Before the Expert Consenting Panel

under: the Fast-track Approvals Act 2024 (*FTAA*)

in the matter of: notices of requirement and applications for resource consents, wildlife approvals and archaeological authorities by the NZ Transport Agency Waka Kotahi to develop the Brynderwyn Hills section of the Alternative to the Brynderwyn Hills Project, a state highway from the intersection of State Highway 1 and Baldrock Road in the south, through the Brynderwyn Hills to Waipū in the north.

applicant: **NZ Transport Agency**

Requiring Authority and Applicant

Statement of Evidence of Simon Chapman on Lizards and Bats for NZ Transport Agency Waka Kotahi

Dated: 28 October 2026

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STATEMENT OF EVIDENCE OF SIMON CHAPMAN

INTRODUCTION

1 My full name is Simon Percival Chapman.

2 I am a Technical Director – Ecology at WSP (NZ) Limited. I have a Bachelor of Science and a Postgraduate Diploma in Applied Science from Lincoln University. I have over 25 years' experience as an ecologist specialising in fauna such as frogs, lizards and bats. An overview of my relevant experience and qualifications is attached as **Appendix A** to this statement.

3 My evidence has been prepared to support NZ Transport Agency Waka Kotahi (*NZTA*) as part of its response to:

3.1 Comments on the notices of requirement and applications for resource consents, wildlife approvals and archaeological authorities (together, the *Application*) to develop the Brynderwyn Hills section of the Alternative to the Brynderwyn Hills (*Project*), a state highway from the intersection of SH1 and Baldrock Road in the south, through the Brynderwyn Hills to Waipū in the north; and

3.2 The report prepared by the Department of Conservation on behalf of the Director-General of Conservation (*DOC*) pursuant to section 51 of the FTAA for the Project (*Section 51 Report*).

4 My evidence will:

4.1 In relation to lizards, provide a summary of:

(a) My assessment and survey methodology for lizards;

(b) Effects on lizards and proposed approach to managing effects on lizards; and

(c) Effects on lizard habitat and proposed approach to managing effects on lizard habitat.

4.2 In relation to bats, provide a summary of:

(a) My assessment and survey methodology for bats;

(b) Effects on bats and proposed approach to managing effects on bats; and

(c) Effects on bat habitat and proposed approach to managing effects on bat habitat.

4.3 Respond to comments from DOC, Te Uri o Hau Settlement Trust on behalf of Te Uri o Hau hapū (*Te Uri o Hau*), Te Parawhau ki Tai (representing Te Parawhau and Te Pouwhenua o Tiakiriri Kukupa Trust) (*Te Parawhau*), Kōwhai Te Awhina Hapū o Te Parawhau Hapū Incorporation (*Te Parawhau Incorporated*), and Patuharakeke Iwi Trust Board (*Patuharakeke*) in relation to my assessment and recommended management of Project effects on lizards and bats.

5 I have been involved in the Project since November 2024. I am the co-author of the Assessment of Effects on Terrestrial Ecology lodged on 8 April 2026 in support of the Project (*Terrestrial Assessment*), specialising in lizards, frogs, bats and indigenous vegetation.[1]

CODE OF CONDUCT

6 Although this matter is not before the Environment Court, I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses in its Environment Court Practice Note 2023. I agree to comply with that Code. My qualifications as an expert are set out above. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

SUMMARY OF ASSESSMENT AND SURVEY METHODOLOGY

7 My assessment of potential effects on indigenous lizards, as set out in the Terrestrial Assessment, was informed by desktop investigations, habitat assessments, and targeted field surveys I undertook within the Proposed Designation. Desktop investigations included a review of DOC Bioweb herpetofauna records, iNaturalist observations, previous ecological investigations undertaken within and adjacent to the Proposed Designation, including investigations undertaken as part of NZTA's Brynderwyn Recovery Project, and published information relating to the distribution and habitat requirements of indigenous lizard species known or potentially present within the wider Brynderwyn Hills and Waipū area.

8 I undertook field investigations between October and December 2025 and included manual habitat searches, artificial cover object (ACO) surveys, nocturnal spotlight surveys targeting arboreal geckos, and incidental observations recorded during wider ecological fieldwork. Survey effort was directed towards habitats I considered most likely to support indigenous lizards, including native forest, regenerating indigenous vegetation, riparian margins, wetlands, forest edges, plantation forestry, and areas containing suitable

[1] Vol B, Appendix D06 – Assessment of Effects on Terrestrial Ecology (*Terrestrial Assessment*).

refuge features such as logs, rocks, coarse woody debris, and dense ground cover.

9 My assessment recognised the cryptic nature of New Zealand lizards and the limitations associated with detecting low-density populations.

10 Copper skink was the only indigenous lizard species I confirmed during field investigations, although suitable habitat is present within the Proposed Designation for additional indigenous lizard species that were not detected through the surveys. The absence of detections during surveys does not necessarily indicate absence from a site, however, particularly for low-density populations and cryptic gecko species.

11 Accordingly, I have interpreted survey results alongside habitat suitability assessments, known species distributions, anecdotal observations from landowners and professional judgement. Where suitable habitat was present within the Proposed Designation, I have adopted a conservative approach and assumed that indigenous lizards may occur within those areas irrespective of whether they were detected during field investigations. In my opinion, this approach provides the most appropriate basis for assessing potential Project effects (for both confirmed species and those expected to be present) and developing management responses.

EFFECTS ON LIZARDS

Direct injury and mortality

12 As outlined in the Terrestrial Assessment, the principal direct effect on lizards is the risk of injury or mortality during Project vegetation clearance, removal of refuge features and earthworks within areas that support, or may support, indigenous lizards. The risk is greatest for species that exhibit high site fidelity, occupy small home ranges, or use cryptic refugia that are difficult to detect before construction.

Displacement effects

13 Construction activities also have the potential to displace lizards from occupied habitat. Displaced individuals may be forced into adjacent habitat where competition for food, shelter and refuge resources may already exist. Displacement can also increase exposure to predators and reduce individual fitness if suitable replacement habitat is unavailable nearby. These effects may occur even where direct mortality is avoided.

MY RECOMMENDED APPROACH TO MANAGING EFFECTS ON LIZARDS

Salvage and relocation

14 I consider salvage and relocation into suitable habitat to be an important component of the management response to the Project's direct effects on indigenous lizards. The purpose of salvage and relocation is to minimise the risk of injury and mortality by removing lizards from areas proposed for vegetation clearance, earthworks, and other construction-related disturbance before those activities commence and relocating them into suitable alternative habitat.

15 I recommend that salvage efforts for the Project be targeted towards areas of suitable habitat identified through pre-construction surveys and habitat assessments, and undertaken by suitably qualified and authorised herpetologists in accordance with an approved Lizard Management Plan. The objective of salvage is to maximise the number of lizards safely recovered from affected areas and relocated to suitable receiving habitat prior to disturbance.

16 Once salvaged, I recommend that lizards be relocated into suitable release sites. As outlined below, I recommend habitat enhancement, pest management, revegetation, habitat creation and habitat management be undertaken at the lizard release sites, to improve the quality and suitability of receiving habitat and contribute to longer-term outcomes for relocated lizards.

Construction methodology

17 I recommend that salvage be integrated with vegetation-clearance methodologies designed to maximise opportunities to detect and recover lizards, including progressive habitat removal, staged vegetation clearance where practicable, and retention or relocation of suitable refuge materials. Salvage and relocation cannot be expected to locate every individual present. However, in my opinion these measures substantially reduce the risk of injury and mortality relative to vegetation clearance and earthworks occurring without species-specific management.

Residual effects on indigenous lizards

18 In my opinion, the proposed management approach of pre-construction surveys, salvage and relocation to suitable release sites, staged vegetation clearance, and management in accordance with an approved Lizard Management Plan, represents an appropriate and effective response to direct effects on lizards. While it is not possible to guarantee that all lizards will be detected and salvaged, these measures are expected to substantially reduce the risk of injury and mortality.

