan (Bathurst Resources Ltd, 2026a), which details how weka will be removed and relocated from within the pest exclusion fences on the Denniston and Stockton Plateaux to protect snails and lizards and subsequently monitored.
- The Buller Plateaux Weed Management Plan (Bathurst Resources Ltd, 2026b), which details how ecological weeds will be controlled and/or eradicated and monitored within the Weed Management Area across the Buller Plateaux.
- The Biodiversity Outcome Monitoring Plan (Bathurst Resources Ltd, 2026c), as described in Section 7.4 below.

6.10 Staging of management actions

Mammalian pest exclusion fence builds and eradications will be staged. This accounts for the fact that not all impacts are instantaneous (i.e. they will occur in different areas over many years). Staging will be as follows:

- Year 0
    - Commencement of Baseline Biodiversity Outcome Monitoring Programmes to characterise baseline biodiversity metrics against which to determine stated benefits once conservation management actions commence.
- Year 1
    - Ongoing Baseline Biodiversity Outcome Monitoring Programmes (in areas that have yet to be subject to conservation management actions that are intended to address residual effects).
    - Commencement of weed control and mammalian pest control operations in the Blackburn-Pakihi and wider landscape/ halo control areas.

  - Commencement of Denniston North pest exclusion fence build during the initial construction phase of the Project.

- Year 2
  - Completion of Denniston North pest exclusion fence and eradication.
  - Ongoing baseline and post-commencement biodiversity outcome monitoring

- Year 3
  - Ongoing weed and mammalian pest control operations
  - Ongoing baseline and post-commencement biodiversity outcome monitoring

- Year 4
  - Ongoing weed and mammalian pest control operations
  - Ongoing baseline and post-commencement biodiversity outcome monitoring
  - Construction of the Coalbrookdale pest exclusion fence

- Years 5 – 7
  - Ongoing weed and mammalian pest control operations
  - Ongoing baseline and post-commencement biodiversity outcome monitoring
  - Construction of Mt Augustus pest exclusion fence

- Year 8
  - Ongoing weed and mammalian pest control operations
  - Ongoing baseline and post-commencement biodiversity outcome monitoring

- Year 10
  - Construction of Whirlwind Rise pest exclusion fence Ongoing weed and mammalian pest control operations
  - Ongoing baseline and post-commencement biodiversity outcome monitoring

- Years 11 - 35
  - Ongoing weed and mammalian pest control operations
  - Ongoing post-commencement biodiversity outcome monitoring.

- Years 35 - 60

- Ongoing large scale pest control and management of the mammalian pest exclusion fences only.

7. Expected biodiversity outcomes

7.1 Existing environment for assessing biodiversity outcomes

The baseline conditions from which the benefits of the proposed residual effects package are assessed reflect the actual and current state of biodiversity. The existing environment from which effects are assessed includes consents and approvals which have already been implemented or are likely to be implemented and therefore includes the outcomes of measures already implemented under existing authorisations that apply to parts of the Project Area. These measures include various mitigation, rehabilitation, biodiversity offset or compensation requirements in existing authorisations for coal mining licences, mining permits and resource consents.

As detailed in the Ecological Assessment (Ecological Solutions, 2026a), approximately 94% of the Buller Plateaux receives some level of ecological mammalian pest and weed control and funded by Bathurst Resources (**Figure 5**). Specifically, this includes actions already implemented in accordance with:

- Escarpment Mine consent conditions (which expired in 2025 noting an application for limited renewal was lodged in 2025 prior to expiry)
- Denniston Permanent Protection Area (DPPA, 742ha)
- Denniston Biodiversity Enhancement Area (DBEA, 4,456 ha)
- Cypress Mining Area consent conditions (which expire 2040)
- Snail Enhancement Area (SEA, 1931 ha)
- Wider Habitat Enhancement Area (WHEA, 8,200 ha).

These management areas extend beyond the Buller Plateaux to adjoining habitats. In addition, 1,000 ha further north is managed for kiwi protection (referred to as the 'Oparara kiwi management area') as part of the Cypress Mining Area consents. These existing activities form part of the existing environment against which effects arising from the Project have been assessed.

7.2 Biodiversity outcomes assessment methodology

Expected biodiversity outcomes are assessed for residual effects once the benefits associated with the proposed residual effects package are considered, with expected outcomes assigned as follows:

- Net Positive: where biodiversity compensation is expected to deliver a positive outcome for the ecological value based on professional judgement[34].
- Uncertain: where the success of an action cannot be predicted with sufficient confidence to assign as Net Positive or Net Loss.
- Net Loss: where, based on current information, a negative outcome is assumed. In such cases—despite proposed restoration or enhancement measures—the benefits cannot be demonstrated (without further research) to adequately address the residual adverse effects. We note that for some values, the degree of Net Loss may diminish over longer timeframes, e.g. for tall forest habitat types.

