

TO: Tuakiri Property Date: 25 May 2026
COPY TO: Michael Campbell, Campbell Brown Planning Document No: 10441-004-2
FROM: Mark Delaney, Lead Ecologist

HORSESHOE BUSH ROAD – FAST-TRACK REFERRAL APPLICATION – PRELIMINARY ECOLOGY ASSESSMENT

Introduction

This memorandum has been prepared to provide a high-level ecological assessment to accompany a Fast-Track referral application for a proposed residential development at Dairy Flat, Auckland (**Project**) (Attachment A – Illustrative Master Plan).

The Project is to subdivide, construct and operate a residential village development over approximately 77.9 hectares of land located between Horseshoe Bush Road and Kahikatea Flat Road in Dairy Flat, Auckland (**Site**) comprising approximately 1,000 - 1,100 residential units, a village centre (with a Gross Floor Area of approximately 1,200 m²) and approximately 18.5 hectares of open space. The Project includes all associated activities and infrastructure necessary to enable the development including earthworks, roading, creation of open space areas, stream works, and on-site stormwater, wastewater, and water supply facilities.

The purpose of this memorandum is to provide:

- A high-level overview of ecological values on the site;
- A description of anticipated ecological effects; and
- Recommendations for further assessment and management measures to inform the substantive application.

This assessment is preliminary and is based on currently available information and site familiarity. It provides an initial overview of ecological values and anticipated effects, with detailed survey and assessment to follow at the substantive application stage.

Methodology

This assessment is based on reviews of:

- Available project information, including concept masterplans and supporting documentation
- Auckland Unitary Plan (**AUP**) ecological overlays
- Department of Conservation (**DOC**) species records (including lizard and bat datasets)
- New Zealand Freshwater Fish Database (**NZFFD**)
- Aerial imagery and GIS mapping

A preliminary site walkover was completed in February 2025. While this site visit did not represent formal ecological surveys, it provides an understanding of the site's ecological characteristics and condition.

No detailed ecological field surveys have been undertaken for the proposed development area at this stage. As such, a precautionary approach has been adopted where appropriate.

Existing Environment

Site Context and Land Use

The Site is currently used for pastoral agricultural purposes, with land cover dominated by grazed pasture and associated rural infrastructure.

The surrounding environment is characterised by a rural landscape, comprising a mix of pastoral land, rural-residential properties, and areas of indigenous and exotic vegetation within discrete gullies and across the wider landscape.

Historical Ecological Context

Historically (pre-human), much of the area would have been covered by kauri, podocarp, broadleaved forest (WF11), with smaller areas of kahikatea-pūriri forest (WF7-3) present within the eastern and north-eastern parts of the site. These ecosystem types represent lowland podocarp–broadleaf forest communities, with WF11 typically associated with hill-slopes and gullies, and WF7 occurring on alluvial terraces. These ecosystems would have supported a wide range of native invertebrates, amphibians, reptiles, birds, and bats.

Historical aerial imagery from 1940 (Attachment B) indicates that the Site and surrounding landscape had already been extensively cleared for agricultural use over 85 years ago. This confirms that the original forest ecosystems were removed prior to 1940, and that the Site has been highly modified for an extended period.

Terrestrial Vegetation

Current ecosystem mapping indicates that the majority of the Site is not classified within the Auckland Council ecosystem dataset, which is consistent with its use as grazed pastoral land and the absence of indigenous vegetation meeting the criteria for classification as a current ecosystem.

Limited areas of open water (**OW**) associated with constructed ponds or dams, and minor areas of unclassified vegetation (**UC**) are present.

Based on aerial imagery and preliminary site observations, vegetation within the site is predominantly exotic, occurring as:

- shelterbelts and windbreaks;
- scattered amenity trees; and
- linear vegetation along watercourses.

No indigenous vegetation communities representative of the Site's original forest ecosystems remain, and no significant regenerating indigenous scrub was observed. Overall, terrestrial habitats within the Site are considered to be of low ecological value.

Review of the AUP Significant Ecological Area (**SEA**) overlays indicates that there are no mapped SEAs within the site. The nearest SEA, SEA_T_6264, is located approximately 400 m to the south-west of the Site.

At a wider scale, SEAs occur as discrete remnants within a modified rural matrix, with more extensive ecological areas located elsewhere in the wider landscape. The Site is not currently part of a connected ecological network.

Terrestrial Fauna

Avifauna

A review of available information indicates that the avifauna community in the area is dominated by common native and exotic species, with no indication of regionally uncommon or threatened bird species regularly utilising the site or surrounding area.

Avifauna habitat across most of the Site is limited to managed pasture, scattered exotic trees, garden plantings and shelterbelts. Native vegetation is sparse, highly fragmented, and subject to strong edge effects, resulting in predominantly low habitat quality and limited foraging, roosting, or nesting opportunities for indigenous birds.