19 Subject to the implementation of my proposed management measures, I consider the residual effects of the Project on indigenous lizards to be Low at a population level. Accordingly, in

relation to lizards themselves, I do not consider biodiversity offsetting or ecological compensation to be necessary.

LIZARD HABITAT

Habitat loss

20 Construction of the Project will result in the permanent removal of areas of habitat used, or potentially used, by indigenous lizards. Habitat loss will occur through vegetation clearance, earthworks, and the establishment of permanent Project infrastructure.

Habitat fragmentation

21 In addition to habitat loss, the Project has the potential to fragment areas of suitable lizard habitat within and adjacent to the Proposed Designation where habitat is removed, reduced in extent, or separated by permanent Project infrastructure. Fragmentation can also increase edge effects within retained habitat by creating new habitat margins and influencing local habitat conditions.

22 The ecological significance of fragmentation and edge effects is likely to vary according to the species present, the distribution of suitable habitat, and the characteristics of the habitat affected. While some lizard species and habitats may be adversely affected by increased edge effects, copper skinks frequently utilise habitat interfaces between open and more densely vegetated areas where opportunities for basking, foraging and refuge occur in close proximity. That does not mean that fragmentation is beneficial overall. Rather, it means that the ecological consequences of habitat fragmentation and the resulting interfaces need to be considered in light of the habitat requirements of the species concerned. The extent to which edge effects influence lizard populations within the Proposed Designation therefore requires consideration in the context of both the species present and the habitat affected.

Habitat connectivity and movement

23 The Project may also influence the movement of lizards between habitat patches and may affect connectivity across the wider landscape. Such effects may influence dispersal, recolonisation, and gene flow, particularly where habitat occurs on either side of the transport corridor. The magnitude of these effects will depend on the species present, their movement patterns, the availability of adjacent habitat, and the extent to which habitat connectivity is maintained or enhanced through management measures associated with the Project.

Recommended management of effects on lizard habitat

Release site selection and suitability

24 Prior to lodgement of the Application, I identified and assessed potential release sites within the Proposed Designation to provide for the relocation of lizards salvaged from construction areas. My site selection was informed by habitat assessments undertaken as

part of the terrestrial ecology investigations and considered habitat suitability, connectivity with existing indigenous vegetation, security, and opportunities for habitat enhancement and management. I also selected the release sites to support broader ecological objectives associated with the Project, including the enhancement of indigenous vegetation and the reduction of habitat fragmentation effects.

25 The Northern and Southern Release Sites contain indigenous vegetation, forest margins, regenerating vegetation, dense ground cover, coarse woody debris, and other habitat features capable of supporting indigenous lizards. Both sites also occur within wider landscapes containing indigenous vegetation, providing opportunities for connectivity beyond the release-site boundaries.

26 In my opinion, these sites contain habitat already suitable for lizards and provide opportunities to further improve habitat quality through targeted management and enhancement measures.

Habitat enhancement and management

27 Habitat enhancement and management measures are proposed both within the Release Sites and as part of the wider terrestrial vegetation and habitat package to address the effects of habitat loss and fragmentation. These measures include the protection and enhancement of indigenous vegetation, stock exclusion where required, pest animal management, restoration planting, and the creation or augmentation of lizard refugia using logs, woody debris, rock piles, and other suitable cover features.

28 These measures are intended to improve habitat quality, increase the availability of refuge, basking and foraging opportunities, and manage adverse edge effects within retained and enhanced habitat. For copper skinks, I recommend that habitat enhancement retain or create structurally diverse interfaces between open and densely vegetated habitat, with suitable refuge features available nearby.

29 In my opinion, the habitat enhancement framework will provide an appropriate mechanism to address habitat-related effects on indigenous lizards, including habitat loss, fragmentation, connectivity effects, and the long-term suitability of release sites.

30 Where planting or vegetation enhancement is relied upon for this purpose, its design should provide the relevant lizard habitat functions, including appropriate habitat structure, refuge opportunities and connectivity with retained or restored habitat.

31 This does not mean that planting undertaken solely for landscape or natural-character purposes needs to provide lizard habitat. Conversely, a single intervention can legitimately provide both vegetation or landscape outcomes and additional lizard habitat functions where it is appropriately designed to do so.

Habitat management

32 I consider protection and management of release-site habitat to be an important component of my proposed effects-management package. In addition to facilitating relocation, ongoing management is intended to maintain and enhance habitat quality over time and ensure the benefits of habitat enhancement measures are retained.

33 I recommend a management package for lizard habitat within the release sites that comprises a combination of pre-construction surveys, habitat enhancement, revegetation, habitat-connectivity measures, habitat management and pest control. I recommend the habitat measures I rely upon be secured through a combination of the Wildlife Approval and broader Project conditions. The Wildlife Approval conditions principally address survey, salvage, relocation, Release Site assessment and allocation, together with the requirements that must be satisfied before lizards are released. The wider vegetation protection, restoration, enhancement and connectivity measures that contribute to managing lizard habitat effects are principally secured through the broader Project conditions.

34 In my opinion, these conditions should provide an appropriate framework for managing the Project's effects on lizards and lizard habitat and for reducing the ecological significance of the remaining habitat effects.

Residual effects on lizard habitat

35 In my opinion, the proposed habitat enhancement and management measures provide an appropriate response to effects on lizard habitat. The proposed release sites contain suitable existing habitat and provide opportunities for habitat enhancement, pest management, revegetation, creation of refuge features, and management. Collectively, these measures are intended to maintain and improve habitat quality, support ecological connectivity, and enhance the suitability of habitat available to indigenous lizards within the wider Project area.

36 While some habitat loss and fragmentation effects will remain following implementation of the proposed management measures, I consider those effects will be Low. In reaching this conclusion, I have considered the characteristics of the indigenous lizard species known or expected to occur within the Project area, the extent and nature of habitat affected, the availability of suitable release-site habitat, and the opportunities for habitat enhancement, revegetation, connectivity improvements and management.

37 For the reasons outlined above, I consider the residual effects of the Project on lizard habitat will be Low. Accordingly, I do not consider biodiversity offsetting or compensation to be necessary in relation to lizard habitat.

Overall conclusions for lizards

38 For the reasons outlined above, I consider the proposed management framework provides an appropriate response to both the direct effects of the Project on indigenous lizards and the associated effects on lizard habitat. Subject to implementation of the proposed management measures, including salvage and relocation, habitat enhancement, and habitat management, I consider the residual effects of the Project on indigenous lizards and lizard habitat to be Low.

BATS

Assessment and survey methodology

39 My assessment of potential effects on long-tailed bats and bat habitat was informed by desktop investigations, habitat assessments, and targeted acoustic bat surveys undertaken throughout the Proposed Designation. Desktop investigations included a review of DOC bat records, previous bat surveys undertaken within and around the Brynderwyn Hills, published information relating to bat ecology and habitat use, and other relevant ecological information sources.

40 I undertook targeted acoustic bat surveys using automated bat monitors deployed throughout the Proposed Designation during two survey periods – September to November 2025 and January to February 2026. Monitoring focused on habitats considered most likely to support long-tailed bats, including mature indigenous and exotic forest, forest edges, stream and riparian corridors, wetlands, and other areas providing potential foraging, commuting, and roosting habitat. Recorded calls were analysed by suitably qualified ecologists to determine bat presence and relative activity levels.

41 Long-tailed bats are present within the wider landscape and were detected during the acoustic surveys undertaken. However, activity levels recorded across the Proposed Designation were generally very low, with detections occurring at a relatively small proportion of monitoring sites. The acoustic data indicated bats moving or foraging within the surveyed landscape but did not establish whether roosts were present nearby.

