BEFORE THE HEARINGS PANEL AT UPPER HUTT CITY COUNCIL

UNDER	Schedule 1 of the Resource Management Act
IN THE MATTER	Variation 1 to Plan Change 49 - Silverstream Spur
HEARING TOPIC	Silverstream Spur

STATEMENT OF EVIDENCE OF NICHOLAS PAUL GOLDWATER ON BEHALF OF UPPER HUTT CITY COUNCIL (ECOLOGY)

DATE: 8 MARCH 2024

QUALIFICATIONS AND EXPERIENCE

1. My full name is Nicholas Paul Goldwater.

2. I am a Senior Principal Ecologist with Wildland Consultants Ltd based in Auckland. I have been employed as a consultant ecologist with Wildland Consultants since 2008.

3. I have a Master of Science (First Class Honours) in ecology and environmental science from the University of Auckland, and have more than 16 years' experience in ecological consultancy. In my role as Principal Ecologist, I undertake field assessments, provide technical advice and services, and manage projects for a range of clients. I have undertaken numerous terrestrial and aquatic assessments in the Auckland, Northland, Waikato, and Wellington regions.

4. I have considerable experience with consents relating to vegetation removal and ecological restoration, including quarrying activities, subdivisions, and infrastructure projects, all involving the assessment of environmental effects under the Resource Management Act 1991 (**RMA**). I have assisted councils with numerous projects that include baseline biodiversity surveys, consent reviews, preparation of Ecological Management Plans, and field surveys of vegetation and habitats, threatened plants, indigenous fish, birds, and reptiles.

5. I have assessed and mapped numerous Significant Natural Areas (**SNAs**), or Significant Ecological Areas (**SEAs**) as they are known in Auckland. I have carried out extensive desktop studies of SNAs in the Otorohanga District, helping to compile a database of over 1,000 sites for Waikato Regional Council. Prior to the Auckland Unitary Plan becoming operative, I was involved in the rapid field survey of potential SEAs for Auckland Council, and subsequently I undertook numerous site assessments in order to ground-truth SEA boundaries disputed by landowners. Recently, I provided technical advice for Wellington City Council in relation to the delineation of several urban Significant Natural Areas disputed by landowners.

6. I have recently managed a project to map and assess approximately 1,600 SNAs in the Northland Region, divided between the three District Councils: Kaipara, Whangarei, and Far North. This is Wildland Consultants' largest SNA project to date, and has involved undertaking comprehensive literature reviews for each district, working with Councils to refine the significance criteria used to assess each site, extensive mapping and GIS input, and presentations at Council meetings and stakeholder workshops.

7. I am familiar with Wellington Region and Upper Hutt District through my professional experience and involvement in ecological projects undertaken there over the last 15 years or so.

8. I have read the following information in preparation of my evidence:

- Site notes and assessments prepared by my colleagues on various parts of SNA UH070 (2020-2022).
- Statement of evidence of Dr Vaughan Keesing, dated 17 November 2023.
- Variation 1 to Proposed Plan Change 49 - Silverstream Spur (Section 42A report).

- Variation 1 to Proposed Plan Change 49 - Silverstream Spur (Section 32 report).
- Letter prepared by Graham Bellamy on behalf of Forest & Bird (Upper Hutt Branch), dated 1 December 2020.
- Report on identifying ecological corridors for the Manu Metropolis. Prepared by Alli Ross et al., 28 February 2019.
- Summary of submission relevant to ecology.

CODE OF CONDUCT

9. I confirm that I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023. I have complied with the Code of Conduct in preparing this evidence and agree to comply with it while giving oral evidence. Except where I state that I am relying on the evidence of another person, this written evidence is 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 in this evidence.

SCOPE OF EVIDENCE

10. My statement of evidence addresses the following matters:

a. Whether the boundary of SNA UH070 requires updating based on the recommendation provided by Dr Keesing; and

b. Whether vegetation within UH070 deemed as lower quality should be included in the SNA, based on the significance criteria contained in Policy 23 of the Wellington Regional Policy Statement and Appendix 1 of the National Policy Statement for Indigenous Biodiversity (NPS-IB); and

c. Commentary on the potential for Silverstream Spur to act as an ecological corridor for indigenous fauna.

d. Commentary on ecological issues raised by submitters.

BACKGROUND

11. I provided a peer review of the report on Silverstream Spur prepared by Keely Paler in January 2021[1], which is attached to my evidence (Attachment A). The report provides an overview of the ecological values of the entire SNA UH070 as well as a more focused description and assessment of the vegetation at the Spur.

12. I had not visited the site prior to providing the peer review.

[1] Pinehaven Spur (UH070: Pinehaven Valley forest and scrub). Wildland Consultants Ltd Contract Report No. 4390f.

13. My statement of evidence has been prepared on behalf of the Upper Hutt City Council (Council) in respect of technical related matters arising from submissions on Variation 1 to Plan Change 49 - Silverstream Spur with respect to the draft SNA UH070. It includes a response to the evidence of Dr Vaughan Keesing which he prepared on behalf of the Guildford Timber Company (GTC). Specifically, I respond to proposed changes made by Dr Keesing to the draft SNA UH070 boundary where it occurs on GTC-owned land within the proposed Spur Natural Open Space Zoning – Variation 1 (refer to Figure 1, Appendix 1).

14. Dr Keesing is of the opinion that the Wildlands analysis of vegetation at Silverstream Spur has resulted in assigning significance to some vegetation types when they should instead be excluded from the SNA. In particular, Dr Keesing considers that areas dominated by tree ferns (ponga and mamaku), which he notes are neither rare or under-presented in the Ecological District[2], do not have the requisite ecological values to meet the SNA standard. In paragraph 7.9 of his evidence, Dr Keesing states the following:

> *"Ecological Area UH070 is very large, made up of many pieces with considerable variation in type and condition. It is not accurate to assign all the ecological values present in UH070 as being present in the Spur, they are not".*

15. Dr Keesing also refers to the Wildlands 2021 site report, which assessed the site as meeting the Ecological Context criterion in Policy 23 based on it being "likely" to provide stepping stone habitat for birds travelling through Hutt Valley[3]. I note that Forest and Bird also considers Silverstream Spur to have value as a potential ecological corridor[4].

