BEFORE THE INDEPENDENT HEARINGS PANEL

IN THE MATTER of the Resource Management Act 1991 and the Local Government (Auckland Transitional Provisions) Act 2010

AND

IN THE MATTER of Topic 023 - SEA and Vegetation Management

IN THE MATTER of the Proposed Auckland Unitary Plan

STATEMENT OF PRIMARY EVIDENCE BY NICHOLAS PAUL GOLDWATER ON BEHALF OF THE KOHIMARAMA FOREST PRESERVATION GROUP

15 JULY 2015

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1. SUMMARY

1.1. My name is Nicholas Paul Goldwater.

1.2. It is my overall expert opinion that the SEA overlay for the site (SEA_6180) is appropriate given it meets at least three criteria of significance.

1.3. Field surveys undertaken by myself and other parties have demonstrated the ecological values of the site. These values relate to the provision of stepping stone habitat within the local landscape (sub-criterion 4c), the presence of representative native vegetation (sub-criterion 1b), and the presence of a threatened species (sub-criterion 2e).

1.4. Urban remnants such as SEA_6180, despite the presence of exotic vegetation, tend to have disproportionately high ecological values given the very small percentage of forested areas remaining in the urban matrix. These values include important local habitat for native flora and fauna, erosion and flood control, and maintaining the quality of water draining into Auckland's harbours.

1.5. Many urban remnants comprise steep-sided gullies which often support natural streams. These watercourses provide important hydrological and ecological functions in a landscape where most watercourses have been piped.

1.6. Under the proposed Vegetation Management rules, urban SEAs will always be vulnerable to development, particularly those sites which occur across multiple titles. The SEA overlay is therefore unlikely to provide adequate protection to the majority of urban SEAs.

1.7. Any loss of vegetation and subsequent development of SEA_6180 are likely to have adverse ecological impacts such as fragmentation, increased edge effects, loss of habitat, and an increase in impermeable surfaces.

2. INTRODUCTION

2.1. My full name is Nicholas Paul Goldwater.

2.2. I have a Master of Science (First Class Honours) in ecology and environmental science. I am a Senior Ecologist with Wildland Consultants Ltd, an ecological consultancy company specialising in ecological evaluations, ecological restoration, ecological survey and monitoring, and ecological research. In this role I undertake

field assessments, provide technical ecological advice and services and manage projects for a range of clients.

2.3. I have undertaken numerous ecological surveys and assessments around the Auckland region. I have extensive experience in the terrestrial, aquatic and wetland habitats within the region and I have a good understanding of the threats that they face. I have carried out many surveys for Auckland Council and private land owners, including the assessment of proposed Significant Ecological Areas (SEAs).

2.4. I am a member of the New Zealand Ecological Society, the Auckland Botanical Society, the New Zealand Plant Conservation Network and the New Zealand Wetland Trust.

2.5. I am familiar with the matters to which these proceedings relate.

3. CODE OF CONDUCT

3.1. I have read the Code of Conduct for Expert Witnesses in the Environment Court's Practice Note 2014 and I agree to comply with that Code of Conduct. I confirm that the issues addressed in this brief of evidence are within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions which I express. I have specified where my opinion is based on limited or partial information and identified any assumptions I have made in forming my opinions.

4. PURPOSE AND SCOPE OF EVIDENCE

4.1. This statement of evidence was prepared for the Kohimarama Forest Preservation Group in support of their submissions on the Proposed Auckland Unitary Plan ("PAUP") (submission number 3513).

4.2. The purpose of this evidence is to provide technical advice to the Independent Hearings Panel (IHP) regarding PAUP provisions for vegetation management and Significant Ecological Areas (SEAs). This evidence covers the following matters:

- Description of the site (SEA_6180)
- Relevant criteria of significance
- SEAs within an urban context

4.3. In preparing my evidence, I have read or referred to the following:

a. Criteria for assessing Significant Ecological Areas (SEAs) - outlined in the PAUP

b. Manual assessment criteria for SEAs - to be used for all sites that have been identified as SEAs using spatial analysis (auto-calculate process).

c. My experience as an ecologist assessing SEAs.

d. A site assessment I undertook on 10 October 2014.

e. A fish survey of SEA 6180 undertaken on 9 May 2015 by Mr. Paul Woodward (Woodward 2015) and again by Wildland Consultants Ltd on 10 June 2015.

f. A lichen survey of part of SEA 6180 undertaken on 13 April 2015 (Blanchon and Leddy 2015).

g. Statement of Primary Evidence of Jennifer Fuller on behalf of Auckland Council (Ecology and Policy - Significant Ecological Area and Vegetation Management).

h. Submission review prepared by Melinda Rixon (Auckland Council Ecologist) on 26 May 2015.

i. Other relevant literature and information sources, including species threat classification lists.

