**FTAA-2507-1089**

**UNDER THE** Fast-Track Approvals Act 2024

**IN THE MATTER OF** The Bendigo-Ophir Gold Project

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**STATEMENT OF EVIDENCE** by Samuel Purdie for the Royal Forest and Bird Protection Society Incorporated

**(Lizards)**

**10th April 2026**

**Figure 1.** Kawarau gecko (*Woodworthia* "Cromwell") — one of several lizard taxa predicted to be significantly impacted by the BOGP.

**Introduction**

1. My name is Samuel Purdie

2. I am an independent herpetologist, located in Queenstown, specialising in New Zealand lizard research and conservation. I have worked with reptiles in a professional capacity for six years. Most of my lizard-related work has been focussed on species distribution surveys and population monitoring. However, I have applied experience with lizard salvages, environmental impact assessments, and lizard threat assessments. This is the first time I have written a statement of evidence for legal proceedings.

3. My tertiary qualifications include a Master of Science in Wildlife Management, Post-graduate Diploma in Wildlife Management, and Bachelor of Science in Zoology/Ecology. I received these academic degrees while studying at the University of Otago — Ōtākou Whakaihu Waka.

4. I have authored and co-authored several publications about New Zealand reptiles and written numerous technical reports. Notable examples include an identification guidebook to New Zealand's herpetofauna, a digital guide to Otago's terrestrial reptiles, a regional threat assessment of Otago's reptiles, and a comprehensive Herpetofauna Index on the New Zealand Herpetological Society website.

5. I am intimately familiar with the herpetofauna of Central Otago and have spent many hundreds of hours searching for lizards in ecosystems akin to those present in the Direct Disturbance Footprint (DDF) of the Bendigo-Ophir Gold Project (BOGP). I have not personally visited the DDF or the surrounding Ecological Study Area (ESA), but have conducted lizard surveys in the adjacent Dunstan Mountains.

6. While preparing this statement of evidence, I have considered the following documents and data:
   I. RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp.
   II. B.08A. Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp.
   III. Matakanui Gold Ltd. (2025). Bendigo-Ophir Gold Project. Substantive Application Document Part A. pp 563.
   IV. The New Zealand Department of Conservation Herpetofauna Database.
   V. iNaturalist (https://www.inaturalist.nz/)
   VI. Other pertinent documents — both published and unpublished — that are referenced in text.

7. In this statement of evidence, I only provide technical expertise about lizard-related elements of the BOGP in an ecological context.

**Code of conduct**

**8.** Although these proceedings will not be held before the Environment Court, I acknowledge that I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note (2023), and have complied with it when preparing my evidence. This statement of evidence is consistent with my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

**Scope of evidence**

**9.** The Bendigo-Ophir Gold Project (BOGP) is a large-scale gold mining proposal by Matakanui Gold Limited (MGL) being considered by an expert panel under the Fast-track Approvals Act 2024 (FTAA).[1]

**10.** Matakanui Gold Limited (hereafter referred to as "the applicant") is, in essence, seeking approval for the mining activity, and authorisation to catch, salvage, relocate, mark/toe clip, disturb, and incidentally kill protected native lizards, and destroy their habitats.[1]

**11.** I was commissioned by the Royal Forest and Bird Protection Society Inc. to independently review documents lodged by the applicant — under the Fast-track Approvals Act 2024 — for the Bendigo-Ophir Gold Project.

**12.** The scope of my review was to critically examine all information pertaining to lizards in MGL's B.15A Assessment of Lizard Values[2] and B.08A Assessment of Ecological Effects[3]. Specifically, I was asked to highlight any important errors, uncertainties, or gaps in the evidence, and consider whether the Applicant's experts had considered all components of the BOGP in making their effects assessment. The applicant's Lizard Management Plan (LMP)[4] was redacted, so I was unable review details of how management, mitigation, and compensation measures would be implemented for lizards. Due to time constraints, I was unable to discuss my statement of evidence with other ecologists, including the project ecologists employed by the applicant.

**13.** My review comprises four key sections:

A. **Lizard fauna.** A summary of the lizard fauna documented in the BOGP Direct Disturbance Footprint (DDF) and wider Ecological Study Area (ESA)

B. **Effects.** A basic assessment of ecological effects

C. **Effects management and conditions.** Concerns regarding proposed effects management

D. **Conclusion.**

**1.** Matakanui Gold Ltd. (2025). Bendigo-Ophir Gold Project. Substantive Application Document Part A. pp 563. **2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp. **4.** Alliance Ecology Ltd (2025) Bendigo-Ophir Gold Project Lizard Management Plan. 19 pp.

