

Under the **FAST-TRACK APPROVALS ACT 2024**

In the matter of an application for resource consents, concessions, wildlife approvals, an archaeological authority, and approvals relating to complex freshwater fisheries activities in relation to the Southland Wind Farm project

By **CONTACT ENERGY LIMITED**

Applicant

**STATEMENT OF EVIDENCE OF NICHOLAS PAUL GOLDWATER
(TERRESTRIAL AND WETLAND ECOLOGY) ON BEHALF OF CONTACT
ENERGY LIMITED**

14 January 2026

BUDDLE FINDLAY

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INTRODUCTION

1. My full name is **Nicholas Paul Goldwater**.
2. My evidence is given on behalf of Contact Energy Limited (**Contact**) in respect of Contact's proposed Southland Wind Farm project (**Project**) in response to comments made under section 53 of the Fast-track Approvals Act 2024 (**Act**) by:
 - (a) Environment Southland;
 - (b) Southland District Council;
 - (c) The Director-General of Conservation (**DOC**);
 - (d) The Environmental Defence Society (**EDS**);
 - (e) The Southland Conservation Board; and
 - (f) West Catlins Preservation Society (**WCPS**).
3. With Dr Kelvin Lloyd, I prepared Technical Assessment: #5: Terrestrial and Wetland Ecology, dated 18 August 2025, in Part H of the application for the Project. My qualifications and experience are set out in paragraphs 18(a)–(e) of our technical assessment.

Code of conduct

4. I confirm that I have read the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023 and have complied with it in preparing this evidence. In particular, unless I state otherwise, the issues addressed in my evidence are 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.

COMMENTS FROM ENVIRONMENT SOUTHLAND

5. Environment Southland (**ES**) notes the ongoing discussions in respect of ecology matters, the refinements made to the information provided with the application and the provision of Wildlands' wetland memorandum in November 2025 (**Wetland Memorandum**).¹ Its comments go on to address

¹ Provided to the Panel with Contact's memorandum of counsel in advance of the Panel overview conference: [Memorandum-of-Counsel-24-November-2025.pdf](#).

"any remaining technical areas where ES considers the panel should focus its attention during the decision-making process".

6. I address those specific comments below.

Biosecurity and biodiversity (Section 2.1)

7. ES appropriately recognises that the Wind Farm Site is subject to only limited biosecurity control, and that the lack of control and ongoing livestock grazing "is likely to be adversely affecting / eroding the ecological and biodiversity values of the area over time". ES goes on to confirm that its Biodiversity and Biosecurity staff have reviewed the application material addressing the proposed ecological enhancement and restoration scheme and that they consider those measures "collectively represent a significant biodiversity and ecological commitment".
8. After acknowledging the "biodiversity net gain" goal of the proposal, ES addresses three matters for the Panel's information. One relates to riparian restoration. The other two matters, and my response, are as follows:

- (a) *"For the on-site benefits of the applicant's proposed programme of enhancement to be fully effective, adequate deer and feral pig control is imperative, as these are likely to be key contributors to the decline of current site values as identified in the various reports included in the application."*

My response: Feral deer and pig control is a key element of the offset and compensation scheme. The consent conditions and the Habitat Restoration and Enhancement Plan (HREP) specify the requirements and targets for deer and pig control, which will be carried out for the life of the wind farm.² I am confident that these measures are adequate and will be effective (and I do not understand ES to be suggesting otherwise).

- (b) *"The off-site programme and associated funding are noted. It is understood that this will manifest as additional measures rather than replacement funding for existing programmes run by other agencies. This will be important to support the "biodiversity net gain" goal."*

² Conditions EC51, EC52 and EC54.

My response: I understand this comment relates to the proposed funding by Contact to DOC for habitat enhancement (through pest control) of a 10,000-hectare area of indigenous forest in the Beresford Range, Catlins (proposed consent conditions EC75 – 79). I understand this funding and the relevant activities would be additional, as these activities are not currently being carried out at anywhere near the scale that would be enabled by the funding Contact will provide. The wetland restoration and enhancement that will be carried out at the Davidson Road Wetland Restoration Site is also 'offsite', and I understand that no other agencies are currently funding any ecological enhancement work at that site.

For completeness, I note that our conclusion - that the offset and compensation we recommended will result in positive ecological benefits that outweigh residual adverse effects - does not rely on or account for the benefits that will be delivered at the 10,000-hectare area in the Beresford Range. The habitat enhancement at the Beresford Range will also bring further benefits for terrestrial fauna and vegetation (beyond the benefits to bats).

Wetlands at the Southland Wind Farm Project Site (Section 2.2)

Overview

9. The comments from ES have a particular focus on effects on wetlands, which is consistent with its approach during the previous Covid Fast-track consenting process.
10. ES notes the ongoing discussions with Contact in respect of wetlands, the proposed 2.5-hectare 'cap' on wetland loss, and the proposed wetland restoration and enhancement that will be carried out at the Davidson Road Wetland Restoration Site.

Davidson Road Wetland Restoration Site

11. In terms of the Davidson Road Wetland Restoration Site, ES makes two comments, as follows (with my response underneath the comments):
 - (a) *"ES's Wetlands Scientist has commented that if the project proceeds, it may be desirable to have a wider diversity of species in the planting programme for the Davidson Road wetlands. ES would be happy to engage in further dialogue on this matter"*

My response: As outlined in Tables 6 and 7 of the HREP, we have proposed to plant three wetland revegetation species and six wetland enhancement species. On behalf of Contact, I am happy to work with ES's wetland scientist to refine and/or expand the wetland plant schedules. The HREP will be submitted to the Councils, including ES for certification in accordance with conditions MP1-MP11. Therefore, ES will have the opportunity to provide further comment on the contents of the HREP, including the plant species selected.

- (b) *"While ES considers that the applicant's proposed off-site compensation is a meaningful measure to seek to limit impacts on wetland resources, ES notes that the Jedburgh plateau and Davidson Road wetlands are not "like for like"; and from ES's perspective this is a key area requiring close scrutiny from the panel during its decision-making process."*

My response: Wildlands and Contact have consistently acknowledged that the biodiversity compensation proposed at the Davidson Road East Wetland Restoration Site is not "like for like" because it is not possible to recreate the types of wetlands being impacted at the Wind Farm Site. This is why Contact has proposed to restore and enhance a substantially larger area of wetland (c.11.8 hectares) than that being impacted (currently calculated at 2.03 hectares, but in any case, no more than 2.5 hectares). We have previously mentioned that marshes - such as those present at the proposed compensation site - have been greatly reduced within the Southland region for the purposes of agriculture and flood protection. It therefore makes sense from an ecological perspective to prioritise restoration of marsh wetlands, even if they are not "like for like" with those impacted at the Wind Farm Site.

Effect of earthworks on hydrology and hydrogeology

12. ES emphasises its view that it is very important to mitigate the effects of bulk earthworks on hydrology and hydrogeology, and notes the "significant research and effort" Contact has undertaken since the previous consenting process to further refine earthworks and infrastructure effects.

13. The hydrology report by WWLA³, for example, provides a conceptual culvert location and size design, which aims to maintain hydrological connectivity and water balance neutrality between wetlands in order to minimise wetland loss. It also incorporates the construction of clay bunds at certain locations to prevent dewatering of wetlands upstream of areas being excavated.
14. I note that all fill sites on the Plateau (and across the Project Site) will avoid wetlands.

Rarity of upland bogs in Southland

15. ES notes the following with respect to bogs in Southland:

"Southland does have quite a few bogs and fens and hence they are not rare regionally. However, the region does not have many of these high upland bogs with a very distinctive, rare (they always would have been naturally uncommon) and in many cases threatened species composition. Most are only left in the Fiordland upland areas."

16. I acknowledge that the majority of bogs remaining in Southland are lowland bogs, of which most occur in the Awarua-Waituna wetland complex. I agree that most remaining upland bogs in Southland occur in Fiordland, noting there are large and significant string mire bog systems in the Nokomai wetland complex in the southern Garvie Mountains.
17. Notwithstanding the rarity of upland bogs, a key point to consider is the relative vulnerability of upland versus lowland bogs in Southland. Lowland bogs have experienced high historical loss and continue to face ongoing pressure from land-use intensification, drainage maintenance, nutrient enrichment, and stock access. In contrast, upland bogs typically occur in steep, high-rainfall, cold environments where drainage and cultivation are technically difficult and stocking rates are lower (often seasonal or absent).
18. Despite the presence of seasonal grazing at Jedburgh Plateau, albeit at low stocking rates, the wetlands have remained relatively intact. I also emphasise that over half of the bogs on the Jedburgh Plateau are induced and are thus not comparable to true peat systems in more intact upland wetlands in Southland.

³ Williamson Water & Land Advisory. Conceptual Hydrological Design for Southland Wind Farm at Jedburgh Station Plateau. 19 June 2025.

Wetland aspects raised by ES's Environmental Scientist Wetlands

19. ES then refers to a list of wetland-related aspects raised by its Environmental Scientist - Wetlands as requiring close scrutiny by the Panel, including:
- (a) Habitat fragmentation and loss of connectivity (Section 2.2.1).
 - (b) Relative value of the wetlands on Jedburgh Plateau in the context of other Southland bogs and fens (Section 2.2.2).
 - (c) Remaining extent of bogs and fens in Southland (Section 2.2.3).
 - (d) Historic vegetation cover with respect to mountain cedar forest (Section 2.2.4).
 - (e) Monitoring of wetland hydrology and vegetation (Section 2.2.5).
 - (f) Threat classifications of wetlands as per the Southland Regional Policy Statement (Section 2.2.6).
 - (g) Stock exclusion in the context of the Southland Water and Land Plan (Section 2.2.7).
 - (h) Potential adverse effects on ephemeral wetlands (Section 2.2.8).
20. I respond to each issue below.

Habitat loss and connectivity (Section 2.2.1)

21. ES has highlighted habitat fragmentation as a key terrestrial ecology consideration, noting it can be difficult to quantify its impacts due to the complexity of ecological processes and differences between species. I acknowledge these concerns, noting that similar issues were raised in the previous application.
22. Habitat fragmentation has been carefully considered in our assessment,⁴ noting that the Jedburgh Plateau is already an extensively modified and edge-dominated landscape. The wind farm roads have been designed to follow existing farm and forestry tracks as much as practicable, which helps to minimise vegetation loss.
23. While formalised roads can act as a barrier for fauna such as lizards, snails, and Helms' stag beetles, the relatively small proportion of vegetation that will

⁴ [H05.-Part-H-Technical-assessment-5-Terrestrial-and-Wetland-Ecology.pdf](#) at [168]–[171], [174], [177], [181] and Table 6a.

be removed is highly unlikely to result in isolated populations of these organisms. All affected vegetation types will still be contiguous with adjacent habitats (e.g. shrubland, forest, and grassland). I do not expect bird species such as pihoihoi (pipit) to be adversely affected by fragmentation given that they are a mobile species that commonly nests in open habitats.

