

Ref: 24043

1 July, 2026

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NZSki Limited



RE: e3s 24043 – Remarkables Upgrade and Doolans Expansion EcIA EPA RFI Response

1 Purpose

The EPA has issued a request for further information (RFI) in relation to the NZSki Limited Remarkables Ski Area and Doolans Expansion Project. Information has been provided below in response to queries five through nine of the Fast Track EPA RFI. While e3Scientific is the primary author of this response, input has been provided by the project lead Entomologist Will Frost, and advisor John Marris, from Lincoln University regarding the response to the invertebrate related query.

2 Matters of the Request for Further Information

5. With reference to sub-clause (g), DoC has also noted a lack of detail in relation to the following potential effects of the proposal:

Vegetation and related ecosystems:

The application does not put the vegetation ecosystem into the context of the wider ecological district (ED). There has not been an assessment of the ecological importance (including representativeness) of the indigenous biodiversity and ecosystems of the Doolans Basin in the context of other basins in the ED. Therefore, the effects are not sufficiently or accurately described. This will have flow on effects to fauna also.

e3s response – The Terrestrial Ecology Impact Assessment (TEcIA) was attached in Part B (B.12) of the Substantive Application. The TEcIA utilises the EIANZ and DOC guidelines (Roper-Lindsay et al., 2018; Davis et al., 2016) for assessment of ecological significance and overall level of ecological effects. Determining the ecological significance is

achieved by assessing the site across multiple significance criteria, which is done using the Ecological District as the reference point and evident in the multiple references to the Ecological District, see Sections 5.2, and 6.1.1 of the TEcIA. One of the significance criteria is specifically Representativeness, for which all vegetation communities present within the study area have been assessed against, please refer to Table 9 of the TEcIA. Further, the assessment includes the value of faunal species and this is incorporated as an inherent part of the significance criteria assessment, please refer to Table 8 and Table 9 of the TEcIA, with attributed relevant weighting within relevant criterion.

The Ecological District was further incorporated into the determination of effects. All communities above 1,100m within the Ecological District were mapped. This mapping was used to provide a quantitative estimated magnitude of effect that the proposed development might have specifically relative to the Ecological District, as part of the assessment of effects; please refer to Figure 8 and Table 14 of the TEcIA.

Invertebrates

There are limitations in the baseline dataset that introduce uncertainty regarding the completeness of the assessment of alpine invertebrate values. In particular, sampling was restricted to mid-late summer and may under-represent seasonally active alpine taxa (noting the recognised importance of spring-early summer activity). In addition, some taxonomic groups of potential ecological significance, including alpine cicadas (Cicadidae), do not appear to have been explicitly considered. These gaps influence confidence in the completeness of the terrestrial invertebrate assessment and the characterisation of conservation values present within the project area.

e3s response – Given the scope of TEcIAs and limitations in alpine sampling (discussed further below), invertebrate surveys are never expected to detect all invertebrate taxa. Consequently, given these standard limitations, a desktop review was completed to support fieldwork surveys. The primary focus for both surveys and desktop review, was upon groups of invertebrates that can be quantitatively assessed under the New Zealand Threat Classification System (NZTCS) and those that may be susceptible to environmental change as a result of behavioural or life cycles dependencies.

For the target Lepidoptera species, the sampling period of February-March was preferable, falling well within the flight periods for the majority of taxa. This is similarly reflected for Orthoptera and Coleoptera taxa, with work undertaken during periods of weather when these taxa are active. Due to the nature of unfavourable and unpredictable weather conditions in alpine zones, weather windows were maximised within periods of favourable weather. Noting that sampling generally cannot be

completed earlier or later due to extensive coverage of snow and variable wind and rain temperatures during spring and autumn months. It is acknowledged that there may be a small series of taxa which are under-represented by alpine sampling timeframes. However, as is common, this is dealt with via desktop review, with a larger range of additional taxa incorporated via desktop review, with a focus on identifying species with a threat classification greater than Not Threatened under the NZTCS and/or that are considered to be of ecological significance within the context of the Ecological District, and whose conservation may be at increased risk as a result of the project.