**Lizard fauna**

**14.** To determine the lizard values that may be impacted by the proposed BOGP, the applicant commissioned ecological consultants to undertake lizard surveys in the DDF and wider ESA (including Ardgour Station, Bendigo Station, Bendigo Scenic Reserve, and Bendigo Historic Reserve)[2]. These surveys entailed 620 person-search-hours and were conducted during late Spring 2023, Summer 2024, Autumn 2024, and Spring 2024[2]. Multiple survey methods were employed, all of which are outlined in Section 2.0 of Technical Report B.15A[2].

**15.** Three putative lizard species were detected during ecological surveys of the DDF and ESA (Table 1; Fig. 2.): McCann's skink; the tussock (southern grass) skink*, and the Kawarau gecko (*Woodworthia* "Cromwell"). Ecologists commissioned by the applicant concluded that "... *neither the DDF, nor other parts of Ardgour or Bendigo Stations extensively surveyed, support Otago skink, grand skink, Nevis skink, green skink or jewelled gecko.*".[2] (p. 5).

**Table 1.** Putative lizard species identified in Direct Disturbance Footprint (DDF) and Ecological Study Area (ESA) of the Bendigo-Ophir Gold Project[2].

| Common name | Scientific name | National conservation status[5] | Regional conservation status[6] | Estimated number of individuals present within DDF[2] |
|---|---|---|---|---|
| McCann's skink | *Oligosoma maccanni* | Not Threatened | Regionally Not Threatened | Low 100,000s |
| Tussock skink (southern grass skink) * | *Oligosoma chionochloescens* | At Risk — Declining | Regionally At Risk — Regionally Declining | Low 1,000s |
| Kawarau gecko | *Woodworthia* "Cromwell" | At Risk — Declining | At Risk — Declining | High 10,000s |

**1.** Matakanui Gold Ltd. (2025). Bendigo-Ophir Gold Project. Substantive Application Document Part A. pp 563. **2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp. **4.** Alliance Ecology Ltd (2025) Bendigo-Ophir Gold Project Lizard Management Plan. 19 pp. **5.** Hitchmough R, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Makan T, Michel P. (2026). Conservation status of reptiles in Aotearoa New Zealand, 2025. Wellington: Department of Conservation. New Zealand Threat Classification Series 50. **6.** Jarvie S, Knox C, Monks JM, Purdie S, Reardon J, Campbell C (2024). Regional conservation status of reptile species in Otago. Otago Regional Council, Otago Threat Classification Series, 2024/5.

**16.** *The tussock skink (*Oligosoma chionochloescens*) is a putative species of grass skink[5, 7] that is, at present, taxonomically unresolved[5]. In Jewell's (2022) *O. chionochloescens* species concept[7], the name tussock skink applies to southern, usually striped populations of what were all previously considered southern grass skinks (*Oligosoma* aff. *polychroma* Clade 5)[7, 8]. Detailed genetic and morphometric research is required to better understand the relationships among grass skinks[5]. However, the New Zealand Department of Conservation has elected to treat the tussock skink (*O. chionochloescens*) and southern grass skink (*O.* aff. *polychroma* Clade 5) as conspecific[5]. In doing so, they have retained Jewell's (2022) scientific name (*O. chionochloescens*), while using the common name "southern grass skink"[5]. In this statement of evidence, I use both colloquial names and conservatively acknowledge that per Jewell's (2022) species concept, there may be two grass skink taxa present in Otago.

**Figure 2.** Photographs of the three lizard species identified in Direct Disturbance Footprint (DDF) and Ecological Study Area (ESA) of the Bendigo-Ophir Gold Project. A. McCann's skink (*Oligosoma maccanni*). B. Tussock (southern grass) skink (*O. chionochloescens*). C. Kawarau gecko (*Woodworthia* "Cromwell").

