142 Konini Road

Ecological Impact Assessment

Prepared for Johnstone Construction Limited
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Document Sign-off

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EXECUTIVE SUMMARY

This report, prepared by Ecology New Zealand Limited (ENZL) for Johnstone Construction Limited, presents an Ecological Impact Assessment (EcIA) for the retrospective activities associated with residential upgrades at 142 Konini Road. In particular, this EcIA addresses the ecological impacts stemming from c. 49.5m^2 of permanent SEA vegetation loss, along with c. 104m^2 of temporary SEA vegetation clearance and 68m^2 of SEA understorey vegetation damage. The key ecological features on-site have been identified, along with the potential and actual impacts associated with the retrospective works. Recommended mitigation methods are also detailed.

Terrestrial ecological values within the works footprint on-site were assessed as moderate due to the presence of immature SEA vegetation. Only Not Threatened and one At Risk native bird species were expected to use the site. Native ground-dwelling skink habitat and arboreal lizard habitat were present for At Risk species. Limited bat-roosting habitat was identified to be present.

Terrestrial ecological impacts associated with the retrospective works are attributable to permanent and temporary SEA vegetation loss, and risk of harm to native fauna. Management for these effects includes remediation planting of SEA vegetation, and fauna management for native birds and lizards, recommended to be implemented immediately before and during vegetation clearance. The permanent loss of SEA vegetation was identified as a residual effect. Management measures to address this residual effect include additional (enrichment) planting of native species of approximately 109 m^2 to address lizard habitat loss due to vegetation clearance and restoration planting of approximately 258 m^2, along with a protective covenant for the additional enrichment planting area, as well as the retained/restored SEA vegetation on-site, c. 1,020 m^2. The covenant will help ensure vegetation protection and pest plant and animal management in perpetuity. A lizard survey has been recommended to further inform potential residual impacts to lizards. Following the survey, appropriate compensatory measures will be recommended within a Lizard Survey Completion Report.

Overall, it is expected that the mitigation planting, covenant protection, pest plant and animal management, together with potential lizard compensation measures will appropriately manage the impacts of the retrospective works at 142 Konini Road.

1. INTRODUCTION

This report[1], prepared by Ecology New Zealand Limited (ENZL) for Johnstone Construction Limited (the Client), presents an Ecological Impact Assessment (EcIA) for the retrospective activities associated with residential upgrades at 142 Konini Road, Titirangi (Figure 1). This report describes the site's ecological features and utilises the assessment methodology under the Environment Institute of Australia and New Zealand (EIANZ) guidelines[2] to assign values and assess the effects of the retrospective works. The retrospective work's actual and potential adverse and/or positive effects are addressed, and appropriate recommendations are made to manage these effects.

Figure 1: Location of 142 Konini Road.

1.1. Retrospective Activities

The retrospective activities at 142 Konini Road include upgrades to the existing dwelling, widening and re-grading of the existing driveway, replacement of the existing carport, sheds, and pool, and associated infrastructure. It is noted that work for these residential upgrades has been underway at the time of this assessment but have yet to be completed. The retrospective residential upgrading works have resulted in c. 49.5m^2 of retrospective permanent SEA vegetation loss, along with c. 104 m^2 of retrospective temporary SEA vegetation loss, and 68 m^2 of retrospective SEA understorey vegetation damage. Some exotic-dominated vegetation was also removed.

[1] This report is subject to the Report Limitations provided in Appendix A.

[2] Roper-Lindsay, J., Fuller S.A., Hooson, S., Sanders, M.D., Ussher, G.T. 2018. Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition.

1.2. Site Location, Description and Ecological Context

The project site is located at 142 Konini Road, Titirangi, Auckland 0604, within the Waitakere Ecological District in the Auckland Ecological Region. The site contains a Significant Ecological Area (SEA_T_5539), which contains vegetation classified as WF11: Kauri, podocarp, broadleaved forest, an endangered ecosystem type. The SEA vegetation on-site is connected to the wider native forests of the Waitākere Ranges. The surrounding land cover comprises largely of Significant Ecological Area (SEA) native bush, residential properties and roads.

2. METHODOLOGY

A site assessment was undertaken on the 12th of September 2024 by ENZL ecologists. This assessment aimed to confirm the adequacy of existing ecological information and to complete appropriate surveys to address gaps in information necessary to complete an EcIA. The following sections outline the methodologies used for the assessment.

2.1. Terrestrial Ecological Survey

Searches of national and regional ecosystems databases[3], and threatened species databases[4] were completed to ascertain existing information on ecosystems and threatened flora and fauna.

Databases and reference documents utilised included:

- Auckland Council Auckland Regional Pest Management Plan 2020-2030;
- Auckland Council Herpetofauna Database 2023;
- Auckland Council Geomaps;
- Department of Conservation Bat Database 2022;
- Department of Conservation Herpetofauna Database 2023;
- eBird New Zealand; and
- iNaturalist New Zealand.

