

Before the Wellington City Council Proposed District Plan Hearings Panel

Under the Resource Management Act 1991 (the Act)

In the matter of the Wellington City Council Proposed District Plan–
Hearing Stream 11:
1.1 Ecosystems and Indigenous Biodiversity

- **Ecosystems and Indigenous Biodiversity (ECO) Indigenous**
- **Infrastructure - Ecosystems and Indigenous Biodiversity (INF-ECO)**
- **Schedule 8 – Significant Natural Areas**
- **Appendix 2 – Biodiversity Compensation**
- **Appendix 3 – Biodiversity Offsetting**
- **Appendix 15 – Ecological Assessment**
- **Definitions**

Between **Wellington City Council**
Local authority

And **Horokiwi Quarries Limited**
Submitter 271 and Further Submitter FS28

Statement of evidence of Dr Vaughan Keesing for Horokiwi Quarries Limited

Dated 28 August 2024

1 Executive Summary

1.1 This ecological evidence is in support of the Horokiwi Quarries Limited submission seeking amendment to the spatial area of identified significant natural area (“SNA”) WC109. To assist the Panel in understanding the scale of WC109 and the spatial area amendment sought by Horokiwi, please refer to Figure 1 below.



Figure 1. The PDP SNAs are shown as striped areas, with SNA WC109 outlined in yellow. The area Horokiwi seeks to be removed from the SNA is coloured solid purple, and is made up of two areas, a northern basin feature area and a southern basin feature area.

- 1.2 Horokiwi’s evidence is detailed and specific to the southern (2ha) basin feature (area) of the SNA, showing that it does not meet any of the Policy 23 significance criteria of the Operative Regional Policy Statement for the Wellington region (“RPS”). I support the S42A Report recommendation to remove the northern linear feature from SNA WC109.
- 1.3 SNA WC109 is large (some 161ha). In its determination of significance in the evaluation of the values and whether the ‘site’ qualified as an SNA, through, in the

main as I understand it, a desk top assessment process Wellington City Council (“WCC”) used values aggregated from across 17 fragments (small areas of bush in a wider matrix of lower/younger or different vegetation) within the 161ha ‘site’ to result in a test of significance which would almost certainly trigger one of the significance criteria within Policy 23 of the RPS given the number of fragments and large site area. In my opinion it is inappropriate to group all 17 fragments into one site assessment as it ignores the different ecological communities within the 161ha site and variation in values. In my experience it is inappropriate to combine many smaller units into one unit for assessment even when they appear loosely connected, particularly within an urban environment.

- 1.4 Following the desk top evaluation and identification of WC109, in response to the Horokiwi submission, WCC undertook a more specific revision of the specific area in debate (being the southern basin feature) and found it to be representative of a coastal forest and so rare, thereby meeting the significance criteria within Policy 23 of the RPS¹.
- 1.5 I do not agree with the Council’s significance assessment and conclusion. Instead, my detailed ecological assessment of the southern basin fragment shows:
 - 1.5.1 It is not representative of a coastal forest (using published definitions of what that forest type is) and is therefore not a rare forest type.
 - 1.5.2 It has no other rare species or feature.
 - 1.5.3 It is not particularly diverse and has no notable patterns related to gradients or sequences or abiotic factors.
 - 1.5.4 It also does not play any important functional role or other wider landscape ecological contextual role and does not have notable / rare fauna.
- 1.6 Based on the above, the fragment does not support in any meaningful way an area of significance and on this basis, in my opinion its ecological values do not warrant the areas inclusion within WCC proposed SNA WC109.
- 1.7 In my opinion, the removal of the **southern basin** feature from the WC109 SNA does not diminish in any way the remaining SNA; i.e. it does not deprive the WC109 SNA of any feature, area, size, buffer or value that would reduce the condition, or significance of the wider WC109 SNA.

¹ Statement of evidence of Nicholas Goldwater on behalf of Wellington City Council (Ecology) Date: 09 August 2024, refer page 14. [Court Document \(wellington.govt.nz\)](https://www.wellington.govt.nz/court-document)

1.8 My evidence is to be read with that of Ms Pauline Whitney, who has provided expert planning evidence in relation to the Horokiwi submission.

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2 Qualifications and Experience

2.1 My full name is Dr Vaughan Keesing

2.2 I have been a consulting ecologist for the last 26 years. My qualifications include a B.Sc. (Hons, 1st) in Zoology and a Ph.D. in Ecology, both from Massey University, as well as a certificate in Research Statistics.

2.3 My skills lie in community ecology. I have specialist skills in the areas of limnology (the study of inland waters, including wetlands, as ecological systems), entomology, zoology, and botany, and I have worked extensively in freshwater and terrestrial habitats.

2.4 I have been practising as an ecologist for the last 29 years, and have worked in a variety of locations including the Wellington region and elsewhere in the lower North Island, West Coast, Canterbury, central North Island, the Far North, Auckland region, and the Bay of Plenty.

2.5 During that time I have undertaken a wide range of ecological surveys of natural and semi-natural sites, incorporating both botanical and wildlife values. I have provided assessments of values and significance of sites for many councils and private clients, as well as assessing ecological effects of a range of activities on those sites.

2.6 This work has included significance and effects assessments across a range of projects and habitat types, such as:

2.6.1 Determining significant wetlands (as part of exercises in the West Coast Region), SNA surveys in North shore (Auckland) and in Ashburton to identify Significant Natural Areas (SNAs) and in Rangitikei (as part of its Protected Natural Areas Programme);

2.6.2 Bush significance assessments for conservation lot attainment (e.g. over 150 Franklin District Conservation lots, 50 Western Bay of Plenty lots, and many more across New Zealand);

2.6.3 Large-scale roading projects involving wetland, scrub, shrub and forest assessment and devising proposals to offset ecological features effects (e.g. MacKays to Peka Peka Expressway and Transmission Gully);

2.6.4 Wind farms (eg West Wind, Mill Creek, Hurunui, Central wind, Munro, and Hauāuru mā raki) and hydroelectric schemes (eg Arnold, Wairau, and Coleridge);

