

BULLER PLATEAUX CONTINUATION PROJECT

Peer Review of the Terrestrial Ecology Technical Reports and Management Plans

Submitted as part of a Fast-track Approvals Act
2024 application

Prepared for: Bathurst Resources Limited

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Executive summary

- 1 Bathurst Resources Limited (including its subsidiary companies Bathurst Coal Ltd, and Buller Coal Ltd, and joint venture company BT Mining Ltd) are seeking approvals through the Fast-track Approvals Act 2024 for the Buller Plateaux Continuation Project to consent the existing infrastructure and mining operations associated with the existing Stockton Mine and provide access to additional coal mining areas across the Stockton Plateau and the Denniston Plateau.
- 2 This technical report provides an independent review of the terrestrial and wetland ecology reports and management plans submitted as part of the Project Fast-track Approvals Act 2024 application including review of the ecological assessment methodology used, the validity of the ecological effects determined by the Project ecologists, and the appropriateness and feasibility of the proposed mitigation, offset and compensation recommendations for the Project.
- 3 I have reviewed all of the terrestrial ecological assessment reports prepared as part of the application and have found the work to have used appropriate best practice survey methodology and to be thorough in terms of physical extent and survey intensity/effort. When combined with the considerable amount of ecological survey work undertaken previously, I believe that the information collected provides a sound base on which to determine the nature and extent of ecological effects that may occur due to the proposed additional mining activities.
- 4 The Terrestrial Ecological Impact Assessment report concludes that 35 of the 42 ecological attributes identified on the Plateaux will have moderate or higher levels of residual ecological effect after avoidance, minimisation and remediation measures have been implemented. Amongst these attributes are 13 habitat types and associated Threatened or At-Risk species including 19 vascular plant species, numerous non-vascular plant species (40 species of bryophyte and 11 lichens), 6 bird, 3 lizard and 4 invertebrate species.
- 5 I agree with the assessments of the overall levels of effect ascribed to each attribute and believe they appropriately reflect the likely level of residual adverse effects of the BPCP on the ecology of the Plateaux before offset and compensation measures are applied.

- 6 The Project residual effects management package is described as an “integrated mammalian pest and weed management programme” and includes:
- a) Four pest exclusion fenced areas enclosing 911 ha of the Buller Plateaux within which all mammalian pests and weka will be eliminated or removed;
 - b) A 1,505 ha area intensive ground-based pest control of rodents, mustelids, possums, feral cats and ungulates on the north-eastern margin of Stockton Plateau;
 - c) A 9,431 weed management programme, of which 6,713 ha is in proposed compensation sites;
 - d) An area of 23,843 ha surrounding the pest exclusion fenced areas and the Blackburn Pākihi ground control area where periodic aerial 1080 operations will occur supported by ground-based stoat control;
 - e) A fifth pest exclusion fenced area of 14 ha is also proposed for construction. This fenced area is intended to provide predator and weka free habitat for *Powelliphanta patrickensis* in an area of relocated VDT red tussock snail habitat as an additional measure to address snail requirements under the existing Cypress Mine Consent conditions.
- 7 I support the Project emphasis on intensive pest control as the primary form of biodiversity compensation. The intensive and sustained control of mammalian pests to low densities can provide almost immediate benefit to predator-vulnerable native animal species and highly palatable plant species, thus reducing the time-lag between the impact of adverse effects and the generation of benefits. Effective pest control cannot replace lost habitat but it can enhance the quality and carrying capacity of existing habitat and improve plant and animal recruitment and productivity.
- 8 Pest exclusion fence technology and the methodology to eradicate mammalian pests inside exclusion fencing are now well proven. In addition, documented evidence of the ecological benefits of predator-free environments for indigenous avifauna, lizards and invertebrates and mammalian browser-free habitat for indigenous vegetation is now considerable. For this reason, there can be confidence that the projected positive biodiversity outcomes within the pest exclusion fenced areas have a high likelihood of being achieved. Mouse eradication has proven to be a challenge at some fenced sanctuaries but in most cases where mouse eradication has not been achieved mouse densities have been successfully held to low levels.

- 9 The pest exclusion fenced areas encompass a representative range of the habitat types that will be most affected by the Project, so will provide favourable habitat for many of the indigenous flora and fauna species affected by the Project and may also provide improved habitat quality for species that are not directly affected by mining.
- 10 Measurable biodiversity compensation outcome targets for the residual effects management package include a 100% increase in forest gecko, Westland speckled skink and West Coast green gecko and a 100% increase in *Powelliphanta patrickensis* within the pest exclusion fenced areas. The targets set for all of the pest management areas (including the pest fenced areas) are based on monitored and documented responses to pest management and eradication elsewhere in New Zealand. In my view the targets are realistic and there is a high level of confidence that these targets can be achieved.
- 11 The Residual Effects Management Report concludes that there will be significant residual adverse effects on biodiversity values on the Plateaux after the effects management programme is fully implemented. I agree with this conclusion and the ecological values identified as likely to experience residual adverse effects. The unique nature and composition of the biodiversity values on the Buller Plateaux, in particular the irreplaceability and vulnerability of several habitats, communities and species present there, and the magnitude with which those values will be affected by the Project means that it is not possible to fully compensate for all ecological effects.
- 12 This conclusion should not diminish the value of the residual effects management package and the confidence that the package will deliver significant biodiversity gains but it reflects the unique nature of the ecology of the Plateaux and the lack of proven tools and methods to fully compensate for all of the effects.

INTRODUCTION

- 13 My full name is Roger John MacGibbon. I am a Principal Ecologist at Tonkin & Taylor Limited.
- 14 Bathurst Resources Limited (including its subsidiary companies Bathurst Coal Ltd, and Buller Coal Ltd, and joint venture company BT Mining Ltd) (**Bathurst**) are seeking approvals through the Fast-track Approvals Act 2024 (**FTAA**) for the Buller Plateaux Continuation Project (**BPCP**, or **the Project**).
- 15 The purpose of the Project is to re-consent the existing infrastructure and mining operations associated with the existing Stockton Mine and provide access to additional coal mining areas across the Stockton Plateau and the Denniston Plateau (collectively referred to as the **Buller Plateaux**).
- 16 This technical report provides an independent review of the terrestrial and wetland ecology reports and management plans submitted as part of the Project Fast-track Approvals Act 2024 application.

Qualifications and experience

- 17 I have the following qualifications and experience relevant to this assessment:
 - a) I hold a Bachelor of Science Degree with Honours in Zoology and Ecology from the University of Canterbury (1981).
 - b) I have over 40 years' experience working as an ecologist and environmental consultant and have worked in all regions of New Zealand and in Hawaii, Vanuatu and Australia.
 - c) Since January 2018 I have been employed at Tonkin & Taylor as a Principal Ecologist. Prior to that:
 - i) I worked for seven and a half years for Opus International Consultants, also as a Principal Ecologist.
 - ii) I owned and managed my own environmental consultancy, Natural Logic Limited (between 1995 and 2010), which provided ecological, restoration and sustainable land and water management services to central and local government, industry and private landowner clients throughout New Zealand.