During site assessment, all vegetation across the site was classified to the ecosystem level and mapped with its associated composition, value, structure and integrity recorded. All rare and threatened flora species encountered were documented. Vegetation within areas affected by retrospective works was assessed based on retained vegetation in the immediate surroundings, any vegetation debris left on-site, and using satellite imagery where applicable.

All birds heard and observed on-site were documented during in-field assessments to provide a snapshot of on-site bird diversity. Habitat for birds was further documented, emphasising nesting and roosting availability and a high-level documentation of the presence of year-round food sources.

Lizard habitat assessments focused on habitat suitability for the known diversity of species within the Auckland Region. During the assessment, opportunistic searches for ground-dwelling

[3] The Land Environments of New Zealand (LENZ) the land cover database (LCDB4) are available for download from http://lris.scinfo.org.nz/. Regional ecosystem mapping e.g. Indigenous terrestrial and wetland ecosystems of Auckland. Singers et al. 2017

[4] NZ Threat Classification System https://www.doc.govt.nz/about-us/science-publications/conservation-publications/nz-threat-classification-system/

lizard species were undertaken, focusing on searches under organic and inorganic debris items found on-site.

A high-level assessment of native bat habitat was undertaken at the site. Specifically, this included a review of the presence of larger (diameter at breast height [DBH] > 15cm) mature trees, which could provide roosting habitat for this threatened species[5].

2.2. Freshwater Ecological Survey

Auckland Council Geomaps was consulted for information regarding the site's aquatic features – specifically using the Overland Flow Paths, Contours, and Underground Services (Stormwater) overlays. No overland flow paths were mapped by Auckland Council and no watercourses nor wetlands were detected on-site. Freshwater ecology will not be further discussed in this report.

2.3. Impact Assessment

The Environment Institute of Australia and New Zealand's guidelines for undertaking Ecological Impact Assessments (EcIA; EIANZ 2018[6]) were used to assess the impacts of the retrospective residential upgrades. The guidelines provide criteria to assess ecological values using the matters: 'representativeness', 'rarity/distinctiveness', 'diversity and pattern', and 'ecological context.' Based on the designated values for each matter, the ecological aspects of the site are then assessed using the attributes matrix in Appendix 10 of the EIANZ guidelines. Chapter 6 of the EIANZ guidelines provides criteria for determining the magnitude of effects.

The level of effect can then be determined by combining the value of the ecological feature/attribute with the score or rating for the magnitude of effect to create criteria for describing the level of effects. Cells with low or very low levels of effect represent a low risk to ecological values rather than low ecological values. A 'moderate' level of effect requires careful assessment and analysis of the individual case. These effects could be managed through avoidance, design, or appropriate management actions.

Impacts were primarily assessed at the catchment scale within this report. After consideration at the catchment scale, assessment at the site, regional, and national scales was regarded to inform the overall assessment where applicable.

[5] Borkin K.M. 2010: Ecology of New Zealand long-tailed bat (Chalinolobus tuberculatus) in exotic plantation forest. Unpublished PhD thesis. University of Auckland, Auckland, New Zealand

[6] Roper-Lindsay, J., Fuller S.A., Hooson, S., Sanders, M.D., Ussher, G.T. 2018. Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition.

3. ECOLOGICAL ASSESSMENT

3.1. Terrestrial Ecology

3.1.1. Vegetation

SEA vegetation on-site ranged from intact WF11 Kauri, podocarp, broadleaved forest in the northeast of the site, transitioning to regenerating forest edge with pest plant dominated undergrowth along the edges of the driveway and dwelling. Vegetation within the areas affected by the retrospective activities was largely representative of the latter (Figure 2, Figure 3, and Figure 4). Native tree species in these areas included kānuka (*Kunzea robusta*), ponga (*Alsophila tricolor*), māhoe (*Melicytus ramiflorus*), nīkau (*Rhopalostylis sapida*), karaka (*Corynocarpus laevigatus*), twiggy coprosma (*Coprosma rhamnoides*), māpou (*Myrsine australis*), cabbage tree (*Cordyline australis*), karamū (*Coprosma robusta*), pūriri (*Vitex lucens*), rewarewa (*Knightia excelsa*), kawakawa (*Piper excelsum*), and harakeke (*Phormium tenax*). Exotic trees were also present, including two Japanese red cedar (*Cryptomeria* japonica) and a Norfolk Island pine (*Araucaria heterophylla*). Pest plants were present in high to moderate densities, especially along the driveway (Figure 5). Pest species included speckled spur flower (*Plectranthus ciliatus*), wild ginger (*Hedychium* gardnerianum), climbing asparagus (*Asparagus scandens*), English ivy (*Hedera helix*), loquat (*Eriobotrya japonica*), and tuber ladder fern (*Nephrolepis cordifolia*).