16. Dr Keesing states that while this is likely true for parts of the much larger draft SNA UH070, the elements important for stepping stone function are mature forest across large areas rather than regenerating edge habitats and tree ferns amongst pine trees. In his opinion, the habitat that Dr Keesing assessed "does not contain any values or conditions that can meet either the RPS policy 23 or the new NPS IB significance criteria"[5].

17. In order to familiarise myself with the site I undertook a site visit on 23 December 2023 with Nick Tait and Jessica Langston from Upper Hutt City Council. I recorded our tracks and these are illustrated in Appendix 1. I also took representative site photographs, a selection of which are included in Appendix 2. We were able to access most of the vegetation types formally surveyed by Dr Keesing in October 2023. The seven RECCE plots that Dr Keesing measured are also shown in Appendix 1. A summary of my site visit is provided in Attachment B.

[2] Paragraph 7.6 of Dr Keesing's statement of evidence.

[3] Paragraph 7.10 of Dr Keesing's statement of evidence.

[4] Letter sent by Forest and Bird to UHCC on 1 December 2020.

[5] Paragraph 7.11 of Dr Keesing's statement of evidence.

18. I generally agree with the descriptions provided in each of his vegetation plots, most of which largely comprise low-diversity ponga-mamaku tree fernland with emergent pines (Appendix 2: Plates 1 and 2) and local mānuka, although I would not describe the tree ferns as "fundamentally young" as stated by Dr Keesing in paragraph 10.3 of this evidence. As shown in Appendix 2: Plate 2, some of the mamaku tree ferns are 4-5 metres high, which I consider to be relatively mature.

19. I am satisfied that the SNA Dr Keesing has proposed for revision does contain a representative example of hard beech-kamahi forest. I was able to access this particular area (refer to Appendix 1 and Plate 3).

20. I was not able to access or view the area of indigenous forest identified as 'beech-kamahi' situated to the southeast of the Spur Natural Open Space Zone, which is illustrated on page 6 of Dr Keesing's evidence and labelled on the map in Appendix 1. However, based on interpretation of aerial imagery, it appears to support good quality mature indigenous forest. This area of vegetation is included in the draft SNA UH070.

ASSESSMENTS AGAINST RPS POLICY 23 AND THE NPS-IB

Overview

21. In 2021, Wildlands assessed the part of UH070 that occurs on the Spur as meeting the Representativeness and Ecological Context significance criteria of Policy 23, noting that this assessment was made prior to the NPS-IB being gazetted. The justification for the site meeting the Representativeness criterion is that it "Contains kamahi-broadleaved species forest, which is poorly represented in existing protected areas". The justification for the site meeting the Ecological context criterion is that it "Provides a corridor or 'stepping stone' habitat for birds crossing the Hutt Valley".

22. I agree with Dr Keesing that the large area of emergent pine over tree ferns within the draft SNA would not meet the Representativeness criterion in both Policy 23 of the RPS Appendix 1 of the NPS-IB. However, I explain below why I consider the area of ponga-mamaku tree fernland does meet the Ecological context criterion under both the RPS and NPS-IB. I also provide some commentary on the potential stepping stone value of Silverstream Spur.

Linkage and buffering functions

23. In my opinion, it is the two remnants of beech-kamahi forest that are of relevance when assessing the inherent value of the low-diversity ponga-mamaku tree fernland against the significance criteria set out in Policy 23 of the RPS and Appendix 1 of the NPS-IB. This is because the treefernland provides a contiguous east-west linkage between the two forest remnants, whilst also providing a partial buffering function. I note in paragraph 10.3 of his evidence Dr Keesing indicates that the area of tree ferns currently provides a buffering function to the remnants of representative beech-kamahi forest.

24. Under the Ecological context criterion in Policy 23 of the RPS, the following is pertinent to the area of ponga-mamaku tree fernland in UH070 (my emphasis in bold):

> *(i) enhances **connectivity** or otherwise **buffers representative**, rare or diverse indigenous ecosystems and habitats.*

25. Similarly, one of the key assessment principles of the Ecological context criterion in the NPS-IB is:

> *the contribution the area makes to protecting indigenous biodiversity in the wider landscape (such as by **linking, connecting to or buffering other natural areas**, providing 'stepping stones' of habitat or maintaining ecological integrity).*

26. With regard to the qualifying attributes of this criterion, the following applies to the area of ponga-mamaku treefern land in UH070:

> *provides an important full or **partial buffer to, or link between**, one or more important habitats of indigenous fauna or significant natural areas.*

Stepping stone habitat

27. Although the location of the Spur in relation to other natural features in the Hutt Valley does lend itself to acting as a stepping stone to larger tracts of indigenous forest for highly mobile bird species, I agree with Dr Keesing that such evidence is lacking. I note also that the ecological corridors study undertaken by Ross et al. (2019) found that "only certain birds would utilise the Spur's corridor function". As such, I am wary of attributing significance to the site based on stepping stone habitat alone.

AMENDMENTS TO THE DRAFT SNA BOUNDARY

28. I consider the area of ponga-mamaku tree fernland illustrated in Appendix 1 of my evidence satisfies the linkage/connectivity and buffering attributes of the Ecological context criterion in both Policy 23 and the NPS-IB. As such, I recommend that the boundary of SNA UH070 remains in its current form, albeit with one minor change, which I explain below.

29. The narrow gully comprising what has been described as 'degraded hard beech forest between pine forest, gorse and manuka shrubland' was assessed by Wildlands in June 2022[6] and recommended for inclusion in the SNA, given it shares a similar species composition with other parts of the SNA. The report is included as Attachment C to my evidence. I did not have the opportunity to visit this part of the Spur.

[6] Proposed SNA UN070 (Reynolds Bach Drive). Wildland Consultants Ltd Contract Report No. 4390i-c.