**17.** Principally, I believe the ecologists contracted by the applicant used appropriate methods for conducting lizard surveys in the DDF and ESA. I would expect McCann's skinks and Kawarau geckos (which are erroneously referred to as "Kawerau geckos" numerous times throughout the applicant's supporting documents[2,3]), to be the most prolific lizard species occurring in the area. However, I have several concerns about the B.15A Assessment of Lizard Values and noticed various ambiguities or inaccuracies. These include:

I. **No meaningful qualification of what "abundance" means.** The term "abundance" is used throughout the B.15A Assessment of Lizard Values and B.08A Assessment of Ecological Effects without any clear definition or qualification. In an ecological context, "abundance" typically refers to some measure of the total number of individuals within a population; however, there are numerous analytical approaches for acquiring abundance measures and they are scarcely measured directly (i.e., it is usually impossible or impractical to count every individual in an ecosystem).

**2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp. **5.** Hitchmough R, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Makan T, Michel P. (2026). Conservation status of reptiles in Aotearoa New Zealand, 2025. Wellington: Department of Conservation. New Zealand Threat Classification Series 50. **7.** Jewell T. (2022). Discovery of an abrupt contact zone supports recognition of a new species of grass skink in southern New Zealand. Jewell Publications, Occasional Publication #2022B. **8.** Hitchmough RA, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Rolfe J, Michel P. (2021): Conservation status of New Zealand reptiles, 2021. New Zealand Threat Classification Series 35. Department of Conservation, Wellington. 15 p.

This is true for New Zealand lizards, particularly because their detection probabilities are highly variable and must be accounted for if one hopes to model population size with some level of precision[9,10,11]. In practise, ecologists often use abundance *indices* (e.g., raw counts)[12], which provide a relative measure of lizard abundance (i.e., lizard detections per unit effort) instead of an estimate of total population size. The data presented by the applicant fall into this category; they are indices of abundance — not actual population abundance estimates. Indeed, the ecologists acknowledge that their methods are "*… not suitable for accurately estimating abundance within the DDF…*"[2] (p. 6; p. 37) yet continue to use the term "abundance" indiscriminately. Furthermore, the B.15A Assessment of Lizard Values provides no description of analytical methods at all — raising the question of how the "abundance" values reported in Section 3.0 (p. 70) were derived. While estimating population size can be challenging, it is standard ecological practice to report analytical methodologies. In the absence of such details, the population estimates — and therefore, the number of lizards expected to be impacted by the BOGP — must be interpreted with extreme caution. Actual lizard population abundance may differ by many orders of magnitude.

II. **Presumption that lizard habitat loss is temporary.** Throughout the B.15A Assessment of Lizard Values and B.08A Assessment of Ecological Effects, the ecologists erroneously state that habitat loss from the BOGP will be "temporary". It is irresponsible to suggest that the habitat loss will only be temporary and can be ameliorated at a later stage. The nuances of the ecosystem will never be adequately remediated. This is particularly true for ecosystems that are structurally or climatically difficult to replicate, or those with sensitive plant/lichen communities, such as the rock tor ecosystems. The proposed habitat loss will be permanent, even if some diminished iterations of habitat are constructed after the BOGP's tenancy. Moreover, habitat rehabilitation measures following mining activities at Macraes in Central Otago have only yielded substantive benefits for McCann's skinks[13]. In the same location, kōrero geckos (*W. "*Southland/Otago large" — a relative of the Kawarau gecko) and tussock (southern grass) skinks did not exhibit any significant population response.[13] These findings emphasise the importance of retaining existing lizard habitats and suggest that habitats cannot be easily restored.

**2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **9.** Roughton CM & Seddon PJ. (2006). Estimating site occupancy and detectability of an endangered New Zealand lizard, the Otago skink (*Oligosoma otagense*). Wildlife Research, 33(3), 193-198. **10.** Seddon, PJ, Roughton CM, Reardon J, & MacKenzie DI (2011). Dynamics of an endangered New Zealand skink: accounting for incomplete detectability in estimating patch occupancy. New Zealand Journal of Ecology, 247-253. **11.** Reardon JT, Whitmore N, Holmes KM, Judd LM, Hutcheon AD, Norbury G, & Mackenzie DI (2012). Predator control allows critically endangered lizards to recover on mainland New Zealand. New Zealand Journal of Ecology, 141-150. **12.** Lettink M, O'Donnell CF, & Hoare JM (2011). Accuracy and precision of skink counts from artificial retreats. New Zealand Journal of Ecology, 236-246. **13.** Herbert SM, Knox C, Clarke D, & Bell, TP (2023). Use of constructed rock piles by lizards in a grassland habitat in Otago, New Zealand. New Zealand Journal of Ecology, 47(1).