- 2.6.5 Over 20 large-scale subdivisions (eg Omaha South (Darby Partners), Long Bay (Landco), Pegasus Bay (Infinity Co), Ravenswood (at Woodend), Manu Park (Waikanae), Duck Creek upper and lower housing developments (Whitby));
- 2.6.6 As well as a wide range of other infrastructure and assessment programs such as the Waitohi irrigation dams, Wakamoekau community water storage; Rakai Water Conservation Order (WCO) amendment, Hurunui WCO, Ngaruroro WCO, Levin wastewater treatment plant expansion, and Featherston wastewater treatment upgrade.
- 2.7 I am an independent consultant and have worked for developers, community, government infrastructure, and Councils. This has involved assessing development projects, providing technical reports for Council planning purposes, or undertaking professional peer reviews of reports prepared by others. I have previously presented expert evidence at council hearings, before the Environment Court, and at Boards of Inquiry.
- 2.8 I have read the Code of Conduct for Expert Witnesses contained in Section 9 of the Environment Court Consolidated Practice (2023), and I agree to comply with it.

3 Scope of Evidence and Methodology

- 3.1 I have been assisting Horokiwi Quarries Ltd ("**Horokiwi**") for the last 20 years, supplying ecological assessments related to quarry extract areas, over burden fill sites, streams and discharges. I have surveyed the Horokiwi site in general numerous times over the last 20 years.
- 3.2 In 2021 I was engaged by Horokiwi to undertake a review of the ecological features and values of the quarry site and the adjacent areas in the context of the WCC proposed Significant Natural Area (Schedule 8, Appeals version) in the Draft and subsequent Proposed District Plan ("**PDP**"). Attached as Figure 2 is a map showing the SNA's in the vicinity of the Horokiwi site, and the area in contention.

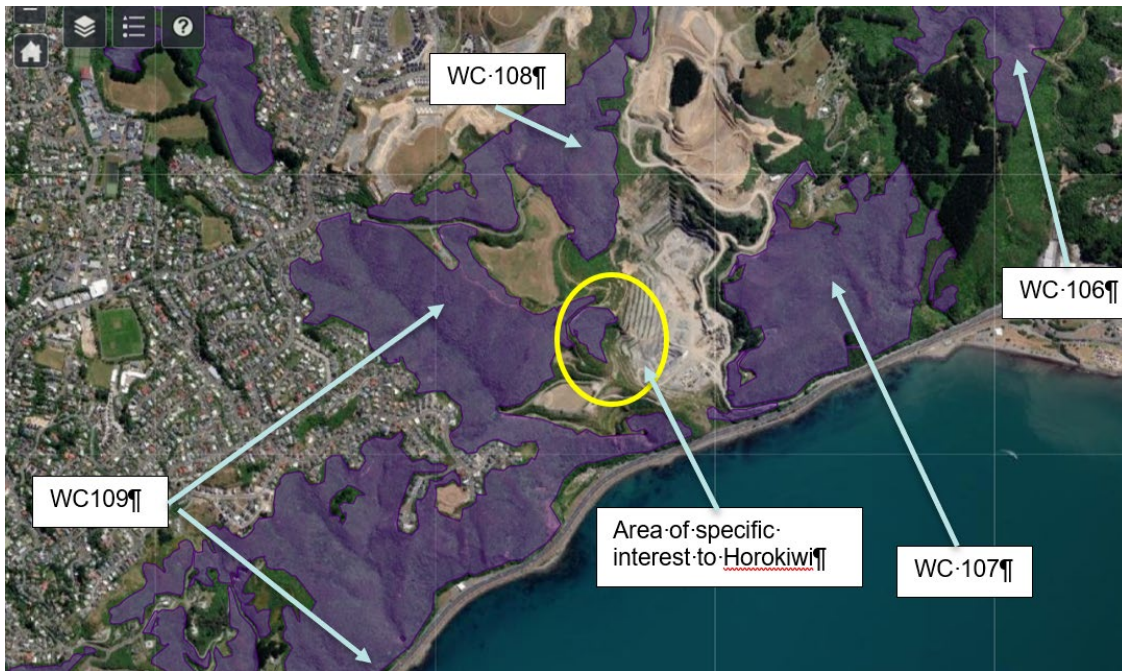


Figure 2. WC109 proposed SNA, the area of SNA in contention (circled in yellow), and the Horokiwi Quarry

3.3 That review and assessment process involved two stages, the first in which I undertook field work to survey the ecological features and values of possible expansion areas of the quarry, and the second stage where I instructed two junior ecologists to undertake a Quarry site wide vegetation / habitat / fauna update assessment to characterise all of the unquarried features on the site. Given the focus of my evidence and area in dispute is in relation to a discrete area of WC109, the following section of my evidence relates to the stage one assessment and review. The area subject to this review is split into two sub areas (being the northern linear feature and southern basin feature) as shown in Figure 3 below.