Specifically regarding cicada, *Maoricicada nigra* subsp. *frigida* and *Maoricicada otagoensis* subsp. *otagoensis* are recognised subspecies of the New Zealand endemic alpine cicada genus *Maoricicada*, known from the Otago alpine zone and could be present within the disturbance footprint. Initial taxonomic separation of these species was undertaken in the 1970s by morphology, acoustic characteristics, and geographic distributions, prior to the development of genetic analysis tools. While these taxa are taxonomically recognised, there is currently limited published evidence demonstrating that they represent Evolutionarily Significant Units (ESUs) or should be assessed as separate management units from their parent taxa. Furthermore, there has been no formal assessment of Cicadidae under the New Zealand Threat Classification System. Accordingly, these two species are considered distinct components of the indigenous alpine invertebrate fauna assemblages, as are many of the Not Threatened invertebrate species, however, are not assigned elevated ecological significance solely on the basis of their subspecies status.

Unlike other species that lack threat status, that were included within the TEcIA, *Maoricicada* are polyphagous and therefore the proposed disturbance is unlikely to have more than very low to low effect on the population. Therefore, the lack of a formal designation under the NZTCS does not warrant tentative elevation of a threat classification in the context of the project assessment.

Avifauna

A threatened avifauna species with potential to be affected but not recorded during field surveying is rock wren (*Xenicus gilviventris* – Nationally Endangered). Targeted surveying along the bottom of rocky bluffs and through boulderfields would be more likely to detect this species if they were present; as opposed the surveying undertaken. This species should be considered in the Terrestrial EIA. Construction of new access roads is mentioned in the Terrestrial EIA, but the potential indirect impacts of these roads are not addressed. These provide a track for predator access and there will likely be

an increased effect of introduced species, particularly feral cats which are known to use these access routes readily. Assessment of this increased risk is missing from the application.

e3s response – The avifauna fieldwork completed for the TEcIA included multiple field staff experienced in rock wren (*Xenicus gilviventris*) habitat, calls, and sighting. The primary method of identifying avifauna species was through 5MBCs and viewpoint surveys, however, additional extensive walking surveys were also conducted in boulder field habitat, specifically searching for presence of rock wren. Observed rockfield-boulderfield habitat lacked shrubland or isolated herbfield species often associated with suitable rock wren habitat and was particularly unstable being within active rock fall and avalanche paths, which limits vegetation growth and stable breeding and foraging habitat. Furthermore, there are no records of rock wren within the Remarkables Range or within the Remarkables Ecological District across any databases (eBird and iNaturalist) or published literature. Michelsen-Heath & Gaze (2007) identified the nearest historic or current population to be within the Eyre Mountains, separated by Lake Whakatipu, forming a natural barrier; also noting that populations east of the main divide are less prevalent with less than 2 % of all records being recorded within these easterly regions.

As there are no previous rock wren observations within the study area, nor wider Ecological District, and there were none observed during the extensive avifauna survey, rock wren are not stated within the TEcIA. It is noted that kea (*Nestor notabilis*), were also not observed during survey, however, as they are known to occur infrequently within the Remarkables Range and have large foraging ranges, they have therefore been included in the TEcIA.

There are already multiple unofficial formed tracks present from Gibbston Valley and Nevis Valleys into the Doolans. The addition of one track might see a minor increase in predation levels. Notwithstanding this, NZSki confirmed that, as part of their existing operations, they undertake regular pest management, including monitoring and management of feral cats. This pest management will be formalised further as part of its recently renewed concession for the Remarkables Ski Area, in which NZSki is committed to developing a Pest Control Plan to manage the distribution of pests within the Rastus Burn that are present as a result of, or exacerbated by, the activities authorised by its concession. NZSki is proposing to extend this Pest Control Plan into the Doolans Basin, as part of its expansion into this area. It is understood that this outcome is detailed in both the draft resource consent and concession conditions appended to

the substantive application (refer to Part H, Document H.02 Condition BIO.16 to BIO.19 and Document H.03 Special Conditions 48 to 54).

Wildlife Act Authority – Schedule 7 information requirements

Clause 2 of Schedule 7 outlines the information required in an application for a wildlife approval.

6. In accordance with sub-clause (f) please provide further information you wish to have considered in response to DoC's comments around how the methods proposed to be used to conduct the actions specified in the Application will ensure that best practice standards are met. Specifically, DoC has made the following comments:

Avifauna

Information to ensure best practice standards are met is not sufficient. For example, information on how methods for relocation of nests ensures best practice is not provided; including examples of where this has successfully occurred for this or similar species.

e3s response – All avifauna queries relating to the Wildlife Act Authority – Schedule 7 have been responded to collectively under query eight below.

Lizards

Information to ensure best practice standards are met is not sufficient. This includes why salvage (mitigation) is not being proposed ahead of compensation; which is not best practice. The methods do not state how best practice standards are met.

e3s response – e3s acknowledges the concerns regarding the lack of salvage. The project herpetologist considers that the time and resources associated with salvaging and relocating 'Not Threatened' species (McCann's skink that numbers in the tens of millions), would be better allocated to research that will inform the management of more threatened lizard species in Otago.