30. While there is often merit in including contiguous areas of indigenous-dominant vegetation in SNAs, in this case I consider it more appropriate to exclude it from SNA UH070, given the fact that the gully is very narrow, sparsely vegetated, and possibly affected by pest plant species. It also provides little in the way of buffering for the adjacent area of indigenous vegetation. My recommended amendment is mapped in Appendix 1.

COMMENTARY ON SUBMISSIONS

31. There appears to be strong support from submitters to rezone Silverstream Spur to Natural Open Space in order to preserve its existing ecological values and natural character for future generations. Most of the submitters who support the rezoning describe are of the opinion that a transport corridor constructed at the Spur would have detrimental effects on the site's ecology, and that this would be incompatible with the protective conditions of a Natural Open Space Zone. Concerns have also been raised about the stability of a new road and the degree of maintenance that would be required over the life of the road.

32. Vegetation at the Spur forms part of matrix of indigenous and exotic habitat types that are contiguous with the wider SNA UH070 to the south. A new road would permanently bisect a core part of the Spur, which in turn could compromise the linkage function of the ponga-mamaku tree fernland that presently sits between the two higher value areas of beech-kamahi forest. I am unsure what other vegetation types would be affected by the new road, although I assume that they are mostly exotic-dominated (e.g. pine forest).

33. I note that the Section 32 Report and proposed policy NOSZ-S4 states that approximately 10% of the Spur would be required to construct the road, equating to approximately 3.5 hectares of vegetation removal. In my opinion, this amount of vegetation removal would have a moderate to high magnitude of affect, depending on what proportion of the 3.5 hectares comprises indigenous-dominated vegetation.

34. It is difficult to accurately assess the level of residual effect of such a road on the Spur without further information, plans, and ecological investigations. Factors such as road width, lighting design, speed limit, and projected daily vehicle trips would also need to be taken into consideration.

CONCLUSION

35. In my statement evidence I have provided a revised assessment of ecological significance for an area of vegetation dominated by ponga and mamaku (with emergent pine). This particular vegetation type would be impacted should a road corridor be constructed at the Spur.

36. While Dr Keesing and I largely agree on the composition and structure of the vegetation at the Spur, we differ in our interpretation of how the significance criteria should apply to the area of tree fernland with respect to the Ecological context criterion.

37. I consider the area of treefernland satisfies the linkage/connectivity and buffering attributes of the Ecological context criterion in both Policy 23 and the NPS-IB. As such, I recommend that the boundary of SNA UH070 remains in its current form, with the exception of the small exclusion I have described in paragraph 30 of my evidence. Given the relatively small size of the beech-kamahi forest remnant at the Spur, I am satisfied that the Representativeness criterion is not currently met by the rest of the indigenous vegetation at the Spur.

38. With the benefit of having visited part of the site and read various supporting documents, my assessment differs slightly to that of the Wildlands 2021 report. Both assessments, however, conclude that the Spur meets the Ecological context criterion, albeit with different attributes, i.e. linkage and buffering as opposed to stepping stone/corridor habitat. There is likely to be some benefit to highly mobile bird species with respect to an ecological corridor function at the Spur, although there should be more substantial evidence to support this in terms of meeting the Ecological context criterion.

39. The majority of submitters support rezoning the Spur to Natural Open Space and oppose a new transport corridor. Many of the submissions outline the potential adverse effects that could result from the construction and operation of the corridor. I agree with some of their conclusions, although further ecological surveys would be needed to inform a rigorous assessment of effects. It is apparent, however, that a new road would permanently bisect vegetation within the draft SNA UH070.

40. I note that there is an excellent opportunity to improve the ecological values of this vegetation type by undertaking control of wilding pines and pest animals, as well as doing some enrichment planting. The option of ecological restoration at the Spur is something that several submitters support.