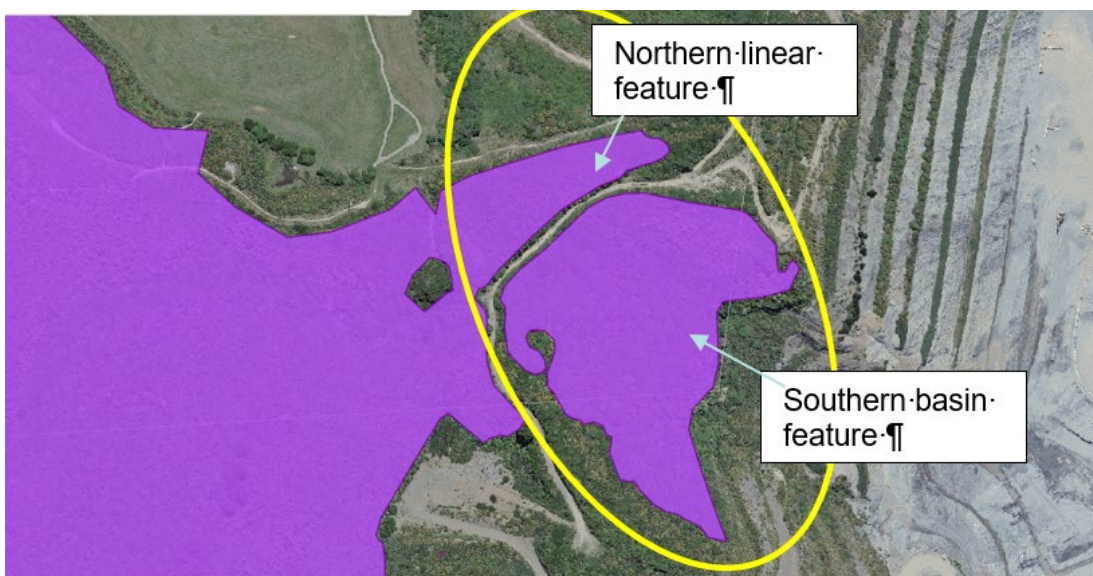


Figure 3. The two parts of the WC109 SNA that Howokiwi sought in its submission be removed from SNA WC109. The status of the southern basin feature remain in contention.

- 3.4 In regard to the stage one site expansion area, prior to notification of the PDP, I prepared a technical statement outlining my assessment of the ecological values of the area in contention, dated November 2021. The statement was supported by a series of maps and photographs that were prepared by myself, or by Boffa Miskell Ltd (where I was employed at the time) as instructed by me. The maps show the SNA area WC109. This technical statement formed part of Horokiwi’s feedback on the draft district plan.
- 3.5 In 2022 (prior to notification of the PDP) I revisited the Horokiwi site along with representatives of Council, including Councils ecological consultant (Astrid van Meeuwen-Dijkgraal) Wildlands Consultants Ltd. Some two years later in preparation for this hearing, a further site visit was undertaken on Friday 26 July 2024 with different ecologists from Wildlands including Mr Goldwater.
- 3.6 I have since read Mr Goldwater’s (ecological expert) evidence², noting in particular his Appendix where he lists the attributes of SNA WC109 (and a more focused assessment of the area (the southern basin) we debate here, and paragraphs 15, 19,- 22 which relate to the Horokiwi submission. I have also read the S42A report written by Mr Adam McCutcheon related to Hearing Stream 11.
- 3.7 This evidence provides my assessment of the particular area of interest to Horokiwi Quarry that relates to the significance of one area included in the WCC proposed SNA layer. I acknowledge and support the recommendation of the reporting officer to remove the northern linear feature from WC109 as notified, on the basis³ the *“Northern linear feature is younger (indigenous scrub) with a high proportion of exotic weeds, and should be removed from schedule”*. The northern linear features is shown in Figure 3 above.
- 3.8 This evidence is a response and contrary opinion to those of the council officers and experts in relation to the significance of the southern basin feature (refer Figure 3) based on:
- 3.8.1 my analysis of its condition and failure to meet the RPS Policy 23 significance criteria.
- 3.8.2 my review of the methodology adopted by Council, and

² Statement of evidence of Nicholas Goldwater on behalf of Wellington City Council (Ecology) Date: 09 August 2024, [Court Document \(wellington.govt.nz\)](#)

³ Statement of evidence of Nicholas Goldwater on behalf of Wellington City Council (Ecology) Date: 09 August 2024, [Court Document \(wellington.govt.nz\)](#), page 14

3.8.3 what I consider are limitations in how this methodology has been applied at a detailed level.

3.9 In the remaining sections of my evidence, I outline:

3.9.1 Maps of the areas that were and in part remain, in contention;

3.9.2 My understanding of the ecological features of the southern basin feature that remain in contention (including a specific analysis of the south eastern face of the basin, the central gully floor and westerns side, and the western slopes);

3.9.3 The statutory context for determining significance;

3.9.4 The notified PDP SNA WC109 Identification methodology (including values) and my response to those assessed values including the methodology applied; and

3.9.5 A response to the Department of Conservation submission which opposed the relief sought in the Horokiwi submission.

4 Horokiwi Site Methodology

4.1 The focus of this evidence is on the southern basin feature within a discrete area of SNA WC109.

4.2 The southern basin is a Ca. 2 ha area comprised of three age and aspect related vegetation characters. The northern linear "peninsular" is a 0.6ha single character area and this area has been agreed by the WCC experts as not meeting significance the RPS criteria and will, I understand, be removed from the SNA layer. I support this recommendation.