- iii) For seven years from 2002 to 2009, I also managed the Xcluder Pest Proof Fencing Company, a business that designed and built 130 km of pest proof fences to create biodiversity sanctuaries in New Zealand, Hawaii, Mauritius and Australia.
- iv) I worked for the Department of Conservation (DOC) in the early years of my career in Taupo and the Environmental Division of the NZ Forest Service in Wellington before the creation of DOC. During my time with DOC I managed the Taupo Native Plant Nursery, then the largest revegetation nursery in New Zealand.
- d) I specialise in ecological restoration and have provided design, technical support and project management services for a wide range of restoration projects across terrestrial, freshwater and coastal environments. This work has included:
 - i) the rehabilitation of damaged landscapes such as mines and quarries;
 - ii) the restoration of predominantly natural habitat including native forest, wetlands, sub-alpine shrublands, stream margins and coastal dunes;
 - iii) the enhancement of water quality and biodiversity in natural waterways and wetlands;
 - iv) the design and creation of natural features, such as wetlands and riparian areas, to treat runoff and wastewater;
 - v) the control and eradication of weeds and animal pests; and
 - vi) the management and reintroduction of indigenous fauna (invertebrates and vertebrates) to restored environments.
- e) I have provided evidence at more than 20 council and Environment Court hearings under the Resource Management Act 1991 and participated in seven Fast-track applications (as a Panel member and by providing assistance to panels and applicants).
- f) I have previously undertaken ecological work in the Buller area including work on the Denniston and Stockton plateaux.

Code of conduct

- 18 I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. This assessment has been prepared in compliance with that Code, as if it were evidence being given in Environment Court

proceedings. In particular, unless I state otherwise, this assessment is within my area of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

Purpose and scope of statement

- 19 The purpose of this statement is to provide an independent review of Bathurst's terrestrial ecology technical reports and management plans including the ecological assessment methodology used, the validity of the ecological effects determined by the Project ecologists, and the appropriateness and feasibility of the proposed mitigation, offset and compensation recommendations for the Project.

THE BULLER PLATEAUX CONTINUATION PROJECT

- 20 The full description for the Project is provided in the AEE. I do not repeat it in my statement.

METHODOLOGY

Introduction

- 21 My approach has been to review all relevant Project reports necessary to develop an understanding of the likely terrestrial environmental effects of the Project (construction, operation and closure), consider whether the extent and nature of the effects have been correctly and fully assessed, documented and addressed, and determine whether the proposed effects management package (including, where applicable, offset/compensation measures) appropriately addresses the impacts of the construction, operation and closure of the Project.
- 22 The technical reports and management plans reviewed include:
- A. Technical reports:
- a) Ecological Solutions Limited. 2026. **Buller Plateaux Continuation Project Terrestrial Ecological Impact Assessment Report**. Unpublished report prepared for Bathurst Resources Limited by Ecological Solutions Limited.
- b) Ecological Solutions Limited. 2026a. **Buller Plateaux Contextual Study**. Unpublished report prepared for Bathurst Resources Limited by

Ecological Solutions Limited. **Appendix A** of the Ecological Impact Assessment Report.

- c) Ecological Solutions Limited 2026c. Buller Plateaux Continuation Project **Escarpment Extended Project Sub-Area Baseline Surveys**. Unpublished report prepared by Ecological Solutions Limited for Bathurst Resources Limited. **Appendix C** of the Ecological Impact Assessment Report.
- d) Ecological Solutions Limited 2026d. Buller Plateaux Continuation Project **Mt Frederick South Project Sub-Area Baseline Surveys**. Unpublished report prepared by Ecological Solutions Limited for Bathurst Resources Limited. **Appendix D** of the Ecological Impact Assessment Report.
- e) Ecological Solutions Limited 2026e. Buller Plateaux Continuation Project **Baseline Ecological surveys for the Stockton Project sub-area**. Unpublished report prepared by Ecological Solutions Limited for Bathurst Resources Limited. **Appendix E** of the Ecological Impact Assessment Report.
- f) Ecological Solutions Limited 2026f. Buller Plateaux Continuation Project **Upper Waimangaroa Haul Road Project Sub-Area Baseline Surveys**. Unpublished report prepared by Ecological Solutions Limited. **Appendix F** of the Ecological Impact Assessment Report.
- g) Ecological Solutions Limited 2026g. Buller Plateaux Continuation Project **Wildlife Act Authorisation Technical Report**. Unpublished report prepared by Ecological Solutions Limited for Bathurst Resources Limited. **Appendix G** of the Ecological Impact Assessment Report.
- h) Ecological Solutions Limited 2026. Buller Plateaux Continuation Project **Assessment of Rehabilitation Outcomes**. Unpublished report prepared by Ecological Solutions Limited for Bathurst Resources Limited.
- i) Lloyd's Ecological Consulting. 2026. **An assessment of the impacts of the Buller Plateaux Continuation Project on *Powelliphanta patrickensis* snails and proposed effects management**. Report prepared for Bathurst Resources Ltd. 18 February 2026.

- j) Alliance Ecology. 2026. **Residual Effects Management Report Buller Plateaux Continuation Project**. Unpublished draft report prepared for Bathurst Resources Limited.
- k) Alliance Ecology. 2026. **Pest mammal survey**. Buller Plateaux Pest Monitoring. Unpublished draft report prepared for Bathurst Resources Limited.

B. Management plans:

- a) Bathurst Resources Limited. 2026. **Avifauna Management Plan** Buller Plateaux Continuation Project. July 2026.
- b) Bathurst Resources Limited. 2026. **Lizard Management Plan** Buller Plateaux Continuation Project. June 2026.
- c) Bathurst Resources Limited. 2026. **Pest Control and Elimination Plan**. Unpublished report prepared for Bathurst Resources Limited. July 2026.
- d) Bathurst Resources Limited. 2026. **Biodiversity Outcome Monitoring Plan** Buller Plateaux Continuation Project. August 2026.
- e) Bathurst Resources Limited. 2026. **Powelliphanta Snail Management Plan** Buller Plateaux Continuation Project. July 2026.
- f) Bathurst Resources Limited. 2026. **Biosecurity Management Plan**. Buller Plateaux Continuation Project. June 2026.
- g) Bathurst Resources Limited. 2026. **Weed Management Plan**. Buller Plateaux and Blackburn Pākihi. June 2026.