Wildland Consultants Ltd

Nicholas Paul Goldwater

8 March 2024

APPENDIX 1: SITE MAP

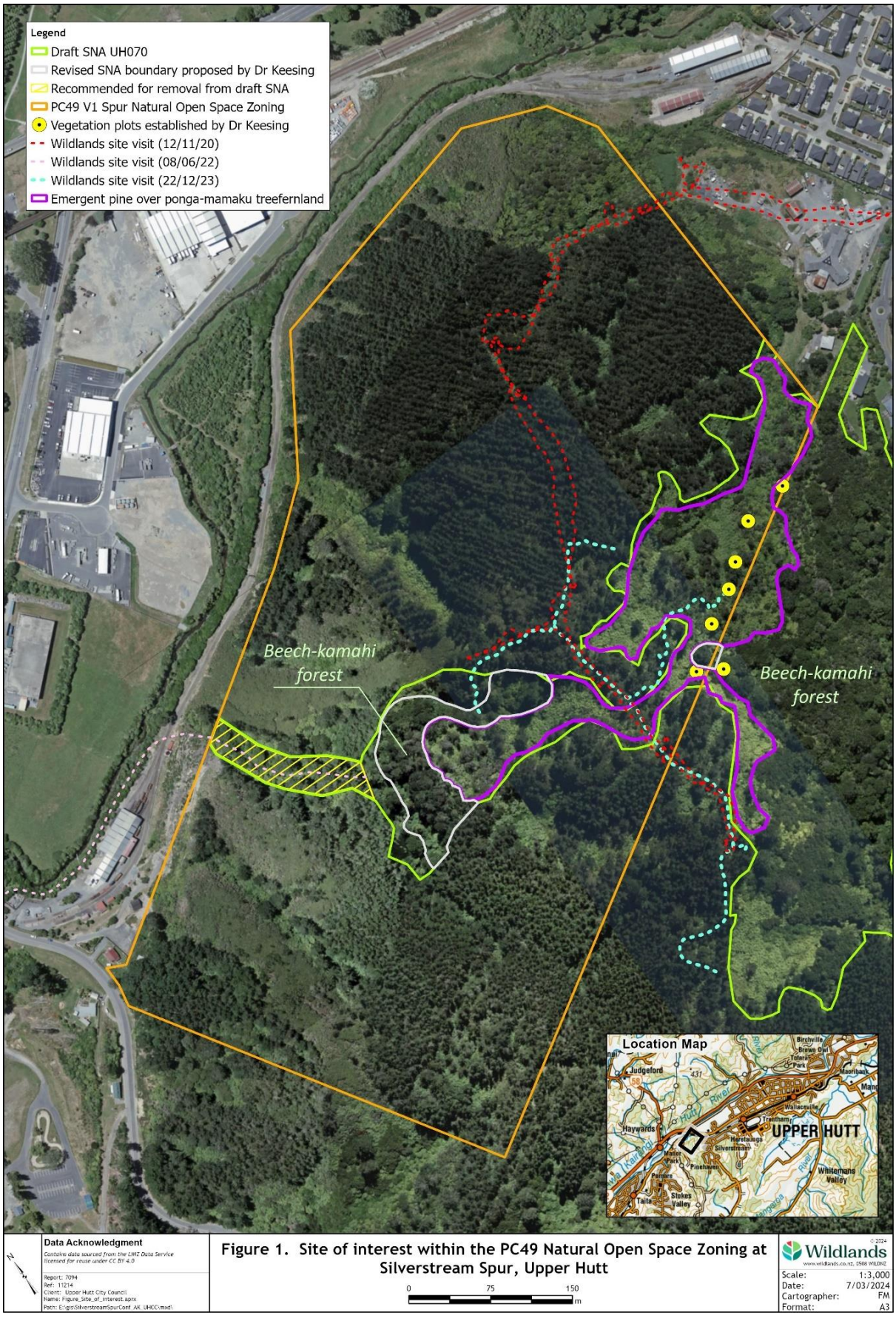

Figure 1. Site of interest within the PC49 Natural Open Space Zoning at Silverstream Spur, Upper Hutt

Note that the yellow circles shown in this map are based on my interpretation of the figure included in Dr Keesing's evidence that depicts the locations of his vegetation plots.

APPENDIX 2: SITE PHOTOGRAPHS

Plate 1: Understorey of ponga treefernland clearly lacks diversity of other indigenous plant species. 22 December 2023.

Plate 2: Mature mamaku in the area of treefernland. 22 December 2023.

Plate 3: Mature hard beech over a sub-canopy of māhoe and tree ferns within the revised SNA proposed by Dr Keesing. 22 December 2023.

ATTACHMENT A

PINEHAVEN SPUR[1]

Keely Paler
January 2021

PROPERTY DETAILS

Significant Natural Area	UH070: Pinehaven Valley forest and scrub
Address	Pinehaven Spur
Attendees	Keely Paler, Emily Thomson, Richard Harbord, Ike Kleynbos
Date of Site Visit	12 November 2020
Ecological District	Wellington

ECOLOGICAL VALUES

Overview of SNA UH070

A series of indigenous forest patches, separated by pine forest, which comprise kāmahi (*Weinmannia racemosa*) forest with emergent pine (*Pinus radiata*), primary beech forest with podocarp-northern rātā (*Metrosideros robusta*; Threatened-Nationally Vulnerable[2]), and secondary beech forest with kāmahi and wilding pines throughout. Other plant species recorded from this site include *Crassula ruamahanga* (At Risk-Naturally Uncommon[3]), three podocarp species of local interest (rimu/*Dacrydium cupressinum*, kahikatea/*Dacrycarpus dacrydioides*, and tōtara *Podocarpus totara*); as well as whauwhaupaku (*Pseudopanax arboreus*), mānuka (*Leptospermum scoparium* agg.; At Risk-Declining), kōhūhū (*Pittosporum tenuifolium*), akeake (*Dodonaea viscosa*), *Coprosma robusta*, māhoe (*Melicytus ramiflorus* subsp. *ramiflorus*), hīnau (*Elaeocarpus dentatus*), patē (*Schefflera digitata*), hangehange (*Geniostoma ligustrifolium* var. *ligustrifolium*), tutu (*Coriaria arborea* var. *arborea*), rangiora (*Brachyglottis repanda*), porokaiwhiri (*Hedycarya arborea*), and tī kōuka (*Cordyline australis*).

Provides habitat for indigenous lizards including the barking gecko (*Naultinus punctatus*; At Risk-Declining[4]), Ngahere gecko (*Mokopirirakau* "southern North Island"; At Risk-Declining), northern grass skink (*Oligosoma polychroma*), and copper skink (*Oligosoma aeneum*). Pacific gecko (*Dactylocnemis pacificus*; At Risk-Relict), tītitipounamu (North Island rifleman; *Acanthisitta chloris granti;* At Risk-Declining[5]), pōpokotea (whitehead; *Mohoua*

[1] Reviewed by Nick Goldwater, Principal Ecologist.

[2] Northern rātā and mānuka have national-level threat classifications as per de Lange *et al*. 2018; Northern rātā (Threatened-Nationally Vulnerable), and mānuka (At Risk-Declining). Northern rātā and mānuka are Myrtaceae species which are at risk of infection by myrtle rust (*Austropuccinia psidii*), a potentially devastating rust which has no known treatment. Along with other species in the Myrtaceae family, the threat status of northern rātā and mānuka have been elevated as a precautionary measure based on the potential threat posed by myrtle rust. However, the presence of northern rātā or mānuka at this site does not trigger the rarity criteria because the species are currently widespread in the local environment

[3] Threat status of indigenous vascular plants follows de Lange *et al*. (2018).

[4] Threat status of indigenous reptiles follows Hitchmough *et al*. (2016).

[5] Threat status of indigenous birds follows Robertson *et al*. (2017).

albicilla; At Risk-Declining), karearea (bush falcon; *Falco novaeseelandiae ferox*; At Risk-Recovering), koekoeā (long-tailed cuckoo; *Eudynamys taitensis*; At Risk-Naturally Uncommon), and the regionally uncommon korimako (bellbird; *Anthornis melanura melanura*) and miromiro (pied tomtit; *Petroica macrocephala toitoi*) have all been recorded nearby and may also be present. Includes parts of Urban Tree Groups 293, 312, 357, 363, and 366 as listed in Chapter 27A of the Upper Hutt District Plan.