III. **No genetic sampling of lizards in the DDF and wider ESA.** Kawarau geckos, which are present in the DDF, are a taxonomically unresolved *Woodworthia* gecko that closely resemble many of their other relatives in Central Otago. While interspecific differences among Central Otago's *Woodworthia* geckos have been proposed[14,15, 16,17], without formal taxonomic descriptions, and genomic data, I am sceptical that Otago's *Woodworthia* geckos can be reliably differentiated in the field at present. In my experience, some of the proposed differences in toe morphology and patterning (i.e., canthal stripes) do not appear to be consistent between gecko populations. Conservatively, I agree that there is likely only one putative *Woodworthia* gecko species occurring in the DDF and wider ESA — the Kawarau gecko — but multiple *Woodworthia* gecko taxa do co-occur at some localities[13], possibly hybridise[18], and can superficially look very similar (Fig. 3). To confirm that there is indeed only one *Woodworthia* gecko taxon in the DDF and ESA, and to strengthen the B.15A Assessment of Lizard Values, I believe it would be worthwhile procuring a small number of spatially distributed genetic samples from the DDF and ESA.

**Fig. 3.** Examples of several *Woodworthia* gecko taxa occurring in Central Otago. All four geckos featured are, at present, thought to be distinct species.

**14.** Hitchmough RA, Tutt K, and Daugherty CH (1998). Significance of gecko populations on islands in Lakes Wanaka and Hawea. Conservation Advisory Science Notes No. 193. Department of Conservation, Wellington. **15.** Jewell T (2006). Identifying geckos in Otago. Published by Science and Technical Publishing, Department of Conservation, Wellington 60 pp. 15. **16.** Van Winkel D, Baling M, & Hitchmough R (2018). Reptiles and amphibians of New Zealand: a field guide. Auckland University Press. **17.** Pudie, S. (2022). A naturalist's guide to the reptiles and amphibians of New Zealand. John Beaufoy Publishing. 176 pp. **18.** Fitness J, Hitchmough RA, & Morgan-Richards M (2012). Little and large: body size and genetic clines in a New Zealand gecko (*Woodworthia maculata*) along a coastal transect. Ecology and Evolution, 2(2), 273-285.

IV. **Treating all grass skinks found as belonging to a single taxon.** When discussing identification between grass skink taxa, the ecologists state: *"…we elected to defer to the distributional maps which show the Bendigo area well within the known range of tussock skink, with southern grass skink restricted to locations well to the north of the site."*[2]. While I agree that there would likely only be a single grass skink taxon occurring within the DDF, and the skinks featured in plates 42-46[2] are consistent with Jewell's (2022) description of *O. chionochloescens*[7], the information quoted above is inaccurate. Putative southern grass skinks (*Oligosoma* aff. *polychroma* Clade 5[8]) — which differ from *Oligosoma chionochloescens* per Jewell (2022)[7] — have purportedly been recorded at similar latitudes to Bendigo (e.g., in the Crown Range and Queenstown[7]), and nearby at Lake Hāwea[7]. Although Hitchmough et al. (2026) recently synonymised the two taxa in a technical report[5], extra caution is warranted when identifying taxa in the present circumstances — the mortality of thousands of skinks may be on the line.

V. **Dubious species identification.** When discussing identification of McCann's skinks and tussock (southern grass) skinks, the ecologists state: *"…Accurately distinguishing between tussock skink and McCann's skink was also challenging for some specimens, as the characteristics usually used to diagnose between the species intergrade in this location"* (p. 18)[2]. While skink patterns can intergrade in some locations[19], the two species have rather different head morphologies, irrespective of differences in patterns. Moreover, the ecologists state *"…marked dorsal chocolate-coloured stripes* [of tussock skinks] *was readily diagnostic."* (p. 19)[2], which is inaccurate. I believe they are referencing the dark mid-dorsal and latero-dorsolateral stripes, which though often present in *O. chionochloescens*, are not unique to the species and do sometimes occur in *O. maccanni* (e.g., Fig. 4). With such a strong emphasis placed on dubious morphological characteristics, misidentification may have occurred. Consequently, the number of individuals of each species expected to be adversely impacted by the BOGP may have been underestimated, and similar-looking species (e.g., *O. eludens*, *O. inconspicuum*, or *O. toka*) may not have even been recognised.