Figure 2: SEA vegetation along the driveway

Figure 3: SEA vegetation between the dwelling and new garage, affected by retrospective works.

Figure 4: SEA vegetation adjacent to the new garage.

Figure 5: Example of pest plants within SEA, including wild ginger and speckled spur flower.

Vegetation outside of the SEA was largely comprised of exotic and pest species, including lawn grass, ornamental plants, and macadamia trees (*Macadamia* sp.) (Figures 6 and 7). Pest plants included bamboo species, which was dominant in the south of the site, English ivy, and tradescantia (*Tradescantia fluminensis*). Several native trees were present in the southeast of

the site, including a tōtara (*Podocarpus totara*), a māpou (*Myrsine australis*), a kauri (*Agathis australis:* Threatened – Nationally Vulnerable), a rewarewa, a rimu (*Dacrydium cupressinum*), some nīkau, ponga and kawakawa, but the ground cover was mostly bare or comprised of tradescantia (Figure 8).

Figure 6: Exotic vegetation outside of SEA.

Figure 7: Bamboo species and macadamia in the south of the site.

Figure 8: Native trees within southeast of site, outside of the SEA.

3.1.2. Avifauna

The vegetation composition on-site provided habitat for native and exotic birds common to the Auckland region. All birds seen and heard on-site were recorded during the site visit (c. 2 hours). A summary of species documented on-site and those recorded to occur in the area is provided in Table 1. Indigenous SEA vegetation within the SEA on-site was expected to provide resources and nesting habitat for native avifauna. Additionally, the SEA on-site is part of a larger matrix of indigenous forest areas that connect to the Waitākere ranges.

Table 1: Bird records and species likely to be using 142 Konini Road.

Latin Name	Māori Name	Common Name	Threat Status[7]	Detected On-site
Nestor meridionalis	Kākā	Kākā	At Risk - Recovering	
Chrysococcyx lucidus	Pīpīwharauroa	Shining cuckoo	Not threatened	
Hemiphaga novaeseelandiae	Kererū	New Zealand pigeon	Not threatened	✓
Hirundo neoxena	Warou	Welcome swallow	Not threatened	✓
Gerygone igata	Riroriro	Grey warbler	Not threatened	✓
Ninox novaeseelandiae	Ruru	Morepork	Not threatened	
Petroica macrocephala	Hōmiromiro	Tomtit	Not threatened	
Porphyrio melanotus	Pūkeko	Pūkeko	Not threatened	
Prosthemadera novaeseelandiae	Tūī	Tūī	Not threatened	✓
Rhipdura fuliginosa	Pīwakawaka	New Zealand fantail	Not threatened	✓
Todiramphus sanctus	Kōtare	Sacred kingfisher	Not threatened	
Zosterops lateralis	Tauhou	Silvereye	Not threatened	✓
Turdus merula	Manu pango	Blackbird	Introduced and Naturalised	✓
Acridotheres tristis	Maina	Common myna	Introduced and Naturalised	✓

[7] Robertson HA, Baird KA, Elliott GP, Hitchmough RA, McArthur NJ, Makan TD, Miskelly CM, O'Donnell CFJ, Sagar PM, Scofield RP, Taylor GA, Michel P 2021. Conservation status of birds in Aotearoa New Zealand, 2021. New Zealand Threat Classification Series 36. Department of Conservation, Wellington.

3.1.3. Herpetofauna

Suitable habitat for ground-dwelling skinks was identified within the SEA and non-SEA vegetation on-site. The habitat included dense ground cover, leaf litter, organic and inorganic debris. Arboreal gecko habitats were also present on-site in the form of ponga and other trees. Herpetofauna records from Auckland Council and Department of Conservation (DOC) show the closest native lizards to the site include a forest gecko (*Mokopirirakau granulatus*) c. 160m from the site, an elegant gecko (*Naultinus elegans*) c. 900m from the site, and a copper skink (*Oligosoma aeneum*) c. 1km from the site. Amongst the species potentially present within the site, all are considered regionally At-Risk – Declining. Table 2 outlines the species potentially occurring on-site and their corresponding conservation status.

Table 2: Lizard records and species potentially using 142 Konini Road.

