

**Before the Hearings Panel At Wellington City Council**

**UNDER** Schedule 1 of the Resource Management Act 1991  
("RMA" or "the Act")

**IN THE MATTER** of the proposed Wellington City District Plan

**Statement of evidence of Dr Michael Anderson on behalf of Wellington  
International Airport Limited (Ecology).**

**Date:** 28 August 2024

## Introduction

- 1) My full name is Michael Gareth Anderson. I hold the position of Senior Ecologist at Bioresearches, a specialist ecology brand of Babbage Consultants Limited (“Babbage”). I have held this position since January 2023.
- 2) In my role as a Senior Ecologist, I undertake, supervise and review Ecological Impact Assessments (“EclAs”), and provide technical ecological advice to a range of clients regarding biodiversity valuation, project design and opportunities to avoid, mitigate, offset, compensate and restore environments. I specialise in terrestrial ecology, including indigenous fauna and flora, particularly regarding native birds.

## Qualifications and experience

- 3) I am qualified with the degree of Doctor of Philosophy (Ph.D., Ecology) from Massey University and have over 20 years’ experience studying terrestrial species and ecosystems in New Zealand. I am a member of the Environmental Institute of Australia and New Zealand.
- 4) My previous employment and associated positions include:
  - a) Massey University:
    - i)* Senior Tutor in Ecology and Zoology (2019-2022);
    - ii)* Postdoctoral Fellow in Ecology (2016-2019);
    - iii)* Lecturer (2016);
    - iv)* Foundation of Research Science and Technology Postdoctoral Fellowship (2011-2015); and
    - v)* Research Officer, Ecology Group and New Zealand Institute for Advanced Studies (2009-2010).
  - b) University of Western Ontario, Canada: Government of Canada Postdoctoral Research Fellowship (2010-2011).
  - c) Auckland Regional Council: Research Consultant (2004).

## Involvement in project

- 5) I was engaged by Wellington International Airport Limited (“**WIAL**”) in July 2024 to review two proposed Significant Natural Area (“**SNAs**”) identified as “WC175- Moa Point gravel dunes”, and “WC176- Lyall Bay dunes” which are located to the east and west of the southern end of the WIAL Airport runway. Hereafter they are referred to as “**Moa Point**” and “**Lyall Bay**”.

- 6) The purpose of the review was specifically to assess the values of the SNAs and their proposed extents against the criteria for an SNA as set by the Wellington City Council (Policy 23, Regional Policy Statement (**RPS**), and subsequently the National Policy Statement for Indigenous Biodiversity (**NPS-IB**) (Appendix 1)).
- 7) In undertaking my assessment, I reviewed the report prepared by Wildlands (2016), and I visited the two proposed SNA areas on 26 July 2024. I also had access to a draft report prepared by RMA Ecology (2023) regarding these SNAs and a coastal bird survey prepared by NIWA for WIAL's planning team.
- 8) During my site visit, I recorded any notable ecological features and their extents using qField on a tablet, to view features on high-definition aerial imagery, and to enable desktop analysis on return to the office (qGIS) using additional features such as historical image overlays and other relevant GIS information.

#### **Purpose and scope of evidence**

- 9) The purpose of my evidence is to present my findings and conclusions, including any proposed amendments to the proposed SNAs as I consider appropriate, with consideration to:
  - a) The values that I recorded onsite;
  - b) The consistency of each area with the relevant statutory SNA criteria, i.e the framework set by Policy 23 of the RPS and Appendix 1 of the NPS-IB (**SNA Criteria**);
  - c) The extent to which the identified SNA Criteria are consistent with mapped areas and descriptions of the proposed SNAs;
  - d) Provide recommendations for revised boundaries of the SNAs where I consider appropriate.
- 10) Specifically, my evidence will, for each SNA::
  - a) Briefly describe the existing assessments of the SNAs in question;
  - b) Provide commentary on previous assessments;
  - c) Provide recommendations for changes to the extent of the SNAs;
- 11) I also provide an overview of the policy framework relevant to my assessment and finish with a brief conclusion.