**2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **7.** Jewell T. (2022). Discovery of an abrupt contact zone supports recognition of a new species of grass skink in southern New Zealand. Jewell Publications, Occasional Publication #2022B. **8.** Hitchmough RA, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Rolfe J, Michel P. (2021): Conservation status of New Zealand reptiles, 2021. New Zealand Threat Classification Series 35. Department of Conservation, Wellington. 15 p. **19.** Tocher M and Reardon JT (2003). Diagnostic morphometrics of the skink species, *Oligosoma maccanni* and *O. nigriplantare polychroma* from South Island, New Zealand. DOC Science internal series 105.

**Figure. 4.** Examples of McCann's skinks (*O. maccanni*) with "chocolate-coloured" mid-dorsal and latero-dorsal stripes.

VI. **Disparity in search-effort between survey methods.** While the total search effort of 620 hours is sufficient, hand searching and visual-searching methods were — in my opinion — comparatively underrepresented. Given that cryptic lizard taxa such as the threatened Lakes skink (*Oligosoma* aff. *chloronoton* "West Otago"; Fig. 5) may be present in the DDF and wider ESA, I would expect search effort to be more heavily weighted towards hand-searching and visual-searching than it was (i.e., 370 person-hours for searching artificial cover objects vs. 25 person-hours for visual searching and 60 person-hours for hand-searching). My experiences with Lakes skinks (and their various other close relatives) lead me to believe that they would be more readily detectable using hand/visual searching techniques, pitfall traps, and potentially Gee's minnow traps (which, with only 20 traps being used, was probably an almost negligible survey effort) rather than artificial cover objects (ACOs). Indeed, recent empirical research has highlighted that monitoring these skinks can be challenging[20], even where the species is readily detectable. In some ecosystems, these skinks occur in very low population densities and require considerable search effort to locate. Hence, why I would be unsurprised if they were present in the DDF or ESA and not detected.

VII. **No indication of placement periods for monitoring equipment.** Lizard detections in artificial cover objects typically increase when these monitoring devices have been allowed to "break-in" — that is, to be left undisturbed while lizards acclimate to their presence for several weeks, months, or years[21,22]. To maximise lizard detections, New Zealand—

**20.** Bourke SD, Bennington SM, Turner S, & Monks JM (2026). Prioritizing efficient use of resources: Simple changes to monitoring combat inefficient capture-recapture of vulnerable skinks. The Journal of Wildlife Management, e70160. **21.** O'Donnell CF, & Hoare JM (2012). Monitoring trends in skink sightings from artificial retreats: influences of retreat design, placement period, and predator abundance. Herpetological Conservation and Biology, 7(1), 58-66. **22.** Lettink M, & Cree A (2007). Relative use of three types of artificial retreats by terrestrial lizards in grazed coastal shrubland, New Zealand. Applied Herpetology, 4(3), 227-243.

herpetologists typically afford an ACO placement period of at least three months[21,22]. Placement period may have profound implications for the number of lizards detected (and potentially species), yet, it is not mentioned in the B.15A Assessment of Lizard Values.

VIII. **Incomplete spatial coverage of surveys.** Although the ecologists appear to have achieved a balance between targeting known lizard habitats and ensuring randomisation of sampling (to control for surveyor bias), some key habitats/areas may have been overlooked, including some areas that were not surveyed at all (e.g., wetlands and the pipeline area)[2, 23]. No map of search effort nor lizard detections is provided, so it is difficult to meaningfully comprehend the total spatial coverage of survey effort. Due to the potential risk of wildlife exploitation, I would not expect the ecologists to provide gecko detections in a publicly available document. However, a map of total search area, and skink detections, is typical for ecological reporting and would be helpful for understanding precisely what areas were surveyed. Lizards are often patchily distributed, so if certain areas were not surveyed (due to failure to recognise them as important habitats or if randomised samples failed to encompass the breadth of lizard habitats available), the species detected, and number of individuals, could differ substantially.

**Figure 5.** Lakes skink (*Oligosoma* aff. *chloronoton* "West Otago) — a large, threatened skink taxon present in the Dunstan Mountains.