23 In addition to the technical reports and management plans reviewed, the following documents were read and considered to complete my review of the terrestrial ecological aspects of the project:

- a) Bathurst Resources Limited. 2026. Rehabilitation Management Plan Buller Plateaux. July 2026.
- b) Pestproof Fences Ltd. 2025. Pest exclusion fencing feasibility report, Denniston and Stockton Plateaux, Buller District. August 2025. Report prepared for Alliance Ecology.

- c) McLennan, J. 2025. Possible responses of great spotted kiwi to pest exclusion fences on the Denniston and Stockton Plateaux Buller District. Report prepared for Alliance Ecology.
- 24 During the process of finalisation of the above-mentioned reports and plans I provided high level commentary and feedback on technical aspects of the documents and then provided a review of the final versions.
- 25 I visited the Project site on 25 and 26 March 2025 and was able to view most of the areas where future mining works are proposed, where past ecological rehabilitation has occurred and where ecological compensation is proposed (including the proposed fenced pest-free areas).
- 26 I have read some early versions of the proposed draft consent conditions but have not reviewed the most recent version(s). Consequently, I do not provide a review of the draft conditions in this statement.

OVERVIEW OF THE ECOLOGY OF THE BULLER PLATEAUX

- 27 The Buller Plateaux is a large contiguous high rainfall, relatively high altitude, gently undulating area with a unique mosaic of wetlands, shrublands, upland forest and expanses of tussock and wire-rush plant communities. The Plateaux is characterised by shallow, low fertility, poorly drained soils which means that plant growth is slow and productivity is low. The mosaic of vegetation types has created extensive natural edges or ecotones – the transitional zones between different plant communities.
- 28 Because of these factors, the Plateaux has high plant species diversity and high habitat diversity for fauna. Thirty-one vascular plant species have been recorded that are considered either 'Threatened' or 'At-Risk' including several locally endemic species. Bryophytes (mosses, liverworts and hornworts) form a major component (30%) of the Buller Plateaux flora with 50 species classified as 'Threatened' or 'At-Risk'.
- 29 The vegetation type with the greatest extent across the mapped vegetation areas, and a characteristic feature of the Buller Plateaux, is low pākihi wetland (20.6%). It is also the second highest vegetation type in terms of area to be affected by mining; 10.3% of the pākihi in the mapped area lies within the Disturbance Area and another 1.1% lies in areas determined to have the potential to experience edge effects. Pākihi is

classified as natural inland wetland in the National Policy Statement for Freshwater Management (2020).

- 30 The Buller Plateaux is important habitat for great spotted kiwi / rōroa (*Apteryx maxima*), a variety of forest, shrubland and wetland bird species (including four 'Threatened' or 'At-Risk' in addition to rōroa), three 'Threatened' or 'At-Risk' lizard species, and several 'Threatened' or 'At-Risk' invertebrate species including two species of snail (*Powelliphanta patrickensis* and *Powelliphanta augusta*) endemic to the Stockton and Denniston Plateaux and with the conservation status of 'Threatened – Nationally Critical'.
- 31 The Buller Plateaux has been modified to varying degrees by humans with repeated and extensive burning through until the 1920's resulting in the predominant shrubland vegetation being replaced with more open vegetative cover dominated by tangle fern and wire rush. The construction of buildings and roads for mining, the occasional occurrence of underground fires and the more recent use of tracks across the plateaux for four-wheel recreational driving have also altered vegetation sequences and ecological succession. Despite these human influences and the presence of introduced predators and browsing animal pests, the Buller Plateaux has remained a site of high ecological value with a high degree of indigenusness.

COMMENT ON THE METHODOLOGY USED TO ASSESS THE SITE TERRESTRIAL AND WETLAND ECOLOGICAL VALUES

- 32 I have reviewed all of the terrestrial ecological assessment reports prepared as part of the Fast-track application and have found the work to have used best practice survey methodology and to be thorough in terms of physical extent and survey intensity/effort. The preparation of the assessment of ecological effects has further been strengthened by the knowledge gained from the many ecological studies undertaken on the Plateaux dating back to the early 1990's. The combination of extensive temporal and spatial coverage provides confidence that the knowledge of the ecological values and the state of the plant and animal taxa currently present on the Plateaux is comprehensive and as accurate as can be expected across an area of this size and habitat complexity.

- 33 10,129 hectares of the Buller Plateaux were mapped for vegetation type (referred to as the 'Mapped Area' in reports and management plans) and this included classification of 152 vegetation plots and analysis of 45,690 aerial images. In addition, walk-through surveys were used to ground truth the mapping and inform the vegetation and habitat descriptions.
- 34 Dr Bruce Burns has provided a separate review of the appropriateness of the vegetation surveys undertaken for the Buller Plateaux Ecological Assessment (**EclA**). His concluding comments are *"Both projects (vegetation map and conservation prioritisation) used state-of-the-art methodologies to achieve their objectives using as comprehensive as possible and high-quality datasets. The outputs generated provide a solid framework for decision-making and management and I endorse the processes used in developing them and the results."* I agree with this assessment.
- 35 Bird surveys on the Buller Plateaux have used a variety of methods including five-minute bird counts, acoustic recorder surveys for diurnal birds, standard call count surveys (e.g., for rōroa/great spotted kiwi (*Apteryx maxima*)) and acoustic recorder surveys for nocturnal birds. The five-minute bird counts date back to 2011 with recent surveys across the proposed new disturbance areas including:
- a) 41 stations within the 503 ha Escarpment Extended sub-area (ESE) plus an additional 79 stations monitored in the areas adjacent to the ESE, all monitored biennially since 2011;
 - b) 19 stations within the 175 ha Mount Frederick South (MFS) sub-area plus 6 in adjacent areas;
 - c) 34 stations along the 19 km (45 ha) Upper Waimangaroa Haul Road (UWHR);
 - d) 12 acoustic recorders deployed in 2024 in the MFS sub-area;
 - e) Walk-through observational bird surveys in 2020 in the 31 ha Stockton sub-area disturbance area;
 - f) Great spotted kiwi / rōroa call-count surveys have also been undertaken with biannual surveys undertaken on the Denniston Plateau since 2013 at 19 established listening stations. Rōroa surveys have also included the use of acoustic recorders, radio-tracking and trained kiwi dog surveys.