42 Long-tailed bats are highly mobile and can use large areas of landscape for roosting, foraging and commuting. Consequently, acoustic surveys provide information on bat activity within a particular area and time period but cannot be relied upon to determine all locations used by bats across the wider landscape.

43 For this reason, my assessment is based not only on recorded bat activity, but also on the distribution and quality of potential bat habitat within the Proposed Designation.

44 Habitat assessments were also undertaken by competent bat ecologists in the Project ecology team to identify potential bat

habitat and potential bat roosting habitat. Particular attention was given to mature trees containing cavities, hollows, loose bark, deadwood, dense epiphyte loads, and other features capable of supporting roosting bats. Habitat assessments also considered the availability of foraging and commuting habitat throughout the wider landscape.

45 While recorded bat activity was low and no confirmed roost trees or roost sites were identified during the surveys, habitat assessments confirmed that potentially suitable roosting, foraging, and commuting habitat is present throughout much of the Proposed Designation. Accordingly, in my opinion, consideration of both survey results and suitable habitat availability provides the most appropriate basis for assessing potential Project effects on long-tailed bats and developing suitable management responses.

Effects on bats

Injury and mortality risk

46 The most significant direct effect pathway for bats arises from vegetation removal. The removal of an occupied roost tree could result in injury or mortality of individual bats if undertaken while bats are present. Long-tailed bats frequently utilise multiple roost trees across the landscape and may move between roosts regularly, making it difficult to determine whether a tree is occupied at any particular time. As there is potential roosting habitat present throughout the Proposed Designation, in my opinion the possibility that bats may occupy trees at the time of construction must be managed appropriately.

Vehicle-collision risk

47 Construction of the Project will introduce a new transport corridor through areas used, or potentially used, by long-tailed bats. Bats crossing the operational road may therefore be exposed to a risk of collision with vehicles, particularly where established flight paths or vegetation features direct bats across the corridor.

48 As recorded activity within the Proposed Designation was low, and long-tailed bats may alter their behaviour in response to traffic, noise and lighting, I consider the likelihood of collision to be low. However, because long-tailed bats are Threatened – Nationally Critical, the potential consequences of mortality remain relevant and I have taken those potential consequences into account when considering measures to maintain habitat connectivity and safe crossing opportunities.

Recommended management of effects on bats

Implementation of bat roost protocols

49 In my opinion, implementation of the DOC Bat Roost Protocol (*BRP*) is the appropriate primary management response to direct effects on bats. Implementation of the BRP is intended to avoid or minimise construction-related injury and mortality associated with vegetation removal. The BRP is specifically intended to manage the

uncertainty associated with roost occupancy and recognises that bats may occupy suitable roost habitat between survey and construction activities. It provides a structured framework for identifying, assessing and managing potential bat roosts prior to vegetation removal. Through this process, the risk of injury or mortality associated with the removal of occupied roost trees can be substantially reduced.

50 Accordingly, in accordance with the BRP, I recommend that potential bat roost habitat and trees be identified and assessed through detailed pre-construction inspections of vegetation proposed for removal. I recommend that particular attention be given to mature trees containing cavities, cracks, hollows, flaking bark, dense epiphyte growth, deadwood, or other features capable of supporting roosting bats. These assessments will determine whether bats are present and whether further management actions are required before vegetation clearance proceeds.

51 Where an active roost is identified, vegetation removal and associated construction activities will be managed in accordance with the BRP and the applicable Project conditions. Those requirements provide for a setback determined by a suitably qualified bat specialist, restrictions on vegetation removal within the setback, and controls on excessive noise, vibration and artificial lighting where required to avoid or minimise adverse effects on bats. Vegetation removal must not proceed until the applicable BRP and condition requirements have been satisfied. In my opinion, that framework provides an appropriate response to the direct risk of construction-related injury or mortality.

Management of vehicle-collision risk

52 In my opinion, the principal means of managing potential vehicle-collision risk is to retain and reinforce habitat connectivity. Relevant measures include retention of existing vegetation and movement corridors where practicable and enhancement planting that strengthens connections between habitat areas.

53 I regard these measures as components of the wider habitat and connectivity response rather than measures that eliminate collision risk. Given the low levels of bat activity recorded within the Proposed Designation, I consider this to be a proportionate response to maintaining bat movement and reducing potential collision risk.

Effects on bat habitat

Loss of potential roosting habitat

54 Construction of the Project will result in the removal of areas of vegetation that provide, or may provide, roosting habitat for long-tailed bats. Potential roosting habitat is present throughout parts of the Proposed Designation. While no occupied roosts were identified during surveys, the removal of potential roost habitat may reduce the availability of suitable roosting opportunities within the Project area.

Loss of foraging habitat

55 The Project will also remove areas of habitat used, or potentially used, by bats for foraging. Long-tailed bats are known to forage along forest edges, riparian corridors, wetlands, open water, and pastoral landscapes associated with tall vegetation. Some of these habitats will be permanently modified or removed as a consequence of vegetation clearance, earthworks, stream diversions, culvert installations, and the establishment of permanent Project infrastructure.

56 Although foraging habitat will be lost, similar habitat remains widely distributed throughout the wider landscape surrounding the Proposed Designation. The significance of these effects therefore needs to be considered in the context of the wider availability of bat foraging habitat in the Brynderwyn Hills, Waipū and Kaiwaka area.

Habitat fragmentation

57 In addition to habitat loss, the Project has the potential to fragment areas of bat habitat within and adjacent to the Proposed Designation. Habitat fragmentation may occur where areas of forest are divided by the transport corridor, creating greater separation between habitat patches and increasing edge effects within retained vegetation.

58 Fragmentation effects are likely to be most relevant where the Project intersects larger areas of forest capable of supporting roosting, foraging, or commuting bats. Although Long-tailed bats are capable of moving across modified landscapes and existing transport corridors, fragmentation may alter how different habitat areas are used. The ecological significance of these effects will depend on the extent to which bats continue to utilise habitat on both sides of the corridor and the degree to which movement through the landscape is maintained.

Disturbance effects

59 Construction activities have the potential to disturb bats through noise, vibration, lighting and vegetation removal. Disturbance effects are most likely to occur where bats are using nearby roosting, foraging or commuting habitat. These effects are likely to be temporary and localised but may influence bat behaviour, alter movement patterns, or result in temporary avoidance of otherwise suitable habitat if they occur in proximity to occupied roost habitat.

60 Vegetated corridors, forest edges, riparian margins and areas of tall vegetation can be important movement pathways for long-tailed bats. As such, the loss and reconfiguration of vegetation as a result of the Project also has the potential to influence flight paths, commuting behaviour, and use of habitat adjacent to the transport corridor.

61 Operational effects associated with traffic, vehicle lighting and road noise may also influence how bats utilise habitat adjacent to the

completed transport corridor. Long-tailed bats are known to modify flight behaviour in response to lighting and traffic-related disturbance, which may contribute to changes in habitat use and movement patterns following construction.

Management of effects on bat habitat

Habitat retention and minimisation

62 The first step in managing effects on bat habitat (roosting, foraging and commuting) is to avoid habitat loss where practicable through detailed design. Where avoidance is not practicable, the extent of habitat affected should be minimised as far as reasonably practicable through detailed design and construction planning. In particular, I recommend that opportunities be taken to avoid unnecessary removal of mature indigenous and exotic trees, forest remnants, riparian vegetation, and other habitats that may support bat roosting, foraging, or commuting.

Habitat enhancement and revegetation

63 Habitat enhancement and revegetation proposed for the Project will address effects of habitat loss and fragmentation on long-tailed bats. These measures include enhancement of areas of existing indigenous vegetation, restoration planting, infill planting between remnant vegetation areas, and additional indigenous vegetation.