The significance criteria that the SNA meets are listed in Table 1, together with the justifications.

Table 1: Significance assessment for UH070.

RPS Policy 23 Criterion	Significant (Yes/No)	Justification
a) Representativeness	Yes	Late succession broadleaved species forest is representative of current vegetation types.
b) Rarity	Yes	Two threatened and two At Risk plant species, and two At Risk lizard species.
c) Diversity	No	Appears modified and likely to have a reduced natural diversity.
d) Ecological context	Yes	Likely to provide 'stepping stone' habitat for birds travelling through the Hutt Valley.
e) Tangata whenua	Unknown	Not assessed.
Is the Site Significant?	Yes	This site meets one or more RPS Policy 23 Criteria.

Area of SNA within Pinehaven Spur

Vegetation within the proposed SNA on this property comprises kāmahi forest with beech trees, mānuka, kanono (*Coprosma grandifolia*), ponga (*Cyathea dealbata*), māhoe, mamaku (*Cyathea medullaris*), and putaputawētā (*Carpodetus serratus*). Wilding pines occur frequently.

Other areas inspected comprised gorse (*Ulex europaeus*)-mānuka scrub, or small areas (>0.5 hectares) of broadleaved species scrub, which includes the following species: tarata (*Pittosporum eugenioides*), māhoe, mānuka, mamaku, kōhūhū, whauwhaupaku, ponga, karamū, māpou (*Myrsine australis*), hangehange, makomako (*Aristotelia serrata*), large leaved pōhuehue, supplejack (*Ripogonum scandens*), nini (*Austroblechnum lanceolatum*), *Gahnia* sp., kiokio (*Parablechnum novae-zelandiae*), and bracken (*Pteridium esculentum*).

The significance criteria that vegetation at Pinehaven Spur meets are listed in Table 2, together with the justifications.

Table 2: Significance assessment for UH070: Pinehaven Spur.

RPS Policy 23 Criterion	Significant (Yes/No)	Justification
a) Representativeness	Yes	Contains kāmahi-broadleaved species forest, which is poorly represented in existing protected areas.
b) Rarity	No	No rare features known.
c) Diversity	No	Contains a reduced diversity of species.
d) Ecological context	Yes	Provides a corridor or 'stepping stone' habitat for birds crossing the Hutt Valley.
e) Tangata whenua	Unknown	Not assessed.
Is the Site Significant?	Yes	This site meets one or more RPS Policy 23 Criteria.

ACTIONS TAKEN

Minor adjustments to the SNA delineation were made to include an adjacent area of indigenous vegetation dominated by beech trees (Figure 1).

Figure 1: Adjustments have been made to an area of SNA on the Pine Haven Spur. The yellow line indicates the original proposed SNA delineation, and the orange line indicates the amended proposed SNA delineation.

REFERENCES

de Lange P.J., Rolfe J.R., Barkla J.W., Courtney S.P., Champion P.D., Perrie L.R., Beadel S.M., Ford K.A., Breitwieser I., Schönberger I., Hindmarsh-Walls R., Heenan P.B. and Ladley K. 2018: Conservation status of New Zealand indigenous vascular plants, 2017. *New Zealand Threat Classification Series 22.* Department of Conservation, Wellington. 82 pp.

Hitchmough R., Barr B., Lettink M., Monks J., Reardon J., Tocher M., van Winkel D., and Rolfe J. 2016: Conservation status of New Zealand reptiles, 2015. *New Zealand Threat Classification Series 17*. Department of Conservation, Wellington. 14 pp.

Robertson H.A., Baird K., Dowding J.E., Elliott G.P., Hitchmough R.A., Miskelly C.M., McArthur N., O'Donnell C.J., Sagar P.M., Scofield R.P., and Taylor G.A. 2017: Conservation status of New Zealand birds, 2016. *New Zealand Threat Classification Series 19*. Department of Conservation, Wellington. 23 pp.

ATTACHMENT B

PINEHAVEN SPUR – SITE NOTES

Nick Goldwater
February 2024

Significant Natural Area	UH070: Pinehaven Valley forest and scrub
Address	Pinehaven Spur
Attendees	Nick Goldwater, Nick Tait, Jessica Langston
Date of Site Visit	22 December 2023
Ecological District	Wellington

On 22 December 2023 I visited the publicly accessible part of Silverstreanm pur with Nick Tait and another colleague from Upper Hutt City Council. Our tracks are shown in Figure 1 below. We were able to access most of the vegetation types surveyed by Dr Vaughan Keesing in October 2023.

I generally agree with the descriptions provided in each of his vegetation plots, most of which largely comprise low-diversity ponga treefernland with emergent pines (Plates 1 and 2) and local mamaku and manuka. I am satisfied that the SNA Dr Keesing has proposed for revision does contain a good example of hard beech-kamahi forest (I was able to access this particular gully; see Figure 1 and Plate 3).

I was not able to access or view the area of indigenous forest identified as 'beech-kamahi' illustrated on page 6 of Dr Keesing's evidence, which is situated to the south of the Open Space Zoning. However, based on interpretation of aerial imagery, it appears to support good quality mature indigenous forest (see label in Figure 1). This area is included in the original proposed SNA.

In my opinion, the area of beech-kamahi forest is of relevance when assessing the inherent value of the low-diversity ponga treefernland against the signficance criteria set out in Policy 23 of the RPS and Appendix 1 of the NPS-IB. Simply put, the area that Dr Keesing recommends to exclude from SNA070 is likely to provide an important linkage function that connects the area of hard beech-kamahi forest he has identified in his revised SNA and the beech-kamahi forest situtated to the south of the Open Spacing Zoning. I will discuss this further in my statement of evidence.