- 36 Manual day searching and nocturnal spotlighting lizard surveys were undertaken on the Denniston Plateau and Waimangaroa Valley. Evaluation of habitat types most occupied by lizards in the ESE sub-area and utilisation of information gained from earlier lizard surveys undertaken across the Plateaux were used to identify areas of likely lizard occupation elsewhere across the Plateaux. Lizards were assumed to be present across the Plateaux in habitat types determined to be favourable in field surveys. This is considered to be an appropriate and suitably conservative approach to determining where lizard species might be present in an environment as complex as that found on the Plateaux.
- 37 Terrestrial invertebrate surveys were undertaken in a range of vegetation types in the ESE, MFS and UWHR project sub-areas using pitfall trapping, malaise trapping, sweep netting hand searching and beat sampling. The information gained from these recent field surveys combined with previous invertebrate surveys has enabled the invertebrate communities to be characterised for each vegetation type.
- 38 Snail surveys have been undertaken across the Plateaux over many years. Six *Powelliphanta* capture-recapture monitoring surveys have been undertaken at marked plot sites on the Denniston Plateau between 2014 and 2024. *Rhytida* snails have also been studied throughout the Ngakawau Ecological District since the 1940's.
- 39 In summary, I consider the field survey work undertaken to have been appropriate in terms of methods used and effort applied and, when combined with the considerable amount of ecological survey work undertaken previously, I believe that the information collected provides a sound base on which to determine the nature and extent of ecological effects that may occur due to the proposed additional mining activities.

COMMENT ON THE ASSESSMENT OF TERRESTRIAL AND WETLAND ECOLOGICAL EFFECTS

- 40 A detailed description of the expected and potential terrestrial and wetland ecological effects of the project construction, operation and closure is contained in the Bathurst's Buller Plateaux Continuation Project Terrestrial Ecological Impact Assessment Report (produced by EcoLogical Solutions) and the Residual Effects

Management Report Buller Plateaux Continuation Project (produced by Alliance Ecology).

- 41 The assessment of potential effects of the Project on ecological values was completed in accordance with the Environment Institute of Australia and New Zealand ('EIANZ') Ecological Impact Assessment Guidelines (Roper-Lindsay et al., 2018). The EIANZ guidelines, while not a statutory assessment method, are widely and effectively used by many of the leading ecologists in New Zealand and have been used repeatedly and accepted in RMA and Environment Court hearings.
- 42 In summary, the main actual and potential adverse ecological effects identified are:
 - a) Loss, fragmentation, degradation and general disturbance of 334.2 ha of terrestrial and 420 ha of wetland habitat (of which 213.9 ha is low pākihi) through staged vegetation clearance and earthworks, including the deposition of overburden.
 - b) Direct mortality or injury to fauna species that may be harmed during vegetation clearance, earthworks activities, blasting and transportation movements.
 - c) The creation of habitat edge effects over an area of 128.2 ha, potentially altering the composition and health of vegetation adjacent to clearance areas (i.e. habitat degradation), which may affect habitat suitability for flora and fauna and will increase the area's vulnerability to weeds and pests.
 - d) Removal and fragmentation of habitats could affect movement of some species with limited mobility (such as snails), with possible effects on meta-population dynamics and increased vulnerability to local extinction.
 - e) Disturbance associated with noise, dust, lighting and vibration from mining activities.
- 43 Of the main vegetation types affected (i.e. the types with greatest area loss), Table 1 shows the extent of each type that will be removed from within the Disturbance Area, the percentage of vegetation removal of each vegetation type compared to its extent in the mapped vegetation area, the area with the potential to experience edge effects plus the total area and percentage of clearance and edge effects combined.

- 44 The maximum percentage proposed for clearance and influenced by edge effects of any one of the main vegetation types currently found within the Mapped Area of the Plateaux is 12.4% for mānuka-tussock-wire rush shrubland (see Table 1).

Table 1: Area (ha) and percentage of main vegetation types in the Mapped Area to be removed

Vegetation type	Area to be removed (ha) (i.e. in the Disturbance Area)	Percentage to be removed of what is present in the Mapped Area (%)	Area likely to experience edge effects (ha)	Percentage of the Mapped Area to be removed and subject to edge effects (%)
Low pākihi (wetland)	213.9	10.3%	23.1	11.4%
Southern rātā-mt beech-podocarp forest	177.1	7.1%	49.4	9.1%
Mānuka-tussock-wire rush shrubland (wetland)	104.2	11.0%	12.9	12.4%
Mānuka-mt beech-podocarp shrubland	84.7	5.8%	13.4	6.7%

- 45 The original extent of each vegetation type across the Plateaux before mining is not known, but of the 4,661 ha of Brunner coal measures geology on the Buller Plateaux 1,124 ha (24%) of cover has been removed by the Stockton Mine and up to a further 985.7 ha¹ (21%) could be removed by the BPCP, leaving 55% of the original extent remaining².

¹ While the FTAA approval boundary would allow up to 987.5 ha to be cleared, the application is only seeking to clear 755 ha.

² This information has been sourced from Section 3.2 of Ecological Solutions Limited. 2026. Buller Plateaux Continuation Project Terrestrial Ecological Impact Assessment Report.

- 46 For the purpose of determining effects, the application conservatively assumes that all areas categorised as likely to experience edge effects (also referred to as the “indirect effects contingency area” in the Residual Effects Management Report) in one form or another will be completely lost as habitat. This is despite the fact that these areas are not intended to be directly disturbed.
- 47 11,578 ha of coal measures vegetation originally existed across the Ngakawau ED. 78.6% of this will remain after the BPCP.
- 48 In addition to the loss of habitat, direct effects on fauna will include mortality or injury to individual animals during vegetation clearance. This applies especially to small animals with limited mobility, notably lizards, *Powelliphanta* snails and other invertebrate species.
- 49 The proposed vegetation clearance will reduce the current distribution range / available habitat of *Powelliphanta patrickensis* by 6.1% on Stockton Plateau and 22.3% on Denniston Plateau³.

Mitigation measures – avoidance, minimisation and remediation

Avoidance and minimisation

- 50 Because the location of the coal resource is fixed, there are limited opportunities to alter the footprint of the area of mining disturbance to avoid habitat. However, effort has been directed at reducing effects to the highest value habitats by repositioning infrastructure such as roads, buildings and overburden disposal sites with the result that the area of high value habitat originally proposed for clearance has been reduced by 188.7 ha.
- 51 Additional measures have been proposed in the Terrestrial Ecological Impact Assessment Report to minimise effects during mining with particular focus on reducing the potential for plant and animal pest invasion into disturbed areas and salvage and relocation of snails and lizards.
- 52 The proposed lizard effects avoidance measures include salvage and relocation to suitable undisturbed sites. Realistically, lizard salvage and relocation measures are

³ Lloyd’s Ecological Consulting. 2026. An assessment of the impacts of the Buller Plateaux Continuation Project on *Powelliphanta patrickensis* snails and proposed effects management.

unlikely to reduce the overall severity of effects on lizards because it is likely that only a small proportion of individuals present can be found and salvaged (suggested to be as low as less than 1% in the Lizard Management Plan) and because of the uncertainty associated with post-relocation survival. The low projected salvage rates are because of the challenging nature of the terrain and the associated health and safety risks. I agree that site conditions will reduce the rate of lizard salvage compared to what might normally be expected.