Overall, the Site is considered to have low suitability for avifauna, with habitat values largely confined to isolated features such as shelterbelts and a small raupō wetland (approximately 0.5 ha) located at 48 Horseshoe Bush Road, which may provide limited habitat for wetland bird species.

Bird surveys are proposed to be undertaken to inform the substantive application.

Herpetofauna

A review of the DOC Herpetofauna Database (accessed November 2024) identified very few native lizard records within 5 km of the Site. Six records (2007–2020) were identified, including:

- copper skink (*Oligosoma aeneum*; At Risk – Declining),
- ornate skink (*Oligosoma ornatum*; At Risk – Declining), and
- forest gecko (*Mokopirirakau granulatus*; At Risk – Declining).

The closest record is located more than 3 km from the Site.

Given the highly modified nature of the Site, dominance of pasture, and lack of suitable habitat features, the Site is considered to have low suitability for lizards.

Lizard surveys are proposed to be undertaken to inform the substantive application.

Chiroptera

A review of the DOC bat database (accessed May 2025) identified 27 long-tailed bat (*Chalinolobus tuberculatus*; Nationally Vulnerable) records within 10 km of the Site (out of 137 total records). These records are typically associated with larger forested areas such as Riverhead Forest, Okura Bush, and Kings Quarry. The closest record is approximately 5 km east of the Site, associated with Okura Bush.

Vegetation within the Site is fragmented, dominated by pasture, and poorly connected to larger habitat blocks in the wider landscape. While some mature exotic trees (e.g. willows and poplars) may provide low-quality roosting opportunities, the lack of vegetation corridors and absence of nearby high-quality habitat reduces the suitability of the Site for bats.

Accordingly, the Site is considered to have low suitability for bats.

Bat surveys are proposed to be undertaken to inform the substantive application.

Freshwater

The site contains a network of headwater streams and overland flow paths, centred on the Rangitopuni Stream and its tributaries.

Catchment size has been used as an initial proxy for flow permanence of watercourses, with:

- >1 ha catchments likely to support intermittent or permanent streams; and
- <1 ha catchments likely to be ephemeral.

Watercourses with catchments greater than 1 ha have been mapped (Attachment C). This mapping is indicative and will be confirmed through field investigation. Flow permanence is also likely to be influenced by groundwater conditions, soil characteristics, and land use, including the presence of alluvial soils and floodplain environments.

The freshwater environment is typical of a modified pastoral catchment and is likely to be highly degraded through agricultural use, including stock access, channel modification, and reduced riparian cover. The Rangitopuni Stream and its lower reaches are likely to provide the most consistent aquatic habitat and ecological connectivity, while upper tributaries are expected to have lower ecological value due to their more intermittent nature and reduced habitat diversity.

One raupō wetland approximately 0.5 ha in size was observed on the Site, at 48 Horseshoe Bush Road. Based on historical aerial imagery, this wetland appears to have been constructed, potentially for an environmental benefit subdivision. Other areas of wetland habitat are also likely to be present, primarily associated with stream margins and floodplain environments. These will be confirmed through detailed field investigation.

A review of NZFFD records identified no records within the Site. However, within the nearby Rangitopuni catchment, the following species have been recorded:

- Īnanga (*Galaxias maculatus*; At Risk – Declining);
- common bully (*Gobiomorphus cotidianus*; Not Threatened);
- shortfin eel (*Anguilla australis*; Not Threatened);
- longfin eel (*Anguilla dieffenbachii*; At Risk – Declining); and
- kōura (*Paranephrops planifrons*; Not Threatened).

Overall, ecological values within the Site are primarily associated with the Rangitopuni Stream, its main tributaries and the raupō wetland.

Summary of Ecological Values

The Site is characterised by:

- highly modified pastoral land use;
- long-term vegetation clearance (pre-1940);
- low terrestrial ecological values; and
- ecological values primarily associated with the freshwater network.

The Site also presents a significant opportunity for ecological restoration, particularly within stream and floodplain environments.

Assessment of Effects

Effects on Terrestrial Values

Terrestrial ecological values within the Site are low and are predominantly associated with exotic vegetation, including shelterbelts, amenity plantings, and isolated trees. These features provide low-quality habitat for fauna.

As such, vegetation clearance associated with the proposed development is not expected to result in significant adverse ecological effects, nor a meaningful loss of ecological function.

The proposal provides a significant opportunity for ecological enhancement, particularly through extensive riparian and wetland margin planting. This planting will:

- improve habitat quality;
- increase native vegetation diversity;
- enhance ecological connectivity; and
- strengthen buffering functions across the Site.