Ecological features of the southern basin feature

4.3 The southern basin feature can be broken down into sub features (refer Figure 4 and Figure 5 below), being:

4.3.1 The south-eastern face of the basin,

4.3.2 The central gully floor and westerns side, and

4.3.3 The western slopes.

4.4 The tracks shown are vehicle tracks used at various times by the Quarry.

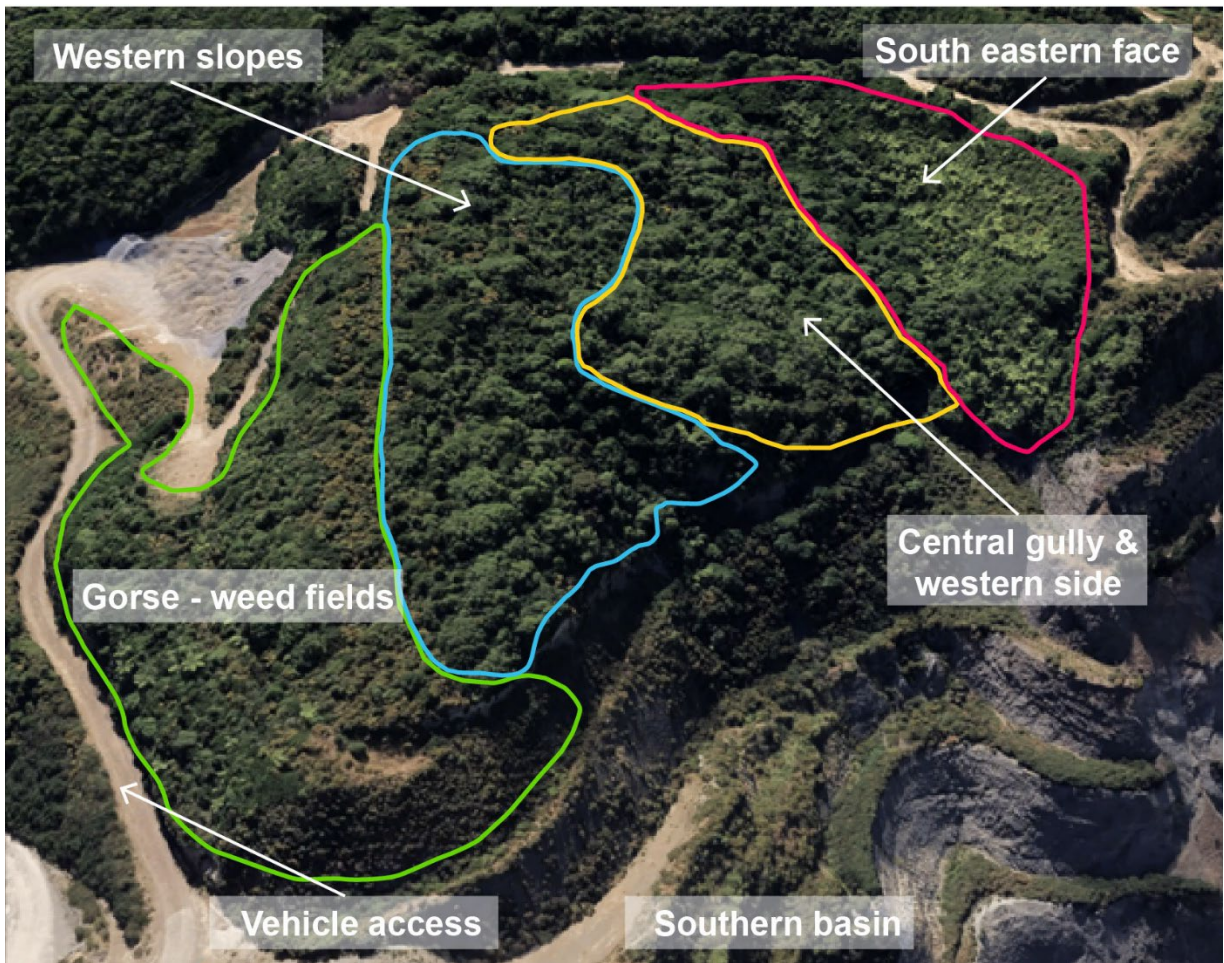


Figure 4. Google earth 2024 oblique photo of the southern basin looking northward and ecological sub features

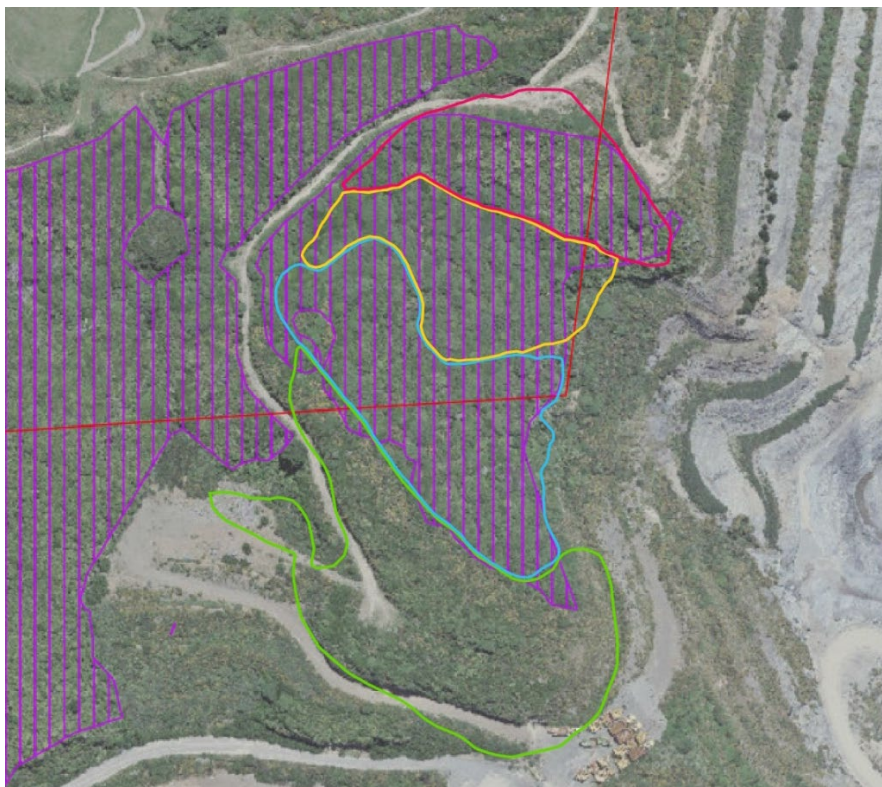


Figure 5. Southern basin features and ecological sub features

4.5 I note, importantly, that it is my understanding that two areas/segments of the southern basin feature have existing use rights, and the Quarry is able to clear these areas now (Figure 6). That fact was not considered in the WCC (Wildlands) SNA assessment but in my opinion has relevance as it changes the size of the area (from 2ha to 1.2 ha), the integrity of the feature, and removes much of the more diverse (south-eastern) character areas (described below).