Common Name	Scientific Name	Māori Name	Regional Threat Status[8]	Threat Status[9]
Copper Skink	*Oligosoma aeneum*	Mokomoko	At Risk – Regionally Declining	At Risk - Declining
Ornate Skink	*Oligosoma ornatum*	Mokomoko	At Risk – Regionally Declining	At Risk – Declining
Striped Skink	*Oligosoma striatum*	Mokomoko	At Risk – Regionally Declining	At Risk – Declining
Elegant Gecko	*Naultinus elegans*	Moko kākāriki.	At Risk – Regionally Declining	At Risk - Declining
Forest Gecko	*Mokopirirakau granulatus*	Mokopirirakau	At Risk – Regionally Declining	At Risk – Declining
Pacific Gecko	*Dactylocnemis pacificus*	Ngārara pāpā	At Risk – Regionally Declining	Not threatened

Figure 9: Example of ground-dwelling lizard habitat on-site.

[8] Melzer S, Hitchmough R, van Winkel D, Wedding C, Chapman S, Rixon M. (2022). Conservation status of reptile species in Tamaki Makaurau/Auckland. Auckland Council Technical Report 2022/3.
[9] Hitchmough RA, Barr B, Knox C, Lettink M, Monks JM, Patterson GB, Reardon JT, van Winkel D, Rolfe J, Michel P 2021: Conservation status of New Zealand reptiles, 2021. New Zealand Threat Classification Series 35. Department of Conservation, Wellington.

Figure 10: Example of arboreal lizard habitat on-site.

3.1.4. Chiropteran Fauna

Bat habitat assessment involved visual inspections of remaining vegetation, surrounding vegetation, and vegetation debris within the retrospective works footprint. Potential roosting habitat for native long-tailed bats (*Chalinolobus tuberculatus*, Threatened – Nationally Critical) was assessed to be present but relatively limited, with most of the vegetation within the works footprints being of smaller diameter and not containing potential roosting features including broken branches and trunk cavities. Within the retrospective works footprint, at least two kānuka trees and two Japanese red cedar trees with DBH > 15cm were felled. However, inspection of the felled vegetation did not reveal any potential bat roost features. The nearest long-tailed bat record is c. 1.6km away from the site.

4. ECOLOGICAL VALUES ASSESSMENT

Consideration of ecological values are undertaken at a site and catchment scale, with consideration to any factors relevant at regional and national scale. Assessment criteria include the ecological values 'representativeness', 'rarity/distinctiveness', 'diversity and pattern', and 'ecological context'[10]. Table 4 below summarises the ecological values for the terrestrial features assessed on site and the criteria met for each.

Table 4: Ecological Values Assessment

Ecological Feature	Assessment of ecological feature against criteria: **1- Representativeness** **2- Rarity/distinctiveness** **3- Diversity and pattern** **4- Ecological context**	Summary of Assessment against criteria:	Overall Value
Vegetation	1 – Vegetation within works footprints is native-dominated but generally immature with limited structure, affected by edge effects and pest plants.	**1-** Low **2-** High **3-** Moderate **4-** Moderate	Moderate

[10] Roper-Lindsay, J., Fuller S.A., Hooson, S., Sanders, M.D., Ussher, G.T. 2018. Ecological impact assessment. EIANZ guidelines for use in New Zealand: terrestrial and freshwater ecosystems. 2nd edition. (See report Appendix 2)

Ecological Feature	Assessment of ecological feature against criteria: 1- Representativeness 2- Rarity/distinctiveness 3- Diversity and pattern 4- Ecological context	Summary of Assessment against criteria:	Overall Value
	2 – WF11 ecosystem is considered Endangered. Presence of Kauri (Threatened – Nationally Vulnerable) due to Kauri dieback. 3 – Moderate diversity of indigenous species on-site, with some impacts from pest plants. 4 – Forest edge vegetation is part of a larger SEA that is connected to the Waitākere ranges.		
Avifauna	1 – Expected species composition only partially representative of ecosystem type due to impacts from introduced predators. 2 – Only exotic or not threatened native species likely to be using the site. Kākā (At-risk – recovering) may use the site intermittently. 3 – Low diversity of species detected on-site, but additional species representative of the ecosystem likely present intermittently. 4 – A small area of bird habitat on-site is part of a larger SEA that is connected to the Waitākere ranges.	**1-** Moderate **2-** Moderate **3-** Low **4-** Moderate	Moderate
Herpetofauna	1 – Lizard habitat on-site potentially supports arboreal and ground-dwelling lizards representative of the ecosystem type. 2 – At-risk species expected to be potentially present on-site. 3 – Expected diversity and abundance on-site are limited by the small area and edge effects. 4 – A small area of lizard habitat on-site is part of a larger SEA that is connected to the Waitākere ranges.	**1-** Moderate **2-** High **3-** Moderate **4-** Moderate	Moderate
Chiropteran fauna	1 – Chiropteran habitat on-site may support long-tailed bats by providing foraging and roosting habitat. 2 – Long-tailed bats are a threatened species. 3 – Bat habitat on-site is small, with few trees with roost potential. Use of habitat for foraging and roosting is expected to be sporadic/temporary given the presence of higher quality habitat surrounding the site. 4 – Bat habitat within the works area is small, comprised mostly of regenerating and edge species, but is contiguous with larger SEA which connects to the Waitākere Ranges.	**1-** Moderate **2-** Very High **3-** Low **4-** Moderate	Moderate

5. ASSESSING EFFECTS OF ACTIVITIES ON ECOLOGICAL VALUES

The nature and level of actual or potential effects of activities for which consent is being sought are addressed. Positive and adverse effects, cumulative effects and residual effects are considered, and the assessment informs the nature and scale of impact management required.