64 I recognise that revegetation and enhancement planting will take time to develop the structural characteristics and ecological functions of mature vegetation, particularly where mature trees provide potential roost habitat. I therefore do not regard new planting as an immediate like-for-like replacement for mature bat habitat. Its contribution lies in progressively restoring and strengthening habitat extent and connectivity over time, alongside retention of existing habitat where practicable.

Habitat management

65 I consider habitat management to be an important component of achieving the intended ecological benefits for bats. The wider ecological management package includes weed control, pest animal management, maintenance of enhancement planting, and protection of relevant habitat areas through appropriate management or legal mechanisms. These measures will support establishment of enhancement planting, improve habitat condition over time, and help maintain the ecological functions provided by retained and enhanced habitat.

66 Where vegetation protection, enhancement or planting is relied upon as part of the bat habitat response, I consider the relevant requirement is that it is established, protected and managed sufficiently to achieve the ecological function for which it is relied upon. I do not consider it necessary to impose a separate management duration solely for bats where those outcomes are already secured through the applicable terrestrial vegetation and landscape conditions.

Habitat connectivity

67 Maintaining and enhancing habitat connectivity is an important component of NZTA's proposed management response for long-tailed bats. I recommend that existing riparian corridors, forest edges, shelterbelts, and areas of tall vegetation be retained where practicable because they provide potential movement pathways through the landscape.

68 In my opinion, the enhancement planting required by the wider ecological management package will further improve connectivity by strengthening links between existing habitat areas and reducing the degree of isolation between habitat patches. Such measures will assist bats moving between roosting, foraging, and commuting habitat following construction of the Project.

Overall suitability of the management framework for bats

69 In my opinion, the ecological management framework NZTA is proposing for the Project will mitigate the potential effects of habitat loss, fragmentation, and reduced connectivity on long-tailed bats. In reaching this conclusion, I have considered the low levels of bat activity recorded during surveys, the availability of suitable habitat throughout the wider landscape, opportunities to retain and enhance habitat through detailed design and ecological management, and the proposed measures to maintain habitat connectivity.

Residual effects and conclusions for bats

Residual effects on long-tailed bats

70 Although no occupied roosts were identified during field investigations and overall bat activity recorded during surveys was low, long-tailed bats are present within the wider Project landscape and utilise habitats located within and adjacent to the Proposed Designation. In my opinion, the implementation of the BRP, together with the management measures proposed by NZTA, will provide an appropriate and effective framework for identifying and managing any direct Project effects. Subject to implementation of these measures, I consider the residual effects of the Project on long-tailed bats will be Low.

Residual effects on bat habitat

71 While some habitat loss and fragmentation effects will remain, the extent and ecological significance of those effects need to be considered in the context of the availability and distribution of suitable habitat throughout the wider landscape. That wider habitat context does not remove the Project-specific habitat effects, but it informs my assessment of their population-level significance. In reaching this conclusion, I have considered the low levels of bat activity recorded during surveys, the absence of confirmed roosts, and the highly mobile nature of long-tailed bats.

72 Subject to implementation of NZTA's proposed ecological management measures, I consider the residual effects of the Project on bat habitat will be Low.

RESPONSE TO COMMENTS ON LIZARDS AND BATS

73 The following sections respond to comments raised by DOC, Te Uri o Hau, Te Parawhau, Te Parawhau Incorporated, and Patuharakeke in relation to my assessment and recommended management of Project effects on lizards and bats. Many of those comments raise overlapping issues. Accordingly, in the interests of avoiding repetition, the responses below are organised by topic rather than by commenter. Where comments raised by different parties concern the same or closely related ecological issues, I address them together through the relevant thematic response. In particular, my evidence addresses comments on:

73.1 My lizard and bat survey methodology, survey effort, and the need for additional surveys;

73.2 The treatment of ecological uncertainty, including the use of precautionary assumptions within my assessment and effects-management framework;

73.3 Kaitiaki participation and collaboration in ecological investigations, monitoring and management;

73.4 The suitability, capacity and long-term management of the proposed lizard release sites;

73.5 The role of release sites, habitat enhancement and associated management measures in addressing Project effects on lizards and bats;

73.6 Concerns regarding habitat loss, fragmentation, connectivity and the adequacy of the proposed mitigation package; and

73.7 Proposed amendments to ecological management measures, Wildlife Act Approval conditions, monitoring requirements and habitat management.

Assessment and survey methodology was appropriate

74 DOC, Te Uri o Hau and Te Parawhau have questioned the adequacy of my survey methodology, suggesting that I have inferred absence of lizards from non-detection and that additional surveys are required.[2] DOC has also raised three more specific concerns regarding the representativeness and intensity of the lizard surveys and the number of lizards that may ultimately be recovered during salvage:

[2] DOC s51 Report, at [3.14], [6.3.3] – [6.3.5]; DOC Comments, Appendix C: Frogs, lizards, avifauna, at [58], [61] – [65] *(Appendix* C); Te Uri o Hau Comments, page 16; Te Parawhau Comments, Statement of Evidence of Jacqueline Wairepo *(SOE Jacqueline Wairepo*), at [7.1].

74.1 The surveys undertaken are not proportionally representative of the habitat types within the Proposed Designation;[3]

74.2 The surveys in forested areas are insufficient to provide high confidence regarding lizard presence within forested locations;[4] and

74.3 Drawing reference to NZTA's Cambridge to Piarere project, that it is likely that upon salvage significantly higher lizard numbers will be located in the Proposed Designation than assumed from surveying.[5]

75 Te Uri o Hau has requested the inclusion of kaitiaki for all lizard surveys.[6]

76 DOC and Te Parawhau have questioned the adequacy of my survey methodology for bats, suggesting that I have inferred absence of bats from non-detection and that survey results are insufficient to understand bat engagement within the Proposed Designation.[7]

77 Te Uri o Hau has requested that any management, monitoring or mitigation measures in relation to bats are undertaken in collaboration with them.[8]

78 I address these matters in turn below.

Absence of lizards was not inferred from non-detection

79 I disagree with the suggestion that my assessment inferred the absence of indigenous lizards from non-detection.[9] As explained in my summary of the lizard assessment and survey methodology above, the Terrestrial Assessment explicitly recognised the low detectability of indigenous lizards and the limitations associated with survey results. I assessed potential effects not only in relation to species confirmed during surveys, but also species that may reasonably be expected to occur within suitable habitat based on habitat assessments, known distributions, and professional judgement.

80 The criticisms related to lizard survey effort appear principally to concern the possibility that additional lizard species, or greater numbers of lizards, may occur within the Proposed Designation than were detected during surveys. I agree that this is possible.

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3 Appendix C, at [64].

4 Appendix C, at [62] – [63], [77].

5 Appendix C, at [58] – [61].

6 Te Uri o Hau Comments, page 16.

7 DOC s51 Report, Appendix D (*Appendix D*), at [9] – [11]; SOE Jacqueline Wairepo, at [10.1] – [10.3].

8 Te Uri o Hau Comments, page 13.

9 Appendix C, at [61] - [65]; SOE Jacqueline Wairepo, at [7.1].

My assessment has therefore not treated survey non-detection as evidence of absence. Instead, I have assumed that indigenous lizards may occur wherever suitable habitat is present and have developed the effects-management response on that precautionary basis.

81 In relation to the representativeness of the surveys, survey effort was directed towards the habitat types and features I considered most likely to support indigenous lizards, rather than being allocated in direct proportion to the area of each habitat type within the Proposed Designation. In my opinion, proportional allocation by habitat area would not necessarily produce a more reliable assessment because lizard occurrence and detectability are influenced by habitat suitability and the availability of refuge features, rather than habitat extent alone. Importantly, I have not treated habitats that were not proportionally surveyed as unoccupied. Where suitable habitat is present, I have assumed that indigenous lizards may occur.