24. The Project is not expected to disrupt food availability or affect the occupancy of resident fauna. Species present—such as fernbird—often utilise patchy shrubland–wetland mosaics and are not dependent on large, uninterrupted expanses of habitat. Importantly, the proposed ungulate control within the Wind Farm Site will improve vegetation complexity and food resources across the Plateau, improving conditions for wetland fauna relative to the existing baseline.
25. In terms of effects on lizards, evidence from the site surveys shows that tussock skinks favour disturbed areas such as road edges.
26. The risk of mortality or injury through collisions with vehicles is considered to be low given that roads will only be used intermittently once the wind farm is operational and vehicle speed will be restricted to 50 km/hour. To clarify further, the roads that access the ends of turbine strings (in the more remote parts of the site) may not see traffic for days, while the roads close to the O&M building (where workers will meet in the morning at the beginning of each working day), will likely see traffic every work day, but still only up to a maximum of about 10 vehicles passing each way per work day.
27. The small areas of wetland loss associated with the Project—approximately two hectares (and in any case, no more than 2.5 hectares), or 1–2% of total wetland extent—do not meaningfully alter the overall configuration or continuity of the wetland mosaic. The remaining 98% of bog and fen wetlands on the Jedburgh Plateau will remain spatially contiguous, and their ecological condition is expected to improve through the proposed pest control required to be implemented by consent conditions.
28. I reiterate that most affected habitats are regenerating systems already partially fragmented by historic grazing and browsing by stock and feral ungulates. These areas are moderately to highly disturbed and susceptible to weed invasion but are generally resilient to light and wind. As a result, any additional fragmentation is unlikely to materially worsen existing conditions.

Further, ecological processes such as wind and bird dispersal of plant propagules will not be impeded.

29. Assisted regeneration and enrichment planting will also be undertaken on the existing tracks that are no longer required within the Jedburgh Station Ecological Enhancement Area (refer to proposed condition EC51). This will provide an additional 8.7 hectares of restoration to help address the effects of potential fragmentation by enhancing connectivity and reducing edges. It will also contribute to reducing the effects of residual vegetation loss. Furthermore, an additional 1.6 hectares of planting will also be undertaken at key areas on the Plateau to provide habitat and maintain connectivity for invertebrate species.
30. Overall, I consider the level of fragmentation effects to be low after mitigation and offset measures have been implemented. In some areas, connectivity is likely to improve over time as natural regeneration proceeds within the fenced Jedburgh Station Ecological Enhancement Area.

Relative value of wetlands in a regional context (Section 2.2.2)

31. ES states there is still some uncertainty around the value of habitats. They refer to comments in the Wetland Memorandum, which compare wetlands on the Jedburgh Plateau with those along the southern coast of Fiordland,⁵ as "unsubstantiated", and refer to a "lack of data about the differences and value of high-altitude bog and fens versus their lowland counterparts".
32. The intention of those statements in the Wetland Memorandum was not to diminish the ecological value of the Jedburgh Plateau wetlands, but simply to place them within the broader Southland–Fiordland wetland landscape. All assessments of ecological value in Technical Assessment #5 are based entirely on site-specific field data, Southland Regional Policy Statement (SRPS) criteria, and the EIANZ significance framework—not on comparisons with Fiordland sites.
33. Southland contains a nationally disproportionate share of bog and fen ecosystems, many of which occur in upland or montane settings. These are generally subject to far lower levels of historical disturbance than the Jedburgh Plateau, which has been extensively burned, cleared, grazed, and browsed for more than a century. That context underpins our statement that

⁵ At page 10 of the Wetland Memorandum.

many Fiordland wetlands are likely to be in better condition, but I agree that this is a general ecological observation rather than a dataset presented in the application.

34. Importantly, the ecological value of the Jedburgh wetlands remains high regardless of regional comparisons. Our classification of bogs and fens as Very High value is grounded in the vegetation composition, representativeness, and the fact they support At Risk species such as mātātā/fernbird. I note that this is a conservative assessment when taking into account the impacts of feral ungulates and stock on the wetlands. The one exception is for induced bogs, noting that it would have been more appropriate to assess these wetlands as having Moderate ecological value, rather than Very High ecological value.
35. The distinction we draw between upland and lowland wetland types—including the fact that the Jedburgh Plateau wetlands are not deep-peat or domed systems—supports the identification of their correct ecosystem types under the SRPS but does not diminish their assessed ecological values.

Remaining extent of bogs and fens in Southland (Section 2.2.3)

36. ES claims there is a significant amount of new data on bog and fen loss that has been obtained since the Southland RPS became operative in 2017. These data may indicate that fens and bogs are actually more threatened and valuable than when the RPS became operative.
37. While more recent datasets may indicate further loss of bog and fen habitat across Southland, this does not alter the classification of ecosystem types under the SRPS, nor does it change the site-specific ecological characteristics of the wetlands at the Jedburgh Plateau.
38. Our assessment is based on the actual condition, structure, hydrology, and vegetation composition of wetlands recorded during our field surveys. This field-based classification confirms that the Jedburgh Plateau wetlands do not correspond to the Threatened or Rare wetland types listed in Appendix 2 of the SRPS, such as domed peat bogs or cushion bogs. They are shallow-soil upland bogs and fens, of which c.17 hectares (or 59% of the total bog extent) are induced wetlands formed following historical forest clearance and are currently maintained in that state by browsing pressure and historical land clearance. These ecological attributes—rather than regional loss statistics—determine their classification and management requirements. Regardless, we

have adopted a conservative approach in assessing wetlands on the Jedburgh Plateau and at Matariki Forest, assigning all bogs, fens, and marshes a very high ecological value and rating them as ecologically significant against the criteria in Appendix 3 of the RPS.

Historic vegetation cover re: induced bogs (Section 2.2.4)

39. ES has queried the wetland status of the original forest cover where areas of induced bog currently exist, noting that pahautea/cedar has a wetland indicator rating of facultative (FAC), which means it has a 50% chance of occurring in a wetland. This means that the areas may have historically been wetlands, and have just changed vegetation type, rather than being dryland that has become wetland.
40. I acknowledge the wetland indicator status of pahautea/mountain cedar and agree that its facultative (FAC) rating means it can occur in both wetland and non-wetland settings; however, I am not aware of any existing stands of pahautea/cedar in Southland that could be characterised as wetland. Elsewhere on the Jedburgh Plateau, pahautea/mountain cedar occurs as a terrestrial forest species. Further, the New Zealand Plant Conservation Network states that pahautea/cedar usually occurs in mixed cloud forest, often at the margins where forest grades into subalpine scrub or wetlands⁶.
41. I accept that the historical presence of forest does not, on its own, prove that a site was not a wetland. Our use of the term 'induced bog' is not intended to imply that these areas were categorically previously dryland, but rather to describe bogs whose current vegetation structure and hydrological expression have developed following the removal of the original cloud forest cover and subsequent browsing and trampling pressures.
42. Our mapping of induced bogs is based on multiple lines of evidence collected in the field. These include:
 - (a) the shallow soil profiles and low-permeability bedrock that allow surface water to accumulate after forest loss;
 - (b) widespread sub-fossil wood indicating that intact forest formerly occupied these sites; and

⁶ <https://www.nzpcn.org.nz/flora/species/libocedrus-bidwillii/>

- (c) the characteristic drying and re-wetting cycles that differentiate these areas from the more stable natural bogs elsewhere on the plateau.
43. When combined, these factors demonstrate that the current wetland state of these areas on the Jedburgh Plateau reflects post-deforestation hydrological shifts and ongoing ungulate disturbance, rather than long-term, naturally developed bog systems of the type recognised as Threatened or Rare under the SRPS.
44. I accept that some form of wetness may have been present historically—particularly given the shallow geology—but the key point is that their present-day structure, ecological trajectory, and vulnerability differ markedly from natural, long-established bogs. That is why we have distinguished them as induced bogs, noting that doing so did not affect the outcome of the ecological assessment, i.e. we still assessed them as (i) having very high ecological value and (ii) being ecologically significant as per the SRPS.

Post-construction wetland monitoring (Section 2.2.5)

45. ES has acknowledged Contact's commitment to monitor wetlands post-construction; however, they are concerned that medium to long-term changes in vegetation and/or hydrology could be missed. ES has suggested that longer term monitoring is more appropriate, e.g. five-yearly monitoring intervals after the initial two-year monitoring.
46. I acknowledge ES's point that hydrological changes in wetlands can manifest gradually, and that shifts in vegetation composition—whether through drying trends, altered water tables, or pest plant ingress—may take longer than two years to become fully apparent. The two-year requirement in Condition EC11B was intended to ensure that any immediate, construction-related hydrological effects are detected early. I accept, however, that this duration may not fully capture medium- to long-term ecological responses.
47. I am open to the monitoring framework being extended to address this concern. A sensible approach would be to retain the initial intensive monitoring, followed by two additional monitoring rounds at five-yearly intervals. This would provide a robust safeguard to detect delayed vegetation change, confirm the effectiveness of hydrological management measures, and ensure that any apparent adverse trends can be identified and addressed.

48. I understand Mr MacGibbon is generally of the same view but has also recommended that the initial intensive monitoring period be extended to three years (with subsequent monitoring rounds at years eight and 13). I am comfortable with that recommendation. This is accepted by Contact and the proposed conditions submitted with Contact's response to comments have been updated accordingly.
49. I reiterate that the management of hydrological connectivity between wetlands will occur via a water management system of clay bunds and regular and carefully maintained culverts (as outlined in the report prepared by WWLA and in condition CM12).
50. Overall, I support the refinement of the monitoring regime to ensure it adequately reflects the temporal dynamics of wetland ecosystems, noting that monitoring for the life of the wind farm is not necessary to detect any changes in wetland hydrology and/or vegetation composition caused by the construction and operation of the Project.