Where a Net Loss outcome is identified once compensation actions are taken into account, the scale of that Net Loss for impacted habitat types is further described using a qualitative scale (negligible, low, moderate, high, or very high). While applied for a different purpose in the Ecological Impact Assessment Guidelines (EcIAG), Table 8 in the guidelines also provides a means for contextualising the scale of Net Loss, rather than as an additional formal effects test (see **Table 10** below).

The key difference is that the EcIAG magnitude-of-effect table describes an effect *before* compensation has been applied, whereas for the purposes of this report, this table is adapted to assign a magnitude of loss that remains after all aspects of the effects management hierarchy have been exhausted. That is, after all effects have been avoided, minimised, remedied, or compensated for, and any other relevant positive ecological effects considered.

Table 11. Criteria for describing the local magnitude of net loss for impacted habitat types after residual effects management measures have been considered (*Adapted from EcIAG Table 8)*

Magnitude of net loss	Description
Very high	Total loss of, or very major alteration to, key elements/features/ of the existing baseline[1] conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
High	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature

[34] This expectation is based on professional judgement, rather than the application of a biodiversity offset accounting model, due to challenges in in obtaining or interpreting quantitative data or measurable responses to habitat restoration or enhancement measures.

Magnitude of net loss	Description
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to pre-development circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

[1]Baseline conditions are defined as 'the conditions that would pertain in the absence of a proposed action' (EIANZ, 2018).

7.3 Assessment of expected biodiversity outcomes

In broad terms, and within the 26,259 ha area subject to various residual effects management measures, the residual effects package is expected to reverse the ongoing decline of key native habitats and many associated species that are currently vulnerable to predation or browsing by introduced mammalian pests and competition from invasive weeds. Importantly, the pest management regimes proposed here will result in benefits to several threatened species that, without intervention, may become locally extinct in the medium or long-term.

The assessed level of residual effects on habitat and species values (moderate or higher), and expected biodiversity outcome following compensation are set out in **Table 11** and **Table 12** below.

Table 12. Assessed level of residual effects on biodiversity values (moderate or higher), and expected biodiversity outcomes following implementation of residual effects package.

Impacted habitat type	Ecological value	Habitat impact (ha)	Moderate or higher level of residual effect (before compensation)	Expected outcome after implementation of residual effects package
Terrestrial habitat types				
Southern rātā-mountain beech podocarp forest	Very high	226.5	Very high	Net loss in habitat extent and value (very high magnitude)
Sandstone erosion pavement (and associated vegetation)	Very high	69.9	Very high	Net loss in habitat extent and value (very high magnitude)
Mānuka -mountain beech-podocarp shrubland	Very high	98.1	High	Net loss in habitat extent (high magnitude)
Mixed beech-podocarp-broadleaved forest	Very high	15.4	Moderate	Net loss in habitat extent and value (moderate magnitude)
Silver beech-mountain beech forest	Very high	6	Moderate	Net loss in habitat extent and value (moderate magnitude)
Boulderfields of acidic rock	Very high	Assumed Several ha	Moderate	Net loss in habitat extent and value (moderate magnitude)
Wetland habitat types				
Low pākihi wetland	Very high	237	Very high	Net loss in habitat extent and value (very high magnitude)
Mānuka-tussock-wire rush shrubland (wetland)	Very high	117.1	Very high	Net loss in habitat extent and value (very high magnitude)
Mānuka/gahnia-wire rush shrubland (wetland)	Very high	10.3	High	Net loss in habitat extent and value (high magnitude)
Flushes and seeps	Very high	< several ha	Likely high	Net loss in habitat extent and value (high magnitude)
Mānuka-mountain flax-wire rush shrubland (wetland)	Very high	4	Moderate	Net loss in habitat extent and value (moderate magnitude)

Impacted habitat type	Ecological value	Habitat impact (ha)	Moderate or higher level of residual effect (before compensation)	Expected outcome after implementation of residual effects package
Tussock-mountain flax shrubland	Very high	2.5	Moderate	Net loss in habitat extent and value (moderate magnitude)
Tarns	Very high	?	Likely moderate	Net loss in habitat extent and value (moderate magnitude)

Table 13. Assessed level of residual effects on indigenous species, and expected outcome after compensation.