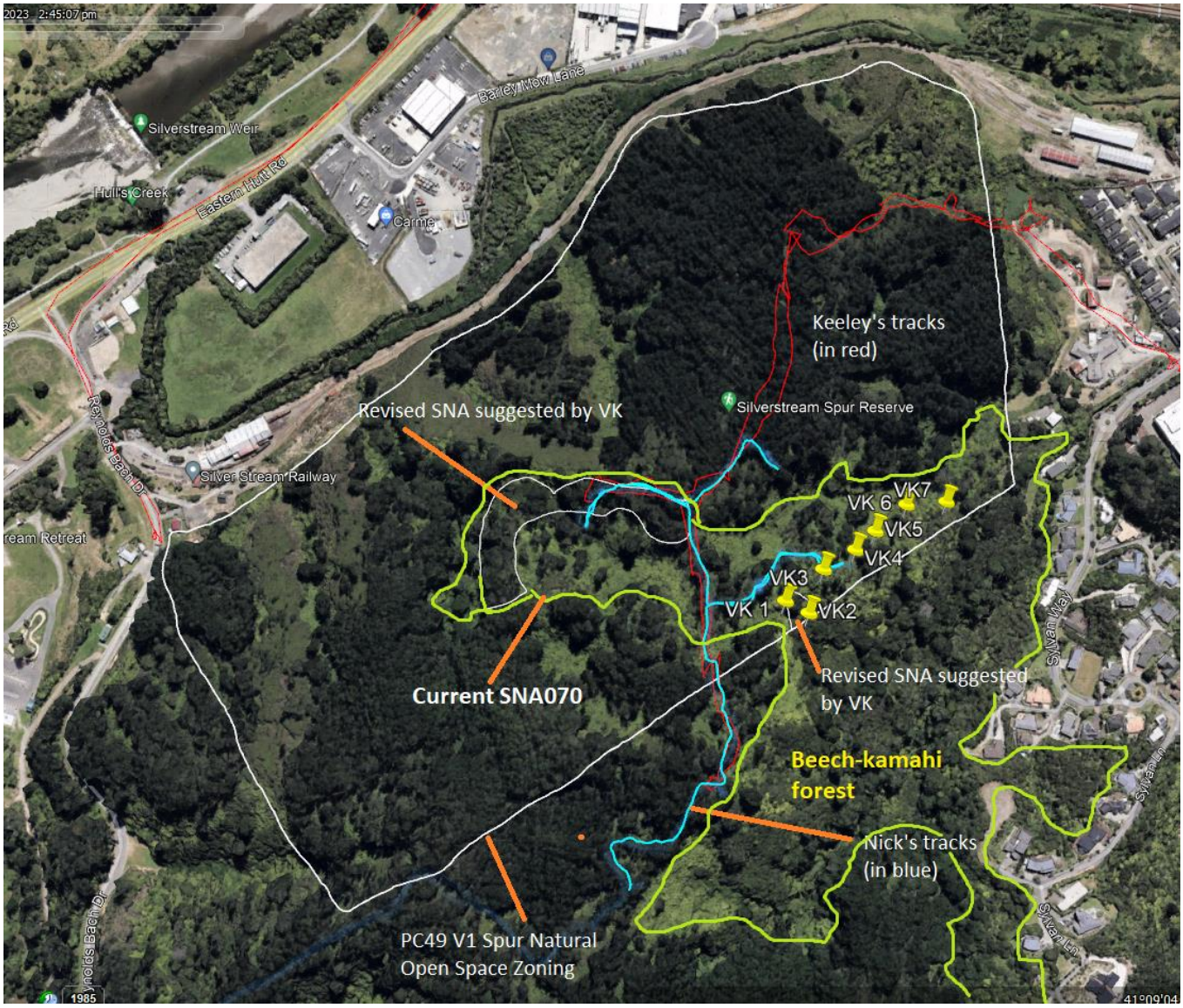

Figure 1: Study site with NG tracks (blue), KP tracks (red), SNA boundary proposed by VK (white polygon), original proposed SNA boundary (green polygon), and vegetation plots measured by VK (yellow pins).

Plate 1: Understorery of ponga tree fernland clearly lacks diversity of other indigenous plant species. 22 December 2024.

Plate 2: Dead fronds cover much of the ground in ponga tree fernland. 22 December 2024.

Plate 3: Mature hard beech over a sub-canopy of māhoe and tree ferns within the revised SNA proposed by Dr Keesing. 22 December 2024.

ATTACHMENT C

PROPOSED SNA UH070

Joe Dillon
August 2022

PROPERTY DETAILS

Significant Natural Area	Area surveyed for potential addition to UH070
Address	Parts of land titles WN47A/214, /213 and WN32A/236 were surveyed
Attendees	Joe Dillon, Florence Kelly, Emily Thomson
Date of Site Visit	8 June 2022
Ecological District	Wellington

OVERVIEW

The site comprises two gullies on the southern side of the Silver Stream Railway, north of Stokes Valley at the start of Reynolds Bach Drive. These gullies begin at the border of Pinehaven Valley Forest and Scrub SNA (UH070) and contain degraded hard beech (*Fuscospora truncata*) forest between pine (*Pinus radiata*) forest, gorse (*Ulex europaeus*) and mānuka (*Leptospermum scoparium*) shrubland, and honeysuckle (*Lonicera japonica*) vineland on ridges.

The SNA does not occur on the land itself but does occur on the river terrace. SNAs within five kilometres of the site include Trentham Memorial Park Forest (UH057), Royal Wellington Golf Club Forest (UH058), and Fergusson Drive Wetland and Scrub (UH073). Vegetation within these SNAs comprises kahikatea (*Dacrycarpus dacrydioides*)-tōtara (*Podocarpus totara* var. *totara*)-pukatea (*Laurelia novae-zelandiae*)/mixed broadleaved species forest (MF7 *sensu* Singers and Rogers 2014). There are emergent tōtara, kahikatea and pukatea above a lower canopy of tawa (*Beilschmiedia tawa*), tītoki (*Alectryon excelsus*), and ribbonwood (*Plagianthus regius*). Threatened flora include white mistletoe (*Tupeia antarctica*; At Risk - Declining), *Teucrium parviflorum* (At Risk -Declining), and regionally uncommon *Ileostylus micranthus* (Rate *et al.* 2018).