5. SITE DESCRIPTION AND ECOLOGICAL VALUES

5.1. I carried out an initial survey of the site on 10 October 2014. I assessed and described the main vegetation types and habitats, and recorded the plant species I observed. The vegetation was evaluated against the criteria for SEAs. Part of my assessment included ground-truthing the boundary of the SEA.

5.2. The site comprises a large gully in Kohimarama which is almost entirely bounded by residential dwellings. The vegetation within the gully is characterised by mixed native-exotic scrub within a steep gully system. The dominant native canopy species include mahoe (*Melicytus ramiflorus*), kānuka (*Kunzea robusta*), ponga (*Cyathea dealbata*), and localised kohekohe (*Dysoxylum spectabile*). Exotic tree species such as tree privet (*Ligustrum lucidum*) and monkey apple (*Syziygium smithii*) occur frequently in the canopy together with occasional brush wattle (*Paraserienthes lophantha*) and mature crack willow (*Salix fragilis*).

5.3. The remnant is impacted by invasive weeds, namely jasmine (*Jasminum polyanthum*), ginger (*Hedychium gardnerianum*), tradescantia (*Tradescantia fluminensis*), and queen of the night (*Cestrum nocturnum*). Infestations are particularly significant on the stream floodplain and on the damper south-facing slopes of the gully. Some areas, mainly on the upper north-facing slopes, are relatively unaffected by weeds, at least in the understorey. In these areas, regeneration of native seedlings is often vigorous.

5.4. Controlling key pest plant species such as ginger and jasmine would improve the ecological integrity of the site.

5.5. The gully is drained by a permanent stream at least 250m in length, and a number of ephemeral channels and seepages on either side of the gully feed into it. The permanent stream is in relatively good condition for an urban stream, obviously benefiting from the shading, filtering and organic input provided by the surrounding vegetation. Natural (non-piped) stream reaches are relatively rare in the catchment, and are largely restricted to small bush gullies and parks, including other nearby SEAs.

5.6. Fish surveys undertaken by myself (Wildland Consultants Ltd) and Mr Paul Woodward confirmed the presence of banded kokopu - both juveniles and adults - along most of the stream length. The presence of banded kokopu demonstrates that the stream has connectivity to the sea. The bush remnant supports a range of native bird species, including kereru and migratory species such as shining cuckoo.

5.7. The site provides important local habitat for at least 37 species of indigenous plants, eight species of indigenous birds, and one species of indigenous fish. In addition, a survey of part of the site undertaken by Blanchon and Leddy (2015) recorded 28 lichen species, as well as four taxonomically indeterminate lichen species. One of the species recorded, *Pseudocyphellaria haywardiorum*, is classified as 'At Risk-Naturally Uncommon' (de Lange *et al*. 2012), and was noted as being 'extremely rare at the site'. The remainder are classified as either Not Threatened, or Data Deficient. The survey authors noted that the brief duration and partial coverage of the survey meant the actual number of species present is likely to be higher.

5.8. Any reduction in the size of the remnant and subsequent development are likely to have adverse ecological impacts, i.e. fragmentation, increased edge effects, and increase in impermeable surfaces, loss of small populations, loss of habitat, and degradation of aquatic habitat.

6. RELEVENT SIGNIFICANCE CRITERIA

6.1. The site was originally deemed as meeting significant Criteria 1a (Representativeness - Puriri forest) and 2a (Threat Status and Rarity - Puriri forest). The extent of the SEA overlay was originally mapped using aerial imagery rather than a ground survey. After I carried out the survey, it was apparent that site does not contain puriri forest and therefore does not qualify as an SEA on this basis. A subsequent survey by Melinda Rixon (Auckland Council), however, confirmed the presence of remnant kohekohe forest (Ecosystem Type WF7), which is deemed to meet sub-criterion 1A (Representativeness). I have observed this area of kohekohe forest, and although relatively small in extent, it contains some healthy, mature trees which are in turn providing an excellent seed source for regeneration throughout the site. I therefore support Ms Rixon's opinion.

6.2. It is my opinion that the site meets sub-criterion 4c (part of a network of sites that cumulatively provide important habitat for indigenous fauna). The site is clearly part of a local network of forest remnants that include larger remnants such as Dingle Dell, Selwyn Bush, and Kepa Bush, and smaller remnants such as SEA_6179, SEA_6181, SEA_6182, SEA_6183, and SEA_6179. It is telling that SEA_6181 and SEA_6183 have also met sub-criterion 4c. Given the close proximity of these sites to SEA_6180, it is evident that the site does form an important part of this network of sites (refer to the map in Appendix 1). It is also the view of Ms Rixon that SEA_6180 should meet significance sub-criterion 4c.