- 53 It is noted that winter vegetation clearance is planned to occur on occasions. Winter clearance will increase lizard mortality although the projected overall magnitude of effects on lizards won't change greatly when winter vegetation clearance occurs because of the anticipated low overall lizard salvage rates. Despite the expected low lizard salvage rates, the placement of limits on the amount of vegetation clearance undertaken during winter months in areas known to be inhabited by lizards would help to reduce the extent of lizard mortality.
- 54 As is the case for lizards, there is only limited information available on the survival of *P. patrickensis* snails following salvage and translocation. However, results from the capture-recapture monitoring referred to in the snail impact and effects management report⁴, presented as part of the FTAA application, suggests that survival rates of 70% or more could be expected especially if snails are relocated to pest-free areas.

Remediation

- 55 Progressive rehabilitation of mined areas is proposed (as described in the Rehabilitation Management Plan). Rehabilitation methods include: direct transfer of vegetation ('VDT'), revegetation/planting with native seedlings, and creation of habitats for bryophytes, lichen and fauna.
- 56 Of these methods, VDT has proven to be the most successful at Stockton Mine. With VDT, large "slabs" of vegetation, including the soil beneath each slab and the fauna within it, are physically lifted from one area (the area to be mined) and repositioned on cleared land that will not be subject to further disturbance. VDT minimises structural damage to both vegetation and soils, and is able to retain a range of animals

⁴ Lloyd's Ecological Consulting. 2026. An assessment of the impacts of the Buller Plateaux Continuation Project on *Powelliphanta patrickensis* snails and proposed effects management. Report prepared for Bathurst Resources Ltd. 18 February 2026.

with reduced mobility, such as land snails, poorly mobile beetles, lizards and soil invertebrates (including worms). Evidence of this is as follows:

- a) Surveys have shown that *P. patrickensis* snails remain in VDT areas at densities similar to undisturbed habitat⁵.
- b) Forest gecko and Westland speckled skinks readily inhabit VDT although it is not known whether they survived transfer or recolonised from surrounding areas⁶. The presence of West Coast Green gecko in VDT has yet to be confirmed.
- c) Bryophyte communities were retained within VDT with >25% of indicator taxa and species of conservation concern recorded⁷.

57 I was able to visit and walk through some of the VDT sites during my site visit and was impressed with the extent to which vegetation communities had retained an intact cover and the natural three-dimensional integrity of micro-habitats.

58 VDT is a very effective remediation method because it largely eliminates the time lag between when clearance or disturbance occurs and when habitable conditions are re-created. However, the extent of the Disturbance Area that can be recovered as VDT is limited to 15% of the proposed area of disturbance because of the need to have suitable cleared and no longer used deposition sites to place the VDT. This means that other rehabilitation methods, including planting, vegetation indirect transfer and hand transfer must be used for the rest of the mine site.

59 Evidence to date^{8,9} suggests that areas revegetated with native seedlings take several decades to produce conditions that are favourable to many of the native fauna species present on the Plateaux. For example, snail surveys have shown that most areas rehabilitated by planting and or seeding in the past do not provide suitable habitat for *P. patrickensis* snails, even 20 years after rehabilitation. Consequently, at best there is

⁵ Lloyd, B. (2024). Surveys for *Powelliphanta patrickensis* snails in areas rehabilitated after mining. Unpublished report for Bathurst Resources Limited by Lloyd's Ecological Consulting. 31pp.

⁶ Section 6.2 of Ecological Solutions Limited 2026. Buller Plateaux Continuation Project Assessment of Rehabilitation Outcomes. Report prepared for Bathurst Resources Ltd. January 2026.

⁷ Section 7.2.2 of Ecological Solutions Limited 2026. Buller Plateaux Continuation Project Assessment of Rehabilitation Outcomes. Report prepared for Bathurst Resources Ltd. January 2026.

⁸ Lloyd's Ecological Consulting. 2026. An assessment of the impacts of the Buller Plateaux Continuation Project on *Powelliphanta patrickensis* snails and proposed effects management. Report prepared for Bathurst Resources Ltd. 18 February 2026.

⁹ Ecological Solutions Limited 2026. Buller Plateaux Continuation Project Assessment of Rehabilitation Outcomes. Report prepared by Ecological Solutions Limited for Bathurst Resources Limited. January 2026.

a substantial lag between removal of vegetation and its replacement with habitat suitable for utilisation by native flora and fauna.

- 60 Biodiversity outcome targets in response to VDT rehabilitation and revegetation by planting are presented in Table 5 of the Biodiversity Outcome Monitoring Plan. Measurable occupancy and/or relative abundance targets at 35 years compared to pre-mining baseline conditions have been established which are based on the monitored effectiveness of rehabilitation on the Buller Plateaux over the past 30 or more years. For this reason, a reasonable degree of confidence can be placed on these target outcomes being achieved.

Residual adverse ecological effects

- 61 The Terrestrial Ecological Impact Assessment report concludes that 35 of the 42 ecological attributes identified on the Plateaux will have moderate or higher levels of residual ecological effect after avoidance, minimisation and remediation measures have been implemented. Amongst these attributes are 13 habitat types and associated Threatened or At-Risk species including 19 vascular plant species, numerous non-vascular plant species (40 species of bryophyte and 11 lichens), 6 bird, 3 lizard and 4 invertebrate species.
- 62 The main reasons for the high level of residual effects are the very high ecological values present on the Plateaux, the large extent of the habitat disturbance required to undertake the proposed mining activities, and the substantial time lag between disturbance and effective rehabilitation.
- 63 I agree with the assessments of the overall levels of effect ascribed to each attribute and believe they appropriately reflect the likely level of residual adverse effects of the BPCP on the ecology of the Plateaux before offset and compensation measures are applied.

COMMENT ON THE PROPOSED TERRESTRIAL AND WETLAND ECOLOGICAL RESIDUAL EFFECTS MANAGEMENT MEASURES

Proposed residual effects management package

- 64 No biodiversity offset measures are proposed on this Project to address the adverse residual ecological effects. Offsets, by their nature, require the ability to measure/quantify ecological state before, during and after the offsets have occurred. The Project ecologists are of the view that, because of the scale of the Project and the associated extent of the ecological effects, it is not feasible to quantify plant and animal populations across the whole Project area with suitable accuracy to be able to demonstrate change over time. For this reason, the residual management package offered is presented as compensation.
- 65 I accept that the package offered is most accurately described as compensation but note that this should not diminish the ability to measure positive (or negative) change at the sites where the management measures are to be implemented.
- 66 The Project residual effects management package is described as an “integrated mammalian pest and weed management programme” and includes:
- a) Construction of four¹⁰ pest exclusion fenced areas around approximately 911 ha of 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. The four proposed fenced areas are:
 - i) Denniston North pest exclusion fenced area (47.3 ha) on Denniston Plateau
 - ii) Coalbrookdale pest exclusion fenced area (154.4 ha) on Denniston Plateau
 - iii) Mt. Augustus pest exclusion fenced area (14.6 ha) on the Stockton Plateau, designed explicitly to provide pest-free habitat for *Powelliphanta augusta*.