Species	Ecological value	Habitat loss (ha)	Level of residual effect pre-compensation	Expected outcome after compensation
Vascular plants (*= not detected in Project Area to date)				
Bearded orchid (*Calochilus paludosus*)*	Very high	370.8	Very High	Net loss in habitat extent and population size
*Bulbinella modesta**	High	370.8	Very High	Net loss in habitat extent and population size
*Caladenia alata**		244.1	High	
*Caladenia minor**		470.6	High	
Coal measures tussock (*Chionochloa juncea*)		633.1	High	
Dracophyllum densum		517.9	High	
Euphrasia wettsteiniana		356.6	Very High	
Long-leaved pimelea (*Pimelea longifolia*)*		716.1	High	
Astelia subulata	Moderate	215.6	Moderate	Net loss in habitat extent and population size
*Brachyglottis traversii**		466	High	
Carse's sedge (*Carex carsei*)*		429.8	Moderate	
Dall's sedge (*Carex dallii*)*		429.8	Moderate	
Euphrasia disperma		215.6	High	
*Hymenophyllum pluviatile**		272.8	Moderate	
Dwarf rush (*Juncus pusillus*)*		332.6	Moderate	
*Pterostylis humilis**		398.7	Moderate	

Species	Ecological value	Habitat loss (ha)	Level of residual effect pre-compensation	Expected outcome after compensation
Travers horopito (*Pseudowintera traversii*)		272.8	Moderate	
Schizacme helmsii *		383.4	Moderate	
*Townsonia deflexa**		285.3	Moderate	
Sticherus tener				
Sticherus urceolatus				
Non-vascular plants (bryophytes and lichen)				
Isolembidium anomalum var. anomalum (Bryophyte)	Very high	800.6	High	Net loss in habitat extent and population size
Neogrollea notabilis Bryophyte)		455.4	High	
Pycnothelia caliginosa (Lichen)		361.9	High	
Austropeltum glareosum (Lichen)		424.1	Very high	
Cladia fuliginosa (Lichen)		440.8	Very high	
Allisoniella scottii (Bryrophyte)		368.3	High	
Austropeltum verticale (bryophyte)		344.9	High	
Telaranea inaequalis (bryophyte)		669.2	High	
Pseudolophocolea denticulata (Bryophyte)		462.2	High	
Cladia inflata (Lichen)	High	468.9	High	Net loss in habitat extent and population size
Acromastigum interstisiale (bryophyte)		361.9	High	
Knightiella splachnirima (Lichen)		440.8	Very high	
Saccogynidium decurvum (Bryophyte)		786	High	
Chiloscyphus gippslandicus (bryophyte)	Not classified	Unknown	Assumed Very high**	Net loss in habitat extent and population size
Porella cranfordii (bryophyte)				

Species	Ecological value	Habitat loss (ha)	Level of residual effect pre-compensation	Expected outcome after compensation
Acromastigum mooreanum (bryophyte)	Moderate	Unknown	Assumed Moderate	Net loss in habitat extent and population size
Andreaea subulate (bryophyte)		Unknown	Assumed Moderate	
Blindia immersa (bryophyte)		Unknown	Assumed Moderate	
Calycidium cuneatum (bryophyte)		Unknown	Assumed Moderate	
Campylopus kirkii (bryophyte)		Unknown	Assumed Moderate	
Cryptolophocolea tuberculata (bryophyte)		Unknown	Assumed Moderate	
Dicnemon dixonianum (bryophyte)		Unknown	Assumed Moderate	
Herzogianthus sanguineus (bryophyte)	Moderate	Unknown	Assumed Moderate	
Herzogianthus vaginatus (bryophyte)		Unknown	Assumed Moderate	
Heteroscyphus billardierei (bryophyte)		Unknown	Assumed Moderate	
Isotachis westlandica (bryophyte)		Unknown	Assumed Moderate	
Kurzia tenax (bryophyte)		Unknown	Assumed Moderate	
Kurzia nivicola (bryophyte)		Unknown	Assumed Moderate	
Lembidium longifolium (bryophyte)		Unknown	Assumed Moderate	
Lepidolaena novae-zelandiae (bryophyte)		Unknown	Assumed Moderate	
Pachyschistochila virescens (bryophyte)		Unknown	Assumed Moderate	
Pallavicinia rubristipa (bryophyte)		Unknown	Assumed Moderate	
Pleurophascum ovalifolium (bryophyte)		Unknown	Assumed Moderate	
Pyrrhobryum paramattense		Unknown	Assumed Moderate	Net loss in habitat extent and population size
Riccardia furtiva (bryophyte)		Unknown	Assumed Moderate	