#### **Expert Witness Code of Conduct**

11) I have read the Code of Conduct for Expert Witnesses, contained in the Environment Court Consolidated Practice Note (2023), and I agree to comply with it. I can confirm that the issues addressed in this statement are within my area of expertise and that, in preparing my evidence, I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

### **Overview of previous SNA assessments**

- 12) The Wildlands (2016) desktop assessment of the Moa Point and Lyall Bay SNAs were drawn using aerial images to determine habitat/ecosystem boundaries. This method appears to have used a 2012-2013 aerial photo<sup>1</sup>, which is now outdated for these two SNAs.
- a) Specifically, the eastern end of Lyall Bay had a larger carpark at that time, which has been mapped around, but has since been reduced (see attached **Appendix B, Map 1**).
  - b) The intertidal margin of both SNAs appear to have been drawn based on the tidal edge in this older imagery, resulting in large sections of the intertidal zone within the Coastal Marine Area (**CMA**), being included within the SNA for Lyall Bay. I understand that SNAs should apply to terrestrial indigenous ecosystems only.
  - c) I therefore consider that at least to this extent, the proposed SNA's, as mapped by Wildlands (2016) are inaccurate.

### **Proposed Lyall Bay SNA**

- 13) The proposed Lyall Bay SNA was initially identified by a desktop scoping report in 2016 by Wildlands Consulting Ltd<sup>2</sup>. This assessment suggested that Lyall Bay meets three out of the four following criteria:
- a) **RPS23a Representativeness (yes):** May be representative of a dune system.
  - b) **RPS23b Rarity (yes):** Four At Risk-Declining plant species reported. Coastal dune ecosystems with indigenous vegetation are also considered Endangered.
  - c) **RPS23c Diversity (yes):** Potentially reasonably diverse for the type of ecosystem.
  - d) **RPS23d Connectivity (no):** In proximity to other sites, but does not buffer or protect other sites.

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<sup>1</sup> <https://data.linz.govt.nz/layer/51871-wellington-01m-urban-aerial-photos-2012-2013/>

<sup>2</sup> Wildlands Consultants Ltd (2016). Audit of potentially Significant Natural Areas for Wellington City: Stage 1 Desktop Analysis.

- 14) The Statement of Evidence of Nicholas Goldwater on behalf of Wellington City Council (9 August 2024) provides updated information on this SNA, following a site visit to reassess if this site qualifies under the NPS-IB criteria for a SNA. Mr Goldwater’s updated assessment considers that the proposed Lyall Bay SNA meets four criteria, being “Diversity”, “Representative”, “Rarity”, “Ecological Context” as follows:
- **Diversity:** No detail provided
  - **Representative:** No detail provided
  - **Rarity:** Northern blue penguin, pingao, red-billed gull, Active and/or Stable Dune=Regionally Endangered.
  - **Ecological Context:** links other coastal habitat
- 15) Mr Goldwater’s updated assessment also included, as an Appendix, a table of the summary of site assessments for the SNAs visited, including desktop and site assessments for flora and fauna.

***Comments on previous Lyall Bay SNA assessments***

- 16) I have collated the information from Mr Goldwater’s desktop and site assessment in the **attached Appendix A (Table 3)**, with my own annotations showing updated species threat status categories and my comments regarding species distribution.
- 17) I note that most of the bird species listed are also classified as specified highly mobile fauna in Appendix 2, NPS-IB (except little penguin, black shag, little shag and little black shag). The Appendix 2 (NPS-IB) list identifies Threatened or At-Risk species that are required to be managed within highly mobile fauna areas through objectives, policies, or methods of regional policy statements and plans, and acknowledges that areas outside SNAs are used by these species (clause 3.20, NPS-IB).
- 18) Based on his onsite assessment, Mr. Goldwater recommended that this area still qualifies as an SNA.
- 19) However, in my view the eastern most portion of the proposed Lyall Bay SNA, does not meet the following relevant SNA Criteria for the reasons noted:
- a) **Representativeness (no):** This is not representative of a dune system and is heavily modified due to artificial rock walls.
  - b) **Rarity and distinctiveness (no):** One at risk plant species present (pingao) that has been planted. Two At Risk bird species (red-billed

gull, black-billed gull) observed during site visit (unknown if this location). Other records from desktop assessment (ebird) only indicate sightings of red-billed gull at this location, but no indication of breeding. Nor was this apparent from my site visit.

- c) **Diversity and pattern (no):** low diversity in landform, flora and fauna.
- d) **Ecological Context (no):** Margin of western section of proposed SNA, but not connected to other important coastal habitats.

20) Insofar as the western areas of Lyall Bay is concerned (i.e. the areas shown in my Appendix B, map 4), I agree with the Wildlands (2016) report that these areas of the proposed SNA meet the following SNA criteria:

- a) **Representativeness (yes):** Representative of a dune system within the ecological district.
- b) **Diversity (yes):** Moderate level of diversity in natural landform, vegetation and fauna for the type of ecosystem.
- c) **Rarity and distinctiveness (yes):** Presence of threatened or at risk birds, regular roosting and foraging in this area (Northern blue penguin, red-billed gull, variable oystercatcher etc) and important migratory stopover for Wrybill). One At Risk plant species (pingao). Active and/or Stable Dune (Regionally Endangered).
- d) **Ecological context (no):** Links to other coastal habitats, but does not buffer or protect other sites.