82 I also acknowledge that survey effort in forested habitat does not provide high confidence that all lizard species or populations present there were detected. That limitation is inherent in surveying cryptic and potentially low-density lizard populations in structurally complex habitat. I have addressed it by treating suitable forest habitat as potentially occupied, notwithstanding non-detection, and by requiring pre-construction surveys and species-specific management based on the results of those surveys before vegetation clearance. Further baseline survey effort could refine knowledge of presence and distribution, but it would not remove the need for that precautionary approach and requirement for pre-construction work. As such, in my opinion additional and further surveys are unnecessary.

83 I acknowledge that the number of lizards recovered during salvage may be materially greater than indicated by the baseline survey results, as occurred on the Cambridge to Piarere project. However, I do not rely on the baseline detections as a prediction or cap on the number of lizards that may require relocation. The possibility that there may be more lizards recovered than indicated by surveys reinforces the need for pre-construction assessment, appropriately intensive salvage and a release-site framework capable of responding to the species and numbers actually recovered. I recommend all of those measures be included in NZTA's proposed conditions.

84 In my opinion, the combination of habitat assessments, precautionary assumptions regarding species occurrence, pre-construction surveys, salvage and relocation procedures, and habitat-management measures provides an appropriate basis for managing Project effects on indigenous lizards. Pre-construction surveys remain important because they serve a different purpose. Rather than attempting to establish complete abundance or

distribution across the Proposed Designation, they are intended to inform the implementation of salvage and relocation immediately prior to construction activities.

85 Accordingly, while I accept the survey limitations identified by commenters affect the precision with which current species presence, abundance and distribution can be described, in my opinion they do not prevent me from characterising the relevant effect pathways or identifying an appropriate management response.

86 Additional survey information could refine understanding of species presence, abundance and distribution. However, in my opinion, it is unlikely to materially alter the principal effect pathways identified for the Project or the broad management response required to address those effects. The risk of injury or mortality during habitat clearance would still require pre-construction assessment, salvage, staged vegetation clearance and relocation. Effects on lizard habitat would still require habitat retention, release-site enhancement, connectivity measures and management. I understand all of these measures will be included in NZTA's proposed conditions.

87 As such, in my opinion additional and further surveys are not specifically necessary.

Bat survey methodology was appropriate

88 I similarly disagree with the suggestion that my assessment inferred the absence of bats from non-detection.[10] As noted in my summary of the bat assessment and survey methodology above, long-tailed bats were detected during surveys undertaken for the Project. My assessment therefore did not conclude that bats were absent from the Project area. Rather, it concluded that although bat activity within the Proposed Designation was generally low and no occupied roosts were identified during field investigations, suitable bat habitat (and therefore potentially bats) remains present throughout parts of the Proposed Designation.

89 Acoustic surveys were undertaken over two survey periods between September 2025 and February 2026. Those periods covered the post-parturition period, when adult bats and newly volant juveniles may be more widely active throughout the landscape. I acknowledge that the surveys did not characterise bat activity during every season and therefore do not provide a complete description of seasonal habitat use. However, they confirmed the presence of long-tailed bats and provided information regarding bat activity across habitats within the Proposed Designation. I have addressed the remaining uncertainty by also considering the availability and distribution of suitable roosting, foraging and commuting habitat, and by considering the management response

[10] Appendix D, at [9] - [11]; SOE Jacqueline Wairepo, at [10.1] - [10.3].

on the basis that bats may utilise suitable habitat even where activity was not recorded during the survey periods.

90 As noted above, long-tailed bats are highly mobile animals, and acoustic surveys provide information regarding bat activity within a particular area and time period. For that reason, my assessment considered both survey results and the availability of suitable roosting, foraging and commuting habitat. In my opinion, this approach provided an appropriate basis for assessing potential Project effects and developing recommended management measures, including implementation of the BRP.

Additional bat surveys are not required

91 While additional survey effort may provide further information regarding bat activity and habitat use, I do not consider that additional surveys are necessary to identify or manage the effects associated with the Project. My consideration of appropriate management measures for bats has accounted for uncertainty regarding bat occupancy and habitat use, including the possibility that bats may utilise suitable roost habitat between survey and construction activities.

92 I accept that additional survey information may refine understanding of habitat use and activity patterns. However, I do not consider it likely to materially alter the principal effect pathways I identified or the management response that NZTA is proposing. As such, in my opinion additional and further surveys would be unnecessary.

Kaitiaki participation and collaboration

93 I acknowledge Te Uri o Hau's request for kaitiaki involvement in ecological surveys, monitoring, management and mitigation activities for both lizards and bats.[11] In relation to the terrestrial ecology work addressed by my evidence, Te Uri o Hau representatives have already participated in ecological field investigations undertaken within their rohe, including frog, lizard and bat surveys associated with the Project. The extent and form of iwi involvement in future ecological investigations, management, monitoring and mitigation activities is ultimately a matter for NZTA and Te Uri o Hau. From an ecological perspective, I support opportunities for collaboration that contribute to improved ecological outcomes, successful implementation of management measures, and a shared understanding of biodiversity values.

The proposed release sites are suitable

94 DOC, Te Uri o Hau, and Te Parawhau have made several statements suggesting that the release sites NZTA has proposed as part of the

[11] Te Uri o Hau Comments, pages 13 and 16.

Project are either uncertain or unsuitable for the release of lizards, including:[12]

94.1 The suitability of the sites having regard to their character, cultural significance and ecological quality;[13]

94.2 The sites being more appropriate for residual effects, rather than 'mitigation';[14]

94.3 An opinion that the proposed time period of mitigation measures within the sites is insufficient;[15] and

94.4 A desire for additional mitigation measures, such as a predator-proof fence, in the sites.[16]

95 Te Uri o Hau has requested involvement in the selection, monitoring and management of the Release Sites for the Project.[17]

96 DOC and Te Parawhau have suggested that the proposed Release Sites have been designed without consideration of bat needs.[18]

97 I address each of these matters in turn below.

Proposed release sites are suitable for the release of lizards

98 I acknowledge some commenters have raised concerns regarding the character and cultural significance of the proposed release sites. My assessment focuses on whether suitable habitat and ecological outcomes can be achieved at the selected sites. I do not provide an opinion on cultural values or cultural effects.

99 I do not agree that the suitability of the proposed release sites should be assessed solely on the basis of their current condition. In my opinion, suitability must also be considered in the context of the existing habitat values of the sites, their wider landscape setting, the ecological requirements of the species concerned, and the habitat enhancement, revegetation, pest management, creation of refuge features and management measures proposed to improve habitat quality over time.

100 I disagree with the suggestion that the proposed Northern and Southern Release Sites are unsuitable for the relocation of

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12 DOC s51 Report, at [3.4.1], [6.3.8] – [6.3.10], [6.3.16]; Appendix C, at [72]; Te Uri o Hau Comments, page 17; SOE Jacqueline Wairepo, at [12.1] – [12.12].

13 DOC s51 Report, at [6.3.1]; Appendix C, at [72]; Te Uri o Hau Comments, pages 17 – 18.

14 Te Parawhau Hāpu Comments, at [12.1].

15 Appendix C, at [78] – [79].

16 Appendix C, at [80].

17 Te Uri o Hau Comments, page 17.

18 Appendix D, at [26]; SOE Jacqueline Wairepo, at [10.5].

indigenous lizards. The sites were identified and assessed specifically for this purpose prior to lodgement of the Application. In my opinion, both sites contain the necessary characteristics to provide an appropriate basis for the relocation of salvaged lizards.

Release sites as mitigation

101 I do not agree with the suggestion that the proposed release sites should be regarded solely as a response to residual effects rather than a component of mitigation. In my opinion, the release sites form part of an integrated effects management framework intended to minimise direct effects on indigenous lizards (as well as other species), provide suitable receiving habitat for relocated animals, and address habitat-related effects through enhancement and management. I therefore consider these measures to form part of the wider package of avoidance, minimisation and mitigation measures proposed.