Species	Ecological value	Habitat loss (ha)	Level of residual effect pre-compensation	Expected outcome after compensation
Trichotemnoma corrugatum (bryophyte)		Unknown	Assumed Moderate	
Zoopsis bicruris (bryophyte)		Unknown	Assumed Moderate	
Zoopsis ceratophylla (bryophyte)	Moderate	Unknown	Assumed Moderate	
Zoopsis matawaia (bryophyte)		Unknown	Assumed Moderate	
Chiloscyphus gippslandicus (bryophyte)		Unknown	Assumed Moderate	
Porella cranfordii (bryophyte)		Unknown	Assumed Moderate	
*Andreaea acuminata (bryophyte)**		Unknown	Assumed Moderate	
*Andrewsianthus perigonialis (bryophyte)**		Unknown	Assumed Moderate	
*Archeophylla schusteri (bryophyte)**		Unknown	Assumed Moderate	
*Bazzania exempta (bryophyte)**		Unknown	Assumed Moderate	
*Degeliella rosulate (bryophyte)**		Unknown	Assumed Moderate	
*Ditrichum strictum (bryophyte)**		Unknown	Assumed Moderate	
*Leiorreuma exaltatum (bryophyte)**		Unknown	Assumed Moderate	
*Lepidozia fugax (bryophyte)**		Unknown	Assumed Moderate	
*Micarea isabelline (bryophyte)**		Unknown	Assumed Moderate	
*Ochrolechia frigida (bryophyte)**		Unknown	Assumed Moderate	
*Pseudocyphellaria lindsayi (bryophyte)**		Unknown	Assumed Moderate	
*Riccardia multicorpora (bryophyte)**	Moderate	Unknown	Assumed Moderate	
*Schistochila pluriciliata (bryophyte)**		Unknown	Assumed Moderate	
*Tayloria callophylla (bryophyte)**		Unknown	Assumed Moderate	

Species	Ecological value	Habitat loss (ha)	Level of residual effect pre-compensation	Expected outcome after compensation
Avifauna				
Roroa/great spotted kiwi	Very high	681.5	High	Net loss in habitat extent. Net increase in population size
Kārearea/NZ bush falcon		681.5	High	
Koekoeā/long-tailed cuckoo		386.2	High	
Kakaruai/South Island robin	High	389.8	High	
Mātātā/South Island fernbird		676.9	High	
Yellow-crowned parakeet		404	High	
Kererū	Moderate	393.1	Moderate	
Korimako/bellbird		404	Moderate	
Tūī		404	Moderate	
Lizards				
West Coast green gecko	Very high	681.5	Very high	Net loss in habitat extent. Net increase in population size
Westland speckled skink	Very high	751.3	Very high Moderate	
Forest gecko	High	681.5	Very high	
Notable terrestrial Invertebrates				
Powelliphanta patrickensis	Very high	652.7	Very high	Net loss in habitat extent. Net increase in population size
Avatar moth (*Arctesthes avatar*)	Very high	396.2	Very high	Net loss in habitat extent and population size
Pseudaneitea sp. (slug)	Very high**	Unknown	Very high	Net loss in habitat size. Uncertain outcomes for population size
White-faced cave weta (*Occultastella morgana*)	Very high**	389.8	Very high	Net loss in habitat extent. Net increase in population size
Forest ringlet butterfly (*Dodonidia helmsii*)	Moderate	592.6	Moderate	Net loss in habitat size. Uncertain outcomes for population size

**Treated as Threatened despite not having a Threat classification status

7.4 Monitoring and adaptive management

As set out in the Biodiversity Outcome Monitoring Plan, comprehensive biodiversity outcome monitoring is proposed to track actual biodiversity outcomes against predicted outcomes contained in conditions, and to inform adaptive management or contingency actions as needed.

7.5 Applied research programmes

While these sit outside the residual effects management package, a number of applied research programmes are currently undertaken or proposed to contribute to knowledge and understanding on the efficacy of management measures including:

- **Lizards**: Investigating microhabitat use of lizards to develop robust management techniques for future conservation (PhD Study- underway).
- **Koura**: Kōura movement ecology and passage requirements (Proposed PhD Study - in discussion with University, no contract in place).
- **Weka**: To better understand the limitations of weka translocation success to date and reduce the level of uncertainty in scalable restoration. This research would contribute to conservation management of other sub-species of weka where the populations are smaller and range restricted, making them more vulnerable to sudden irreversible declines (particularly North Island weka and buff weka (*Gallirallus australis hectori*, which are both considered to be 'At Risk – Relict' indicating the populations were formerly more widespread and abundant) (From Avifauna management plan).
- **Snails**: Researching methods to improve the quality of snail habitat created by planting and, or seeding into previously stockpiled soil spread on ELF during mine rehabilitation. (Referenced in the snail management plan).
- **Rehabilitation**: Confirm the type, application rate and method of fertiliser application to identify methods to speed up plant growth and promote creation of habitat more quickly than would otherwise occur. This will link to development of earthworm communities, which is important as they are a key component in the diet of snails (Referenced in the Rehabilitation management plan).

8. Assessment against biodiversity compensation principles

8.1 Overview

A framework was applied to assess the degree to which the Project effects align with the biodiversity compensation principles in Appendix 4 of the NPS-IB for terrestrial ecosystems, and with the aquatic compensation principles in Appendix 7 of the NPS-FM for wetlands. This assessment has been undertaken to inform the subsequent application of the FTAA statutory weighting exercise.