These SNAs contain sites where copper skinks (*Oligosoma aeneum*; At Risk – Declining[2]) have been recorded. Birds recorded nearby include pōpokotea (whitehead; *Mohoua albicilla*; Not Threatened[3]), kārearea (bush falcon; *Falco novaeseelandiae ferox*; Threatened – Nationally Increasing[3]), koekoeā (long-tailed cuckoo; *Eudynamys taitensis*; Threatened – Nationally Vulnerable[3]), and the regionally uncommon korimako (bellbird; *Anthornis melanura melanura*).

SNA UH070 – PINEHAVEN VALLEY FOREST AND SCRUB

This is the nearest SNA to the study site and the one to which it would join, if found to be significant. It is described as a series of indigenous forest patches separated by pine forest;

justification for its inclusion as an SNA is summarised in Table 1. It includes kāmahi (*Weinmannia racemosa*) forest with emergent pine, hard beech and black beech (*F. solandri*) forest with podocarp species and northern rātā (*Metrosideros robusta*), and black beech-kāmahi forest with wilding pines. Nationally and locally threatened species include *Crassula ruamahanga* (At Risk - Naturally Uncommon) and mānuka (At Risk - Declining). Other species include whauwhaupaku (*Pseudopanax arboreus*), kōhūhū (*Pittosporum tenuifolium*), akeake (*Dodonaea viscosa*), karamū (*Coprosma robusta*), māhoe (*Melicytus ramiflorus* subsp. *ramiflorus*), porokaiwhiri (*Hedycarya arborea*), patē (*Schefflera digitata*), kotukutuku (*Fuchsia excorticata*), hangehange (*Geniostoma ligustrifolium* var. *ligustrifolium*), tutu (*Coriaria arborea* var. *arborea*), rangiora (*Brachyglottis repanda*), and tī kōuka (*Cordyline australis*).

Table 1: Significance assessment for UH070.

RPS Policy 23 Criterion	Significant (Yes/No)	Justification
a) Representativeness	Yes	Late succession broadleaved species forest is representative of current vegetation types.
b) Rarity	Yes	Two threatened and two At Risk plant species and two At Risk lizard species.
c) Diversity	No	Appears modified and likely to have a reduced natural diversity.
d) Ecological context	Yes	Likely to provide 'stepping stone' habitat for birds travelling through the Hutt Valley.
e) Tangata whenua	Unknown	Not assessed.
Is the Site Significant?	**Yes**	**This site meets one or more RPS Policy 23 significance criteria.**

This SNA contains sites where barking gecko (*Naultinus punctatus*; At Risk – Declining), ngāhere gecko (*Mokopirirakau* "southern North Island"; At Risk – Declining), copper skink, and northern grass skink (*Oligosoma polychroma*; Not Threatened) have been recorded (Rate *et al*. 2018). Birds recorded nearby include tītipounamu (rifleman; *Acanthisitta chloris granti*; At Risk – Declining), pōpokatea, kārearea, and regionally uncommon korimako and miromiro (tomtit; *Petroica macrocephala toitoi*; Not Threatened) (Rate *et al*. 2018).

ASSESSED AREAS

The site is north of Stokes Valley, near the start of Reynolds Bach Drive (Figure 1). It borders a ridge with several pine plantations and the Pinehaven Valley Forest and Scrub SNA (UH070). Although SNA vegetation does not currently occur on the site, it was assessed as a potential extension of UH070. In order to view all proposed areas, both sides of the Silver Stream Railway were visited. The first area, which is north of the railway either side of Hulls Creek, comprises an area of early 2000's riparian planting that includes māhoe forest and māhoe-tarata (*Pittosporum eugenioides*)-kōhūhū forest, separated by areas of exotic grassland and a single mature black beech tree. South of the railway is an area of sparse hard beech forest.