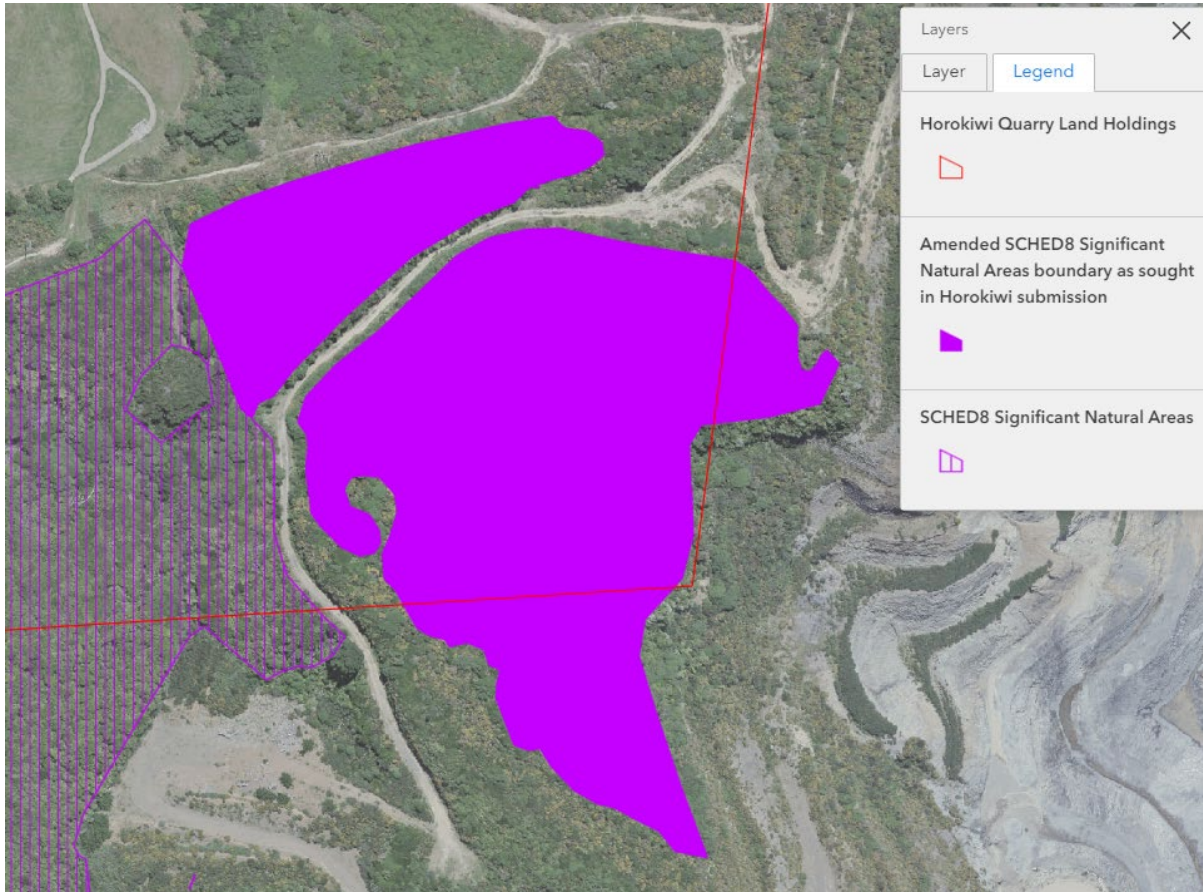


Figure 6. Quarry property lines and their bisection of the southern basin feature. The areas subject to existing use rights are those to the south and east of the red Horokiwi site boundary line.

South-eastern face of basin (Figure 4 and Figure 5)

4.6 The south-eastern face is a steep young mahoe scrub slope where the mahoe canopy is dominant and 2m tall with mamaku. The track / bush edge has dense weeds: blackberry, inkweed, velvety nightshade, fox glove and purple ragwort. On the slope and under the mahoe, the occasional canopy elements included: mapou, kanono, kawakawa, rangiora, ngaio, shining karamu, silver fern, manuka, pigeon wood, and koromiko. The slope is vegetated in ferns including hounds tongue, shining spleenwort, crown fern, hen & chicken fern, button fern, bracken, shield fern, rough hairy fern, pig fern, hanging spleenwort (on the ground), lance fern, and small

kiokio. Pohuehue is present as was one Puawananga (white clematis) and a patch of meadow rice grass.

- 4.7 This young vegetated slope is more species rich than the main gully feature which is to be expected in an early successional state but there are no signs of canopy progression other than mahoe.

Central gully floor and western sides (Figure 4 and Figure 5)

- 4.8 Near the bottom of the gully the mahoe is taller (4-6m) and accompanied by occasional emergent Ngaio (3 were recorded) and linear “groves” of mamaku up the gully “floor” (an ephemeral flow path).
- 4.9 The southern outer edge of the feature has an emergent large karaka⁴. The gully floor itself has a low species richness with older mahoe as a closed canopy with occasional kawakawa and shining spleenwort. One sapling pate was recorded. The gully floor is “littered” with rubbish. The mahoe has a range of coppicing new shoots indicating animal browse.

Western slopes (Figure 4 and Figure 5)

- 4.10 Once out of the gully floor, on western slope the canopy returns to a short (2-3m) mahoe dominant canopy with other occasional shrub taxa already listed in the south-eastern slope. Refer Figure 4 for the location of the western slope sub area.
- 4.11 The fern component is not as rich as the south-eastern slope with shining spleenwort and hounds tongue. *Coprosma areolata*, and some native jasmine are present. Approaching the top of the slope the vegetation returns to a gorse dominated canopy with Blackberry.

⁴ Karaka are not “native” to Wellington (and arguable NZ) and is a species WCC often cuts out of reserves and parks (e.g. Trelissick Park).



Figure 7. Gully bottom



Figure 8. Under tier of the western face of the basin

- 4.12 Figure 7. Gully bottom above shows a view of the gully bottom and Figure 8. shows the under tier of the western side of the gully in the southern basin.
- 4.13 The area of vegetation in the southern basin as a whole is young. Retrolens shows that in 1943 there was a remnant gully bottom in a clearing landscape (Figure 9). Through 1960 to 1980's large scale changes occurred to the vegetation and landform. The northern linear feature was largely all gorse and divided by tracks. The southern basin was also largely gorse apart from a very narrow central gully floor where the mahoe and ngaio first established and is now the tallest vegetation. There are no signs today, or 60 years ago, of any podocarp, beech, rata or other tree acknowledged in the wider WC109, as indicating value.