Salvage and relocation of McCann's skinks from the project footprint would require a suitable release site where high survival of relocated skinks is guaranteed. No such site is available due to a release site needing to be devoid of both naturally occurring McCann's skinks and mice (that are a major predator of New Zealand skinks). It is not currently possible to reliably control mice on the mainland of New Zealand over a large enough area to benefit lizard populations, particularly in alpine environments. A predator-free offshore island or a mainland fenced sanctuary (that does not already

hold McCann's skinks) is not available within the distributional range of McCann's skinks.

The project herpetologist considers the current 'best practice' was not designed for lizards, is often not fit for purpose for New Zealand lizards, and, if applied incorrectly, can be detrimental or waste resources. The project herpetologist has formed this opinion after working on lizard mitigation projects across New Zealand for 16 years and is supported by other New Zealand herpetologists.

The project herpetologist notes that the LMP recommends alternative mitigation (being a reduction of suitable skink habitat within the earthworks footprint and reducing works to a suitable weather window). The purpose of these recommendations is to give any McCann's skink present the opportunity and incentive to occupy alternative habitats prior to works being undertaken, whilst acknowledging this is unlikely to be effective for all lizards present. It is expected that direct fatal, non-fatal and indirect impacts will occur. Should mitigation not be undertaken additional losses are expected to be incurred. The effects of both scenarios are addressed by the proposed compensation.

7. In accordance with sub-clause (g) please provide further information you wish to have considered in response to DOC's comments regarding the methods that will be used to safely, efficiently, and humanely catch, hold, or kill the animals and identify relevant animal ethics processes. Specially DOC has made the following comment:

Avifauna

The methods for humane destruction of avifauna nests (chicks and eggs) is not sufficiently provided.

e3s response – All avifauna queries relating to the Wildlife Act Authority – Schedule 7 have been responded to collectively under query eight below.

8. In accordance with sub-clause (h) please provide further information you wish to have considered in response to DOC's comments regarding the location or locations in which activity will be carried out. Specifically, DOC has noted:

Avifauna

The application identifies the project footprint and includes mapped areas of disturbance, with the draft wildlife approvals confirming that collection and release locations will be spatially defined and recorded. However, specific locations for wildlife relocation are not identified in the application, and therefore the level of spatial detail

remains insufficient. We acknowledge exact locations may not be known, but we expect a broad location for where they propose to move them to.

e3s response – NZSki have revised the need for inclusion of kārearea/eastern falcon (*Falco novaeseelandiae* subsp. *novaeseelandiae*) within the wildlife permit. A 200 m buffer from all works footprints will be surveyed by a Suitably Qualified and Experienced Person (SQEP) for the presence of potentially nesting kārearea. If a nest is identified a 200 m exclusion zone will be established around the location for all personnel and machinery. The exclusion will remain in place until the nest has either been identified to have failed due to natural causes or chicks fledge the nest. The suitability of the exclusion distance will be regularly reviewed by a SQEP for the safety of the birds and personnel. Consequently, eastern falcon will not need to be part of the Wildlife Act Authority.

New Zealand pipit/pīhoihoi (*Anthus novaeseelandiae* subsp. *novaeseelandiae*) are recorded to have a higher tolerance to disturbance with records of chick raising in close proximity to publicly maintained (mown) trails (Beauchamp, 2019). Further, breeding populations already occur within and adjacent to skifields (Coronet Peak and the Remarkables). Therefore, a 50 m exclusion around pipit nests will be suitable and monitored by a SQEP.

Figure 1 depicts the areas within 50 m of the disturbance footprint where suitable habitat is present (green). New Zealand pipit are in relatively low abundance within the Doolans Basin, as described within the TEcIA (e3Scientific, 2026c). Therefore, the presence of nesting individuals within the disturbance footprint and/or a 50 m surrounding this area is considered low. As noted in the reviewers comments, the exact locations where wildlife relocations will occur is not known. It is preferable that nests are not moved greater than a few metres from its origin, if at all, due to physical markers being important for birds to locate nests. Therefore, encouraging renesting of a new clutch is assessed as the most suitable alternative in the unlikely scenario of a nest being present, therefore the following mitigation methodology / steps are proposed to fulfill the queries seven to nine.



Figure 1: Pipit nesting habitat.