Wetland threat classifications as per the Southland RPS (Section 2.2.6)

51. ES notes that the SRPS states that the schedule of Threatened, At Risk and Rare habitats in Appendix 2 of the SRPS is "by no means definitive", and say it could be argued that any wetland dominated by indigenous species would trigger (b)(ii) of the significance assessment criteria given that wetlands nationally and in Southland are considered vulnerable to development.
52. The note referred to by ES is included at the beginning of Schedule 3 to the SRPS. As I read it, the note is confirming that habitats that are not included in the schedule of Threatened, At Risk and Rare habitats in Appendix 2 can still be significant in terms of Schedule 3. I understand that is the point ES is making here, and I agree.
53. Our reference to Appendix 2 of the SRPS was simply to clarify that the specific wetland types present at the Jedburgh Plateau—namely shallow-soil upland bogs and fens, some of which are induced—do not correspond to the Threatened or Rare ecosystem types listed in that schedule, such as domed peat bogs or cushion bogs.
54. Importantly, this point does not mean that these wetlands are of lower ecological value or significance. Indeed, in our assessment, all fen, marsh and swamp wetlands at the site were assessed as ecologically significant

against the Appendix 3 (b)(ii) criterion, as well as having very high ecological values. I acknowledge that bogs should also have met this criterion in our ecological assessment, noting that they still met criterion (a)(i).

55. The distinction we are drawing between SRPS Schedule 2 and Schedule 3 is not an attempt to minimise the ecological importance of the wetlands. Our assessment already incorporates the broader national and regional context of wetland decline, and the Project's mitigation, pest management, and enhancement measures have been designed accordingly to ensure that wetland values are protected and, in most areas, enhanced over time.

Stock exclusion (Section 2.2.7)

56. I acknowledge ES's point regarding the regulatory context provided by the proposed Southland Water and Land Plan, including Rule 70, which generally requires resource consent for stock grazing in natural wetlands.
57. The key point is that the wetlands on the plateau have been subject to decades of stock and ungulate pressure, noting that anecdotal observations by the landowner and farm manager indicate that feral deer and pig numbers have increased significantly since the early 2000s. This pressure is a major driver of the reduced vegetation cover, pugging, and suppressed ecological succession we have documented. Regardless of the regulatory pathway that applies (or may in the future apply) to grazing, the Project provides a clear and immediate mechanism to significantly reduce these pressures through:
- (a) stock exclusion fencing within the Jedburgh Station Ecological Enhancement Area;
 - (b) targeted deer and pig control across the wider 1,400-hectare Jedburgh Station Pest Control Area; and
 - (c) sustained pest animal and plant control over the lifetime of the wind farm.
58. These actions will materially improve wetland condition compared with the current state and with the foreseeable baseline in the absence of the Project.
59. I emphasise that stock do not access the large gully of southern rātā-kāmahi forest nor do they access the adjacent areas of indigenous forest, scrub, and shrubland directly to the north of the gully.

60. In summary, our assessment recognises the regulatory setting but is focused on the effects of the Project and ecological outcomes which are captured in the consent conditions. The Project, including the conditions of the consents, will deliver a level of protection and restoration to these wetlands that is substantially greater and more certain than what would occur under the existing land-use regime.

Potential adverse effects on ephemeral wetlands (Section 2.2.8)

61. ES considers it is important to mitigate the potential for adverse effects on ephemeral wetlands (usually ephemeral ponds) and seepage streams from dumping of spoil. Ephemeral waterbodies and seepage streams should be factored into wetland and earthworks considerations.
62. ES has mentioned that ponds may be present in the ephemeral headwaters; however, we have not mapped or identified any ponds on the Jedburgh Plateau during our field surveys. This does not preclude the possibility of small ephemeral wetlands occurring in gully heads across the site, although we are confident that if ephemeral wetlands are present they have likely already been captured in the existing wetland mapping.
63. I note that the proposed earthworks and erosion-and-sediment control framework already requires that spoil be disposed of only within areas that meet the strict fill disposal criteria, and not within any identified wetlands. As mentioned in Technical Assessment #5 (at paragraph 161 and as per consent condition CM3), the parameters for the final sites will ensure no high or very high value vegetation will be lost during the construction of the fill disposal sites (including wetland areas).

Southland District Council

64. Southland District Council (SDC) engaged Glenn Davis of e3scientific to undertake a review of Technical Assessment #5. I have considered Mr Davis's technical review document and respond below. I note Mr Davis's overall conclusion, which is:

"In conclusion, e3scientific considers the body of work completed to understand the ecological values and effects from the Southland Windfarm is substantial and forms a sound basis to assist the FTAA expert panel. Furthermore, we are of the opinion that the suite of measures set out in the offset and compensation package are

considerable and can result in the project achieving a net positive benefit for most of the ecological values recorded across the site."

Ecological characterisation and values assessment (section 2.1)

65. Mr Davis considers the methods and level of ecological survey undertaken by Wildlands provide a sound basis by which to characterise the ecological features at the site. He says that:

"In our view, the work completed is comprehensive and provides a strong basis for understanding the ecological effects of the windfarm and the management measures required to mitigate, offset and compensate for ecological effects that will occur."

66. Mr Davis also acknowledges the challenges associated with mapping wetlands on the Jedburgh Plateau. Notwithstanding this, he states that:

"...the methods utilised including analysis of high-resolution aerial imagery and application of the Wetland Delineation Protocols (MfE, 2022) provide the best approach to complete this assessment. We consider that the methods used provide a sound basis for the wetland mapping completed for this area and therefore understanding the extent of the effects of the development wetlands on the Jedburgh Plateau."

67. With respect to the Lizard Management Plan (**LMP**), Mr Davis considers there is merit in preparing a plan that maps the habitat quality for the two lizard species recorded (Tautuku gecko and tussock skink) and species that are potentially present (green skink and herbfield skink). I note that habitat values for lizards were not categorised into "Low", "Moderate", and "High" in the LMP: however, Figure 2 of the LMP does show confirmed and potential habitat for Tautuku gecko and tussock skink. Similarly, in the Vegetation Management Plan (**VMP**), we have mapped confirmed and potential habitat for lizards (and invertebrates) in Figures 2a and 2b.
68. I consider it useful and more practical to update the figures in the VMP to include potential habitat for green skink and herbfield skink.⁷ These figures have been appended to this evidence.

⁷ The VMP will be updated as part of the post consenting certification process. If the panel agrees to approve the LMP, a version with the updated figures can be provided.

Ecological effects assessment (sections 2.2 and 2.3)

Construction effects

69. With respect to the residual loss of indigenous vegetation, Mr Davis considers the approach to offsetting taken by Wildlands (i.e. trading loss of extent for increase in condition of existing vegetation) is the most practical and most likely to achieve positive biodiversity benefits. Regarding the proposed measures to be undertaken in the Jedburgh Station Pest Control Area, he suggests that it would be appropriate to also exclude stock to minimise the browsing of regenerating vegetation.
70. I note that under current rules, the landowner would likely need resource consent under Rule 70 of the Proposed Southland Water and Land Plan to continue grazing the wetlands. Furthermore, it is important to note that stock do not access the southern rātā-kāmahi forest (c.339 hectares) and they will be physically excluded from the 245-hectare Jedburgh Station Ecological Enhancement Area.
71. In any event, Contact will be bound by the performance targets set out in proposed consent condition EC52 after implementing the offsetting and compensation measures set out in EC51. If it transpires that browsing animals (stock and/or feral deer) are preventing these targets from being achieved, further management actions will need to be implemented (as per EC58A). Biodiversity Offset and Accounting Models have been developed to determine the measures required to address the adverse effects of vegetation and habitat loss. The proposed offset and compensation scheme has been designed to result in net gain outcomes, and the targets included in the conditions will ensure that outcome.
72. With respect to the proposed fill disposal sites, Mr Davis is supportive of the approach to remediate the temporary loss of vegetation (as outlined in the Vegetation Management Plan). However, he emphasises that this relies on the rehabilitation work being completed to a high standard and will require monitoring following planting.
73. I agree with Mr Davis and acknowledge that the challenging growing conditions at the Jedburgh Plateau require the planting and post-planting methodologies to be comprehensive. I note that the maintenance of rehabilitated sites should be undertaken for a minimum of five years (as outlined in the Vegetation Management Plan; consent condition EC11

requires annual monitoring, maintenance and rehabilitation reports for five years following the completion of construction), which should provide ample time for plants to establish and opportunities to replace any dead plants, if required. In addition, annual reporting will be undertaken that includes the results of monitoring the establishment of plants in planted areas and associated maintenance or infill work carried out/required.

74. Mr Davis refers to Section 9.1 of the HREP regarding the 90% target survival rate of enhancement plants after ten years. He considers that this target should be brought forward to five years as this will give the project the opportunity to reach 90% at 10 years with replacement planting. I agree with the intention of Mr Davis's recommendation, considering that plant mortality is likely to occur in the first two to three years following planting if it is to occur at all.
75. Mr MacGibbon has also considered this issue in his evidence. He suggests making a subtle change to the wording in the HREP so that a 90% target ten-year survival rate is set for well-established plants that have been planted for **two years or more**. I agree with this recommendation and the HREP will be updated to reflect this, noting it is still in draft form.
76. With respect to the potential construction effects on fauna, Mr Davis considers the work directed by the fauna specific management plans will mitigate the effects of the construction works. However, he recommends that as an additional measure to mitigate effects on lizards (and invertebrates), mulching of felled vegetation should be prohibited in areas of high-value Tautuku gecko habitat.
77. I can confirm this is already provided for in the proposed consent condition EC10 and the LMP. For clarity, mulching is prohibited in any Tautuku gecko habitats mapped in Figure 2 and Table 8 of the LMP. This includes areas where Tautuku gecko have not been detected (potential habitat) but removes the avoidance of doubt.
78. Mr Davis also acknowledges the importance of the HREP in addressing the residual effects on fauna by implementing rigorous pest control measures and enrichment planting. He makes the following comment:

"We endorse the management plans and consider significant improvement in habitat can be achieved through minimising effects on

high value areas and activating ecological processes by controlling ungulates, pests and predators."

Operational effects

79. Mr Davis considers the approach taken to manage adverse operational effects on indigenous fauna:

"to be well thought through and the mitigation proposes is of a very high standard with respect to deterring bird and bat collision's, monitoring effects and management responses in the event monitoring finds effects on bats and birds exceed effects targets. We agree with the view of the report authors that effects on birds and bats can be managed such that a low level of effect can be achieved."

80. He also considers the proposed pest control programme in the Beresford Range "should result in a significant benefit to invertebrate, bird and bat populations that will exceed the effects of the windfarm operation."

DEPARTMENT OF CONSERVATION

81. DOC's comments confirm that it is "broadly comfortable with the application and the conditions as proposed by Contact", noting Contact "has been diligent in addressing the environmental effects of the proposal". With that overall perspective in mind, I respond below to specific comments made by DOC.