In summary, the key compensation principles assessed relate to:

- Adherence to the effects management hierarchy, requiring sequential consideration of avoidance, minimisation, remediation, offsetting and (finally) compensation.
- 'Limits to compensation' in which biodiversity compensation is not appropriate because biodiversity values cannot be compensated for, for example where[35]:
    - o the indigenous biodiversity affected is irreplaceable or vulnerable;
    - o effects on indigenous biodiversity are uncertain, unknown, or little understood, but potential effects are significantly adverse or irreversible;
    - o there are no technically feasible options by which to secure a proposed Net Gain[36] within acceptable timeframes.
- Scale of compensation: whereby positive effects to indigenous biodiversity values outweigh the adverse effects on those values (i.e. Net Positive outcomes).
- Additionality: whereby gains in indigenous biodiversity are above and beyond gains that would have occurred in the absence of proposed compensation.
- Leakage: where biodiversity compensation design and implementation avoids displacing harm to other indigenous biodiversity in the same or any other location.
- Long-term outcomes: biodiversity compensation is managed to secure outcomes of the activity that last at least as long as the impacts, and preferably in perpetuity.
- Landscape context: biodiversity compensation is undertaken where this will result in the best ecological outcome.

[35] While not explicit, it is assumed that all three criteria must apply for a the 'limits to compensation' to be triggered.
[36] We note that the term 'net gain' is an offsetting term, and is therefore inconsistent with compensation terminology, in relation to the scale of compensation to be secured within an acceptable timeframe.

- Time lags: the delay between loss of, or effects on, indigenous biodiversity values at the impact site and the gain or maturity of indigenous biodiversity at the compensation site is minimised.

Overall, the biodiversity compensation principles are addressed to the extent practicable through the location, type, quantum and timeliness of the proposed residual effects package measures. However, the Project is unlikely to meet or may not meet the limits to compensation principle in that there are significant adverse effects expected on a number of vulnerable or irreplaceable values that cannot be demonstrably offset or compensated for, as detailed in **Section 8.4** below.

Assessments against the relevant principles in the NPS-IB and NPS-FM are set out below.

8.2 Assessment against the NPS-IB

Table 13 provides an assessment of the proposed residual effects management measures against the 13 principles for biodiversity compensation set out in Appendix 4 of the NPS-IB.

Table 14. Assessment against biodiversity compensation principles in Appendix 4 of the NPS-IB

Principle	NPS-IB Explanation	Assessment
Adherence to the effects management hierarchy	*Biodiversity compensation is a commitment to redress more than minor residual adverse effects, and should be contemplated only after steps to avoid, minimise, remedy, and offset adverse effects are demonstrated to have been sequentially exhausted.*	The effects management hierarchy has been applied sequentially, focussing first on avoiding potential adverse effects as described in the Ecological Assessment (Ecological Solutions, 2026a).
When biodiversity compensation is not appropriate	*Biodiversity compensation is not appropriate where indigenous biodiversity values are not able to be compensated for. Examples of biodiversity compensation not being appropriate include where:* *(a) the indigenous biodiversity affected is irreplaceable or vulnerable;* *(b) effects on indigenous biodiversity are uncertain, unknown, or little understood, but potential effects are significantly adverse or irreversible;* *(c) there are no technically feasible options by which to secure a proposed net gain within acceptable timeframes.*	Principle not met for the Project as a whole and for a number of impacted biodiversity values as assessed in **Section 8.4** below.

Principle	NPS-IB Explanation	Assessment
Scale of biodiversity compensation	*The indigenous biodiversity values lost through the activity to which the biodiversity compensation applies are addressed by positive effects to indigenous biodiversity (including when indigenous species depend on introduced species for their persistence), that outweigh the adverse effects*	Principle met to the extent practicable. The scale of compensation actions proposed (26,259 ha) is extensive and is expected to deliver Net Positive outcomes for a range of values (**Section 7.3**). However, most ecological values, residual adverse effects are not fully compensated for and Net Loss outcomes are expected.
Additionality	*Biodiversity compensation achieves gains in indigenous biodiversity above and beyond gains that would have occurred in the absence of the compensation, such as gains that are additional to any minimisation and remediation or offsetting undertaken in relation to the adverse effects of the activity*	The proposed compensation does not fully satisfy the threshold for establishing biodiversity gains under the additionality principle. Biodiversity gains are assessed relative to the existing environment (current state), rather than a counterfactual that assumes full implementation of historical consent conditions requiring specified ecological outcomes. As a result, some of the predicted gains may not be strictly additional. This occurs in instances where pest control and weed control programmes and/or stated biodiversity outcomes generated by these programmes are required as conditions of consent on legacy projects. The extent and magnitude of this non-additionality varies both spatially and temporally. Notwithstanding this limitation, it is relevant to note that in all instances, the proposed measures are expected to deliver biodiversity benefits that are substantially greater than those that would otherwise be realised under baseline conditions.
Leakage	*Biodiversity compensation design and implementation avoids displacing harm to other indigenous biodiversity in the same or any other location*	Principle met: No moderate or higher residual effects are expected to occur through leakage.