### ***Recommended changes to the proposed Lyall Bay SNA***

21) Based on the previous assessments by Wildlands, the proposed Lyall Bay SNA meets the criteria for an SNA due to Representativeness, Diversity and Pattern, Rarity and distinctiveness and Ecological Context. However, not all of the proposed SNA extent meets these criteria.

22) Accordingly, I recommend that the SNA at the eastern end of Lyall Bay is reduced (see attached maps in **Appendix C** for recommended amended area). The area recommended to be removed from the SNA differs from the remainder of the SNA for the following reasons:

- a) The dune sections are heavily modified and differ from the rest of Lyall Bay (see **Figure 1**);
- b) Only one At Risk plant species is present (Pingao) in the eastern most portion of the SNA, which has recently been planted. The removal of the carpark in this area was between April 2018 and September 2018 (Google Earth), so it would have been planted after this date;
- c) No Threatened or At Risk Bats or Lizards were detected;
- d) There is no indication that this area is frequently used as a significant roost site for Threatened or At Risk birds. Red-billed gulls were

observed roosting in the car park at this site, but this is outside the proposed SNA. Regardless, the presence of one At Risk species does not necessarily qualify a site to be an SNA:

i) Under NPS- IB, Appendix 1 (1 (2)),

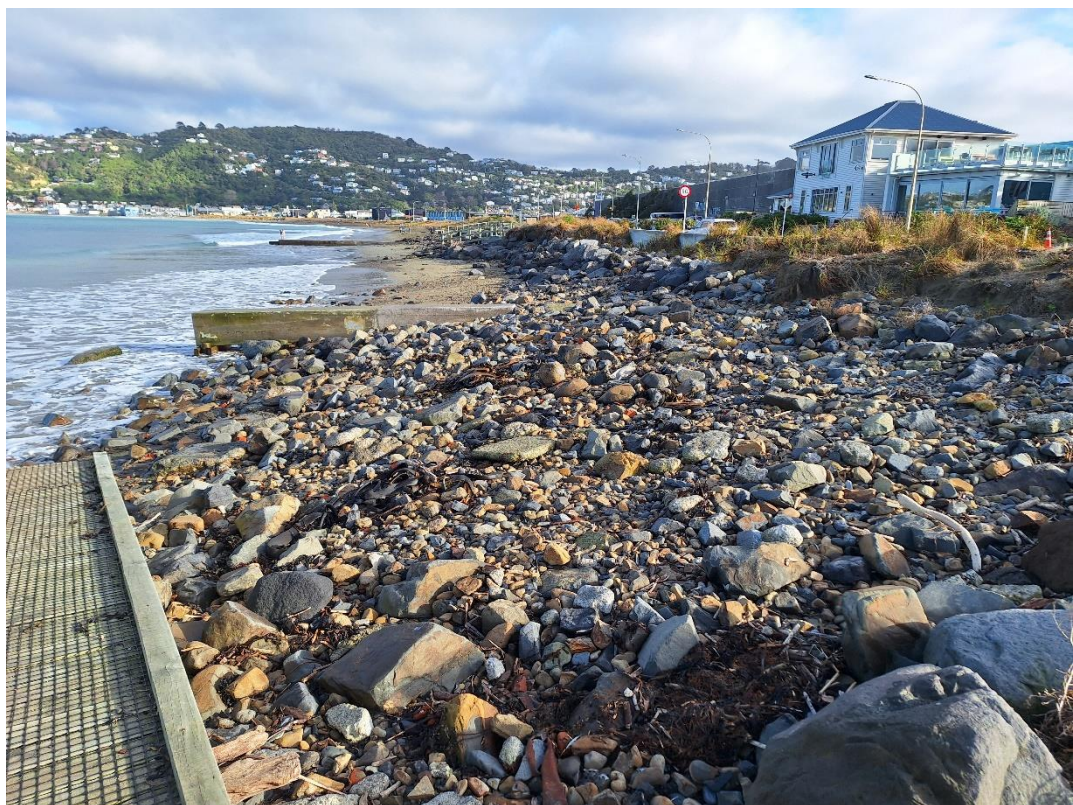
*(2) If an area would qualify as an SNA solely on the grounds that it provides habitat for a single indigenous fauna species that is At Risk (declining), and that species is widespread in at least three other regions, the area does not qualify as an SNA unless:*

*(a) the species is rare within the region or ecological district where the area is located; or*

*(b) the protection of the species at that location is important for the persistence of the species as a whole.*

ii) Red-billed Gulls are listed as “Regionally Vulnerable”. It is unclear if this meets the criteria (2) (a) due to differing terminology. They are however widespread and found in coastal areas throughout New Zealand.

e) In my view these factors mean that this specific area of the proposed SNA does not meet the SNA Criteria.