Wetlands

82. DOC has briefly characterised the vegetation on the Jedburgh Plateau and states that it:

"meets the criteria for irreplaceability because of its uniqueness and contribution to Southland region's biodiversity. It also meets the vulnerability definition due to its susceptibility to land-use change (e.g., farming, forestry, infrastructure). Other wetlands on Plateau [sic] at similar altitudes have already been highly modified, highlighting its fragility."

83. Irreplaceability refers to how unique, rare, or difficult to replace a biodiversity feature is, whether a species, habitat type, ecosystem function, or site. I do not consider the wetlands at the site have high irreplaceability because of past land practices and clearance of the original vegetation cover around the

wetlands (meaning they have lost their terrestrial context), while the presence of stock, feral deer and other introduced pest animals, are suppressing natural regeneration and ecological succession. I also reiterate that Southland is national stronghold for bog and fen wetlands, with Southland bogs occupying 32% of the national extent, and Southland fens comprising 23% of the national extent.

84. Similarly, ecosystems with high vulnerability are at immediate risk and may require urgent intervention to prevent irreversible damage. I do not consider that the wetlands on the Jedburgh Plateau are at immediate risk or under significant threat, despite the ongoing effects of browsing animals.
85. DOC does acknowledge that the wetlands are:

"not in a 100% natural state given the long history of history of indigenous vegetation clearance through burning, felling, and grazing. Stock still graze the Plateau in the winter months and sheep graze during the summer months. This grazing along with pressures from feral animals, pose ongoing pressure to the wetlands and indigenous vegetation."

86. I agree with this description, and Dr Lloyd and I have provided a similar account in Technical Assessment #5.⁸ I note that the low stocking rates on the Plateau, and the intermittent grazing regime, are likely to have considerably less impact than that of feral ungulates, which are present all year round and, based on anecdotal evidence from the farm manager, have increased in number significantly since the early 2000s.
87. DOC refers to Policy 3.22 of the NPS-FM, which, in its view, *"clearly outlines that natural inland wetlands and indigenous vegetation areas are irreplaceable. Therefore, avoidance is key and offsetting or biodiversity compensation is not seen as appropriate."* However, clause 3.22(1)(b) of the NPS-FM specifically provides an exception for the loss of wetland extent or values in respect of certain "specified infrastructure", where there is a functional need for the infrastructure and effects are managed in accordance with the effects management hierarchy. We designed the wetland effects management scheme for the Project to be in accordance with the effects management hierarchy, which does allow for offsetting and compensation.

⁸ Evidence of N Goldwater and K Lloyd, at paras 89, 121, 174, and 293.

88. DOC acknowledges the effort undertaken at the Southland Wind Farm site to map vegetation, delineate wetlands, and collect vegetation data between 2022 and 2025. It also notes the additional mapping work using high resolution drone imagery to assist with mapping wetlands at a finer scale. DOC goes on to confirm:
- (a) It is "satisfied with the ecological assessment of values and effects undertaken"; and
 - (b) It considers "The proposed biodiversity compensation actions will be beneficial for the wetland, shrubland and forest ecosystems given its current state which is grazing by cattle and sheep, browsing and pressures from feral deer, pigs and possum, weeds, and mammalian predators."
89. In terms of the effects management scheme in relation to the wetlands at the Jedburgh Plateau, DOC specifically sets out the importance of ongoing wetland monitoring and reporting to understand any potential changes to the vegetation and/or hydrology on the Jedburgh Plateau. I generally agree with this view.
90. DOC has recommended amending consent condition EC11B so that wetland monitoring occurs every five years following the commissioning of the first wind turbine for the duration of the operation of the wind farm. I understand that making those changes would address DOC's concerns in respect of wetland fragmentation / hydrology effects.
91. I refer to my response to similar comments made by ES, as set out above. Overall, I agree with the proposed additional monitoring and am generally comfortable with the changes to condition EC11B proposed by DOC. However, I consider monitoring for the duration of the wind farm operation is not necessary and would be too onerous. If any changes to wetland hydrology and/or vegetation composition occur as a result of the construction of the wind farm, this will likely take place within ten years of construction. I consider the updated version of proposed consent condition EC11B, requiring yearly monitoring for three years post-construction, then two additional monitoring rounds at years eight and 13, is an appropriate response to DOC's comments.
92. I agree with DOC that it would be appropriate to also use control sites, to enable a more confident analysis of causation in respect of any Project-

induced indirect effects on wetlands. Control sites should be located in wetlands a minimum of 200 metres from the nearest wind farm infrastructure. Condition EC11B has been updated accordingly.

93. Finally, I note that I am not convinced that "wind turbine wake" is a potential issue for vegetation in respect of the Project. DOC has referred to a news release from the United States but I am not aware of any concern from ecologists in New Zealand. Importantly, the study's results were not conclusive, in that wake effects occurred at some test sites and not others. Wake effects also varied in magnitude and the directional change in vegetation greenness, and they also varied by the time of year and the "climatic variables associated with plant growth."⁹ In addition, there was no information on mast height or rotor swept diameter in this study, which makes it difficult to draw any meaningful comparisons with the Southland Wind Farm.
94. DOC raises the issue of weed ingress following the removal and/or control of browsing animals. In my opinion, it is possible that weeds such as gorse and wilding conifers could proliferate in the absence or reduction of browsing animals, which is why consideration should be given to continuing with some level of stock access within the Jedburgh Station Pest Control Area to help reduce the spread of weeds – gorse in particular. I note that proposed consent condition EC55(g) specifically requires Contact to undertake pest plant control in the following areas:
- (a) Indigenous-dominated habitats located within 50 metres of all roads and structures, for a minimum of three years following the commencement of the operation of the Southland Wind Farm;
 - (b) The Copper Tussock Enhancement and Skink Protection Area, for a minimum of ten years following the commencement of the operation of the Southland Wind Farm; and
 - (c) The Davidson Road Wetland Restoration Site for a minimum of five years following the completion of the first planting season.
95. In addition, proposed consent condition EC55(i) requires Contact to remove wilding conifers when found in wetlands and indigenous-dominated terrestrial habitats on the Project Site for the duration of the operation of the Southland

⁹ Diffendorfer et al. (2002): Wind turbine wakes can impact down-wind vegetation greenness. <https://doi.org/10.1088/1748-9326/ac8da9>

Wind Farm. I note that during our surveys on the Jedburgh Plateau, we did not encounter any wilding conifers.

Significant natural vegetation

96. DOC has provided a brief overview of the ecological significance and value of the indigenous vegetation present at the Southland Wind Farm Site, with which I agree. I would clarify, however, that we used the criteria in Appendix 3 of the Southland RPS to assess ecological significance rather than the criteria in the National Policy Statement for Indigenous Biodiversity (NPS-IB) as the NPS-IB does not apply to renewable electricity generation activities (clause 1.3(3)).

Biodiversity compensation and offsetting

97. DOC has provided an overview of the offsetting and compensation approach that addresses residual effects of the project in paragraphs 3.23 to 3.25. For completeness, I note paragraph 3.25 does not accurately reflect the position in terms of wetland extent:

"There is a total of 530 ha of wetlands on the Jedburgh Plateau, of which 245 ha will be protected via the Ecological Enhancement Area and 55 ha through the Plateau Fauna Enhancement Area."

98. To clarify, the total extent of the Jedburgh Plateau is 530 hectares, of which approximately 131 hectares is wetland (comprising 102 hectares of fen and 28.7 hectares of bog). This is accurately set out in DOC's comments in respect of wetlands.
99. The 245-hectare Ecological Enhancement Area is on Jedburgh Station, but only c.68 hectares of it are within the Plateau. Approximately 18 hectares of fen and 1.5 hectares of bog will be physically protected from ungulates within the Ecological Enhancement Area
100. The 55-hectare Fauna Enhancement Area is wholly within the Plateau.
101. DOC has commented on how stock – particularly cattle – can adversely affect wetlands in terms of pugging, sedimentation, fragmentation of fragile plant communities, increased nutrient loads, spread of weed propagules, and a decline in wetland ecosystem function and health.
102. I agree with this view; however, it is important to consider the stocking rate and amount of time that stock are present at Jedburgh Plateau. A relatively

low number of cattle are grazed at the site, and only for three months over winter. While I acknowledge cattle can have an adverse impact on the wetlands (primarily through localised pugging), this occurs in discrete areas where the cattle have formed tracks to pass through the wetland areas to gain access to the better browsing areas in the drier parts of the Plateau. It is the feral ungulates, present in much greater numbers, that do the most damage to the wetlands. The wetlands have largely retained their ecological character despite the presence of ungulates.

Feral cats

103. DOC considers that improvements can be made to the proposed conditions to ensure lizard predation by cats is suitably addressed. They recommend using SA2 cat (kill) traps in the three lizard release sites, in areas where green skink is found, and in the Copper Tussock Enhancement and Skink Protection Area (should lizards be released there).
104. I acknowledge the damaging impact that feral cats have on indigenous fauna, and the control of feral cats has been addressed in the HREP. Specifically, in Section 8.2, we have recommended the use of SA2¹⁰ cat traps and illustrated how they should be installed (mounted on a tree or a post, with a wooden ramp, and baited with a combination of salted rabbit and fish). It is proposed to deploy 21 SA2 traps along the wind farm roads within the 1,400-hectare Jedburgh Station Pest Control Area, which will provide a good coverage for cat control, noting that cat traps (as they are mapped in Figure 2 of the HREP) will be in close proximity to the two lizard release sites at Jedburgh Station.
105. I am supportive of adding three additional cat traps within the three lizard release sites to provide improved protection for relocated lizards, including Copper Tussock Enhancement and Skink Protection Area at Matariki. It would also be beneficial to install cat traps in areas where green skinks are found (if green skink are found, noting that none have been located on the site to date, despite significant searching effort). I also support the use of live traps, as recommended by Mr MacGibbon, noting that there is a legal requirement to check live traps on a daily basis.¹¹

¹⁰ In Section 8.2.1 of the HREP, SA2 traps were incorrectly referred to "SA-4" traps, this will be corrected when the HREP is updated for certification.

¹¹ Live traps would likely be used on a very targeted basis, for a few nights per year.

106. It is also important to note that aerial pest control using 1080 cereal baits can kill feral cats through secondary poisoning, although this is not an effective primary method to reduce cat numbers. I note that DOC has recently trialled a sausage meat bait injected with 1080, which has so far proven to be highly effective at controlling not just feral cats, but also stoats and ferrets¹². I recommend that this option is further investigated for use at Southland Wind Farm in conjunction with specialists from DOC and ES (and can if appropriate following discussion be included in the HREP that is submitted for certification).