In the context of widespread historical biodiversity loss and fragmentation within the Auckland region, the proposed development presents a meaningful opportunity for biodiversity gain.

Any potential effects on indigenous fauna can be appropriately managed through the implementation of fauna management measures, to be developed as part of the substantive application.

Effects on Freshwater Values

The Site's freshwater values are associated with the Rangitopuni Stream and its tributaries, and the raupō wetland.

At the substantive application stage, the extent, classification, and ecological values of these features will be confirmed through detailed field investigation. However, based on the current assessment, these features are considered to be highly modified and degraded, reflecting long-term agricultural use.

The proposal will seek to avoid the reclamation or modification of natural watercourses where practicable. Where complete avoidance cannot be achieved, any adverse effects will be managed in accordance with the effects management hierarchy.

Management measures will be developed to ensure that:

- effects on the health and functioning of freshwater ecosystems are appropriately addressed; and
- the proposal is consistent with the requirements of the National Environmental Standards for Freshwater.

The proposal also provides significant opportunities for ecological enhancement, including:

- riparian planting to improve water quality through increased filtration;
- increased shading to moderate water temperatures;
- improved bank stability; and
- enhancement of in-stream habitat and ecological connectivity.

Given the current degraded condition of many stream habitats within the Site, these measures are expected to result in an overall improvement in freshwater ecological values.

Relevant Legislation

The above assessment has been undertaken with regard to relevant statutory planning and ecological policy frameworks, including:

- the Resource Management Act 1991;
- the National Environmental Standards for Freshwater 2020 (**NES-F**);
- the National Policy Statement for Freshwater Management 2020 (**NPS-FM**); and
- the National Policy Statement for Indigenous Biodiversity 2023 (**NPS-IB**).

The objective of the NPS-FM is to prioritise the health and well-being of freshwater bodies and ecosystems. Consistent with this objective, freshwater features within the Site will be further identified and assessed at the substantive application stage to ensure that reclamation or disturbance is avoided where practicable, and that any residual effects are appropriately managed through application of the effects management hierarchy.

The objective of the NPS-IB is to maintain indigenous biodiversity and, at a minimum, achieve no overall loss. Given the low terrestrial ecological values of the Site, and the opportunity for enhancement through restoration planting, the proposal is considered capable of achieving consistency with this objective. Indigenous biodiversity values can be identified, avoided where practicable, and managed through mitigation, restoration, and, where necessary, offsetting.

Overall, the proposal is considered capable of being developed in a manner that is consistent with relevant statutory requirements, subject to detailed design and further ecological assessment at the substantive application stage.

Conclusion

The Site comprises a highly modified pastoral landscape with little to no remaining indigenous vegetation, and ecological values primarily associated with the freshwater network.

While the Site historically supported indigenous forest ecosystems, these were removed prior to 1940, and current ecological values are low.

The proposed development responds to the Site's hydrological framework, retains key freshwater features and provides significant opportunity for ecological restoration and enhancement.

Based on this preliminary assessment, ecological effects are expected to be appropriately avoidable, manageable, or mitigable, and do not present a constraint to referral under the Fast-Track process.

Further detailed ecological assessment will be undertaken to support the substantive application.

Attachments

Attachment A – Illustrative master plan

Attachment B – Historic aerial

Attachment C – Ecological Features (Desktop Mapping)

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LEGEND

Total Yield: 1020 Lots

Commercial Area: 1924m²

Size Breakdown

- < 219m²: 25 lots
- 220 - 249m²: 54 lots
- 250 - 279m²: 159 lots
- 280 - 319m²: 448 lots
- 320 - 499m²: 250 lots
- 500 - 999m²: 46 lots
- 1000 - 3499m²: 33 lots
- > 3500m²: 5 lots



C	Layout Update	ET	BW	20.05.26
B	Boundary Update	ET	BW	05.05.26
A	Illustrative Masterplan	ET	BW	14.04.26
No.	Description	Drn	Chk	Date

Isthmus.

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Client

Tuakiri Property

Job Name

Horseshoe Bush Road

Scale	Drawing Title
1:2500	Illustrative Masterplan
@ A1	
1:5000	
@ A3	

Job No.	Drawing Number	Revision
5202	IGL_5202_L-01	B

Issued For

Consultation

Do not scale. Verify dimensions on site before commencing any work.
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1940





Horseshoe Bush Rd

Indicative Freshwater Features

Tuakiri Property

Legend

- Site
- Indicative streams
- Constructed pond
- Raupō wetland

SOURCES

Nearmap 2025

DISCLAIMER:

This map/plan is not an engineering draft.
This map/plan is illustrative only and all
information should be independently
verified on site before taking any action.

SCALE **1:6,500** @ A4

PROJECT NO. 10441

DRAWN BY: MD

DATE: 19 April 2025