**Figure 1.** Eastern of the Lyall Bay SNA area.

23) I also recommend that the PDP Schedule 8 description is updated to reflect the NPS-IB criteria. Further updating is required match the current threat status of the species present. Suggested changes are provided in **Table 1** below.

*Table 1. Recommended updates to Schedule 8 (amendments shown in blue).*

<b>WC176</b>	
<b>Site Name</b>	Lyall Bay Dunes
<b>Site Summary</b>	A coastal beach and truncated dune system. Some restoration planting occurring. <del>Four</del> <u>One</u> At Risk-Declining plant species reported; <u>Pingao (<i>Ficinia spiralis</i>)</u> . Vegetation recorded (2017) includes native species (native iceplant, taupata ( <i>Coprosma repens</i> ), spinifex, pingao ( <i>Ficinia spiralis</i> )) and exotic species (Tree lupin, tree mallow, exotic iceplant, Gravel groundsel ( <i>Senecio skirrhodon</i> ), Marram grass, <i>Atriplex patula</i> , <i>Osteospermum fruticosum</i> , <i>Gazania linearis</i> , <i>Senecio elegans</i> ). <del>One Threatened-Nationally Critical</del> <u>One</u> Threatened-Nationally endangered, <u>one Threatened – Nationally Increasing</u> and <del>five-ten</del> At Risk bird species recorded.
<b>Relevant criteria values under Policy 23 of the RPS</b>	Representativeness (Policy 23(a)) Rarity <u>and Distinctiveness</u> (Policy 23(b)) Diversity <u>and pattern</u> (Policy 23(c))

## **Proposed Moa Point SNA**

### ***Overview of previous SNA assessments***



24) This SNA was initially identified by a desktop scoping report in 2016 by Wildlands Consulting Ltd<sup>3</sup>. This assessment suggested that the Moa Point area meets one criterion, RPS23b (Rarity), and was therefore considered to be significant.

- a) **RPS23b (Rarity):** Three Threatened-Nationally Endangered bird species and two At Risk-Declining bird species. Gravel beaches are an Endangered ecosystem type (Holdaway et al. 2012), but significance depends on condition. Acutely Threatened land environment, but lacks indigenous cover.

25) The Statement of Evidence of Nicholas Goldwater on behalf of Wellington City Council (9 August 2024) provides updated information on this proposed SNA, following a site visit to reassess if this site qualifies under the NPS-IB criteria for SNAs.

26) Mr Goldwater's updated assessment considers that Moa Point meets four criteria, being "Diversity", "Representative", "Rarity", "Ecological Context" as follows:

- a) **Diversity:** No detail provided.
- b) **Representative:** No detail provided.
- c) **Rarity:** Northern Blue Penguin, Dune slack; Shingle Beach=Regionally Endangered.
- d) **Ecological Context:** links to other coastal habitats.

27) Mr Goldwater's assessment also included, as an Appendix, a table of the summary of site assessments, including desktop and site assessments for flora and fauna.

28) Based on his onsite assessment, Mr. Goldwater recommended that this site still qualifies as an SNA.

### ***Comments on previous Moa Point SNA assessments***

29) I have collated the information from Mr Goldwater's desktop and site assessment in **Appendix A (Table 4)** with my own annotations on updated

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<sup>3</sup> Wildlands Consultants Ltd (2016). Audit of potentially Significant Natural Areas for Wellington City: Stage 1 Desktop Analysis.

species threat status categories and comments regarding species distribution.