Avifauna

107. DOC acknowledges the additional bird surveys that Wildlands has undertaken so that all seasons are now covered. The surveys include five-minute bird counts, flight height surveys, wetland bird playback surveys, and acoustic surveys using automatic recording devices. DOC's view is that there is substantial information on resident birds at the site; however, they have raised concerns about potential gaps, "mainly for birds that use the site intermittently or annually, and potentially for migratory birds that never land at the site but may pass through the airspace of the wind farm at night." DOC specifically mentions South Island pied oystercatcher and sooty shearwater. DOC also raises concerns about the risk of turbine strike for species such as tūī, kāhu, kererū, and korimako/bellbird.
108. DOC also claim that the avifauna surveys for South Island pied oystercatcher (**SIPO**) were undertaken during months when "little migration occurs to North Island Sites" both in northward and southward migrations, and as a result, "the migratory information compiled by the applicant for SIPO is unreliable".
109. I disagree with this claim. Two of the six surveys undertaken coincided with migration periods (one during the Northward migration and the other during the Southward migration). The other four surveys were useful in informing the behaviour of the small number of SIPO that appear to use the Site during breeding – so overall, the surveys were well designed to capture data to inform both the migratory risk and the resident risk.
110. I acknowledge DOC's concerns and accept that it is challenging to obtain an absolutely complete dataset for avifauna. However, it is important to state

¹² <https://www.doc.govt.nz/news/media-releases/2025-media-releases/new-bait-to-control-feral-cats-shows-promise/>

here that of the 747 birds recorded during the flight height surveys, only 108 flew within the rotor-swept zone (~14%), indicating a low risk of collision with transmission infrastructure. This is consistent with the conclusions of the ecological effects assessment and the results of the avifauna collision modelling undertaken by Gerry Kessels and Derek Christie¹³. Importantly, most flights for all Threatened and At Risk species occurred below 30 metres above ground level.

111. Notwithstanding the low risk of collision for most birds, DOC has recommended that the proposed conditions relating to avifauna be refined to address migratory birds and bird strike.
112. DOC recommends that EC37 be updated to include the following:
 - (a) Undertaking quarterly collision monitoring following the commissioning of all wind turbines at the wind farm site; and
 - (b) thereafter, undertaking quarterly monitoring every five years following the date of the commissioning of the first wind turbine for the duration of the operation of the Southland Wind Farm.
113. Condition EC37 as lodged largely reflects DOC's recommendations, by which it states that the monitoring will occur "during each season of that year", which I consider to be appropriate.
114. In addition, DOC recommends updating EC37A(d) to account for the seasonal movements of titi/sooty shearwater and tōrea/South Island pied oystercatcher.
115. I am comfortable with the conditions being updated to reflect those recommendations from DOC, noting that I understand those amendments would address DOC's comments on avifauna.

ENVIRONMENTAL DEFENCE SOCIETY

Overview

116. Mr Harding, the expert ecologist engaged by the Environmental Defence Society (**EDS**), has provided comments on the following topics:
 - (a) Vegetation mapping;

¹³ Bluewattle Ecology 2025: Southland Windfarm bird trike assessment

- (b) Delineation of wetlands;
- (c) Assessments of ecological significance and ecological value;
- (d) Fragmentation of the Jedburgh Plateau ecosystem;
- (e) Offsetting and compensation; and
- (f) Proposed conditions of consent.

117. I have considered Mr Harding's comments and provide responses below.

Vegetation mapping

118. Mr Harding fairly acknowledges the inherent difficulties in mapping complex sites such as the Jedburgh Plateau, noting that: "Vegetation type boundaries at sites with complex drainage, and especially disturbed sites, are usually not distinct; they grade from one type to another." I agree with this view, and I would add that mapping sites such as the Jedburgh Plateau will never be 100% accurate. A key objective of mapping is to achieve a level of accuracy that facilitates a robust ecological assessment. I am confident that we have achieved this.

119. Mr Harding refers to the updated mapping we carried out following the previous Covid Fast-track consenting process. He states that he "cannot provide advice on the accuracy of the updated mapping", but then states he "remains concerned about its accuracy".

120. Given the significant effort that went into the additional mapping, including more vegetation plots and the use of high resolution and purposefully obtained drone aerial imagery, it is a shame Mr Harding has not taken the time to assess the results of the updated mapping to a greater extent. If he had, he may have come to a different conclusion.

121. Mr Harding's concerns essentially stem from his visit to a very small portion of the site during the previous consenting process (where he spent no more than two hours on site). During that site visit, Mr Harding identified a vegetation mapping error whereby an area of fen had been inadvertently deleted by Wildland's GIS specialist, and he used that as a reason to suggest the mapping of vegetation (and in particular the mapping of wetlands) was incorrect and could not be relied on. This mapping error was acknowledged and was immediately corrected during the previous consenting process.

122. This mapping error was of concern to Contact, and a thorough review of the mapping was undertaken to ensure that any other GIS related errors were identified and corrected. As described previously, in addition to this review, we have also updated the mapping of the Wind Farm Site (with particular focus on the Jedburgh Plateau) by undertaking an additional round of wetland delineation plots to provide a more robust ground-truthing of wetland boundaries and have also used high resolution aerial imagery, purposefully flown for the purposes of vegetation mapping, in order to ensure the vegetation mapping of the wind farm site (and Jedburgh Plateau) is as accurate as possible.
123. Mr MacGibbon has been engaged to provide an independent review of our mapping of the Jedburgh Plateau and has confirmed he is comfortable with our mapping / identification work.
124. Finally, the conditions of consent require the implementation of a robust set of additional pre-construction requirements relating to the accuracy of the vegetation mapping (and extent of vegetation / habitat loss). This includes:
- (a) Vegetation clearance caps, including limiting the loss of wetlands to a maximum area of 2.5ha (EC8);
 - (b) Following the completion of detailed design and prior to finalising the Vegetation Management Plan, the areas of significant vegetation habitats (including wetlands) within, and adjacent to, the final Project Footprint will be confirmed, including re-mapping of the areas where vegetation clearance will occur (EC4A); and
 - (c) Following this re-mapping exercise, Contact will consider whether any modifications can be made to the Project Footprint to avoid as first preference, or minimise, adverse effects on the significant vegetation habitat types, and confirm compliance with the vegetation caps listed in the conditions (EC4B).

Delineation of wetlands

125. Mr Harding acknowledges that "the Applicant's experts have expended considerable effort to define and describe wetlands in the vicinity of the SWF footprint". However, he argues that the wetland delineation is overly reductionist and creates artificial boundaries that fail to reflect hydrological and ecological processes and integrity on the Plateau.

126. We have recognised that the Jedburgh Plateau functions as an integrated hydrological and ecological system. Mapping wetlands does not negate this. We have applied the nationally endorsed wetland delineation protocols, which is standard practice and appropriate for ecological effects assessments.
127. Mr Harding goes on to say that "the important consideration is the effects of the activity (notably fragmentation) on a contiguous area of significant indigenous vegetation which includes extensive wetlands". To be clear, our effects assessment, particularly in respect of fragmentation and hydrology effects, was carried out at the scale of the Jedburgh Plateau (and overall Wind Farm Site), rather than solely within wetland polygons.

Assessments of Ecological Significance and Ecological Value

128. Mr Harding notes that the EIANZ (or EclA) Guidelines for the assessment of ecological value and ecological effects are non-statutory and "not universally accepted as best practice by ecologists or consent authorities". He refers to two applications (one a council-level decision, the other a Covid Fast-track decision), where he provided advice / evidence contesting the use of the EclA Guidelines by the applicants.
129. The EclA Guidelines are routinely relied upon by ecological experts, consent authorities, and the Environment Court. In my opinion, they provide a disciplined framework for distinguishing between low, moderate, and high level of effects based on evidence and ecological reasoning, not assertion. That said, like any assessment methodology, it is important that the EclA Guidelines are applied robustly and objectively, and alongside expert analysis.
130. We have deliberately applied the guidelines in a conservative fashion for the Southland Wind Farm, noting that all wetlands were assessed as having 'Very High' ecological value, including areas of induced bog (which would be better described as having Moderate value). We also assessed all habitat types against the significance criteria in the Southland RPS.
131. I note that in our Joint Witness Statement completed for the Project during the previous Covid Fast-track consenting process, Dr Lloyd and I both commented that we had seen the EclA Guidelines used inappropriately, where experts have assigned values and level of effect that are

inappropriate. We made it clear that this had not occurred in the Southland Wind Farm application¹⁴.

132. Mr Harding alludes to several other perceived limitations of the EclA Guidelines for the assessment of value and ecological effects. Firstly, he appears to imply that Representativeness must be assessed against an 1840 baseline under the guidelines, when in fact, the Guidelines says that "1840 is commonly used baseline against which representativeness is assessed..." I do not interpret this as 1840 being the only baseline for assessing representativeness.
133. At any rate, the significance of all vegetation types was assessed against the representativeness criterion in the Southland RPS, which does not use 1840 as a baseline. In addition, when assessing ecological values (Appendix 7 to Technical Assessment #5), we did not solely rely on a pre-human context for assessing representativeness. For example, [Mānuka]/tauhinu-inaka-*Veronica odora* scrub and shrubland, the dominant woody vegetation type on the Jedburgh Plateau, was described as moderately representative of regenerating habitats. Mr Harding's assertion about us "wrongly assessing representativeness against a historic baseline"¹⁵ is therefore incorrect.
134. Mr Harding considers it wrong to assess significance based on "divided up vegetation types (instead of the contiguous area of indigenous vegetation)." I do not agree that combining all the vegetation types into one overall area is appropriate for assessing values and effects. In fact, I am not aware of any other ecological assessment that has adopted this approach. Therefore, I do not agree with Mr Harding's assertion that we were wrong to assess significance based on individual vegetation types.

Fragmentation of the Jedburgh Plateau Ecosystem

135. Mr Harding states that "An important adverse effect on terrestrial ecology will be fragmentation of the ecologically significant plateau ecosystem" in paragraph 35 of this evidence.
136. He goes on to say, in paragraph 44 of this evidence, that "it is not possible to minimise or avoid fragmentation effects on the Jedburgh Plateau ecosystem."

¹⁴ Joint Witness Statement of Experts in the field of Ecology, 13 September 2024. At para 34.

¹⁵ Evidence of M Harding. At para 33.