6.3. The presence of an 'At Risk-Naturally Uncommon' species of lichen means the site meets sub-criterion 2e (habitat that supports an occurrence of a plant, animal or fungi that is locally rare and has been assessed by the Department of Conservation and determined to have a national conservation status of Naturally Uncommon or Range Restricted).

7. SITES OF ECOLOGICAL SIGNIFICANCE WITHIN AN URBAN CONTEXT

Ecological Values of Urban SEAs

7.1. Regardless of the presence of exotic plant species, remnants such as SEA 6180 can have disproportionately high ecological values within an urban context given the very small percentage of forested areas remaining. These values include important local habitat for native flora and fauna, stepping stone linkages for indigenous birds (i.e. part

of a wildlife corridor and local habitat network), erosion and flood control, and maintaining the quality of water draining into the Waitemata and Manukau harbours.

7.2. In her primary statement of evidence (Paragraph 9.14), Ms Jennifer Fuller discusses the fact that in parts of urban Auckland, remaining indigenous biodiversity values largely comprise undeveloped gullies and watercourses. She is in agreement that these are important habitats for indigenous fauna and flora, capable of supporting threatened species. Moreover, in Chapter C (5 Natural Resources, Section 5.14) of the PAUP, the values of urban streams in Auckland are acknowledged: *Urban streams nevertheless continue to provide important ecosystem services and can provide meaningful ecological and biodiversity values.*

7.3. It is also important to recognise that some exotic vegetation (mainly tree species) within urban SEAs can play important roles in terms of the provision of habitat and buffering. In this respect, Ms Fuller explains in Paragraph 7.11 of her statement of evidence that the SEA overlay includes some sites with a relatively high exotic component where there are known to be significant biodiversity values present. This is very much the case for SEA_6180 in that it provides habitat for a range of indigenous fauna and flora, including at least one threatened species.

Vulnerability of Urban SEAs Under the Proposed Vegetation Management Rules

7.4. Urban SEAs are vulnerable to the adverse impacts of development despite the level of protection provided by the SEA overlay. Under the Proposed Vegetation Management Rules it is a Controlled Activity to clear up to 300m^2 of vegetation within an SEA for a building platform and access way for one dwelling per site where there is no practicable alternative location outside the area of protected vegetation on the site.

7.5. This rule could potentially result in 'death by a thousand cuts' for SEAs that sit across multiple titles. That is to say, if several landowners wished to subdivide, there is the potential for a significant portion of the SEA to be lost or irreparably damaged even if it is just the 'lower quality vegetation' that is removed. In small urban SEAs it may be difficult or impossible to avoid, remedy or mitigate the effects of ongoing, cumulative vegetation clearance.

7.6. SEA_6180 sits across approximately 27 titles, hence there is the potential for large areas of vegetation to be destroyed under the proposed rule. As described above, any reduction in the size of the remnant and subsequent development are likely to have

adverse ecological impacts, e.g. fragmentation, increased edge effects, loss of habitat, and increase in impermeable surfaces.

8. CONCLUSIONS

The SEA overlay for the bush remnant at Pamela Place, Kohimarama, is appropriate. The site meets at least three criteria of significance (1a, 2e, and 4c) and therefore should be retained as an SEA. Overall, urban SEAs are vulnerable to the adverse effects of development under the proposed vegetation management rules.

Nicholas Paul Goldwater
15 July 2015

REFERENCES

Blanchon D. and Leddy N. 2015: Lichens of a Significant Ecological Area (SEA) in Kohimarama. *Unpublished report.*

de Lange P.J., Galloway D.J., Blanchon D.J., Knight A., Rolfe J.R., Crowcroft G.M., and Hitchmough R. 2012: Conservation status of New Zealand lichens. New Zealand. *Journal of Botany 50*: 303-363.

Woodward P. 2015: Freshwater fish survey report, 9 May 2015, bush block in Kohimarama bordered by Alum St. and accessed from Pamela St. *Unpublished report.*


SEA_6179
SEA_6181
SEA_6180
SEA_6182
SEA_6183
SEA_5242
Legend
Significant Ecological Areas
SEA 6180
N
Data Acknowledgment
Map contains data sourced from LINZ
Crown Copyright Reserved
Auckland Council Aerial Photography
Report: 3536
Client: Wildlands GIS
Ref: 06 0504
Path: E:\gis\PamelaPlace\mxd\
File: PamelaPlace.mxd
Local network of SEAs in close proximity to SEA_6180
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Wildlands
www.wildlands.co.nz, 0508 WILDNZ
Scale: 1:10,000
Date: 7/07/2015
Cartographer: KM
Format: A4R