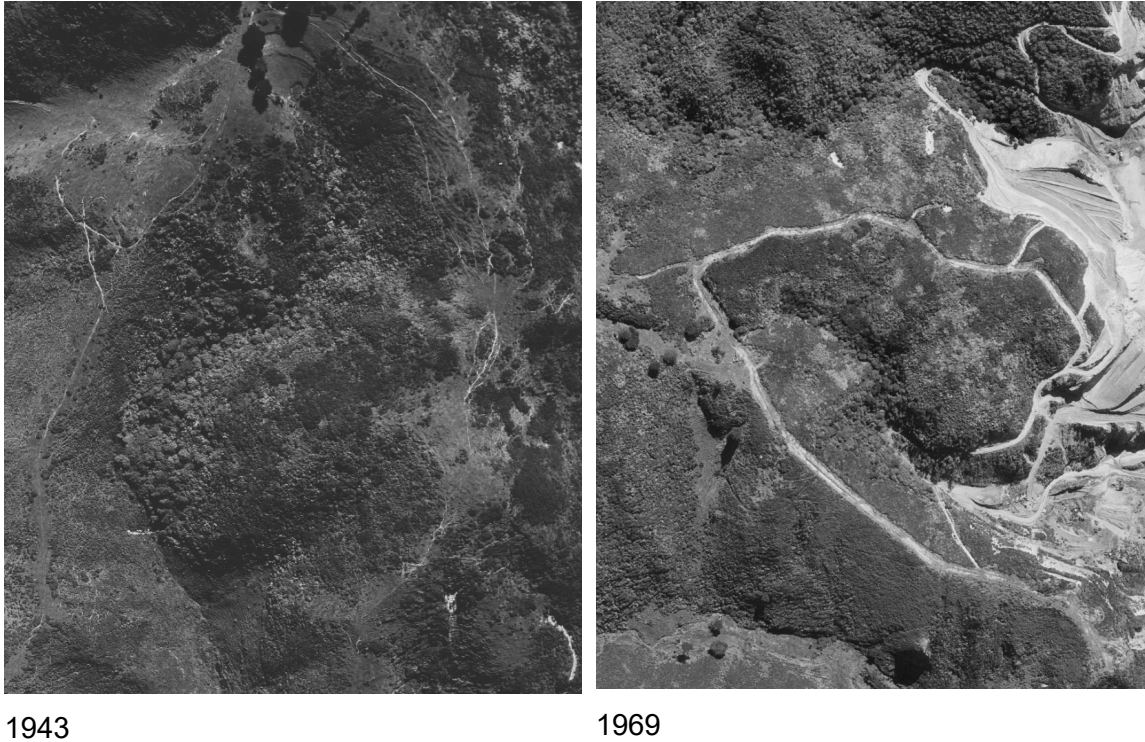


Figure 9. Retrolens aerial photographs of the southern basin 1943 and 1969.

5 Statutory Context

5.1 The WCC SNA assessment and identification process is required to use the Regional Policy Statement 'Regional significance criteria' (Policy 23 of the RPS *Identification and evaluation criteria for identifying indigenous ecosystems and habitats with significant indigenous biodiversity values*). Policy 23 of the RPS is as follows:

Policy 23: Identifying indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans

District and regional plans shall identify and evaluate indigenous ecosystems and habitats with significant indigenous biodiversity values; these ecosystems and habitats will be considered significant if they meet one or more of the following criteria:

- (a) *Representativeness: the ecosystems or habitats that are typical and characteristic examples of the full range of the original or current natural diversity of ecosystem and habitat types in a district or in the region, and:

 - (i) *are no longer commonplace (less than about 30% remaining); or*
 - (ii) *are poorly represented in existing protected areas (less than about 20% legally protected).**
- (b) *Rarity: the ecosystem or habitat has biological or physical features that are scarce or threatened in a local, regional or national context. This can include individual species, rare and distinctive biological communities and physical features that are unusual or rare.*
- (c) *Diversity: the ecosystem or habitat has a natural diversity of ecological units, ecosystems, species and physical features within an area.*

- (d) *Ecological context of an area: the ecosystem or habitat:*
 - (i) *enhances connectivity or otherwise buffers representative, rare or diverse indigenous ecosystems and habitats; or*
 - (ii) *provides seasonal or core habitat for protected or threatened indigenous species.*
- (e) *(Tangata whenua values: the ecosystem or habitat contains characteristics of special spiritual, historical or cultural significance to tangata whenua, identified in accordance with tikanga Māori.*

- 5.2 That set of criteria is now required to be consistent with those published in the NPS-IB (2022). Therefore, there is often a need to consider a criterion's interpretation through the NPS -IB. Wildlands are recorded as having "checked" the RPS set against the NPS IB set for the 177 WCC SNA features (Goldwater's paragraph 16). I understand that Wildlands considered the Policy 23 Significance Criteria to be largely aligned with that of the NPS-IB.
- 5.3 I also note that the RPS Plan Change 1 notified minor changes to Policy 23 (being the introduction of a timeframe and reference to mana whenua), and while significant changes are proposed (through the officer reports) to the RPS policy framework (Proposed RPS Change 1 for the Wellington Region (gw.govt.nz) pg 118,) at the time of writing this evidence, no decision has been released (and I understand will not be released until early October 2024).
- 5.4 Furthermore, while I understand the SNA as notified is located within the Coastal Environment (CE), I understand from Ms Whitney (and outlined in her evidence), both the landscape experts (appearing for Horokiwi Quarries Ltd and appearing for Council) have both recommended the Coastal Environment line be moved (to varying degrees) as it relates to the SNA area. While I appreciate a decision on the location of the Coastal Environment line has yet to be issued, from an ecological context I do not consider the ecological feature (southern basin) within the WCC 109 SNA area in question is of coastal nature, it is not an assemblage that reflects the coastal environment (I discuss this below in greater detail), and it is not a vegetation type and species that show particular tolerance or adaptation to coastal environments and so is not indicative of a maritime regime.
- 5.5 Irrespective of where the CE line ends up, the southern basin, for reasons I explain in detail below, does not meet the test for SNA and so does not trigger any of the value criteria set out in policy 11 of the NZCPS (2010).