137. In my view, Mr Harding overstates the potential effects of fragmentation at the site. Fragmentation effects are acknowledged and we have not claimed that they can be fully avoided. However, fragmentation effects are not considered to be significant, particularly given that the lizard and ground-based invertebrate species present only move relatively short distances. Any effects of fragmentation will nevertheless be addressed through a range of mitigation, offsetting and compensation measures (as outlined below).
138. The scale of infrastructure relative to the Plateau is small. That critical context is largely missing from Mr Harding's commentary. For example, in paragraph 39 of this evidence, Mr Harding cites a recent study¹⁶ that showed the loss of vulnerable indigenous species (albeit in dryland ecosystems) following land used at adjacent sites. However, this study focused on small, discrete, and spatially isolated shrubland remnants surrounded by intensively farmed land with no meaningful internal core beyond edge influence. The Jedburgh Plateau, in contrast, is a large, contiguous upland system which, although periodically grazed, is not subjected to intensive agricultural practices.
139. Potential fragmentation from the proposed wind farm is localised and linear (roads, turbine platforms) within an otherwise continuous ecosystem, rather than wholesale isolation and/or loss of connectivity.
140. The proposed mitigation and compensation measures will actively reduce effective fragmentation across the Jedburgh Plateau over time. That is not acknowledged by Mr Harding in his analysis.
141. Key measures that will address fragmentation include:
- (a) Predator trapping along wind farm roads for the duration of the Southland Wind Farm Project;
 - (b) Control of feral ungulates within the 1,400-hectare Jedburgh Station Pest Control Area for the duration of the Southland Wind Farm Project;
 - (c) Undertaking pest plant control within indigenous-dominated habitats located within 50 metres of all roads and structures for a minimum of three years following the commencement of the operation of the Southland Wind Farm;

¹⁶ Brownstein, G.; Monks, A. 2024. Adjacent land-use intensification facilitates plant invasions into indigenous shrubland fragments. *NZ Journal of Ecology* 48(1): 1-12.

- (d) Enhancing habitat for indigenous lizards and invertebrates by transferring woody debris, and logs, and rock stacks into proposed relocation sites, as outlined in the LMP and TIMP;
 - (e) Planting discrete areas (1.6 hectares in total) across the Jedburgh Plateau to provide habitat and maintain connectivity for less mobile invertebrates; and
 - (f) The retirement and assisted regeneration of c.8.7 hectares of *existing* tracks and fire breaks within the Jedburgh Station Ecological Enhancement Area.
142. Fragmentation will not separate ecosystem types such as forest, shrubland, and wetland, and there is enough habitat onsite to retain connectivity between different ecosystem types.
143. All of Wildlands' fauna experts considered fragmentation, as they do routinely with developments, and considered that fragmentation effects would be addressed through pest control benefiting the fauna group (outweighing negative effects of fragmentation).
144. The potential effects of altered wetland hydrology are also acknowledged and have been appropriately addressed in the plan prepared by Williamson Water & Land Advisory.¹⁷

Offsetting and compensation

145. The management of residual effects of the Project remaining after efforts to avoid, remedy or mitigate will be appropriately addressed by offsetting and compensation via proposed ecological restoration and/or habitat enhancement measures.
146. Offsetting and compensation measures are described in Technical Report #5, the key elements of which are listed below:
- (a) Creation of a fenced 245-hectare area of predominantly Mānuka forest and scrub (**Jedburgh Station Ecological Enhancement Area**) and eradication of feral deer and pigs and planting of enrichment species throughout the area.

¹⁷ [H10a.-Part-H-Technical-assessment-10-conceptual-hydrological-design_Part1.pdf](#) and [H10b.-Part-H-Technical-assessment-10-conceptual-hydrological-design_Part2.pdf](#). See also condition CM12.

- (b) Aerial pest control across c.1,400 hectares within the **Jedburgh Station Pest Control Area** on a three-yearly cycle, together with a programme of sustained predator trapping along the wind farm roads.
 - (c) Intensive rat and mustelid control in a 55-hectare **Plateau Fauna Enhancement Area** on the Jedburgh Plateau to address residual effects on māātātā/South Island fernbird, pīhoihoi/NZ pipit, and terrestrial invertebrates.
 - (d) Fencing and enhancement of c.8 hectares of copper tussock grassland and shrubland within the main lizard release area within the Matariki plantation forest (**Copper Tussock Enhancement and Skink Protection Area**).
 - (e) Targeted control of feral deer and pigs on the Jedburgh Plateau for the life of the Project.
 - (f) Habitat restoration and enhancement for indigenous lizards and invertebrates, including approximately 1.6 hectares of indigenous planting to be undertaken on the Jedburgh Plateau to enhance habitats for invertebrates.
 - (g) Restoration of approximately 5.1 hectares of exotic-dominant wetland to copper tussock-rautahi marsh on land owned by Contact Energy at Davidson Road (**Davidson Road Wetland Restoration Site**), together with ecological enhancement of approximately 6.7 hectares of existing degraded marsh, and formal legal protection of this site.
147. The programme is expected to deliver meaningful biodiversity gains across the Jedburgh Plateau and the wider Jedburgh Station. In addition, the proposal to fund the control of pest animals across 10,000 hectares of the Beresford Range will deliver substantial ecological benefits over and above the offsetting and compensation programme for the Project Site.
148. Importantly, there are conditions of consent that require Contact to meet specific performance standards and targets in order to deliver net gains in indigenous biodiversity.

Offsetting

149. In paragraph 46 of this evidence, Mr Harding claims the following:

"The proposed SWF activity will compromise regional conservation targets by removing vegetation/habitat from – and fragmenting – an area of significant indigenous vegetation and habitat, the protection of which is required by the SRPS and RMA (Section 6(c))."

150. This statement needs to be read in the context of the proposed offsetting and compensation measures such as (i) predator and feral ungulate control across approximately **11,400 hectares**¹⁸ (this being almost twice the area of the Wind Farm Site), for the life of the wind farm and (ii) the legal protection and fencing of enhancement and restoration areas.

151. On this basis, I consider regional conservation outcomes are maintained and strengthened - not undermined. More so, given that red deer are currently not subject to a regional management plan with specific population targets for control, and it is widely acknowledged that red deer and pig numbers are increasing in parts of Southland, including the Slopedown Range and the Catlins. The adverse impacts of feral deer and pigs at Southland Wind Farm have been well-documented by the landowners, farm workers and the ecologists who have surveyed the site. Therefore, with sustained landscape-scale pest control, there will be a meaningful reduction in local deer and pig numbers as a result of the wind farm.

152. Mr Harding makes a similar claim in paragraph 47 regarding vulnerability:

"The SWF activity will lead to the direct loss of biodiversity on the Jedburgh Plateau and will make the remaining biodiversity vulnerable to further loss through interruption of ecological processes (fragmentation of the area)."

153. Again, this statement needs to be read in the context of the design philosophy, the caps for different vegetation types (including wetlands), the pre-clearance lizard and significant invertebrate salvage efforts, the pre-clearance bird nest checks, the constraints on clearance during bird breeding seasons, and the comprehensive offsetting and compensation programme that Contact has proposed. Notwithstanding the residual effects of the wind farm infrastructure, the control of feral ungulates, predators, and pest plants at the Project Site will reduce the vulnerability of indigenous biodiversity for the life of the consent.

¹⁸ This includes 1,400 ha at Jedburgh Station and 10,000 ha in the Beresford Range, Catlins.

154. Mr Harding discusses the Biodiversity Offsets and Accounting Model (**BOAM**) in paragraphs 49 and 50 of his evidence. Specifically, he refers to the inherent uncertainties about the accuracy and adequacy of the data used to inform the BOAM. I acknowledge the model's limitations; however, we have not intended to frame the BOAM in an "absolutist" light. We have used the BOAM to inform and support offset calculations, not replace ecological judgement by qualified and experienced experts. It is not intended to model ecosystem processes or fauna population viability (as discussed in conferencing for the Covid Fast-track application¹⁹), which is why we use mitigation and compensation. The BOAM is an imperfect tool that is used to provide guidance; focusing on its limitations misunderstands the purpose of the BOAM.
155. Mr Harding, in paragraphs 51 and 52 of his evidence, revisits comments made in conferencing for the CFTA with respect to the challenges associated with undertaking comprehensive surveys for invertebrates and lizards. He does not acknowledge, however, the additional surveys that Wildlands undertook in late 2024-early 2025. These surveys yielded the following additional notable taxa:
- (a) Tautuku gecko;
 - (b) Giant springtail (*Platanurida* sp.);
 - (c) Trapdoor spider (*Cantuaria* sp.);
 - (d) Ground beetle (*Megadromus meritus* and *Holcaspis* sp.); and
 - (e) Ground weta (*Hemiandrus maia* and *Anderus fiordensis*).

Compensation

156. Mr Harding, in paragraph 54 of his evidence, in reference to fragmentation effects, states the following:

"It is even more difficult, if not impossible, to assess the potential effects on ecosystem processes, such as the migration and dispersal of ground-dwelling species, and the movement of water (hydrological effects), propagules and energy."

¹⁹ Joint Witness Statement of Experts on the topic of offsetting/compensation for CFTA application, 5 November 2024, para 15.

157. While it is correct that ecosystem processes such as species dispersal, propagule movement, and hydrological connectivity are complex and cannot be modelled with complete precision, this does not mean that their effects are impossible to assess or manage.
158. The dispersal and movement of ground-dwelling species, for example, can be reasonably assessed by examining landscape continuity, width and nature of disturbance, species mobility, and the presence of alternative pathways. The proposed wind farm infrastructure creates narrow, linear internal disturbances within a large, contiguous indigenous landscape, rather than isolating habitat fragments, which materially limits disruption to movement, noting that habitats for ground-dwelling fauna such as skinks and large invertebrates are currently fragmented due to predation, the destructive effects of feral ungulates, and the presence of farm roads, tracks, and fire breaks.
159. With respect to the movement of plant propagules, it is important to note that the dominant plant species on the Jedburgh Plateau are all wind-dispersed as opposed to bird or reptile-dispersed (e.g. mānuka, inaka, tauhinu, and *Veronica odora*). The presence of wind farm infrastructure on the Jedburgh Plateau will not affect their ability to disperse, particularly given the high winds that will carry seeds over relatively large distances.
160. The Project aims to maintain hydrological connectivity and water balance neutrality between wetlands to minimise wetland loss. The design also incorporates the construction of clay bunds at certain locations to prevent dewatering of wetlands upstream of areas being excavated.
161. Overall, to characterise effects on ecological processes as “impossible” to assess is to incorrectly elevate uncertainty into a barrier to decision-making. In practice, the effects on ecosystem processes are appropriately addressed through conservative design, landscape-scale effects management, and enforceable conditions including stringent performance standards.