- 30) I note that most of the bird species listed are also classified as specified highly mobile fauna in Appendix 2, NPS-IB (except little penguin, black shag, little shag and little black shag). The Appendix 2 (NPS-IB) list identifies Threatened or At-Risk species that are required to be managed within highly mobile fauna areas through objectives, policies, or methods of regional policy statements and plans, and acknowledges that areas outside SNAs are used by these species (S3.20, NPS-IB 2023).
- 31) The Wildlands (2016) assessment states that Moa Point SNA is “shingle beach”<sup>4</sup>, which is an endangered ecosystem type. I understand that shingle beaches are comprised of primarily a mixture of sand, water-smoothed gravel (>50%, particles 2-64mm) and cobbles. “Dune slacks”<sup>5</sup> are also considered an endangered ecosystem type. I understand that dune slacks are small, nutrient-enriched, vegetated, moist depressions between shore dunes or in a sandbank, especially those which periodically hold slack (scarcely moving) water at times of highest tides.
- 32) Based on my site visit, much of the area at the western end is exposed hard fill (dumped concrete, rocks, rubble) and the appearance of a shingle beach on the shoreline contains hard fill being eroded (see **Figure 2**). I therefore do not consider the western end of the proposed Moa Point SNA to represent a ‘shingle Beach’ with a dune slack. In addition, the suggested dune slack areas have artificial depressions due to previous earthworks and hard fill dumping (**Appendix B, Map 2**). Further, I consider that the eastern, more ‘natural’ end of Moa Point Beach is composed of a more sandy substrate than shingle or gravel (see **Figure 3**).
- 33) Historically, this section of coastline was predominantly a rocky shoreline. An aerial photo from 1938 indicates that only the south-eastern most section of the SNA may have included a small section (~50 metre) of beach (see **Map 2**).
- 34) Much of the shoreline at this location has been reclaimed with ‘hard fill’. A later aerial photo from 1988 indicates that construction was occurring at

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<sup>4</sup> <https://www.landcareresearch.co.nz/publications/naturally-uncommon-ecosystems/coastal/shingle-beaches/>

<sup>5</sup> <https://www.landcareresearch.co.nz/publications/naturally-uncommon-ecosystems/wetlands/dune-slacks/>

that time and much of the northwest section of the proposed SNA was cleared of vegetation at that time.

- 35) I therefore do not consider that Moa Point SNA is representative of a 'Shingle Beach' or 'Dune slack'.
- 36) Therefore, with respect to the western most portion of the proposed Moa Point SNA, in my view, the area does not meet the following SNA Criteria for the reasons noted:
- a) **Representativeness (no):** Not typical or characteristic of duneland or shingle beach within the ecological district. Ecosystem is based on a heavily modified foreshore due to hardfill reclamation.
  - b) **Diversity and pattern (no):** Area supports a low diversity of bird, lizard and plant species and communities.
  - c) **Rarity and distinctiveness (no):** No threatened or at risk plant species present. Two At Risk bird species (red-billed gull, black-billed gull) were observed during Mr Goldwater's site visit (unknown if this specific location). Other records from desktop assessment (ebird) indicate sightings of red-billed gull and banded dotterel at this location. Banded Dotterel are known to breed on airport runway, however a 12 month coastal bird survey by NIWA detected banded dotterels only once in January (2 birds) with no indication of breeding at this area.
  - d) **Ecological Context (no):** Margin of eastern section of proposed SNA, but not connected to other important coastal habitats.
- 37) Insofar as the eastern area of the proposed Moa Point SNA is concerned (i.e. the area shown in **Appendix C, Map 3**), I agree with the Wildlands (2016) report SNA assessment as follows:
- a) **Representativeness (no):** Not representative or characteristic of shingle beach or dune slack within the ecological district. Ecosystem is based on a modified foreshore with the back beach potentially also modified by infill. due to hardfill reclamation. Vegetation is mix of exotic and indigenous coastal scrub vegetation, commonplace in the ecological district.
  - b) **Diversity (yes).** No at risk plant species recorded, mixture of indigenous and exotic vegetation. Twelve threatened and at risk bird species recorded as visiting this area.
  - c) **Rarity and distinctiveness (yes):** Presence of threatened or at risk birds, regular habitat use by some species in this area (e.g. variable oystercatcher).
  - d) **Ecological context (no):** Links to other coastal habitats but does not buffer or protect other sites.





**Figure 2.** Western end of the Moa Point SNA with exposed hard fill in the foreground.



**Figure 3.** Eastern end of the Moa Point SNA, which is primarily sand rather than shingle.



**Recommended changes to the Moa Point SNA**

38) I recommend that part of the proposed SNA at the western end of the Moa Point SNA is removed (see **Appendix C, Map 3** for recommended amended area). The area recommended to be removed from the proposed SNA differs from the remainder of the SNA area for the following reasons.

- a) No Threatened or At Risk plant species are present
- b) No Threatened or At Risk Bats or Lizards were detected.
- c) The foreshore is entirely artificial due to previous shoreline reclaiming with hard fill. None of the natural shoreline remains in this area. This is not a natural shingle beach or dune slack ecosystem.
- d) There is no indication that this area is frequently used as a significant roost site for Threatened or At Risk birds, other than red-billed gulls and potentially little blue penguins, but this is uncertain.
- e) Although banded dotterels have been reported to be breeding at the Southern end of the runway, this is outside the proposed SNA area.
- f) These factors mean that this specific area does not meet the criteria to be an SNA.