5.1. Vegetation

Retrospective assessment of the works conducted included SEA vegetation clearance associated with replacing a carport with a new garage, stormwater infrastructure, as well as upgrades to the driveway and existing dwelling. These activities resulted in a permanent loss of c. 49.5m^2 of immature SEA edge vegetation. These areas of vegetation likely comprised of regenerating natives and high densities of pest plants, given that they were highly impacted by edge effects. Three mature exotic trees, including two Japanese red cedars and a Norfolk Island pine (*Araucaria heterophylla*) were present in the area of permanent clearance. While these trees were mature, their exotic status meant that there was no notable loss of vegetation value.

The retrospective works also incurred a temporary loss of c. 104 m^2 of immature SEA edge vegetation. In addition, approximately 68 m^2 of SEA understorey vegetation was damaged as a result of being smothered by earth and vegetation debris from widening the driveway and the tree removal. The overall loss of vegetation is expected to lead to increased edge effects and pest plant infestations.

Vegetation as habitat for fauna and assessed under the Wildlife Act, 1953, is considered in Sections 5.2 - 5.4 below. Given the permanent and temporary loss of SEA vegetation, the pre-management magnitude of effect is considered **moderate**.

5.2. Avifauna

The retrospective clearance of vegetation on-site has resulted in some loss of native bird habitat, including regenerating native bush, two mature Japanese red cedars and a mature Norfolk Island pine. The loss of mature exotic trees is not expected to lead to notable reductions in food sources nor nesting habitat; Norfolk Island pine and Japanese cedar trees do not produce palatable cones/leaves for birds and tend to possess few malformations/cavities. Removal of the small area of vegetation on-site is unlikely to have adversely affected the overall availability of habitat, food and nesting resources across the SEA. Cumulative effects, however, are acknowledged.

The clearance of vegetation did, however, have the potential to cause injury or death to native birds during nesting. As retrospective vegetation clearance was primarily conducted during August 2024 outside of the main bird nesting season, potential injury/mortality of nesting native birds was considered to be low. Given the above, the pre-management magnitude of effect is considered **low**.

5.3. Herpetofauna

The retrospective clearance of SEA vegetation on-site, including regenerating/edge native bush and three mature exotic trees, resulted in the loss of some ground-dwelling and arboreal lizard habitat. The removal of a small area of lizard habitat is unlikely to adversely affect the amount of habitat on-site or across the surrounding SEA.

There was, however, a risk of injury or death to individual native lizards during the removal of vegetation. The potential loss of a small number of At-Risk species may impact local populations but is not expected to affect the population size across the wider landscape. Cumulative effects associated with lizard habitat loss and potential loss of individuals are acknowledged. Given the above, the pre-management magnitude of effect is considered **moderate**.

5.4. Chiropteran fauna

The retrospective works have resulted in the removal of up to c. seven trees of sufficient size (including the mature Japanese red cedars and Norfolk Island pine) to potentially contain bat roost features. Despite the removal of these trees without ecologist supervision and the presence of bat records in proximity to the site, it was considered unlikely for any bat roost features to be present. This was determined based on inspection of the vegetation debris from felled trees on-site (Figure 11 and Figure 12), photographs of the trees felled, and the tree/branch structure of the mature exotic species felled. Consequently, injury or death to critically endangered native long-tailed bats is considered very unlikely. Given that there was no expected loss of roosting habitat for long-tailed bats, the pre-management magnitude of effect is considered **low**.

Figure 11: Example of felled vegetation on-site with no potential bat roost features detected.

Figure 12: Example of felled vegetation on-site with no potential bat roost features detected.

5.5. Summary of the Level of Effects – Pre-effects Management

The ecological values, effects and magnitude of effects (pre-effects management) are summarised below (Table 3) and the level of effects (pre-effects management) are determined as per the EIANZ guidelines.

Table 3: Evaluation of the level of effects summary pre-effects management at the 142 Konini Road.