Conditions

162. Mr Harding makes suggestions on the following proposed consent conditions: EC11B, EC40, EC49, EC51, and EC54. Under each condition, I have inserted Mr Harding’s comment, to which I have provided a response.

163. **EC11B:** *"The proposed wetland monitoring should include control plots (that is, plots located away from the wind farm footprint), otherwise it will not be possible to isolate any effects of construction from effects occurring naturally in the wider environment. Monitoring should continue for no less than ten years following wind farm construction. The conditions should specify the action that will be taken if monitoring reveals adverse effects of the wind farm on those wetlands."*

My response: As discussed in my response to DOC above, I support updates to EC11B to require:

- (a) Three years of post-construction monitoring, followed by additional monitoring at years eight and 13; and
- (b) The inclusion of control sites.

164. **EC40:** *"The Biosecurity Management Plan should include the requirement that any naturalised plant species that colonise (invade) any area disturbed by wind farm construction on the Jedburgh Plateau (and are not already present in the undisturbed environment) be completely removed (eradicated) and that all infestation sites be monitored for reinvasion."*

My response: I agree with the intent of Mr Harding's recommendation, although I am concerned about how feasible it is to differentiate between adventive species that have naturally established (e.g. light-demanding, wind-dispersed herbs) versus those that have been inadvertently introduced by vehicles/machinery. Some adventive species will pose little to no threat to the ecological integrity of the site. The condition specifies that in the event of the discovery of any pest plant species included in the Southland Regional Pest Management Plan 2019-2029, a management response will be required, which is appropriate. However, I am happy for the condition to be amended to allow for more discretion on behalf of the Project Ecologist if, for example, any novel exotic plant species are observed during construction.

165. **EC49:** *"The HREP should address, as a residual adverse effect, the fragmentation of ecologically significant indigenous vegetation on Jedburgh Plateau, in addition to those effects listed in (a) to (f)."*

My response: Given that the condition already specifies 'fragmentation of habitats for notable invertebrate species', I do not think it is necessary to refer to fragmentation again.

166. **EC51:** *"Farmed animals (stock) should be excluded from the entire Jedburgh Plateau, not just the Jedburgh Station Ecological Enhancement Area (JSEEA)."*

My response: The presence (or not) of stock on the Plateau is not an effect of the Project. As I understand it, the landowner would likely need resource consent under Rule 70 of the Proposed Southland Water and Land Plan to allow grazing within the wetlands (as opposed to this being enforced by a condition of consent as part of the wind farm project).

167. **EC54:** *"I support the plant and animal pest control outlined in this condition, except that pest plant control (g) should be undertaken for the duration of the operation of the SWF."*

My response: EC54(g) has three clauses, each of which relate to different parts of the Project Area.

- (a) The condition currently specifies pest plant control to be undertaken in indigenous-dominated habitats located within 50 metres of all roads and structures for a minimum of three years following the commencement of the operation of the wind farm. If pest plants are not detected during the final round of control (i.e. at the end of three years), I consider it appropriate for Contact to discontinue control activities.
- (b) I also suggest undertaking a drone survey of the Jedburgh Plateau every three years (for the life of the wind farm) to detect potential incursions of wilding conifers, noting that EC54(i) requires Contact to undertake control of wilding conifers in wetlands and indigenous-dominated terrestrial habitats on the Project Site for the life of the wind farm. Flying a drone is an efficient way to monitor woody weed species, and Contact has agreed to that approach.
- (c) A minimum of ten years pest plant control at the Copper Tussock Enhancement and Skink Protection Area is generous in the context of best practice ecological restoration.

SOUTHLAND CONSERVATION BOARD

168. The Southland Conservation Board makes a number of high-level comments in relation to terrestrial and wetland ecology. I briefly address those comments below.

Impacts on wetlands and waterbodies

169. As discussed in my response to Mr Harding (above), I am confident that we have accurately mapped the extent of wetlands at the Jedburgh Plateau, while noting the safeguards built into the conditions in that respect. I have addressed fragmentation in detail in my responses to other comments above.
170. Potential impacts of the Project on wetland hydrology have been carefully considered. As discussed in my response to ES and other commenters above, a specifically designed water management system, as well as post-construction monitoring of wetland hydrology, will safeguard against any potential effects.
171. Similarly, the potential effects of earthworks on wetlands and streams have been carefully considered, and a suite of conditions and management plans will be implemented accordingly. Of note, I have been closely involved in the identification of potential fill disposal sites, including the specific and certain identification of fill disposal sites at the Jedburgh Plateau.

Impact on birds and other fauna

172. Potential effects on birds have been assessed in detail, including through comprehensive surveys, collision modelling, and collision monitoring (once the wind farm is operational). I disagree with the assertion that effects may have been underestimated, but note that the conditions require collision monitoring, with triggers for additional action specified. This is an appropriate approach.

Offsetting and compensation

173. As discussed in detail in Technical Report #5, I am firmly of the view that the residual ecological effects of the Project are capable of being offset and compensated for, and that the comprehensive offset and compensation programme that will be implemented is appropriate and will deliver significant ecological benefits.

WEST CATLINS PRESERVATION SOCIETY (WCPS)

174. Contact is providing a separate response to the (unattributed) WCPS 'technical review'. I provided input into that response, as relevant to terrestrial and wetland ecology matters.

175. Below, I have provided high-level responses to issues raised in the main body of WCPS's comments that relate to:

- (a) Loss of vegetation;
- (b) Effects on bog and fen wetlands;
- (c) Effects on birds;
- (d) Effects on lizards; and
- (e) Effects on invertebrates.

Loss of vegetation

176. The vegetation caps mentioned by WCPS are "worst case" and have been set to allow some flexibility in the final design of the wind farm. I consider it unlikely that any of these caps will be reached. It is possible that the current extent of impact for some vegetation types may be reduced through final design.

177. I can also confirm that all significant indigenous vegetation has been accounted for – not just the vegetation present on the Jedburgh Plateau (and the clearance caps do not apply only to the Plateau).

Effects on bog and fen wetlands

178. WCPS states the proposed restoration and enhancement works at Davidson Road East are an "offset" and "not like for like". To reiterate, the proposal to address loss of wetland extent is compensation rather than offsetting, and Contact has been clear about this in its application. I acknowledge that fens (and bogs) are difficult to restore (or create), hence the decision to restore and enhance a degraded area of marsh wetland. I accept that the wetlands on the Jedburgh Plateau are different to those at Davidson Road East; however, the key point is that there will be an overall net increase in extent of indigenous wetland. This has not been acknowledged by the submitter.

179. I also note that there is no legal requirement for landowners to restore wetlands on their properties. Pest control and restoration credited within the offset and compensation programme are incremental and condition-enforced, not routine land management. For example, under the Southland Regional Pest Management Plan, landowners are currently not required to control pest animals such as feral deer, pigs, and cats in mainland Southland – all of

which will be controlled for the life of the consent across approximately 1,400 hectares at Southland Wind Farm.

180. WCPS disputes the wind farm meets the threshold of functional need as per the NPS-FM. I disagree. The assessment correctly applies the NPS-FM functional need test in context. Wind generation is inherently location-dependent, requiring specific wind regimes, landform, grid proximity, and constructability. The existence of other theoretical wind farm locations or alternative renewable technologies does not negate functional need at this site. Further, the effects management hierarchy has been applied through iterative design to minimise wetland loss and avoid higher-value habitats where practicable. The suggestion that any wetland loss automatically fails the NPS-FM misstates the policy framework, which allows loss where functional need is demonstrated and the hierarchy is applied.
181. WCPS states that the wetlands at the site are already degraded by ungulates and historic clearance, which to some extent is correct. However, they have not acknowledged that such activities have facilitated the development of induced bogs, which would have historically supported pāhautea cloud forest. Despite the degraded condition of the bog and fen wetlands, we conservatively assessed them as having 'Very High' ecological value, which accounts for the functions they provide in terms of hydrology and habitat for fauna, and their rarity at a national scale. As mentioned in my response to the comments by ES, in retrospect, it would be more appropriate to assess areas of induced bog as having 'Moderate' ecological value.
182. WCPS, in reference to hydrological impacts, considers that Contact has overlooked indirect, cumulative pressures and the buffering role of surrounding vegetation, I consider that hydrological effects have been assessed beyond direct footprint loss, including subsurface flow paths and construction-phase. Cumulative and indirect effects are addressed and managed through design controls and monitoring.

Effects on birds

183. I do not agree with WCPS's claims that the avifauna surveys have been conducted over inadequate time periods. Wildlands carried out quarterly (seasonal) surveys in 2024/2025 using a range of survey techniques, including bioacoustic surveys for bittern, fernbird, and migratory species. The timing and duration of these surveys are sufficient for determining the (i)

diversity and abundance of bird species at the Project Site and (ii) the potential effects of the wind farm on birds. Desktop surveys (e.g. interrogating databases such as eBird) are also an important and expected part of the overall ecological assessment.

184. WCPS claims that turbine lighting can attract birds, thereby potentially increasing the risk of collision. They state that the use of red lights does not mean the overall effect of lighting on birds is low. I disagree, given there is evidence in New Zealand and globally that while white lights strongly attract and disorient migratory birds, red lights are significantly less disruptive, with some studies even showing birds avoid them²⁰, making red a recommended mitigation colour for reducing collisions and attraction, especially for nocturnal seabirds and shorebirds like kuaka. Red light interferes less with birds' celestial navigation, reducing fatal disorientation compared to brighter, white, green, or blue lights.
185. WCPS claims that New Zealand falcon/kārearea is particularly threatened by wind farms. I acknowledge that birds of prey have been adversely affected by wind farms overseas, although there are no documented cases of kārearea being struck by a turbine blade in New Zealand. Conversely, it is evident that swamp harrier/kāhu is significantly more vulnerable to colliding with the turbines. At any rate, targeted surveys for kārearea have been undertaken at the Southland Wind Farm Site and the risk to them deemed as being low.
186. WCPS refers to a study by Fuller (2022)²¹ that found in New Zealand "there are 1-11 mortalities per turbine per year, that equates to 55 - 605 birds per year for this Project." This study comprised a summary of collision data from five onshore wind farms across New Zealand, including Project West Wind on the south coast of Wellington and the Waverley Wind Farm on the coast of South Taranaki. It is important to note that the per-turbine mortality rates were found to be highly variable and dependent on site-specific factors, including topography, habitat types, turbine configuration, and the composition of the local bird community. More importantly is the fact that majority of the observed collisions (80%) were concentrated among five common species or groups, four of which are introduced:

²⁰ Wiese, F. K., Montevicchi, W., Davoren, G., Huettmann, F., Diamond, A., & Linke, J. (2001). Seabirds at risk around offshore oil platforms in the North-west Atlantic. *Marine Pollution Bulletin*, 42(12), 1285-1290.