**2**. RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **21.** O'Donnell CF, & Hoare JM (2012). Monitoring trends in skink sightings from artificial retreats: influences of retreat design, placement period, and predator abundance. Herpetological Conservation and Biology, 7(1), 58-66. **22.** Lettink M, & Cree A (2007). Relative use of three types of artificial retreats by terrestrial lizards in grazed coastal shrubland, New Zealand. Applied Herpetology, 4(3), 227-243. **23.** Tocher MD. 2026. Statement of advice before the Fast-track Panel under the Fast-track Approvals Act 2024 in the matter of FTAA-2507-1089 – Bendigo-Ophir Gold Project.

## Effects

**18.** Due to the aforementioned data and reporting uncertainties of the B15A Lizard Values Assessment, there may be limitations of the B.08A Assessment of Ecological Effects and subsequent management strategies arising from this.

**19.** Notably, "abundance" estimates are poorly defined and coarse, meaning the *predicted effects* of the BOGP on lizards may differ from the *actual effects* by many orders of magnitude.

**20.** Notwithstanding the many caveats of the B15A Lizard Values Assessment, the effects of the BOGP on lizard values — at a rudimentary level — can be anticipated. These effects include:

I. **Significant direct, and indirect, impacts on tens or even hundreds of thousands of native lizards.** If population estimates produced by the ecologists are accurate, the number of lizards affected may be in the low hundreds of thousands[2]. However, reported population densities for McCann's skinks and grass skinks elsewhere[12, 24] render the possibility that >500,000 lizards could be impacted by the BOGP (even when conservatively applying the lower estimates of skink population density).

II. **Significant mortality of tens, or even hundreds of thousands of native lizards**. Given that it is usually only possible to capture and salvage a small fraction (potentially <60% in some recent pertinent, unpublished, circumstances) of lizards present in any given ecosystem, and proposed target salvage rates for the BOGP are apparently low[23, 25], many thousands of lizards may be killed by earthworks by the BOGP.

III. **Net loss of McCann's skinks, tussock (southern grass) skinks, and Kawarau geckos following proposed offset/compensation.** The B.08A Assessment of Ecological Effects predicts a net loss of biodiversity outcomes for these species within 35 years[3] following proposed offset/compensation measures (which are not clearly stated in the B.08A Assessment of Ecological Effects).

IV. **Permanent damage, or loss, to lizard habitat.** The B15A Lizard Values Assessment and B.08A Assessment of Ecological Effects state that 610 ha, and 607 ha of lizard habitat, will be lost respectively. I acknowledge that lizards do not necessarily inhabit the total c. 610 ha DDF of the proposed BOGP, but many hundreds of hectares of lizard habitat will undoubtedly be destroyed.

**3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp. **23.** Tocher MD. 2026. Statement of advice before the Fast-track Panel under the Fast-track Approvals Act 2024 in the matter of FTAA-2507-1089 – Bendigo-Ophir Gold Project. **24.** Wilson DJ, Mulvey RL, Clarke DA, & Reardon JT (2017). Assessing and comparing population densities and indices of skinks under three predator management regimes. New Zealand Journal of Ecology, 41(1), 84-97. **25.** DOC 2026. Fast-track Approvals Act wildlife approval report. Section 51(2)(c) wildlife approval report for – FTAA-2507-1089 Bendigo-Ophir Gold Project.

V. **Nationally significant impacts on a regionally endemic species**. Kawarau geckos are endemic to the Otago Region[6], meaning they only occur in this part of New Zealand. Given that the species is predicted to be declining throughout its range[5,6], the potential mortality of tens of thousands of individuals in the DDF of the BOGP[2] may pose a meaningful threat to the long-term survival of this At-Risk species. The proposed BOGP will purportedly impact c. 7% of the Kawarau gecko's entire habitat[23, 25].

VI. **Locally significant impacts on tussock (southern grass) skinks**. My observations lead me to believe that tussock (southern grass) skinks are sparsely distributed throughout Central Otago — certainly when compared to McCann's skinks. Consequently, I anticipate that the potential mortality of thousands of individuals in the DDF of the BOGP[2] may pose a meaningful threat to the long-term local survival of this taxonomically unresolved taxon.

VII. **Diminished ecosystem function following loss of habitats and lizards**. The loss of potentially several tonnes of lizard biomass (and their associated ecological roles as predators, prey, seed disperses etc.), and many more of plant biomass, will undoubtedly reduce the complexity, and therefore resilience of the local ecosystems. Accordingly, residual effects for the local biota are likely to be significant.