The release sites have sufficient capacity and the proposed management is of appropriate duration

102 Several comments express concern regarding the capacity of the proposed release sites and the duration of proposed management measures.[19] In my opinion, the Northern and Southern Release Sites provide suitable receiving habitat and an appropriate basis for lizard relocation. The number and allocation of lizards released to each site should be confirmed before release, having regard to the species, life stages and numbers recovered, the extent and condition of suitable habitat and refuges, resident lizards, completed habitat preparation and pest management, long-term site security and the availability of alternative receiving habitat.

103 Both sites occur within wider landscapes containing indigenous vegetation and are capable of supporting improvements in habitat quality, connectivity, refuge availability and ecological function over time.

104 I acknowledge there is uncertainty regarding the number of lizards that may ultimately require relocation. However, the purpose of the proposed release sites is not to replicate existing lizard densities on a one-for-one basis. Rather, they provide locations where suitable habitat already exists and where habitat quality, refuge availability and ecological management can be improved over time.

[19] DOC s51 Report, at [3.4.1], [6.3.8] - [6.3.10] and [6.3.16]; Appendix C, at [72], [78] - [79]; Te Uri o Hau Comments, pages 17 - 18; SOE Jacqueline Wairepo, at [12.1] - [12.12].

105 Before lizards are released, the Project Lizard SQEP will confirm that the receiving habitat in the proposed release site remains suitable for lizard release having regard to:

105.1 the species and numbers recovered, the condition and extent of available habitat;

105.2 refuge availability;

105.3 completed enhancement measures;

105.4 evidence of resident lizards; and

105.5 the availability of alternative receiving habitat.

106 If unexpectedly high numbers of lizards are recovered, or a species with materially different ecological requirements or threat status is identified, release will not proceed automatically to a predetermined site. The Project Lizard SQEP will instead determine whether additional enhancement, staged allocation between suitable sites, or an alternative approved release site is required.

107 In my opinion, the key ecological question is not whether the precise number of lizards recovered has been or can be predicted in advance, but whether an appropriate framework exists (and is imposed through the proposed conditions) to identify the species and numbers recovered and respond accordingly. Uncertainty regarding salvage numbers does not, in my opinion, create equivalent uncertainty regarding the management response required.

108 For the same reason, I do not consider it appropriate to determine the adequacy of the proposed lizard management package solely by reference to a predetermined management duration. In my opinion, the relevant question is whether the management measures remain capable of achieving and maintaining the intended ecological outcomes and release-site suitability over time. In my opinion, if my recommendations are adopted, NZTA's proposed conditions provide a robust framework for confirming that each Release Site is suitable and appropriately prepared before lizards are released.

Additional mitigation measures are not required

109 I acknowledge the suggestion by commenters that additional measures, including predator-proof fencing, should be incorporated within the release sites.[20] In my opinion, the appropriateness of any additional measure should be considered in relation to the nature of the species present, the ecological objectives of the sites, and the expected conservation benefits relative to other available management actions.

[20] Appendix C, at [80].

110 Predator-proof fencing can be an effective management tool in some ecological contexts. However, I do not consider it necessary or proportionate for the indigenous lizard species known or expected to occur within the Project area, given the characteristics of the proposed release sites and the wider ecological management package proposed by NZTA.

111 Predator-proof fencing may be appropriate where ecological objectives require exclusion of mammalian predators from relatively discrete and intensively managed sites. In this instance, the indigenous lizard species known or expected to occur are already persisting in the presence of mammalian predators within the wider landscape. The proposed release sites form part of a broader connected environment rather than a fenced sanctuary, and the ecological objectives are directed towards maintaining and enhancing suitable habitat rather than establishing predator-free conditions. In my opinion, habitat enhancement, pest management and habitat stewardship provide a more proportionate response in this context.

Te Uri o Hau involvement in release-site management

112 I acknowledge Te Uri o Hau's request for involvement in the selection, monitoring and management of release sites.[21] Similar to my comments regarding ecological surveys and monitoring, the extent and form of iwi involvement in the future management of release sites is ultimately a matter for NZTA and Te Uri o Hau. From an ecological perspective, I support opportunities for collaboration that contribute to improved ecological outcomes and successful implementation of ecological management measures.

The release sites will benefit long-tailed bats

113 DOC and Te Parawhau have suggested that the Release Sites have been designed without consideration of bat needs.[22] While the release sites were not identified specifically as bat mitigation sites, I consider the habitat enhancement, revegetation, connectivity and management measures proposed within those sites are capable of delivering benefits for long-tailed bats as part of the wider terrestrial ecology mitigation package. Habitat enhancement and connectivity measures are intended to contribute to the availability and quality of bat habitat over time. As such, in my opinion, it is incorrect to characterise the release sites as providing no benefit to bats or as having been developed without consideration of wider ecological outcomes.

[21] Te Uri o Hau Comments, page 17.

[22] Appendix D, at [26]; SOE Jacqueline Wairepo, at [10.5].

Impacts on lizard habitat

114 DOC and Te Parawhau have suggested the mitigation I have proposed for effects on lizard habitat is inadequate and/or results in residual effects,[23] including:

114.1 The permanent and accelerated fragmentation of lizard populations,[24] particularly where lizard populations remain on either side of the state highway;[25]

114.2 Impacts on habitat connectivity;[26]

114.3 Indirect and residual effects on habitats;[27] and

114.4 The inadequacy of my assumptions regarding restored and enhanced replacement habitats and their respective timeframes.[28]

115 I address these matters in turn below.

The mitigation proposed is appropriate

116 I do not agree that NZTA's proposed mitigation package for lizard habitat is inadequate. I acknowledge that the Project will result in permanent loss and fragmentation of some lizard habitat and that these effects are not fully addressed through salvage and relocation alone. Salvage and relocation primarily manage direct effects on individual lizards and do not, by themselves, address effects on lizard habitat.

117 NZTA's proposed response to habitat effects comprises a combination of habitat retention where practicable, use of suitable release sites, habitat enhancement, revegetation, connectivity measures, pest management and habitat management. In my opinion, these measures need to be considered collectively rather than in isolation.

118 I acknowledge that the Project may separate lizard habitat occurring on opposite sides of the transport corridor and that some fragmentation effects will remain. However, fragmentation effects need to be considered in the context of the species present, the availability of habitat within the wider landscape, and the opportunities to retain, enhance and improve habitat elsewhere through the proposed management package. In my opinion, these

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23 Appendix C, at [74] - [81]; SOE Jacqueline Wairepo, at [7.4] - [7.6].

24 Appendix C, at [74]; SOE Jacqueline Wairepo, at [7.3].

25 Appendix C, at [74].

26 SOE Jacqueline Wairepo, at [7.4].

27 SOE Jacqueline Wairepo, at [7.6] – [7.7]; Te Uri o Hau Comments, page 11.

28 SOE Jacqueline Wairepo, at [7.5].

factors substantially reduce the ecological significance of fragmentation effects at a population level.

119 I also acknowledge that habitat enhancement and revegetation measures require time before their full ecological benefits are realised. For that reason, I do not regard newly enhanced or revegetated habitat as an immediate like-for-like replacement for existing habitat. However, in my opinion, the proposed enhancement measures, together with the availability of existing habitat within the release sites and wider landscape, materially reduce the ecological significance of those longer-term habitat effects.

120 In reaching my conclusions, I have considered the suitability of the proposed release sites, the availability of suitable habitat within the wider landscape, opportunities to improve habitat quality through enhancement and management, and the ability of detailed design to avoid or minimise habitat loss where practicable.

121 While residual effects on lizard habitat will remain, I consider NZTA's proposed ecological management package provides an appropriate response to the identified habitat effects. Subject to implementation of those measures, I consider the residual effects on lizard habitat will be Low.