39) I also recommend that the PDP Schedule 8 description is updated to reflect the NPSIB criteria. Further updating is required match the current threat status of the species present. Suggested changes are provided in **Table 2** below.

**Table 2.** Recommended updates to Schedule 8 (amendments shown in blue).

<b>WC175</b>	
<b>Site Name</b>	Moa Point
<b>Site Summary</b>	An area of coastal gravel dune and grass and flaxland between Moa Point Road and the sea. Vegetation includes Muehlenbeckia <del>complexa-australis</del> , <del>ngaio</del> , flaxes, <del>pingao</del> , <del>spinifex</del> , <del>Juncus effusus</del> and Coprosma repens. Bird species include: <del>Banded dotterel (Charadrius bicinctus bicinctus)</del> , <del>Reef Heron</del> (Threatened-Nationally Endangered), At Risk-Declining species: red-billed gull (Larus novaehollandiae scopulinus), <del>black-billed gull (Chroicocephalus bulleri)</del> .

	Northern blue penguin ( <i>Eudyptula minor iredalei</i> ), <a href="#">White-fronted tern (<i>Sterna Striata</i>)</a> ; At Risk- Recovering species: pied shag ( <i>Phalacrocorax varius varius</i> ), variable oystercatcher ( <i>Haematopus unicolor</i> ).
<b>Relevant criteria values under Policy 23 of the RPS</b>	Rarity <u>and Distinctiveness</u> (Policy 23(b)) Diversity <u>and pattern</u> (Policy 23(c))

### Relevant Policy Framework

40) In preparing this evidence I have considered in particular the relevant provisions of the NPS-IB that relate to significant natural areas. I also note the following:

- a) The NPS-IB applies to indigenous species found in the terrestrial environment, with the exception of specified highly mobile fauna (clause 1.3(2)(b) of the NPS-IB). In relation to specified highly mobile fauna the NPS applied regardless of whether these fauna use areas outside of the terrestrial environment. Many of the species identified in the Council’s assessment to be using the proposed Moa Point and Lyall Bay SNAs are classed as ‘specified highly mobile fauna’.
- b) With respect to specified highly mobile fauna, the NPS-IB requires local authorities to include objectives, policies, or methods in their policy statements and plans for managing the adverse effects of new subdivision, use, and development on highly mobile fauna areas in order to maintain viable populations of these types of fauna across their natural range. It is understood that this has been deferred by Wellington City Council (see Table 3 and paragraph 192 Section 42A report).
- c) However, in my opinion there is an inherent contradiction within the NPS-IB that will need to be reconciled considering this future workstream regarding identifying SNAs and highly mobile fauna areas outside SNAs. Notably:

- i) All specified highly mobile fauna are Threatened or At Risk - Declining (NPS-IB, Appendix 2). Therefore, any locations where more than one species of highly mobile fauna are found (or one regionally rare or nationally threatened species) therefore qualify that site as an SNA under the rarity and distinctiveness criterion (Appendix 1, C (6) (a)).
- ii) As such, protection for highly mobile fauna outside of SNAs would not be required, even though councils are directed to record areas outside SNAs that are highly mobile fauna areas (3.20 (1)).
- iii) In my opinion, the sighting/presence of highly mobile fauna alone, should not qualify a site as an SNA. Additional information is needed, for example, if the species is breeding, a regular roost site for a large number of birds is recorded, or if it is a critical feeding site. Otherwise, the entire coastline of Wellington would qualify and, without wishing to sound glib, so too would areas with gulls hanging around a number of fish and chip shops in the district.
- d) The Threatened or At Risk bird species that have been recorded for the Lyall Bay and Moa Point SNA areas that have been recommended to be removed from the Lyall Bay and Moa Point SNAs are predominantly highly mobile fauna. From my site visit and desktop review no significant breeding, roosting or feeding sites are present for these species.

## **Conclusion**

- 41) In conclusion, the spatial extent of the proposed SNAs do not appear to have been reviewed during the on-site re-assessments. I recommend two modifications to remove an area within each proposed SNA that does not meet the SNA Criteria.
- 42) In addition, I have recommended changes to the SNAs descriptions to update the species observed during site visits and their updated threat statuses.