Step 1 - Prior to vegetation clearance or alteration (i.e. Step 2), a Suitably Qualified and Experienced Person (SQEP) will undertake a survey to identify any nests within the proposed disturbance footprint (see Figure 1) and the surrounding 50 m buffer. The nest survey will be completed within five days of proposed vegetation clearance or alteration. Where works are undertaken within five days of the survey and no nests are identified, works may proceed.

- a) **Step 2** – Below 1,700 m asl, in areas of suitable pipit habitat where no nests are identified during Step 1 and earthworks are scheduled to occur more than five days after the nest survey, the following vegetation reduction steps are proposed. These measures are intended to minimise the future risk of injury or mortality by removing suitable nesting habitat within the works footprint before egg laying occurs, thereby encouraging pipits to establish nests in adjacent, unaffected habitat. Vegetation will be reduced within the earthwork's footprint to a height of 20cm in places where suitable pipit nesting habitat overlaps with the earthworks footprint (hatched polygon in Figure 1).
- b) All work is to be undertaken as soon as able, immediately following the initial survey outlined in Step 1 (within five days).

- c) The area that is to be subject to vegetation clearance is to be clearly marked on site.
- d) Alternative vegetation reduction (for example scrub cutting) methodologies may be used if they are found to be more practical or efficient (in consultation with the Project Ornithologist/Ecologist).
- e) Alternatively to Step 2, Step 1 may be repeated by a SQEP in conjunction with other workflows, where the area of disturbance will be disturbed within five days of survey.

Following completion of the vegetation clearance, earthworks can occur within the cleared areas for the remainder of the construction season unless pipit nests are identified within the area after the vegetation clearance has occurred or extensive regrowth of tussock occurs that would result in the reestablishment of viable nesting habitat (characterised as natural tussock form and density, greater than 40cm in height).

Step 3 – If a nest is present within the earthworks footprint, the first action is to determine if it can be actively avoided through timing of works. If these avoidance measures are not possible the nest will be removed and eggs destroyed to encourage renesting outside of the disturbance footprint. The method in which the nest will be destroyed is as follows:

- a) The eggs will be collected, recorded (date, time, location, and number of eggs), transported in a protective and insulated casing, and candled to ascertain each egg's relative development.
- b) If the embryo is observed to be less than 80% developed (has not developed a nervous system yet), the egg will be placed in a standard freezer (-18°C) for 24 hours (Leary, et al., 2020).
- c) If the embryo is observed to be more than 80% developed – the egg will be destroyed via controlled and instantaneous crushing.
- d) All dispatched eggs are then to be handed to DOC for research, cultural, or storage purposes.

Step 4 – Where nests are present outside the disturbance footprint but within the 50 m buffer, monitoring of the nest will be undertaken by a SQEP, as the pair may be tolerant of nearby disturbance and may therefore be unaffected by disturbance within 50 m of their nest location. If the nest is observed to be abandoned (more than six hours of inactivity) the SQEP will record the date, time, location, number of eggs, and the distance from nearest point of disturbance. The eggs will then be collected and dispatched as per Step 3 above.

If disturbance within the works footprint is ongoing, does not cease for more than 5 days or expand in its extent and a pipit establishes a nest within 50 m of the disturbance extent no action is required to undertaken.

Step 5 – All losses of eggs will be recorded and need to be retrospectively compensated for.

9. The response to the request relating to sub-paragraph (h) could include description of actual, possible and/or likely relocation areas, and/or criteria to be used to select these.

See response to Query eight above.



3 References

- Beauchamp, A. (2019). *New Zealand pipit (Anthus n. novaeseelandiae) nesting and breeding behaviour in urban Onerahi, Whangarei*. The Ornithological Society of New Zealand.
- Davis, M. H. (2016). *Department of Conservation Guidelines for Assessing Significant Ecological Values*. Science for Conservation 327. Wellington: Department of Conservation .
- e3Scientific. (2026c). *Remarkables Ski Area Upgrade and Doolans Expansion - Terrestrial Ecological Impact Assessment*. May 2026.
- e3Scientific. (2026e). *Remarkables Ski Area Upgrade and Doolans Expansion - Assessment and Lizard Management Plan*, May.
- Leary, S., Underwood, W., Anthony, R., Cartner, S., Grandin, T., Greenacre, C., . . . Yanong, R. (2020). *AVMA Guidelines for the Euthanasia of Animals 2020 Edition*. Schaumburg: American Veterinary Medical Association.
- Michelsen-Heath, S., & Gaze, P. (2007). *Changes in abundance and distribution of the rock wren (Xenicus gilviventris) in the South Island, New Zealand*. The Ornithological Society of New Zealand.