Residual effects on lizard habitat will be Low

122 I agree that residual effects on lizard habitat will remain following implementation of NZTA's proposed management measures. The existence of residual effects does not, however, determine their level of ecological significance or mean that biodiversity offsetting or compensation is necessarily required.

123 For the reasons set out above, and subject to those measures being implemented, I consider the residual effects on lizard habitat will be Low. On that basis, I do not consider separate biodiversity offsetting or compensation to be necessary specifically for lizard habitat.

Impacts on bat habitat

124 DOC and Te Parawhau have made several statements about the mitigation I have proposed for effects on potential bat habitat, suggesting those measures are inadequate.[29] The comments relate to:

124.1 The impacts of habitat loss;[30]

[29] Appendix D, at [15] – [36]; SOE Jacqueline Wairepo, at [10.4] – [10.10].

[30] Appendix D, at [15] – [20].

124.2 Fragmentation of bat habitat;[31]

124.3 Potential impacts from vehicle collisions;[32]

124.4 The adequacy of my proposed mitigation package;[33] and

124.5 Potential cumulative effects from other activities in the area.[34]

125 I address these matters in turn below.

The mitigation proposed is appropriate

126 I do not agree that the proposed mitigation package for bat habitat is inadequate. The comments appear principally directed at the effects of habitat loss, habitat fragmentation, reduced connectivity and the consequences of vegetation removal for long-tailed bats.

127 As discussed above, NZTA's proposed response to these effects comprises a combination of habitat retention and avoidance where practicable, minimisation through detailed design, habitat enhancement and revegetation, connectivity measures, and habitat management.

128 In reaching my conclusions, I have considered the low levels of bat activity recorded during surveys, the absence of confirmed roost sites, the availability of suitable habitat throughout the wider landscape, the mobility of long-tailed bats, and the opportunities to retain and enhance habitat connectivity through ecological management measures.

129 While habitat loss, fragmentation and connectivity effects will remain, I consider that NZTA's proposed habitat management package provides an appropriate response to those effects.

Vehicle-collision risk is low

130 I acknowledge concerns regarding the potential for vehicle collisions involving long-tailed bats. As discussed above, I consider the likelihood of such collisions to be low, having regard to the low levels of bat activity recorded within the Proposed Designation and the surrounding area, and the ability of long-tailed bats to modify their movement behaviour in response to landscape features and disturbance. Nevertheless, because long-tailed bats are Threatened – Nationally Critical, I have taken the potential consequences of individual mortality into account when considering the importance of retaining and reinforcing habitat connectivity across the Project area.

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31 Appendix D, at [21] – [22].

32 Appendix D, at [23].

33 Appendix D, at [25] – [36].

34 Appendix D, at [24].

Potential cumulative effects have been appropriately considered

131 I acknowledge that habitat loss and fragmentation arising from this Project will occur within a wider landscape that has already been modified by forestry, agriculture, transport infrastructure and other human activities.

132 However, in my opinion, the existence of other pressures within the wider landscape does not materially alter the principal effect pathways identified for the Project or require a different effects management framework.

133 The management measures I have recommended are directed at the Project's contribution to those effects. In my opinion, the presence of wider cumulative pressures reinforces the importance of those measures, but does not alter my conclusions regarding the overall adequacy of NZTA's proposed management package.

Amendments to effects management measures

134 DOC, Te Uri o Hau and Te Parawhau have proposed specific amendments to NZTA's proposed effects management measures in relation to bats and lizards, including:[35]

134.1 Amendments to the Wildlife Act Approval conditions requiring a Lizard Management Plan;[36]

134.2 The need for a Wildlife Act Approval for bats, including a Bat Management Plan;[37]

134.3 Requirements for fixed, minimum salvage requirements across the Proposed Designation;

134.4 Intensive, site-wide pest control;

134.5 Additional monitoring and management; and

134.6 DOC assessing the Project's Lizard SQEP and bat specialists.

135 I address these matters in turn below.

Wildlife Act Approval conditions and management plans

136 I agree that the Wildlife Act Approval conditions and associated management plans are an important component of the overall effects management framework. In my opinion, the conditions

[35] DOC s51 Report, at [6.7.1] - [6.7.24], and [6.3.16] – [6.3.17]; DOC Feedback on A2BH Application, dated 14 August 2026, at [3.23] and [3.26]; Te Uri o Hau Comments, pages 14, 16 – 18; Appendix C, at [141] – [144]; Appendix D, at [37] – [39].

[36] DOC Feedback on A2BH Application, at [3.23].

[37] DOC Feedback on A2BH Application, at [3.11]; Te Uri o Hau Comments, pages 12 – 13; Appendix D, at [28].

should identify the principal ecological outcomes to be achieved, the key management requirements necessary to achieve those outcomes, the relevant competency requirements, and the monitoring and reporting obligations associated with implementation.

137 In my opinion, detailed survey methodologies, salvage procedures, monitoring methods and site-specific management actions are more appropriately developed through the relevant management plans at the detailed design stage of the Project, by suitably qualified specialists. This approach allows implementation to respond to final design and site conditions while ensuring that the ecological outcomes and substantive management requirements remain secured through the conditions framework.

138 For lizards, I support the proposed Wildlife Approval conditions and Lizard Management Plan framework recommended above. For bats, the important ecological issue is that the BRP and the other substantive bat-management requirements on which my conclusions rely are secured through the final Project conditions.

Requirements for minimum salvage are not appropriate

139 I do not support the use of a single fixed minimum salvage effort across all areas affected by the Project. Habitat quality, vegetation structure, species likely to be present, accessibility and the methods most likely to detect and recover lizards will vary considerably between locations.

140 In my opinion, a more effective approach is for the conditions and Lizard Management Plan to identify the objective of salvage, the circumstances in which salvage is required, and the competency requirements for the Project Lizard SQEP, while allowing the specific methods and effort to be determined having regard to site conditions immediately prior to works. I therefore support my recommended approach being included in NZTA's Wildlife Act Approval conditions.

The pest control, monitoring and management proposed by NZTA is appropriate

141 I support pest management where it contributes to improved habitat quality and supports the suitability of release sites. However, pest management should be considered as one component of the wider habitat-management package and not as a substitute for suitable habitat, habitat connectivity, revegetation and stewardship.

142 I support monitoring requirements that are capable of confirming implementation of the proposed management measures and assessing whether the intended habitat-management outcomes are being achieved. However, given the cryptic nature of indigenous lizards and the inherent challenges associated with detecting

individual animals, monitoring should not rely solely on redetection of relocated individuals or a single numerical threshold.

143 In my opinion, a proportionate monitoring framework should consider implementation of habitat-enhancement measures, pest-management measures, habitat condition, and evidence of continued suitability of release sites, together with clearly defined management responses where required outcomes are not being achieved. I recommend this approach be reflected in the proposed Wildlife Approval conditions, which should require the Lizard Management Plan to specify the purpose of monitoring, the indicators and lines of evidence to be used, relevant detectability and interpretation limitations, review triggers, available management responses, and follow-up verification where required outcomes are not being achieved. I support that monitoring framework.

Approvals should include competency requirements for Project ecologists

144 I agree that ecological surveys, wildlife salvage, relocation, roost assessments and associated monitoring should be undertaken under the direction of appropriately qualified and experienced specialists. However, I do not consider it necessary or appropriate to identify or approve specific individuals through the Application.

145 In my opinion, the more robust approach is for the conditions to specify the qualifications, experience, authorisations and species-specific competencies required of the Project Lizard SQEP and Project Bat Specialist.

CONCLUSIONS

146 The comments addressed above can broadly be grouped into three themes:

146.1 the characterisation of the Project's effects on indigenous lizards, long-tailed bats and their habitats;

146.2 the adequacy of the proposed management response; and

146.3 the extent to which the ecological outcomes relied upon will be secured through conditions and management plans.