Feature	Ecological Value	Effect	Magnitude of Effect (pre-effects management)	Level of Effect (pre-effects management)
Vegetation	Moderate	• Permanent loss of c. 49.5m^2 of immature SEA edge vegetation • Temporary loss of c. 104m^2 of immature SEA edge vegetation • Damage to c. 68m^2 of SEA understorey	Moderate	**Moderate**
Avifauna	Moderate	• Minor loss of habitat • Low risk of injury/death to native birds	Low	**Low**
Herpetofauna	Moderate	• Minor loss of habitat • Potential injury/death to native lizards	Moderate	**Moderate**
Chiropteran Fauna	Moderate	• Minor loss of habitat • Very low risk of injury/death to native bats	Low	**Low**

6. EFFECTS AND IMPACT MANAGEMENT

The overall level of effect under EIANZ is to be used as a "*guide to the extent and nature of the ecological management response required (including the need for biodiversity offsetting)*". Where Regional or District Plans do not provide specific guidance for the management of effects a suggested guide is:

- For Very High levels of effect:
  - "*…unlikely to be acceptable on ecological grounds alone (even with compensation proposals). Activities having very high adverse effects should be avoided.*"
- For High or Moderate levels of effect:
  - *Such an effect could be managed through avoidance, design, or extensive offset or compensation actions. Wherever adverse effects cannot be avoided, no net loss of biodiversity values would be appropriate*.
- For Low or Very Low levels of effect:
  - "*…should not normally be of concern, although normal design, construction and operational care should be exercised to minimise adverse effects*."

Practical measures are proposed to address moderate/high ecological effects at the site. The amount of enhancement effort and activity needed for this site is guided by the Auckland Unitary Plan: Operative in Part (AUP: OP) and the significance of ecological values adversely affected, level of ecological effects, feasibility of implementation, and costs/ benefits and likelihood of success of impact management. The AUP: OP requirements with regard to sediment and erosion control are still valid even with a low level of effect. Recommendations to avoid and manage adverse ecological effects potentially arising from the retrospective activities are outlined below.

6.1. Vegetation

To address the temporary clearance of SEA vegetation and SEA understorey damage, restoration planting is recommended to remediate the affected areas, along with pest plant and animal control to increase the success rate of revegetation and natural recruitment.

The permanent loss of c. 49.5m^2 of immature SEA edge vegetation cannot be remediated or mitigated and will remain as a residual effect. Management of this residual effect is discussed in Section 6.4 below.

Considering the recommended restoration planting, the post-effects management magnitude of effects on vegetation is considered **moderate**.

6.2. Herpetofauna

All native lizards are protected under the Wildlife Act, 1953. Given that lizard management was not carried out during the vegetation clearance, the impacts of this habitat removal on native lizards are assessed as a residual effect of the works. Considering this, the post-effects management magnitude of effects on lizards is considered **moderate.**

6.3. Summary of the Level of Effects – Post-effects management

The ecological values, their impacts and management have been summarised below, and the post-management level of effect has been determined as per the EIANZ guidelines.

Table 4: Evaluation of the level of effects summary post-effects management at 142 Konini Road.

Feature	Ecological Value	Effect	Management required	Post-management magnitude of effects	Post-management level of effect
Vegetation	Moderate	• Loss of c. 49.5m^2 of immature SEA edge vegetation. • Temporary loss of c. 104m^2 of immature SEA edge vegetation. • Damage to c. 68m^2 of SEA understorey.	• Restoration planting of c. 258m^2 of temporarily cleared/ damaged SEA. • Additional enrichment/infill planting of c. 109m^2.	Low	**Low**
Herpetofauna	Moderate	• Minor loss of habitat. • Potential injury/death to native lizards.	• N/A	Moderate	**Moderate**

6.4. Residual Effects Management

6.4.1. Vegetation

Retrospective works associated with the new driveway and garage have resulted in the loss of c. 49.5m^2 of SEA vegetation. Given the retrospective nature of this effect, options to mitigate this adverse effect are possible through onsite restoration planting and the additional enrichment/infill planting creating additional habitat creation, restoration, and enhancement activities over time.

A practical proposal to conduct mitigation planting within all suitable areas on-site amounting to c. 258m^2, supplemented with pest management and covenant protection for all retained and planted vegetation in perpetuity, is deemed appropriate to mitigate for the permanent loss of native regenerating/edge WF11 vegetation. In addition, c. 109m^2 of enrichment/infill planting is located outside of the SEA overlay in the south of the site where exotic vegetation was present at the time of the assessment (Appendix D).

Additionally, the mitigation planting areas, together with the retained SEA vegetation on-site[11], totalling c. 1,020m^2, will be subject to pest plant and animal control and covenant protection in perpetuity. Pest plant and animal control will facilitate the planting and SEA areas on-site to regenerate and eventually mature into WF11 Kauri, podocarp, broadleaved forest. It is also expected that the recommended planting and covenant area will improve ecological connectivity and fauna habitat on-site. Details and methodology of the planting, covenant protection, pest animal and pest plant control are documented in the Ecological Management Plan[12]. Considering the implementation of mitigation planting as well as covenant protection and enhancement of native vegetation on-site, the adverse effects associated with the permanent loss of 49.5m^2 of SEA vegetation will be adequately managed.