Principle	NPS-IB Explanation	Assessment
Long-term outcomes	*Biodiversity compensation is managed to secure outcomes of the activity that last as least as long as the impacts, and preferably in perpetuity. Consideration must be given to long-term issues around funding, location, management, and monitoring.*	Principle not met in full: benefits will be long-term, as they are intended to last and be actively maintained for between 35 and 60 years but this falls short of the duration of impact for some habitat types, most notably mature forest 60 years through ongoing weed and mammalian pest management. Protection will be secured in perpetuity through a covenant or equivalent mechanism
Landscape context	*Biodiversity compensation is undertaken where this will result in the best ecological outcome, preferably close to the impact site or within the same ecological district. The action considers the landscape context of both the impact site and the compensation site, taking into account interactions between species, habitats and ecosystems, spatial connections, and ecosystem function*	Principle met: proposed residual effects management is undertaken on the Buller Plateaux and/or surrounding landscape
Time lags	*The delay between loss of, or effects on, indigenous biodiversity values at the impact site and the gain or maturity of indigenous biodiversity at the compensation site is minimised so that the calculated gains are achieved within the consent period or, as appropriate, a longer period (but not more than 35 years).*	Principle met as time lag has been considered in the approach to staging and in the quantum of residual effects management proposed.
Trading up	*When trading up forms part of biodiversity compensation, the proposal demonstrates that the indigenous biodiversity gains are demonstrably greater or higher than those lost.*	Not applicable
Financial contributions	*A financial contribution is only considered if: (a) there is no effective option available for delivering biodiversity gains on the ground; and (b) it directly funds an intended biodiversity gain or benefit that complies with the rest of these principles.*	Not applicable

Principle	NPS-IB Explanation	Assessment
Science and mātauranga Māori	*The design and implementation of biodiversity compensation is a documented process informed by science, and mātauranga Māori*	Principle addressed in part as the compensation package has been informed by science, however iwi have not yet been consulted with in this regard.
Tangata whenua and stakeholder participation	*Opportunity for the effective and early participation of tangata whenua and stakeholders is demonstrated when planning for biodiversity compensation, including its evaluation, selection, design, implementation, and monitoring.*	Principle not addressed. Planning for biodiversity compensation—including its evaluation, selection, design, implementation and monitoring— has not yet included participation from tangata whenua and stakeholders under the FTAA process but there is intent to.
Transparency	*The design and implementation of biodiversity compensation, and communication of its results to the public, is undertaken in a transparent and timely manner.*	Principle addressed in part: the design and implementation of biodiversity compensation will be presented as part of this application

8.3 Assessment against the NPS-FM

The proposed residual effects management for wetland habitat has also been assessed against the compensation principles of the NPS-FM Appendix 7 (**Table 14** below) as wetland offsets cannot be demonstrably achieved for this Project. This assessment is specific to wetlands only and does not cover freshwater streams which are addressed in the *Buller Plateaux Continuation Project Assessment of Environmental Effects: Aquatic Ecology* (Earth Sciences New Zealand, 2026).

Table 15. Assessment against compensation principles in Appendix 7 of the NPS-FM in relation to wetland effects

Principle	NPS-FM Explanation	Assessment
Adherence to the effects management hierarchy	*Aquatic compensation is a commitment to redress more than minor residual adverse effects, and should be contemplated only after steps to avoid, minimise, remedy, and offset adverse effects are demonstrated to have been sequentially exhausted.*	Principle met. The effects management hierarchy has been applied sequentially, focussing first on avoiding potential adverse effects on natural inland wetlands as described in the Ecological Assessment (Ecological Solutions, 2026a).
When aquatic compensation is not appropriate	*Aquatic compensation is not appropriate where, in terms of conservation outcomes, the extent or values are not able to be compensated for. Examples of*	This principle is not met for the wetland habitats and overall for wetlands on the Buller Plateaux, given their irreplaceability and vulnerability coupled with the scale of impact, and

Principle	NPS-FM Explanation	Assessment
	aquatic compensation not being appropriate would include where: • *the affected part of the natural inland wetland or river bed, or its values, including species, are irreplaceable or vulnerable.* • *effects on the extent or values are uncertain, unknown, or little understood, but potential effects are significantly adverse.* • *there are no technically feasible options by which to secure gains within an acceptable timeframe.*	the inability to demonstrably compensate residual effects for any of the habitat types.
Scale of aquatic compensation	*The extent or values to be lost through the activity to which the aquatic compensation applies are addressed by positive effects that outweigh the adverse effects.*	This principle is not met for wetlands as the scale of compensation does not outweigh adverse effects. Consequently, a Net Loss in habitat extent and value is expected for all wetland habitat types.
Additionality	*Aquatic compensation achieves gains in extent or values above and beyond gains that would have occurred in the absence of the compensation, such as gains that are additional to any minimisation and remediation or offsetting undertaken in relation to the adverse effects of the activity.*	The proposed compensation for wetlands does not fully satisfy the threshold for establishing biodiversity gains under the additionality principle. Biodiversity gains are assessed relative to the existing environment (current state), rather than a counterfactual that assumes full implementation of historical consent conditions requiring specified ecological outcomes. As a result, some of the predicted gains may not be strictly additional. This occurs in instances where pest control and weed control programmes and/or stated biodiversity outcomes generated by these programmes are required as conditions of consent on legacy projects. The extent of this non-additionality varies both spatially and temporally. Notwithstanding this limitation, it is relevant to note that in all instances, the proposed measures are expected to deliver biodiversity benefits that are substantially greater than those currently realised under existing baseline conditions.