**Michael Anderson**

**28 August 2024**



## Appendix A

**Table 3.** Indigenous Species list identified by Wildlands in proposed SNA WC176:(Lyll Bay).

Taxa	Species		Specified Highly mobile fauna (NPS-IB)	Threat Status		Wildlands report/evidence		My Comments
	Common name	Scientific name		National	Regional	Desktop	Field	
Birds	Reef heron	<i>Egretta sacra</i>	✓	Threatened - Nationally Endangered	Regionally critical	✓		Pacific reef herons use extensive sections of Wellington's southern coastline. The proposed SNAs are not key habitat, potential occasional foraging site. Lyll bay is identified as a seasonal migratory stopover.  Uses extensive sections of Wellington's southern coastline.  Foraging/roosting only, ubiquitous along coastline.  Extensive records along Wellington's southern coastline. Extensive records along Wellington's southern coastline. One record within SNA extent. Extensive records along Wellington's southern coastline. Extensive records along Wellington's southern coastline.
	Wrybill	<i>Anarhynchus frontalis</i>	✓	Threatened - Nationally Increasing	Regionally critical			
	Little Penguin	<i>Eudyptula minor</i>		At Risk - Declining	Regionally vulnerable	✓		
	Banded Dotterel	<i>Charadrius bicinctus</i>	✓	At Risk - Declining	Regionally endangered	✓		
	Red-billed Gull	<i>Chroicocephalus novaehollandiae</i>	✓	At Risk - Declining	Regionally vulnerable	✓	✓	
	Black-billed Gull	<i>Chroicocephalus bulleri</i>	✓	At Risk - Declining	Regionally critical		✓	
	White-fronted Tern	<i>Sterna striata</i>	✓	At Risk - Declining	Regionally endangered	✓		
	Pied Shag	<i>Phalacrocorax varius</i>	✓	At Risk - Recovering	Regionally vulnerable	✓		
	Variable Oystercatcher	<i>Haematopus unicolor</i>	✓	At Risk - Recovering	Regionally endangered	✓		
	Black Shag	<i>Phalacrocorax carbo</i>		At Risk - Relict	Regionally critical	✓		
	Little Shag	<i>Microcarbo melanoleucos</i>		At Risk - Relict	Regionally endangered	✓		
	Little Black Shag	<i>Phalacrocorax sulcirostris</i>		At Risk - Naturally Uncommon	Regionally vulnerable	✓		
Lizards	Northern Grass Skink	<i>Oligosoma polychroma</i>		Not Threatened	Not Threatened	✓		
Plants	Flax	<i>Phormium tenax</i>		Not Threatened	Not Threatened		✓	
	Pingao	<i>Ficinia spiralis</i>		At Risk - Declining	Regionally vulnerable		✓	
	Taupata	<i>Coprosma repens</i>		Not Threatened	Not Threatened		✓	
	wiwi, knobby club rush	<i>Ficinia nodosa</i>		Not Threatened	Not Threatened		✓	
	native celery	<i>Apium prostratum</i>		Not Threatened	Not Threatened		✓	
	native ice plant	<i>Disphyma australe</i>		Not Threatened	Not Threatened		✓	
	Native spinach	<i>Tetragonia trigyna</i>		Not Threatened	Not Threatened		✓	
	shore groundsel	<i>Senecio lautus</i>		Not Threatened	Not Threatened		✓	
	alyssum	<i>Lobularia maritima</i>		Exotic	Exotic		✓	
	European radish	<i>Cakile maritima</i>		Exotic	Exotic		✓	
	Marram	<i>Calamagrostis arenaria</i>		Exotic	Exotic		✓	
	Sth African ice plant	<i>Carpobrotus edulis</i>		Exotic	Exotic		✓	
	Tree mallow	<i>Malva arborea</i>		Exotic	Exotic		✓	
hoary stock	<i>Matthiola incana</i>		Exotic	Exotic		✓		