VIII. **Impacts on taxa not presently detected in the DDF.** Although only three lizard taxa were detected by ecologists in the DDF[2], it is possible that other lizard taxa occur in the area and were simply not detected. New Zealand's lizards are often highly cryptic and can be difficult to detect when they occur at low population densities[24,25]. Possibly misidentification would compound lizard crypticity. Consequently, the BOGP may have impacts on threatened species that have not yet been detected. False negatives are an inevitable possibility for any lizard survey, so should be programmed into effects management strategies accordingly.

IX. **Adverse effects of lizard salvages.** Although specific details of proposed lizard salvages are not presented in the B.08A Assessment of Ecological Effects, the vague mentions of proposed salvage measures are concerning. The ecologists state: "*Due to uncertainties around the likelihood of relocation success, it is conservatively assumed that no relocated lizards would survive relocation. Similarly, it is assumed that resident lizards are not impacted by relocated lizards, and that overall, salvage and relocation neither reduces the—*

**2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **5.** Hitchmough R, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Makan T, Michel P. (2026). Conservation status of reptiles in Aotearoa New Zealand, 2025. Wellington: Department of Conservation. New Zealand Threat Classification Series 50. **6.** Jarvie S, Knox C, Monks JM, Purdie S, Reardon J, Campbell C (2024). Regional conservation status of reptile species in Otago. Otago Regional Council, Otago Threat Classification Series, 2024/5. **23.** Tocher MD. 2026. Statement of advice before the Fast-track Panel under the Fast-track Approvals Act 2024 in the matter of FTAA-2507-1089 – Bendigo-Ophir Gold Project. **25.** DOC 2026. Fast-track Approvals Act wildlife approval report. Section 51(2)(c) wildlife approval report for – FTAA-2507-1089 Bendigo-Ophir Gold Project. **24.** Lettink M & Monks JM (2016). Survey and monitoring methods for New Zealand lizards. Journal of the Royal Society of New Zealand, 46(1), 16-28. **26.** Reeves T, Purdie SA, Wilkinson SP, & Whitmore N (2025). No longer a pipe dream: monitoring a cryptic, endangered skink population (*Oligosoma otagense*) using passive eDNA detection

*severity of effects on lizards, nor impacts resident lizard populations within the relocation area (ARA). While it is assumed that salvage and relocation will not reduce the severity of effects, there is a greater chance that relocated lizards will survive than if they were not salvaged and it is also a requirement of the Wildlife Act*." (p. 127). Translocating, at minimum, many kilograms' worth of lizards into a new area will undoubtedly impact the local lizards — all those lizards need food, shelter, thermoregulatory opportunities and territory. Unless the resident lizard community is a far cry from carrying capacity (which I acknowledge is plausible), some impacts stemming from lizard translocations are inevitable. These impacts would not necessarily be negative, and in some circumstances could be beneficial for a depleted lizard population, but I find it curious that ecologists would presume that there would be *no* impacts. If translocated lizards possessed a novel disease (though unlikely), this could be deleterious for the resident population. Moreover, the presumption that no lizards will survive relocation fundamentally undermines the purpose of the proposed lizard salvages. I agree with the ecologists that salvage outcomes are scarcely reported, and may have negligible benefits, but if translocated lizards — potentially thousands — are expected to perish, lizard biodiversity offsetting and mitigation for the BOGP would appear to be bleak.

**Effects management and conditions**

**21.** I was unable to meaningfully review how lizard effects management will be implemented, because the G.05A Lizard Management Plan is not publicly available.

**22.** However, I have key concerns pertaining to brief mentions of lizard management measures in the Substantive Application Document Part A[1], B.15A Assessment of Lizard Values[2], and B.08A Assessment of Ecological Effects[3]:

*I.* **Inappropriate compensation measures.** The B.08A Assessment of Ecological Effects indicates a net gain in biodiversity outcomes for grand skinks (*Oligosoma grande*), Otago skinks (*Oligosoma otagense*), and jewelled geckos (*Naultinus gemmeus*) and a net loss for Kawarau geckos, tussock (southern grass) skinks, and McCann's skinks within 35 years following proposed offset/compensation measures[2]. Presumably, this implies that protection is being afforded to the former three species to compensate for impacts on the latter three species — i.e., "trading up". In my opinion, this "trading up" approach would fundamentally undermine principles of biodiversity compensation. A net biodiversity gain — regardless of "compensation" semantics — should entail a net gain in *total* biodiversity. Selectively aiding three species, while incidentally killing thousands