Principle	NPS-FM Explanation	Assessment
Leakage	*Aquatic compensation design and implementation avoids displacing harm to other locations (including harm to existing biodiversity at the compensation site).*	Principle met
Long-term outcomes	*Aquatic compensation is managed to secure outcomes of the activity that last as least as long as the impacts, and preferably in perpetuity. Consideration must be given to long-term issues around funding, location, management, and monitoring.*	Principle met to a large degree: Benefits will be long-term (though not in perpetuity), as they are intended to last and be actively maintained via weed and mammalian pest management for up to 60 years, e.g. through a covenant or an equivalent mechanism. Monitoring will occur through the Biodiversity Outcome Monitoring Plan.
Landscape context	*An aquatic compensation action is undertaken where this will result in the best ecological outcome, preferably close to the impact site or within the same ecological district. The action considers the landscape context of both the impact site and the compensation site, taking into account interactions between species, habitats and ecosystems, spatial and hydrological connections, and ecosystem function*	Principle met: proposed residual effects management is undertaken on the Buller Plateaux and/or surrounding landscape.
Time lags	*The delay between loss of extent or values at the impact site and the gain or maturity of extent or values at the compensation site is minimised so that the calculated gains are achieved within the consent period or, as appropriate, a longer period (but not more than 35 years).*	Principle met: this has been considered in the approach to staging and in the quantum of residual effects management proposed.
Trading up	*When trading up forms part of aquatic compensation, the proposal demonstrates that the aquatic extent or values gained are demonstrably of greater or higher value than those lost. The proposal also shows the values lost are not to Threatened or At Risk/Declining species or to species*	Not applicable

Principle	NPS-FM Explanation	Assessment
	considered vulnerable or irreplaceable.	
Financial contributions	*A financial contribution is only considered if it directly funds an intended aquatic gain or benefit that complies with the rest of these principles.*	Not applicable
Science and mātauranga Māori	*The design and implementation of aquatic compensation is a documented process informed by science where available, and mātauranga Māori at place.*	Principle addressed in part. The design and implementation of compensation for residual effects on wetlands has been documented and informed by Western science. However, mātauranga Māori has not yet been incorporated into the process.
Tangata whenua and stakeholder participation	*Opportunity for the effective and early participation of tangata whenua or stakeholders is demonstrated when planning aquatic compensation, including its evaluation, selection, design, implementation, and monitoring*	Principle not addressed. Planning for biodiversity compensation - including its evaluation, selection, design, implementation and monitoring - has not yet included participation from tangata whenua and stakeholders under the FTAA process.

8.4 Limits to compensation assessment

8.4.1 Overview

The 'limits to compensation' principle of the NPS-IB and NPS-FM recognises that when assessed against those policy statements, for some biodiversity values, residual effects cannot be effectively compensated for. In applying the principle, we assessed:

a) the irreplaceability or vulnerability of affected values

b) the significance of adverse effects

c) the technical feasibility of demonstrating adequate ecological gains.

For criterion c, assessment was undertaken with reference to:

i. The availability of suitable offset or compensation sites where habitat restoration and enhancement actions can potentially be undertaken
ii. The technical feasibility of achieving stated offsetting or compensation outcomes
iii. The degree of certainty that offsetting or compensation outcomes can be achieved.

8.4.2 Assessment of limits

For identified biodiversity values, adherence to the 'limits to compensation' principle was based on professional judgement, informed by the examples in the NPS-IB (and for natural inland wetlands, the NPS-FM) of when biodiversity compensation may not be appropriate.

The 'limits to offsetting/compensation' were assessed against criteria a) to c) above (**Section 8.4.1**), with offset feasibility evaluated in terms of the availability of suitable sites, the technical feasibility of achieving the proposed outcomes, and the degree of certainty with which those outcomes can be achieved.

Adherence to the compensation principle was assessed based on current information, as:

- Likely: meets or is highly likely to meet principle.
- Potentially not met: may not meet principle. There is some uncertainty regarding the vulnerability of the species, the significance of impact and the potential to demonstrably compensate for residual effects.
- Unlikely: not expected to meet principle, e.g. there are known limitations in compensation opportunities or practicable methods; or there is high uncertainty regarding biodiversity outcomes; and effects on a highly vulnerable species or habitat type are significantly adverse.