6 SNA WC109 Identification Methodology - Reported Values and Responding Assessment

- 6.1 Wildlands, in their initial (2019) undertaking of the WCC assessment⁵, determined that of the 17 remnants (over 161 ha) of broadleaf forest that make up WC109 as a mosaic, as a single unit it meet all of the Policy 23 criteria. This is not surprising when any one feature of the 17 identified remnants, can trigger any one of the significance criteria – i.e. a threatened and at risk species need only be in one of the 17 fragments for the “feature WC109 to meet the rarity criteria” and so the entire entity be identified as SNA.
- 6.2 While I accept that for Council the application of Policy 23 over a mosaic of fragments and a very large area is both logistically and cost difficult, where specific information is available, or a specific area is challenged, I believe a more detailed specific evaluation and assessment of the fragment / area is required. While I acknowledge the site visit and walk over of discrete portions of the area in dispute with the council expert, in my opinion this is not a detailed assessment. While it is an improvement to a desk top assessment, given the significant implications of the SNA overlay, a more thorough physical site assessment and recording methodology is required. I note other councils have successfully undertaken this exercise (for example Porirua City, and New Plymouth District). Given the consenting implications and significance placed on the identification of such sites under the NPS-IB, I consider a robust and comprehensive assessment process is warranted.
- 6.3 Prior to the most recent (2024) reassessment (Mr Goldwater’s evidence), as outlined above, the Council web site⁶ reflected the following “values” of WC109 which has influenced the significance of the area and formed the basis for the assessment of the area as a habitat with important indigenous values, and subsequent identification as a SNA within the PDP:

WC109: Coast escarpment broadleaved forest, description:

Two sites contain several remnants of broadleaved forest within a mosaic of mahoe forest and scrub on the coastal escarpment above State Highway 2. This more than 100ha area is part of a nearly continuous forested coastal escarpment between Wellington city and the Hutt Valley. Its size and diverse habitat make it home to lizards and a range of native birds, including the bush falcon. Vegetation includes tawa,

⁵ https://planningforgrowth.wellington.govt.nz/_data/assets/pdf_file/0014/3182/3942-Wellington-City-SNA-Draft-20161222.pdf

⁶ https://planningforgrowth.wellington.govt.nz/_data/assets/pdf_file/0013/3235/FactSheetsForWebsite-SNAs-WC054-WC113.pdf

rewarewa, hinau and kohekohe. Also includes: Pukatea, Titoki, Nikau, Karaka, Kahikatea, Matai, Totara and northern rata.

- 6.4 In respect of the southern basin feature, none of the values reported as influential in making site WCC109 SNA can be identified as present in the southern basin. There are no podocarp or broadleaf final canopy indigenous tree species (aside from the 3 Ngaio), no tawa or kohekohe, rewarewa or hinau or titoki in the basin. There is one emergent karaka (the largest tree in the basin) which in the Wellington context is a weed because it is not “natural” to the Wellington region, but I note this is not referenced in the PDP Schedule 9 *Indigenous Tree Sizes*⁷.
- 6.5 The features size is small (1.2 ha in WCC reserve given half (the southern half and a slice of the eastern slope) is in the quarry property and can be cleared under the quarry existing rights). The feature is separated from the main SNA by a 6m wide maintained vehicle track and an edge of weed species, (i.e. it is not continuous). There are no “resources” or habitat areas, buffering role or corridor functions of any importance to indigenous bird species and the invertebrate assemblage is a low diversity early colonisation one, which will not be representative of a natural seral state faunal assemblage.
- 6.6 There are no at risk or threatened species and no regionally uncommon taxa present. It is highly unlikely NZ bush falcon reside or use the southern basin. Because of the age, history of modification, and separation from the larger vegetated area there is only a very low probability of lizards being present and if so, the only likely species will be the northern grass skink (a common taxa in Wellington). That supposition is further supported by BML surveys in 2023 for a Horokiwi consent process neighbouring the southern basin.
- 6.7 Mr Goldwater (WCC ecological expert representative) and Dr Nyree Fea accompanied me and some other Council and Horokiwi staff to the specific areas in debate in July 2024 (the southern basin and northern linear peninsula). Subsequently WCC has removed the northern linear peninsular from the SNA, but retained the southern basin.
- 6.8 It appears that Mr Goldwater in his Appendix to his evidence in assessing the central part of the southern basin at Horokiwi recorded the area as serial indigenous forest and scrub.

⁷ [2024 District Plan: Appeals Version - Wellington City 2024 District Plan: Appeals Version](#)

- 6.9 He records in the Appendix spreadsheet, NZ falcon and Red crowned Parakeet as present (although none were seen by us onsite nor have been recorded from the basin), and from the herpetological database notes 3 ngahere gecko, 1 raukawa gecko, (a 1970 record) and 22 northern grass skink – none of which are directly relatable or from the fragment in question. A recent study undertaken by BML (30.03.2023) (noted in Mr Goldwater’s evidence, although I understand at the time of writing his evidence he had not seen the report) at the Quarry in the immediate west of the basin in the bush and bush edge found, after several days of survey, observed 32 northern grass skink (not threatened), and one copper skink (At Risk-declining) and no gecko.
- 6.10 There is strong evidence for the absence of any faunal species of conservation note in or using the southern basin.
- 6.11 Mr Goldwater then records the fragment as: “Ngaio, Mahoe, Mamaku, Kawakawa, Kanuka, Lianes (clematis, *Parsonia* sp.), ferns (ASP bul, ASPobl, BLEcha, MICgla, MICpus), [kanono] COPgra, Rangiora, [mapou] MYRaus, [thin leaved coprosma] COPare, [pigeonwood] HEDarb (Outer margins: Holly, Gorse *Senecio vulgaris*)”. He notes that the northern linear feature is of the same composition only smaller in stature.
- 6.12 Importantly ngaio is a minor component, with three trees recorded, the canopy is predominantly mahoe (also with one emergent karaka) and this description does not, in the least, describe the referenced rare coastal forest type of Wellington (Singers et al 2018, Wildlands 2024 -see below).
- 6.13 He notes the presence of grey warbler and a tunnel web spider. Both these are common species of mahoe early regenerating shrublands in Wellington and do not convey special ecological value to the site.
- 6.14 These data lead him to a conclusion that the feature is representative and a rare example of a coastal forest (he cites that in Wellington City < 1% original coastal forest remains).
- 6.15 I cannot see how that data set could lead to his conclusion. Based on my more detailed site visit evaluation, when Policy 23 of the RPS is applied against the Southern basin feature it cannot meet the Policy 23 criteria relating to representative, rarity, distinctiveness, diversity or with important patterns, or with any ecological context more than that of a typical mahoe monocultural regeneration on Wellington hills.