6.4.2. Herpetofauna

There are no options available to avoid, mitigate or remedy the adverse effects on native lizards resulting from the retrospective vegetation clearance which had occurred on-site. In such cases, the effects management hierarchy dictates that, any remaining adverse residual effects are to be managed through offsetting or compensation. While offsetting is generally preferred over compensation, is not applicable here due to the nature of the adverse effects.

A lizard survey within the retained areas of lizard habitat on-site was requested by Auckland Council. The lizard survey indicated the presence and abundance of lizards on-site to inform the potential impacts of the retrospective activities on native lizards. A lizard survey plan was then prepared to guide the survey methods[13]. Following the survey, a completion report was prepared which includes appropriate recommendations for addressing the loss of lizard habitat without lizard management.

The outcome of this survey has been submitted to the Auckland Council. However, the Auckland Council informed the client that monetary compensation, being what ENZ has suggested, cannot be considered within the effects hierarchy (avoid, mitigate, remedy, etc.). It was therefore recommended that additional enrichment planting/infill planting be conducted onsite to compensate for the loss. This has been addressed in the revised EMP. This additional enrichment planting/infill planting will enhance habitat and remedy potential lizard effects. In addition, on-site lizard habitat will be enhanced through the establishment of eco-stacks/log stacks, the planting of a continuous canopy kanuka stand with underplanting of refuge and food plants for skinks and other lizards within the north-eastern corner of the site (Please refer to revised EMP). Given the implementation of appropriate and commensurate measures, adverse effects on lizards are expected to be adequately managed.

7. RECOMMENDATIONS SUMMARY

The following ecological management measures are recommended to ensure that any foreseeable ecological effects associated with the works are adequately managed:

- **Ecological Management Plan (EMP)**

[11] Note that the proposed covenant area excludes maintenance setbacks from above ground structures and the footprint of the proposed new stormwater structures.
[12] Ecology New Zealand. 2025. Ecological Management Plan – 142 Konini Road. Report no. 24140-1.002.Rev2.
[13] Ecology New Zealand. 2025. Lizard Survey Plan – 142 Konini Road. Report no. 24140-3.001.Rev0

A restoration plan has been prepared to guide restoration and mitigation planting, pest animal and plant management, as well as covenant protection measures. This plan includes:

- Map of planting locations,
- Site preparation details,
- Weed control plan, control methodologies and timeframes,
- Revegetation and mitigation planting plan;
  - Eco-sourced species list from the Tamaki Ecological District;
  - Plant quantities, sizes and planting density; and
  - Planting methodologies;
- Covenant protection measures; and
- Monitoring and maintenance plan in perpetuity.

Lizard Compensation

The completion report from the lizard survey details the appropriate compensation measures to be prepared following the survey. The implementation of the recommended compensation is expected to adequately manage the residual effects of the potential lizard population during vegetation removal, which occurred before the time of the assessment and without lizard management.

8. CONCLUSION

This report provides an Ecological Impact Assessment associated with the retrospective activities for residential upgrades at 142 Konini Road. The retrospective activities have resulted in a permanent loss of c. 49.5m^2 SEA vegetation, c. 104m^2 of temporary SEA vegetation clearance and 68m^2 of SEA understorey vegetation damage.

Overall, the quality of terrestrial ecological features on-site was considered moderate. This is due to the presence of native SEA vegetation that is connected to the Waitākere Ranges, providing habitat for native birds, lizards and potentially critically endangered long-tailed bats.

Adverse effects stemming from retrospective activities ranged from low to moderate prior to any effects management. Effects management recommendations include restoration of temporarily damaged or removed SEA vegetation. Residual effects were identified due to the permanent loss of c. 49.5m^2 of SEA vegetation and lizard habitat removal without management that may have resulted in lizard loss/mortalities. Due to the type of vegetation felled and the timing of felling, harm to native birds and bats was considered unlikely and as such only low residual effects were anticipated. Additional enrichment/infill native planting of c. 109 m^2, in addition to restoration planting, has been recommended to address the residual effect of vegetation and habitat loss. A covenant to ensure protection and pest plant and animal management in perpetuity has also been recommended for the mitigation planting areas, as well as the retained/restored SEA vegetation on-site. A lizard survey has been conducted to further inform the residual effects to native lizards and appropriate compensatory measures shall be implemented.

With the appropriate implementation of recommended ecological management as described above and in the EMP, it is expected that the adverse effects of the retrospective works will be adequately managed.

APPENDIX A

Report Limitations

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ix) Where lengths or other measurements have not been provided by a surveyor, ENZL has used basic GIS mapping and measurement systems to estimate these numbers. These should not be taken as surveyor-level accuracy for the purposes of decision making.