¹⁰ Note that a fifth pest exclusion fenced area is proposed for construction: the 14ha Cypress Mine fenced area adjacent to the Whirlwind Rise pest exclusion fenced area. This fenced area is intended to provide predator and weka free habitat for *Powelliphanta patrickensis* in an area of relocated VDT red tussock snail habitat. The fence and the relocation of the tussock habitat are proposed as measures to address snail requirements under the existing Cypress Mine Consent conditions. This fence will adjoin the Whirlwind Rise fence when the latter is built 10 years later.

- iv) Whirlwind Rise pest exclusion fenced area (694.9 ha) on the Stockton Plateau
 - b) Intensive ground-based pest control of rodents, mustelids, possums, feral cats and ungulates will occur over a 1,505 ha area on the north-eastern margin of Stockton Plateau. This area, called the Blackburn Pākihi intensive ground-control area, encompasses lowland forest, pākihi wetlands and shrublands all with high biodiversity values.
 - c) A 9,431 weed management programme, of which 6,713 ha is in proposed compensation sites.
 - d) An area of 23,843 ha surrounding the pest exclusion fenced areas and the Blackburn Pākihi ground control area (called the 'wider managed landscape' or 'control halo' where periodic aerial 1080 operations will occur supported by ground-based stoat control.
- 67 The pest exclusion fenced areas will be managed and maintained for a 50-year period, pest management will continue in the Blackburn Pākihi area for a period of 35 years and pest management will continue for 60 years from the granting of approvals in the wider managed landscape. In effect, the 50-year management period for the fenced areas and the 60-year pest management period over the wider landscape area coincide because the last of the pest exclusion fenced areas will be completed 10 years after the granting of approvals.

Expected outcomes within the effects management areas

- 68 The intensive and sustained control of mammalian pests to low densities can provide almost immediate benefit to predator-vulnerable native animal species and highly palatable plant species, thus reducing the time-lag between the impact of adverse effects and the generation of benefits. Effective pest control cannot replace lost habitat but it can enhance the quality and carrying capacity of existing habitat and improve plant and animal recruitment and productivity.
- 69 Apart from the use of VDT, intensive pest control is the only ecological restoration method that can provide immediate benefits at a scale that matches the proposed impacts on the Buller Plateaux. For this reason, I support the Project emphasis on intensive pest control as the primary form of biodiversity compensation.

- 70 Based on the pest surveys undertaken, rats, mice and stoats are the predators likely to be having the greatest impact on the Plateaux, especially on birds (including rōroa)¹¹, reptiles¹² and invertebrates (including *Powelliphanta* snails)¹³. While surveys of these pests on the Plateaux show moderate densities¹⁴ compared to what has been recorded in other parts of the country and in native forest, the Buller Plateaux is an acknowledged low productivity environment (high rainfall, low fertility soils and higher elevation) and under these conditions predators, even at moderate densities, can have a significant impact on bird, lizard and invertebrate survival and recruitment.
- 71 Sustained control of rodents (and possums) to below 5% chew card index (CCI) and stoats to less than 2 detections per 2000 camera hours (CH) (as stated in Table 8 of the Pest Control and Elimination Plan¹⁵) within the Blackburn-Pākihi Intensive ground control area is achievable and can, on the basis of results achieved at other intensive pest management projects^{16,17}, be expected to have an immediate and positive effect on native fauna in the treatment area.
- 72 I note that no mouse density management targets have been set for the Blackburn Pākihi Intensive Ground Control Area. Relatively high mouse densities (camera detections of up to 58%) have been recorded on the Plateaux and experience at other locations across New Zealand has shown that mouse densities can increase markedly when rats are controlled to below 5% CCI. High mouse densities can be expected to have an adverse effect on invertebrates (including snails), lizards and some bird species. As stated and referenced in Section 5 of the Pest Mammal Survey report¹⁸, there is considerable evidence to show that geckos, skinks and wētā are all strongly impacted when mouse abundance exceeds 5% tracking.

¹¹ McLennan, J.A. (2011). Great spotted kiwi monitoring in Cypress Stream catchment, Stockton Plateau. Spring 2010 - Spring 2011. Unpublished report to Solid Energy Ltd, prepared by John A McLennan Environmental Services Ltd. 10 p [cited in the Residual Effects Management Report, June 2026].

¹² Monks J.M., Besson A.A., O'Donnell C.F.J. (2024). Landscape scale control of selected mammalian predators fails to protect lizards. *Biological Invasions* 26(1):107–118.

¹³ Department of Conservation. (2024c). Heaphy and Denniston biodiversity projects annual report: 1 July 2023 – 30 June 2024. Department of Conservation.

¹⁴ Camera detections - mice 25-58%, rats 37.6-54%

¹⁵ Bathurst Resources Limited. 2026. Pest Control and Elimination Plan.

¹⁶ Brown, K., Elliott, G., Innes, J., & Kemp, J. (2015). Ship rat, stoat and possum control on mainland New Zealand: An overview of techniques, successes and challenges. Department of Conservation

¹⁷ For example, two consecutive years of record kokako fledging following the commencement of an intensive pest management programme over 3,650 ha of native forest in north Taranaki in 2023 (source: Mt Messenger Alliance and Ngāti Tama).

¹⁸ Alliance Ecology. 2026. Pest mammal survey. Buller Plateaux Pest Monitoring.

- 73 Because invertebrates, lizards and wetland bird species are a major focus of the effects management programme on the Plateaux, I would recommend that mice densities are monitored across the Blackburn Pākihi Intensive Ground Control Area and a mouse density threshold is set above which targeted ground-based control of mice is undertaken. A ground-based rat control network of bait stations will serve to provide some control of mice especially when rat densities are low but toxins less favoured by or effective against mice (such as diphacinone and pindone) will need to be replaced with mouse registered toxins (such as cholecalciferol). Periodic utilisation of mouse-effective baits may be sufficient to control mouse densities to relatively low levels but persistently high mouse densities may require that bait station density per hectare is increased to account for the smaller home ranges of mice.
- 74 A major part of the compensation package is the establishment of 911 ha of mammalian pest and weka-free sanctuaries surrounded by pest exclusion fencing. The eradication of all mammalian pests in the areas surrounded by pest exclusion fences has been shown in New Zealand to result in demonstrable, and often considerable, biodiversity gains compared to areas of no pest control, pest suppression or periodic control¹⁹. Peer reviewed evidence of this is documented in the Biodiversity Outcome Monitoring Plan²⁰ with monitoring showing substantial benefits for many forest bird species, a number of wetland bird species (including fernbird), several lizard species, a range of invertebrate species and for native vegetation regeneration.
- 75 Pest exclusion fenced sanctuaries benefit the species resident within the fence and they also result in spill-over benefits ('halo' effect) beyond the fence with more mobile species moving into adjacent habitat and increasing abundance outside the fence. This is especially apparent when pest control is occurring in the surrounding areas, as is proposed with the effects management package.
- 76 The pest exclusion fenced areas encompass a representative range of the habitat types that will be most affected by the Project, including 350 ha of low pākihi wetland, 155 ha of southern rātā-mountain beech-podocarp forest, 55 ha of mānuka-mountain beech-podocarp shrubland, 49 ha of mānuka-tussock-wire rush shrubland (wetland),

¹⁹ Clapperton, B.K.; Day, T.D. 2001: Cost-effectiveness of exclusion fencing for stoat and other pest control compared with conventional control. *DOC Science Internal Series 14*. Department of Conservation, Wellington. 19 p.