**1.** Matakanui Gold Ltd. (2025). Bendigo-Ophir Gold Project. Substantive Application Document Part A. pp 563. **2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp.

of individuals of three other species still entails a gross overall loss of biodiversity and ecosystem function. The National Policy Statement for Indigenous Biodiversity states that for trading up to be enacted, *"…values lost are not to Threatened or At Risk (declining) species"*.[27] Given that the applicant acknowledges a net-loss for Kawarau geckos and tussock (southern grass) skinks[2] — two At-Risk lizard species that are effectively being traded up — the proposed compensation measures of the BOGP are inappropriate and do not meet national biodiversity compensation principles.

II. **Potential logistical issues with compensation measures.** Due to the slow life histories of New Zealand lizards, the complex threats they face, and the fact that most species are experiencing wild population declines[5]; to achieve a net gain in lizard biodiversity, the applicant will be obligated to maintain lizard management programs in perpetuity. The moment predator-management ceases to be maintained, all protective benefits to lizards are undone. Does the applicant agree to manage lizards *forever*? This will be no easy feat. It is predicated on various wildlife authorisations, the availability of suitable lizard populations to source founder animals from (most of which are declining), suitable habitats to translocate the animals to, biodiversity staff (to monitor and eradicate mammals from within a predator-free area), biosecurity measures (to prevent the reinvasion of mammals), contingency measures (to ensure that if any of these elements fail, the compensation measures will succeed), and a genuine passion for preserving indigenous biodiversity. If the applicant wishes to translocate threatened lizard species from conservation land into the proposed Ardgour and Bendigo sanctuaries, how will they ensure the source populations are not irrevocably harmed? Insofar as I can discern, the applicant has provided no practicable framework for implementing these management complexities. Consequently, I am doubtful that the proposed compensation measures will yield any long-term benefits for lizard biodiversity.

## Conclusion

**23.** After reviewing the applicant's B.15A Assessment of Lizard Values[2], and B.08A Assessment of Ecological Effects[3], I believe that the BOGP poses a significant, potentially unprecedented, threat to native lizards in Central Otago.

**1.** Matakanui Gold Ltd. (2025). Bendigo-Ophir Gold Project. Substantive Application Document Part A. pp 563. **2.** RMA Ecology Ltd. (2025). Bendigo-Ophir Gold Project: Lizard Values Assessment. B.15A. 76 pp. **3.** Alliance Ecology Ltd. (2025). Assessment of Ecological Effects: Terrestrial Ecology. Bendigo-Ophir Gold Project. B.08A. 202 pp. **5.** Hitchmough R, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Makan T, Michel P. (2026). Conservation status of reptiles in Aotearoa New Zealand, 2025. Wellington: Department of Conservation. New Zealand Threat Classification Series 50. **23.** Tocher MD. 2026. Statement of advice before the Fast-track Panel under the Fast-track Approvals Act 2024 in the matter of FTAA-2507-1089 – Bendigo-Ophir Gold Project. **27.** Ministry for the Environment. 2023. National Policy Statement for Indigenous Biodiversity 2023. Wellington: Ministry for the Environment.

**24.** The applicant's B.15A Assessment of Lizard Values contains numerous data, methodological, and reporting issues, which fundamentally undermine the applicant's B.08A Assessment of Ecological Effects.

**25.** Moreover, the proposed compensation measures do not wholly adhere to national biodiversity compensation principles and are unlikely to achieved net-positive outcomes for native lizard biodiversity.

**26.** The BOGP will cause irreparable damage to local lizard communities and have significant adverse effects for at least two At-Risk lizard species. Unless a practicable framework for delivering viable compensation outcomes is developed, the BOGP will likely accelerate New Zealand's native lizard extinction crisis.

**27.** In preparing this statement, I have considered a statement of advice submitted by Dr. Mandy Tocher on behalf of the New Zealand Department of Conservation. Her statement provides a more comprehensive perspective on the lizard-related elements of the BOGP. Our perspectives largely seem to align on this project, and I wholly concur with her assessment.

**Figure 6.** Tussock (southern grass) skink (*Oligosoma chionochloescens*).