147 In relation to adequacy, the proposed management measures respond to the effects identified. Measures such as lizard salvage and relocation and implementation of the BRP principally address direct risks to individual animals. They do not, by themselves, address habitat loss, fragmentation or reduced connectivity. Those habitat effects require a separate but complementary response comprising avoidance and minimisation through detailed design where practicable, habitat retention and enhancement, revegetation, release-site enhancement, maintenance or

improvement of connectivity, pest management and habitat management.

148 I acknowledge that residual effects on lizards, bats and their habitats will remain. The existence of residual effects does not, by itself, determine their ecological significance or mean that biodiversity offsetting or compensation is necessarily required. That requires consideration of the nature and scale of the effects, the ecological values affected, the wider landscape context, and the effectiveness and security of the proposed management response.

149 In relation to security of outcomes, my conclusions depend on the relevant ecological outcomes and substantive management requirements being adequately secured through the final conditions and management plan framework. In my opinion, it is appropriate for detailed design and suitably qualified specialists to determine site-specific methodologies and implementation details, provided the conditions establish the outcomes required, the principal measures to be implemented, appropriate competency requirements, monitoring and reporting obligations, and management responses where required outcomes are not achieved.

150 For lizards, my conclusions depend on the Wildlife Approval conditions securing the necessary survey, salvage, relocation, Release Site and monitoring requirements, together with the Designation and, where relevant, Resource Consent conditions securing the habitat measures on which I rely. For bats, my conclusions depend on the final Project conditions securing the BRP and associated direct-risk controls, together with the habitat-retention, revegetation, connectivity and other habitat-management measures described in my evidence.

151 This approach does not defer identification or assessment of the effects, the ecological outcomes required, or the substantive management response. Rather, it allows the location, configuration and implementation of measures to respond to final design and site conditions within a clearly established ecological framework.

152 In my opinion, proportionality is important when considering requests for further investigation or additional management measures. The relevant ecological question is not simply whether more information could be obtained or additional management measures could be implemented. It is whether that additional information or measure would be likely to materially alter the effects identified, the management response required, the conditions necessary to secure the intended outcomes, or the resulting assessment conclusion.

153 Having considered the issues raised by commenters, I remain satisfied that the relevant effect pathways on lizards and bats have been identified, that an appropriate management response has been developed, and that the ecological outcomes relied upon in my

assessment can be secured through the proposed conditions and management framework.

154 I remain of the opinion that the proposed effects-management framework provides an appropriate and proportionate response to the effects of the Project on indigenous lizards, long-tailed bats and their habitats and, subject to the implementation of the measures described in my evidence, that the overall effects on each of these components will be Low.

Simon Chapman
28 October 2026

APPENDIX A – RELEVANT QUALIFICATIONS AND EXPERIENCE

1 I have over 25 years of experience as a professional ecologist. I hold the qualifications of Bachelor of Science (1999) and Postgraduate Diploma in Applied Science (2007), both from Lincoln University. I consider myself to be a generalist ecologist with specialist expertise in terrestrial fauna – especially bats and herpetofauna.

2 My work experience includes the design and implementation of biodiversity surveys and monitoring programmes, undertaking and peer reviewing ecological impact assessments, and developing and implementing ecological mitigation, management, and restoration plans. My employers and roles through my career include:

2.1 WSP (2025 - present): Technical Director - Ecology

2.2 Ecology New Zealand (2016 - 2024): Ecology Manager and Principal Ecologist

2.3 Golder Associates (2014 – 2016): Group Leader – Water Management and Ecology

2.4 Andrew Stewart (2013 - 2014): Ecology Manager

2.5 Boffa Miskell (2007 - 2013):

(a) Principal Ecologist (2009 - 2013)

(b) Senior Ecologist (2007 - 2009)

2.6 Envirologic (2001 - 2007): Principal Ecologist / Director

2.7 Ecoworks (1999 - 2001): Ecologist

3 The bulk of my professional ecology work involves leading ecology teams to assess and manage the ecological effects of large-scale projects including linear infrastructure (roading and rail), quarries/mines, energy projects (hydro schemes and wind farms), and some of the country's largest residential, commercial, and industrial developments. Notable examples of relevant roading projects on which I have held a major role include:

3.1 TREC - Transport Rebuild East Coast (TREC) – Project Ecologist (2025 - present)

3.2 Te Tupu Ngātahi – Supporting Growth (Auckland Strategic Transport Projects) Ecology Reviewer (2022 - 2024)

3.3 SH1-29 Roundabout and Tauriko Enabling Works – Project Ecologist (2023 – 2024)

3.4 Waikato Bridge and Peacockes Strategic Services – Project Ecologist / Bat Ecologist (2018 - present)

3.5 SH3 Mount Messenger Bypass – Lead Fauna Ecologist (2016 - 2019)

3.6 SH3 Awakino Tunnel Bypass – Project Ecologist (2017 - 2021)

4 I regularly provide ecological expertise to central and local government clients, including Auckland Council (Council) and several other councils, primarily for the processing of resource consent applications and plan changes. The topics I provide advice on include terrestrial, wetland, and coastal ecology, threatened species monitoring and conservation, biodiversity offsetting/compensation, and ecological mitigation, management, and restoration.

5 I have specialist expertise and experience in matters directly relevant to the Project, especially herpetofauna (reptiles and amphibians) and bats. In 2021, I was appointed to Council's expert panel to assess the conservation status of herpetofauna (reptiles and amphibians) species in the Auckland Region, and I am a co-author of the two reports subsequently published by Council in March 2022.[38,39]

6 Other examples of herpetofauna-related publications I have authored or co-authored include guidelines on the conservation and management of New Zealand lizards,[40] a paper on biodiversity compensation modelling,[41] a chapter on the ecology and conservation of native lizards and frogs in the Waitakere Ranges,[42] and frog protection and accidental discovery protocols for the Waka Kotahi NZ Transport Agency's (Transport Agency) contractors

[38] Melzer, S., R. Hitchmough, D. van Winkel, C. Wedding, S. Chapman, M. Rixon. 2022. Conservation status of reptile species in Tāmaki Makaurau / Auckland. Auckland Council technical report, TR2022/3.

[39] Melzer, S., R. Hitchmough, D. van Winkel, C. Wedding, S. Chapman, M. Rixon, V. Moreno, J. Germano. 2022. Conservation status of amphibian species in Tāmaki Makaurau / Auckland. Auckland Council technical report, TR2022/4.

[40] Anderson P., Bell B., Chapman S., and Corbett K. 2012. New Zealand lizards conservation toolkit - a resource for conservation management of lizards of New Zealand. Wellington: Society for Research on Amphibians and Reptiles of New Zealand (SRARNZ).

[41] Baber M, Quinn J, Craig J, Bramley G, Lowe M, Webb C, Ussher G, Whiteley C, Kessels G, Davies F, Markham J, Miller D, van Winkel D, Wedding C, Chapman S. 2025. The biodiversity compensation model: a framework to facilitate better ecological outcomes. New Zealand Journal of Ecology 49(1): 3591.

[42] Chapman S., Alexander J. 2006. Frogs and lizards in the ranges. In: Waitakere Ranges. Bruce H, Trixie H eds Waitakere Ranges Protection Society Inc. New Zealand. pp. 141–149.

working in or near Hochstetter's frog habitats alongside State Highway 1 in the Dome Valley.[43]

7 My lizard experience includes numerous surveys, monitoring programmes and mitigation salvages. I currently hold blanket region-wide lizard permits for Auckland (surveys and salvage-relocations), Waikato (surveys), and Canterbury (surveys). I am named as an authorised lizard expert on many current and previous DOC permits for project-specific lizard surveys and translocations in various regions across the North and South Islands.

[43] Chapman, S. 2010. SH1 Warkworth to Wellsford: native frog habitat protection. Prepared by Boffa Miskell for NZ Transport Agency.