²⁰ See Table 6 in Bathurst Resources Limited. 2026. Biodiversity Outcome Monitoring Plan Buller Plateaux Continuation Project. August 2026.

and 176 ha of sandstone erosion pavement. This will generate benefits for the wide range of fauna that occupy those habitats.

- 77 The Project proposal to build four pest exclusion fenced areas surrounded by a large area of intensive ground control has a high likelihood of resulting in measurable increases in the abundance of a range of mobile native bird and invertebrate species, with recruitment generated from the pest free areas supplementing the improved survival in the surrounding landscape.
- 78 The benefits for less mobile fauna, including lizards and *Powelliphanta* snails, will largely be confined to the fenced areas but, in time, there will be opportunity to relocate adults from the fenced areas to areas where pest control is effectively holding mammalian pests at low levels.
- 79 The technology associated with the construction and maintenance of pest exclusion fences and the eradication of mammalian pests within the fences is now well proven with several fenced sanctuaries, such as Maungatautari (in the Waikato), Rotokare (in Taranaki) and Orokonui (in coastal Otago) having been in operation for 20 or more years. Occasional pest incursions have occurred in all sanctuaries but surveillance and response measures have generally been successful at removing invading pests. For this reason, there is a high degree of certainty that this form of compensation will deliver the expected outcomes on the Plateaux.
- 80 Mouse eradication within fully fenced sanctuaries has proven to be a challenge to achieve and sustain, especially in the larger fenced areas, and will require focussed attention in the proposed pest exclusion fenced areas on the Plateaux. Mouse eradication has been achieved at several small and medium sized fenced sanctuaries including Rotokare (230 ha) and the Mokomoko fenced lizard sanctuary (14 ha) near Alexandra. Mice have occasionally found their way back into Rotokare but on each occasion they have been successfully re-eradicated (F. Gordon, Conservation Manager Rotokare, pers. com). At larger sanctuaries, including Maungatautari (3363 ha) and Orokonui (307 ha), mouse eradication has not been achieved but low mouse densities (below 2% at Orokonui) are maintained with ongoing control effort. If mouse eradication is unsuccessful in one or more of the proposed fenced areas then Bathurst will need to activate a ground-based trap and bait station network to hold mouse

levels to low densities (below 5% CCI) to ensure the targeted positive biodiversity outcomes are achieved, especially those for snails and lizards.

- 81 The proposal is to remove weka from all of the pest exclusion fenced areas and release them into areas beyond the known range of *Powelliphanta* snails. Dr Brian Lloyd's research has shown that weka are significant predators of *Powelliphanta* snails on the Plateaux. The removal of weka from the fenced areas will provide safer habitat for the release of salvaged snails and an opportunity to begin to reverse the decline in the *P. patrickensis* and *P. augusta* populations on the Plateaux. I also support the additional proposal to build temporary small weka-free fenced areas for the release of salvaged snails while the first permanently fenced areas are built.
- 82 Monitoring of weka at the release sites is proposed and recommended to better understand weka population dynamics at translocation sites and gain some insight as to why many weka translocations have not been successful.
- 83 Measurable biodiversity compensation outcome targets for the residual effects management package have been stated in Table 7 of the Biodiversity Outcome Monitoring Plan. Included within the performance targets are:
 - a 100% increase in forest gecko, Westland speckled skink²¹ and West Coast green gecko within the pest exclusion fenced areas;
 - a 100% increase in *Powelliphanta patrickensis* within the pest exclusion fenced areas; and
 - population increases of 10% for rōroa, South Island robin, South Island fernbird, and yellow-crowned parakeet across the 26,259 ha residual effects management area are projected over 35 years.
- 84 The targets set for all of the pest management areas (including the pest fenced areas) are based on research and monitored responses to pest management and eradication elsewhere in New Zealand (as referenced in Table 6 of the Biodiversity Outcome monitoring Plan). In my view the targets are realistic and there is a high level of

²¹ Currently (and newly) described as *Oligosoma* aff. *newmani* "Westland" in Hitchmough et al. 2026. *Conservation status of reptiles in Aotearoa New Zealand, 2025* following a recent genomic study. It retains the conservation status of At Risk - Declining.

confidence that these targets can be achieved. For this reason, I would encourage the inclusion of these performance targets in consent conditions.

- 85 In addition, the pest management programme is likely to reduce the risk of local species extinction. This will be of direct benefit for species such as *Powelliphanta* snails which face the potential of local extinction even in the absence of mining²², and also of benefit for the future ecological recovery of the Plateaux beyond the life of the mine.
- 86 The nutrient-poor, leached soils and high rainfall of the Plateaux support slow growing native vegetation communities that are poorly adapted to competition from faster growing invasive plant species. Invasive weeds such as gorse (*Ulex europaeus*), broom (*Cytisus scoparius*), Himalayan honeysuckle (*Leycesteria formosa*), buddleia (*Buddleja davidii*), and introduced grasses establish rapidly after disturbance and can outcompete native species, reducing native plant diversity and modifying successional pathways. The proposed weed management programme, designed to work in parallel with mammalian pest control, will enable a more rapid transition to a native plant dominant state. This is especially so for pākihi and wetland ecosystems where shading and alteration of site hydrology caused by invasive weed species can alter the successional trajectory towards shrubland and forest.
- 87 An adaptive management approach is proposed for situations where projected biodiversity outcomes are not occurring to the extent required. The Biodiversity Outcome Monitoring Plan states (Section 5.2): “*The location, scale, intensity, frequency, methods, location and duration of the proposed adaptive management measure(s) to be considered will be commensurate with requirements for achieving stated biodiversity outcomes within the stated timeframe*”. I support the use of adaptive management when monitoring evidence suggests target outcomes may not be achieved but would recommend that a panel of experts with appropriate ecological skills is established to provide guidance as to what the adaptive management measures should be. The panel should include ecologists who are independent of Bathurst as well as Bathurst’s own experts.