In this regard, and based on professional judgement, we consider that the principle is unlikely to be met or potentially not met for the following ecological values:

- Buller Plateaux terrestrial and wetland ecosystems and associated species as a whole
- Southern rātā-mountain beech podocarp forest
- Sandstone pavement and associated vegetation communities
- Mānuka -mountain beech-podocarp shrubland
- Low pākihi wetland
- Mānuka-tussock-wire rush shrubland (wetland)
- The bryophyte and lichen assemblage as a whole
- The nationally Threatened (nationally critical) bryophytes or lichens *Isolembidium anomalum var. anomalum and Neogrollea notabilis,* and potentially *Allisoniella scottii* and *Pseudolophocolea denticulata*
- The nationally Threatened (nationally critical) Avatar moth (*Arctesthes avatar*)
- *Pseudaneitea* sp. (slug)(undescribed species) that has not been classified but for which only two specimens have ever been detected, including one in the Project disturbance area.

For these values, no similar or equivalent or commensurate actions can be assured to deliver like-for-like benefits in an acceptable timeframe, despite the extensive effects management proposed.

9. Conclusion

For those residual adverse effects that cannot be avoided, minimised or remedied, a substantive residual effects package is proposed for biodiversity values across approximately 26,259 ha surrounding the Project disturbance area.

The measures comprising this package are based on well-tested conservation interventions implemented at landscape scales throughout New Zealand, where integrated predator control and pest-exclusion fencing have consistently delivered measurable improvements in the ecological integrity of targeted habitats and in the recovery of native species.

When effectively implemented in accordance with the proposed consent conditions, these measures would reverse the ongoing decline in the condition of native habitats caused by introduced weeds and mammalian pests and support the recovery of Threatened or At Risk taxa currently in decline due to ongoing predation and habitat degradation (irrespective of mining). In the absence of intervention, and irrespective of whether mining proceeds, some of these taxa are likely to face local extinction in the medium to long term.

Despite the scale and robustness of the residual effects package, not all residual effects will be fully addressed. Where a Net Loss outcome is anticipated, the predicted magnitude ranges from Low to Very High. For several values, the "limits to compensation" principles of the NPS-IB and NPS-FM are unlikely to be met. This reflects the irreplaceability and vulnerability of the Buller Plateaux and many of its associated biodiversity values, the magnitude of the predicted impacts, and the uncertainty inherent in demonstrating adequate ecological gains within acceptable timeframes.

For these irreplaceable and vulnerable habitats, communities, and species, Project-related losses will, in many cases, be permanent, or otherwise cannot be addressed within acceptable timeframes. Examples include the permanent loss of sandstone pavement, and the loss of mature forest, which would ultimately be reinstated but would take several hundred years to re-establish and would likely differ in composition and structure from the existing vegetation. Such losses cannot be replaced, offset, or counterbalanced by alternative or larger actions elsewhere.

Accordingly, the Project will result in significant residual adverse effects on biodiversity values of the Buller Plateaux that will remain unaddressed, despite the scale, scope, and robustness of the proposed residual effects package and the positive ecological outcomes it is expected to deliver for some values.

The net result is a comprehensive package of actions that will deliver broad, long-lasting benefits to many species and habitats, will substantially address some of the Project's ecological impacts, and will contribute more broadly to conservation management through the significant applied research and monitoring programmes proposed.

However, from a purely ecological perspective, and within the framework of the NPS-IB and NPS-FM, the proposed package does not counterbalance the Project's residual adverse effects on biodiversity values of the Buller Plateaux. In our professional opinion, the adverse ecological effects of Project activities materially outweigh the ecological benefits delivered by the residual effects management package.

This conclusion is confined to the residual effects management package and to the ecological matters relevant under the FTAA, the NPS-IB and the NPS-FM. It is not intended to undertake the statutory weighting exercise required of the Expert Panel, which considers the residual ecological effects identified in this report alongside the wider matters set out in the Act, including the Project's purposes and benefits. Rather the role of this report is to provide a transparent ecological basis for that weighting, including by identifying both the ecological gains the package will deliver and the ecological values for which the package cannot be demonstrated to provide adequate compensation.

The proposed habitat restoration and enhancement measures, together with the biodiversity outcome monitoring and adaptive management requirements designed to achieve the stated outcomes, are all integrated into the proposed consent conditions.

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11. Applicability

This report has been prepared for the exclusive use of our client Bathurst Resources Ltd, with respect to the particular brief given to us. It may be relied upon by the appointed expert panel and other decision-makers under the Fast-track Approvals process. It should not be used in other contexts or for any other purpose, or by any other person, without our prior written agreement.

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