APPENDIX B

ASSESSING ECOLOGICAL VALUES (from EcIA Guidelines 2nd Ed.)

Table 4 Attributes to be considered when assigning ecological value or importance to a site or area of vegetation/habitat/community. (Page 64)

Matters	Attributes to be considered
Representativeness	Criteria for representative vegetation and aquatic habitats: • Typical structure and composition • Indigenous species dominate • Expected species and tiers are present • Thresholds may need to be lowered where all examples of a type are strongly modified Criteria for representative species and species assemblages: • Species assemblages that are typical of the habitat • Indigenous species that occur in most of the guilds expected for the habitat type
Rarity/distinctiveness	Criteria for rare/distinctive vegetation and habitats: • Naturally uncommon, or induced scarcity • Amount of habitat or vegetation remaining • Distinctive ecological features • National priority for protection Criteria for rare/distinctive species or species assemblages: • Habitat supporting nationally Threatened or At Risk species, or locally[19] uncommon species • Regional or national distribution limits of species or communities • Unusual species or assemblages • Endemism
Diversity and Pattern	• Level of natural diversity, abundance and distribution • Biodiversity reflecting underlying diversity • Biogeographical considerations – pattern, complexity • Temporal considerations, considerations of lifecycles, daily or seasonal cycles of habitat availability and utilisation
Ecological context	• Site history, and local environmental conditions which have influenced the development of habitats and communities • The essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience (from "intrinsic value" as defined in RMA) • Size, shape and buffering • Condition and sensitivity to change • Contribution of the site to ecological networks, linkages, pathways and the protection and exchange of genetic material • Species role in ecosystem functioning – high level, key species identification, habitat as proxy

5.2 Assigning value to terrestrial areas

Table 5 Factors to consider in assigning value to terrestrial species for EcIA (Pg. 67)

Determining factors	
Nationally Threatened species, found in the ZOI either permanently or seasonally	Very High
Species listed as At Risk – Declining, found in the ZOI, either permanently or seasonally	High
Species listed as any other category of At Risk, found in the ZOI either permanently or seasonally	Moderate
Locally (ED) uncommon or distinctive species	Moderate
Nationally and locally common indigenous species	Low
Exotic species, including pests, species having recreational value	Negligible

5.2.2 Assessing terrestrial sites or areas using EcIA data

Table 6. Scoring for sites or areas combining values for four matters in Table 4. (Pg. 69)

Value	Description
Very High	Area rates High for 3 or all of the four assessment matters listed in Table 4. Likely to be nationally important and recognised as such.
High	Area rates High for 2 of the assessment matters, Moderate and Low for the remainder, or Area rates High for 1 of the assessment maters, Moderate for the remainder. Likely to be regionally important and recognised as such.
Moderate	Area rates High for one matter, Moderate and Low for the remainder, or Area rates Moderate for 2 or more assessment matters Low or Very Low for the remainder Likely to be important at the level of the Ecological District.
Low	Area rates Low or Very Low for majority of assessment matters and Moderate for one. Limited ecological value other than as local habitat for tolerant native species.
Negligible	Area rates Very Low for 3 matters and Moderate, Low or Very Low for remainder.

5.3 Assigning value to freshwater habitats

Table 7. Matters that may be considered when assigning ecological value to a freshwater site or area (Pg.70)

Matters	Attributes to be assessed
Representativeness	• Extent to which site/catchment is typical or characteristic • Stream order • Permanent, intermittent or ephemeral waterway • Catchment size • Standing water characteristics
Rarity/distinctiveness	• Supporting nationally or locally Threatened, At Risk or uncommon species • National distribution limits • Endemism • Distinctive ecological features • Type of lake/pond/wetland/spring

Diversity and Pattern	• Level of natural diversity • Diversity metrics • Complexity of community • Biogeographical considerations - pattern, complexity, size, shape
Ecological context	• Stream order • Instream habitat • Riparian habitat • Local environmental conditions and influences, site history and development • Intactness, health and resilience of populations and communities • Contribution to ecological networks, linkages, pathways • Role in ecosystem functioning – high level, proxies

Table 10. Criteria for describing level of effects (Pg. 84)

Ecological Value→ Magnitude↓	**Very high**	**High**	**Moderate**	**Low**	**Negligible**
Very high	Very high	Very high	High	Moderate	Low
High	Very high	Very high	Moderate	Low	Very low
Moderate	High	High	Moderate	Low	Very low
Low	Moderate	Low	Low	Very low	Very low
Negligible	Low	Very low	Very low	Very low	Very low
Positive	Net gain	Net gain	Net gain	Net gain	Net gain

APPENDIX C

EcIA Map

APPENDIX D

Ecological Management Maps