²² Lloyd’s Ecological Consulting. 2026. An assessment of the impacts of the Buller Plateaux Continuation Project on *Powelliphanta patrickensis* snails and proposed effects management. Report prepared for Bathurst Resources Ltd. 18 February 2026.

- 88 Adaptive management can only work if achievable alternative or additional management options exist. Where adaptive management is proposed in management plans I would recommend inclusion of some non-binding possible additional or alternative measures that could be adopted if required.

Alignment with NPS-IB biodiversity compensation principles

- 89 The Residual Effects Management Report states that the proposed residual effects package is generally consistent with key biodiversity compensation principles in the National Policy Statement for Indigenous Biodiversity (NPS-IB) *“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’”*.
- 90 Some of the proposed pest management areas to address BPCP effects overlap with areas that are required to be managed for pests under current consent conditions. In this regard, not all of the biodiversity gains that will arise from the proposed pest and weed management programmes can be claimed as addressing effects created by the BPCP. However, it is my view that the pest management programme is considerably more intensive and better integrated than that undertaken under existing consents and on that basis the additional benefits will be substantial.
- 91 This view is supported by Parkes (2020)²³ who refers to the fact that the wider Plateaux has only received periodic aerial 1080 applications (at approximately 5 year intervals) with limited or no ground-based follow-up. Parkes (2020) concludes that the existing programme is unlikely to have delivered biodiversity benefits other than some possum browse reduction. The proposed more intensive pest management programme can be expected to be more effective at reducing and holding pest densities to low levels with consequent additional biodiversity gains.
- 92 The unique nature and composition of the biodiversity values on the Buller Plateaux, in particular the irreplaceability and vulnerability of several habitats, communities and species present there, and the magnitude with which those values will be affected by the Project means that it is not possible to fully offset or compensate for all ecological effects. Consequently, the conclusion in the Residual Effects Management Report that

²³ Parkes, J. (2020). Review of Pest Management on the Buller Plateau. Unpublished report 2020/021 by Kurahaupo Consulting for Bathurst Resources Limited.

there will be significant residual adverse effects on biodiversity values on the Plateaux after the effects management programme is fully implemented is correct.

- 93 This conclusion should not diminish the value of the residual effects management package and the confidence that the package will deliver significant biodiversity gains but it reflects the unique nature of the ecology of the Plateaux and the lack of proven tools and methods to fully compensate for the effects.
- 94 The residual effects management programme meets the NPS-IB Time Lag principle in that the biodiversity gains from compensation will be apparent within 35 years of the effects being caused, however, the process of ecological recovery will continue well beyond 35 years as natural processes continue to heal the rehabilitated landscape post-mining, substantially assisted by the pest-free fenced areas which will be managed for 50 years. I would encourage Bathurst and other interested parties to explore ways that could result in the exclusion fenced areas, the Blackburn Pākihi intensive ground-control area and the wider managed landscape to continue to be managed indefinitely beyond 50 years, 35 years and 60 years respectively.

Expected overall project biodiversity outcomes

- 95 The primary purpose of the effects management package as stated in the Residual Effects Management Report is to *“sustain viable populations of native species in the surrounding landscape throughout the life of the mine, 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.”* I support this stated purpose and believe that the proposed effects management package will enable the disturbed and restored habitat to gradually regain much of its pre-mining diversity albeit over extended periods of time well beyond the duration of mining.
- 96 Overall biodiversity outcomes following compensation measures are stated in the Residual Effects Management Report as:
- a) Net positive outcomes for several native bird and some invertebrate populations, including *Powelliphanta patrickensis* snails, where the benefits associated with the scale and intensity of pest management are expected to exceed losses associated with Project activities. However, there will be a long-term net loss in

the extent of habitat for all of these species either permanently or until rehabilitated habitats evolve and recover to eventually provide suitable habitat.

- b) Net positive ecological outcomes for some threatened fauna that are present within the residual effects management sites, but not within the Disturbance Area.
- c) Uncertain outcomes for the populations of three lizard species - West Coast green gecko, Westland speckled skink and forest gecko, and two invertebrate species - *Pseudaneitea* sp. (a slug) and forest ringlet butterfly (*Dodonidia helmsii*), where the level of residual effect and the degree of benefit associated with residual effects management is less clear. The lizard species are expected to increase in abundance within the fenced areas but there is a degree of uncertainty as to whether those gains will match or exceed the losses from within the Disturbance Area.
- d) Net loss outcomes for all impacted habitat types, and all impacted populations of nationally Threatened or At Risk vascular and non-vascular plant species that occur within the Disturbance Area.

- 97 The Residual Effects Management Report concludes that “... *for the Project as a whole and for certain ecological values, residual effects are unlikely to be effectively addressed in accordance with the ‘limits to compensation’ principles of the NPS-IB and NPS-FM. This reflects the irreplaceability or vulnerability of these specific values, the magnitude of impact, and the uncertainty inherent in demonstrating adequate ecological gains for some values over the 35-year timeframe.*” I agree that there will be significant residual ecological effects that have not and cannot be fully addressed within the 35-year post impact time limit required by the NPS-IB.
- 98 The nature and extent of the mining disturbance (i.e. complete removal of large areas of habitat) and the unique nature of the Buller Plateaux ecology mean that full restoration will take many decades longer than 35 years and recovery will extend well beyond the cessation of mining.
- 99 It is my view that the proposed effects management package is a comprehensive one. While it will not fully address many of the adverse effects on flora and fauna abundance and habitat loss it will ensure some protection is provided to several

nationally Threatened and At-Risk species which in turn will enable recolonisation to occur as natural processes continue to restore the rehabilitated mine areas beyond the life of the mine. Additional compensation measures could be undertaken elsewhere but that would be of little benefit to the plant and animal species and communities present on the Plateaux.

SUMMARY

- 100 I have reviewed the terrestrial ecology assessment of effects reports, evaluated the methodology used to assess terrestrial ecological values and likely effects, and assessed the likely outcomes of the site rehabilitation and residual effects management actions proposed.
- 101 I believe that the assessment of biodiversity values present on and adjacent to the Project site undertaken by Bathurst's ecologists has been comprehensive and the assessment of ecological effects, before and after remediation and compensation measures have been undertaken, is appropriate.
- 102 The Project will result in the net loss of ecological values for several at-risk and threatened species and the long-term loss of several vegetation types. The open cast nature of the mining disturbance and the harsh growing conditions mean that ecological recovery will be slow and will continue well beyond the cessation of mining. Sustained pest and weed management will assist this recovery, by reducing the risk of local species extinctions, retaining species presence and supporting native dominant successional processes on the Plateaux.

Roger John MacGibbon

20 August 2026



Together we create + sustain a better world