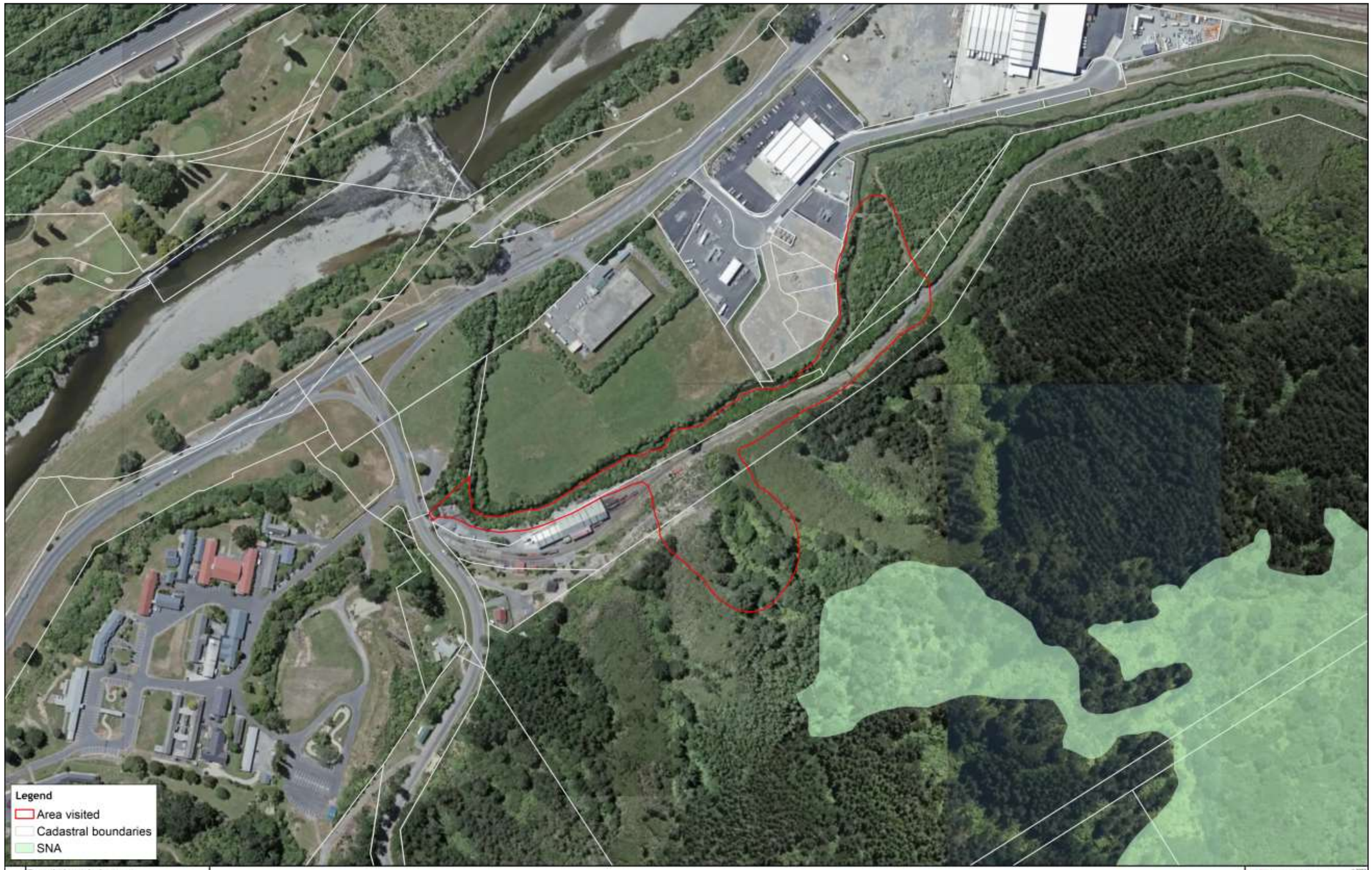

Figure 1. Lot boundaries at 1 Reynolds Bach Drive

PLANTED AREA EITHER SIDE OF HULLS CREEK

This area includes kahikatea, māhoe, tarata, kōhūhū, houhere (*Hoheria sexstylosa*), akeake, mānuka, kōwhai (*Sophora microphylla*), karamū, kawakawa (*Piper excelsum*), and black maire (*Nestegis cunninghamii*). Over time, this site could mature into MF7 forest, especially given continued and deliberate restoration planting mirroring nearby examples, but at present the species assemblage is not characteristic of this ecosystem type.

Hulls Creek, a tributary of the Hutt River runs through the property north of the railway. In the Hulls Creek catchment longfin eel (*Anguilla dieffenbachii*; At Risk - Declining[4]), īnanga (*Galaxias maculatus*; At Risk - Declining), bluegill bully (*Gobiomorphus hubbsi*; At Risk - Declining) as well as common bully (*G. cotidianus*; Not Threatened), redfin bully (*G. huttoni*; Not Threatened), shortfin eel (*A. australis*; Not Threatened) and kōura (*Paranephrops planifrons*) have been recorded (Warr 2007). Hulls Creek has been identified as polluted by Wellington Regional Council, and access to fish is limited by a weir (Warr 2007).

Three indigenous bird species were observed during the site visit: tūī (*Prosthemadera novaezeelandiae*), pīwakawaka (*Rhipidura fuliginosa placabilis*), and kāhu (*Circus approximans*).

The significance criteria by which the site was assessed are listed in Table 1, together with the justifications.

Table 2: Significance assessment for 1 Reynolds Bach Drive: Northern section either side of Hulls Creek.

RPS Policy 23 Criterion	Significant (Yes/No)	Justification
a) Representativeness	No	The site is not characteristic of ecosystem or habitat types in the district and region. The creek is identified as polluted and high in turbidity.
b) Rarity	Yes	Three At Risk fish species have been recorded from Hulls Creek.
c) Diversity	No	The ecosystem is fairly homogenous, made up of young, planted forest including some non-local species.
d) Ecological context	Yes	The site currently contains only young planted vegetation, although it provides important local buffering for the creek.
e) Tangata whenua	Unknown	Not assessed.
Is the Site Significant?	**Yes**	**This site meets two of the RPS Policy 23 significance criteria.**

Actions Taken

Riparian planting area recommended as a new SNA.

HARD BEECH AREA

The second area, south of the railway (Figure 1), is Council-owned land mostly covered by hard beech forest in the Pinehaven Valley Forest and Scrub (UH070) SNA, as well as large areas of radiata pine plantation between areas of scrub (described below) where this has been cut. On the boundary of this property with the railway is a series of three small gullies, in which small amounts of black beech forest and hard beech forest remains.

The scrub area is largely made up of gorse-Himalayan honeysuckle (*Leycesteria formosa*) shrubland, mānuka shrubland, and Himalayan honeysuckle-Japanese honeysuckle (*Lonicera japonica*)-pōhuehue (*Muehlenbeckia australis*) vineland. In addition to the above species, other exotic plant species present include inkweed (*Phytolacca octandra*), English ivy (*Hedera helix*), and tradescantia (*Tradescantia fluminensis*).

The forest is made up of mixed black beech and hard beech forest, with kāmahi-beech forest and kāmahi-wilding pine forest on disturbed edges. The sub-canopy and understorey are sparse, largely restricted to occasional mamaku (*Cyathea medullaris*), kāmahi, and māhoe. This area is a degraded example of MF5 – black beech forest (*sensu* Singers and Rogers 2014).

Table 3: Significance assessment for 1 Reynolds Bach Drive: Hard beech area

RPS Policy 23 Criterion	Significant (Yes/No)	Justification
a) Representativeness	No	While the site is a degraded example of MF20, it is smaller than 0.5ha.
b) Rarity	No	The site does not contain rare species or ecosystems
c) Diversity	No	The site is heavily modified by logging and browse with reduced diversity.
d) Ecological context	No	The site is <1ha and does not act as a buffer.
e) Tangata whenua	Unknown	Not assessed.
Is the Site Significant?	**No**	**This site meets one of the RPS Policy 23 Criteria.**

Actions Taken

Gully section added to UH070.

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