²¹ Fuller S. (2022). Avifauna and Wind – a retrospective and a look into the future. Presented by Stephen Fuller, Boffa Miskell, August 2022.

- (a) Kāhu (Australasian harrier) – Indigenous;
- (b) Finches – Introduced;
- (c) Skylarks – Introduced;
- (d) Magpies – Introduced; and
- (e) Mallard ducks – Introduced.

Effects on lizards

187. WCPS draws a comparison between the active lizard season and bird breeding season with respect to vegetation clearance, with the implication that vegetation cannot be removed during both seasons. While this is correct for lizards (i.e. no removal of vegetation between April and October inclusive unless it has been checked), the consent conditions permit vegetation clearance during the bird breeding season as long as pre-clearance nest surveys are undertaken (refer to proposed conditions EC21-33).
188. WCPS claims the effects of fragmentation on lizards remain moderate to high, not negligible. However, it appears they have not acknowledged the proposed measures to mitigate the effects of fragmentation, including sustained, landscape-scale feral ungulate and predator control (including the deployment of traps along wind farm roads), sustained pest plant control, and the revegetation of c.8.7 hectares of fire breaks and farm tracks.
189. With regard to lizard salvage and relocation, it is acknowledged that they are last-resort measures where avoidance is not practicable. The Lizard Management Plan has been developed in accordance with DOC guidelines and incorporates species-specific methods, soft-release protocols, predator control, and long-term monitoring to maximise survival and establishment success. While translocation carries inherent risk, the alternative—unmanaged habitat destruction—would result in near-certain mortality. The proposed approach therefore represents the most ecologically responsible option available.
190. WCPS questions the ecological benefit of the Jedburgh Plateau Skink Release Area, given it is not going to be fenced. As specified in the Lizard Management Plan, this area (together with the other two release sites) will be subject to targeted rodent control and habitat enhancement for skinks. A

reduction in feral deer and pig numbers will also benefit skinks released at this site.

Invertebrates

191. WCPS claims that the invertebrate mitigation framework:

"treats salvage as an all-purpose solution, ignoring that most invertebrate species particularly the Helms' stag beetle are highly sensitive to microhabitat disruption, soil moisture shifts, and changes in decaying-wood structure that cannot be re-created elsewhere."

192. The invertebrate mitigation framework recognises the limitations of translocation and explicitly avoids treating salvage as a universal solution. Measures focus on retaining habitat in situ where possible, minimising disturbance, relocating microhabitats, and enhancing long-term habitat quality through pest control and ungulate exclusion. For Helms' stag beetle and other notable taxa, mitigation measures are precautionary and conservative, and are supported by monitoring to assess effectiveness and inform adaptive management.

193. Significant improvements in invertebrate habitat are expected from the sustained control of feral deer, pigs, and possums, and exclusion of stock from the 245-hectare Jedburgh Plateau Ecological Enhancement Area. The control of rats, feral cats, and mustelids will also significantly improve invertebrate numbers – particularly within the more intensively trapped 55-hectare Fauna Enhancement Area - is something that WCPS has failed to acknowledge.

Nicholas Paul Goldwater

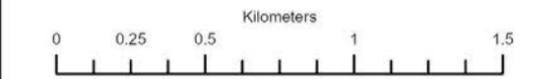
14 January 2026



LEGEND

- Wind Farm**
- Wind Turbines
 - Transmission Line Route
 - Indicative Fill Disposal Sites
 - Jedburgh Plateau
 - Civil Works Design
 - ▭ Wind Farm Site
- Ecology**
- Confirmed Habitat for Tussock Skink
 - Confirmed Habitat for Tussock Skink and Tautuku Geckos
 - Potential Habitat for Tussock Skink, Herbfeld Skink and Invertebrates
 - Confirmed Habitat for Tautuku Gecko
 - ▨ Potential Habitat for Tautuku Geckos

MAP SCALE	PRINT DATE
<p>Scale: 1:25,000</p>	14/01/2026
	VERSION
	1.1



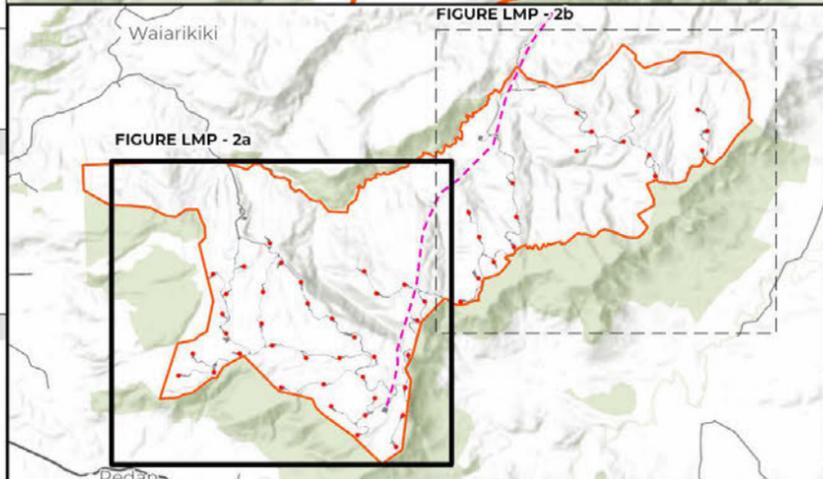
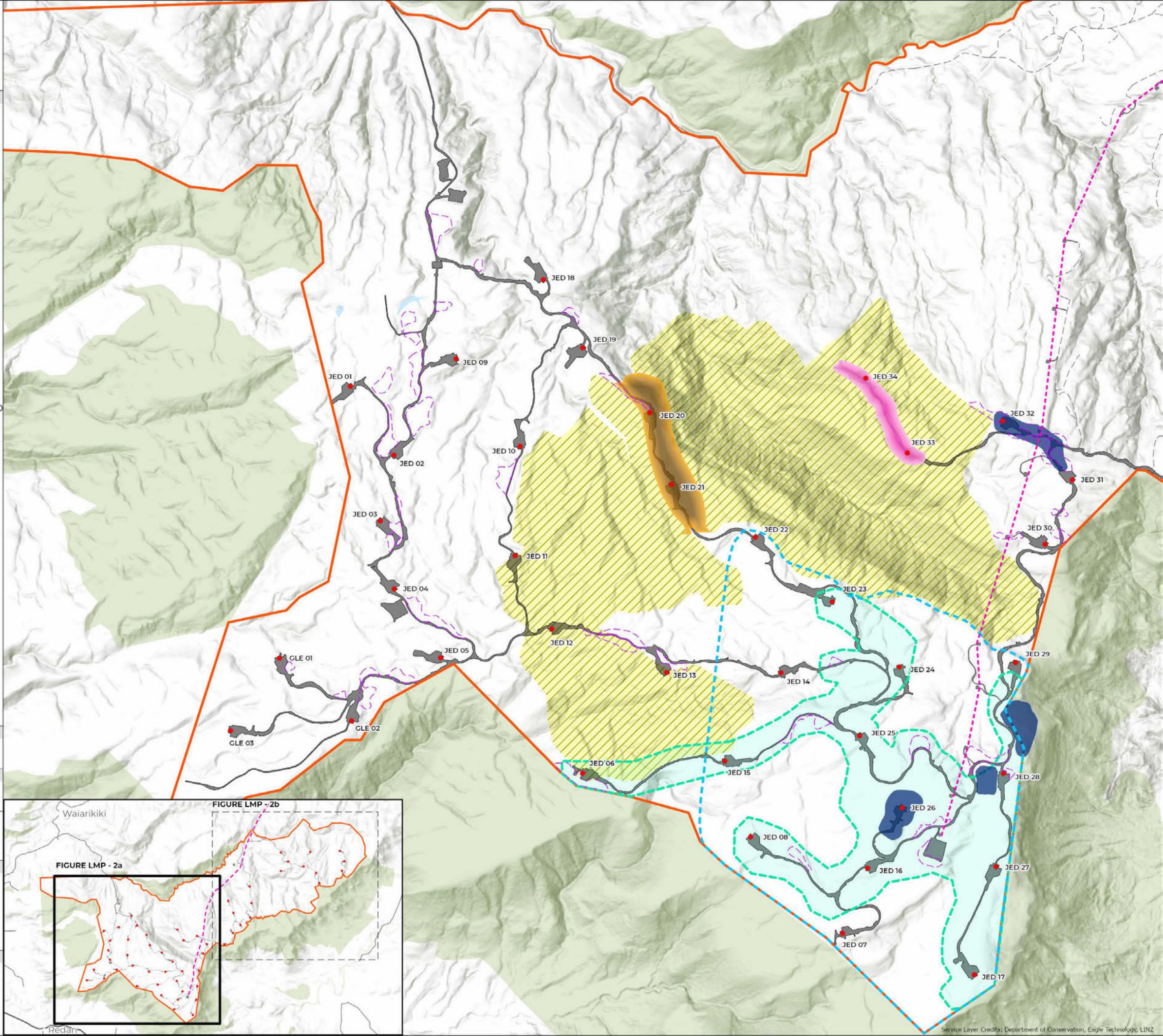
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Ecological data provided by Wildlands Consultants

TITLE

FIGURE VMP - 2a

LIZARD AND INVERTEBRATE CONSTRAINTS
WIND FARM SITE - WEST



Service Layer Credits: Department of Conservation, Eagle Technology, LINZ



LEGEND

- Wind Farm**
- Wind Turbines
 - - - Transmission Line Route
 - - - Indicative Fill Disposal Sites
 - - - Jedburgh Plateau
 - - - Civil Works Design
 - ▭ Wind Farm Site

- Ecology**
- ▭ Confirmed Habitat for Tussock Skink
 - ▭ Confirmed Habitat for Invertebrates and Potential Habitat for Skinks
 - - - Potential Habitat for Green Skink and Herbfield Skink

MAP SCALE	PRINT DATE
<p>Scale: 1:25,000</p>	14/01/2026
	VERSION
	1.1



Ecological data provided by Wildlands Consultants

TITLE

FIGURE VMP - 2b

LIZARD AND INVERTEBRATE CONSTRAINTS
WIND FARM SITE - EAST