6.16 In respect to representativeness (one of the most objective and relevant criteria), I record that the NPS-IB (Appendix 1) has better guidance of how representativeness is to be interested. It states

An area that qualifies as an SNA under this criterion has at least one of the following attributes:

- *indigenous vegetation that has ecological integrity that is typical of the character of the ecological district:*
- *habitat that supports a typical suite of indigenous fauna that is characteristic of the habitat type in the ecological district and retains at least a moderate range of species expected for that habitat type in the ecological district.*

6.17 I submit that the basin has virtually no integrity, and it will have even less after the clearance of the southern and eastern portions, the result being largely all edge. It is sufficiently modified and simple in terms of species present, it is predominantly edge effected now, has considerable exotic species, and is not secure against further weed and pest invasion.

6.18 It shows no sign of successional progression (no seedlings of new species or future trees) and is not the typical character of natural coastal broadleaf regeneration from natural perturbation events in the Ecological District. It most certainly does not represent a Wellington coastal forest assemblage.

6.19 Singers et al (2018)⁸ tell us that coastal forest that is rare in the Region were: Titoki, ngaio forest (3% remaining). Singers et al tells us that the assemblage of this type is: titoki, ngaio, rewarewa, nikau, mahoe, five-finger, red mapou, kaikomako, akeake, kohuhu and akiraho. The assemblage of the southern basin has three old ngaio and virtually all the rest of the canopy is mahoe with a few canopy mamaku (tree fern) and few red mapou (both common throughout WCC broadleaf communities). The assemblage does not represent that described by Singers et al. The remaining examples of the rare forest type are from Cape Palliser and eastward around the coast.

6.20 The Wildlands report for WCC (2024⁹) examining the current and historic state of indigenous biodiversity in Wellington similarly informs us that coastal forest was

⁸ Singers N., Crisp P. and Spearpoint O. 2018. Forest Ecosystems of the Wellington Region. Greater Wellington Regional Council, Publication No. GW/ESCI-G-18-164, Wellington.

⁹ Nyree, F.; Tidwell, L. 2024. The current and historic state of indigenous biodiversity in Wellington. Contract Report No. 39421 WCC.

dominated by kohekohe, ngaio, northern rata, akiraho and kowhai, while the dense coastal scrub was characterised by tauhinu, mingimingi, matagouri, prostrate kowhai, pohuehue and speargrass.

- 6.21 The southern basin does not resemble this coastal forest assemblage either. It is not therefore the rare underrepresented coastal forest or dense shrub of coastal cliffs referenced nor does it have the plant species characteristic of these types.
- 6.22 Thus, neither the representative criteria nor, because of the lack of being representative, the rarity of habitat type (coastal broadleaf forest) applies to the southern basin and in the absence of any other SNA criteria checked the southern basin cannot be SNA.
- 6.23 There is also, I suggest, the absence of a typical suite of fauna characteristic of the forest type in the ecological domain.
- 6.24 I can confirm the southern basin area does also not meet the significance criteria under the NPS-IB.

7 Amended SNA Extent

- 7.1 Consequently, the removal of the southern basin feature (noting acceptance of removal of the northern linear feature by WCC) from the WC109 SNA does not deprive the wider WC109 SNA of any feature, area, size, buffer or value that would reduce the condition, nor remove any value that would result in the wider SNA area failing to meet the RPS criteria.

8 Submissions

- 8.1 In terms of opposing submitters, the only one I am aware of to oppose the relief sought by Horokwi to amend the SNA boundary was from DoC¹⁰, as follows:

The methodology used to determine SNAs for the PDP should align with the criteria of Policy 23 of the Regional Policy Statement for the Wellington Region. It is also considered effective and efficient to align the review of Significant Natural Area provisions with the policy direction and requirements that are anticipated to come into effect during the PDP hearing process as set out in the exposure draft of the National Policy Statement on Indigenous Biodiversity (NPS-IB). Removal or amendments to the extent of any SNA is not supported without the site being ground-truthed by a suitably qualified ecologist to confirm the accuracy of the current SNA mapping in Schedule 8. The SNA opposed by Horokiwi Quarries Ltd should be ground-truthed before a determination is made to retain, amend, or remove the site/SNA

¹⁰DOC Further Submission point FS106.2 on 271.21

from Schedule 8. If the site does not meet the SNA criteria under the NPS-IB exposure draft or the RPS, only then should it be removed.

8.2 In response to the above submission, I can confirm I have extensively assessed the site and am suitably qualified to undertake such an assessment. My findings are that the southern basin does not meet the RPS Policy 23 significance criteria nor would it meet the NPS-IB significance criteria and on that basis is not a significant natural area.

9 Conclusion

9.1 Horokiwi's evidence is detailed and specific to the southern basin area showing that it does not meet any of the Policy 23 significance criteria of the RPS. The Council approach of using values aggregated from across 17 fragments and 161ha to result in a test of significance will almost certainly trigger one of the criteria but it is wrong to group all those fragments into one assessment.

9.2 Horokiwi's specific detailed assessment of the southern basin fragment shows that it is not representative of a coastal forest as WCC experts claim and is therefore not a rare forest type. It has no other rare species or feature. It is not particularly diverse and has no notable patterns related to gradients or sequences or abiotic factors, it also does not play any important functional role or other wider landscape ecological contextual role and does not have notable / rare fauna. It is not significant and does not support in any meaningful way an area of significance and so should not be included in the WCC propose SNA schedule.

9.3 I respectfully request the panel give due consideration to the relief sought in this evidence and amend SNA WC109 accordingly.

Dr Vaughan Keesing

28 August 2024