**Table 4. Indigenous Species list identified by Wildlands in SNA 175 (Moa Point).**

Taxa	Species		Specified Highly mobile fauna (NPS-IB)	Threat Status		Wildlands report/evidence		My Comments
	Common name	Scientific Name		National	Regional	Desktop	Field	
Birds	Reef heron	<i>Egretta sacra</i>	✓	Threatened - Nationally Endangered	Regionally critical	✓		Pacific reef herons use extensive sections of Wellington's southern coastline. SNA is not key habitat, potential occasional foraging site. No records found for Moa Point.  Uses extensive sections of Wellington's southern coastline. Breeding site nearby (southern runway), but outside SNA. Foraging/roosting only, ubiquitous along coastline.  No ebird records from site. Nearest records from Lyall Bay. Easily mistaken for Red-billed gull. Extensive records along Wellington's southern coastline. Three records from this area. Extensive records along Wellington's southern coastline. One record of one bird within SNA extent (ebird). Extensive records along Wellington's southern coastline. Two records within SNA extent.
	Wrybill	<i>Anarhynchus frontalis</i>	✓	Threatened - Nationally Increasing	Regionally critical	✓		
	Little Penguin	<i>Eudyptula minor</i>		At Risk - Declining	Regionally vulnerable	✓		
	Banded Dotterel	<i>Charadrius bicinctus</i>	✓	At Risk - Declining	Regionally endangered	✓		
	Red-billed Gull	<i>Chroicocephalus novaehollandiae</i>	✓	At Risk - Declining	Regionally vulnerable	✓	✓	
	Black-billed Gull	<i>Chroicocephalus bulleri</i>	✓	At Risk - Declining	Regionally critical	✓	✓	
	White-fronted Tern	<i>Sterna striata</i>	✓	At Risk - Declining	Regionally endangered	✓		
	Pied Shag	<i>Phalacrocorax varius</i>	✓	At Risk - Recovering	Regionally vulnerable	✓		
	Variable Oystercatcher	<i>Haematopus unicolor</i>	✓	At Risk - Recovering	Regionally endangered	✓		
	Black Shag	<i>Phalacrocorax carbo</i>		At Risk - Relict	Regionally critical	✓		
	Little Shag	<i>Microcarbo melanoleucos</i>		At Risk - Relict	Regionally endangered	✓		
	Little Black Shag	<i>Phalacrocorax sulcirostris</i>		At Risk - Naturally Uncommon	Regionally vulnerable	✓		
	Pied Stilt	<i>Himantopus himantopus</i>		Not Threatened	Not Threatened	✓		
Lizards	Raukawa Gecko	<i>Woodworthia maculata</i>		Not Threatened	Not Threatened	✓		
	Northern Grass Skink	<i>Oligosoma polychroma</i>		Not Threatened	Not Threatened	✓		
Plants	coastal immortality grass	<i>Austrostipa stipoides</i>		Not Threatened	Not Threatened		✓	Identified as FINnod in Statement of evidence – Nicholas Goldwater. FINnod is not present in the NVDS species list, assumed to be <i>Ficinia nodosa</i> (i.e. FICnod).  Only identified to genus level. Assumed to be <i>Tetragonia tryginia</i> (present in Lyall Bay SNA).  Older name for <i>Austrostipa stipoides</i> that was also listed.
	Taupata	<i>Coprosma repens</i>		Not Threatened	Not Threatened		✓	
	pōhuehue, large-leaved muehlenbeckia	<i>Muehlenbeckia australis</i>		Not Threatened	Not Threatened		✓	
	Flax	<i>Phormium tenax</i>		Not Threatened	Not Threatened		✓	
	Mountain Flax	<i>Phormium cookianum</i>		Not Threatened	Not Threatened		✓	
	wiwi, knobby club rush	<i>Ficinia nodosa</i>		Not Threatened	Not Threatened		✓	
	native ice plant	<i>Disphyma australe</i>		Not Threatened	Not Threatened		✓	
	Native spinach	<i>Tetragonia spp</i>		Not Threatened	Not Threatened		✓	
	native celery	<i>Apium prostratum</i>		Not Threatened	Not Threatened		✓	
	coastal tree daisy	<i>Olearia solandri</i>		Not Threatened	Not Threatened		✓	
	Glasswort	<i>Salicornia quinqueflora</i>		Not Threatened	Not Threatened		✓	
	Stipa stipoides (wind and bonking grass)	<i>Stipa stipoides</i>		Not Threatened	Not Threatened		✓	
	shore groundsel	<i>Senecio lautus</i>		Not Threatened	Not Threatened		✓	
	Buck's horn plantain	<i>Plantago coronopus</i>		Exotic	Exotic		✓	
	Tree lupin	<i>Lupinus arboreus</i>		Exotic	Exotic		✓	
	jointed charlock	<i>Raphanus raphanistrum</i>		Exotic	Exotic		✓	
	narrow-leaved plantain	<i>Plantago lanceolata</i>		Exotic	Exotic		✓	
	Boneseed	<i>Chrysanthemoides monilifera</i>		Exotic	Exotic		✓	
	Wild radish/mustard	<i>Raphanus raphanistrum</i>		Exotic	Exotic		✓	
	gorse	<i>Ulex europaeus</i>		Exotic	Exotic		✓	
cocksfoot (road edges)	<i>Dactylis glomerata</i>		Exotic	Exotic		✓		
onion weed	<i>Allium triquetrum</i>		Exotic	Exotic		✓		
Gazania sp. (orange flower)	<i>Unknown</i>		Exotic	Exotic		✓		

**APPENDIX B**

**Maps of the Lyall Bay and Moa Point SNA areas with historic and current aerial images, indicating reclamation and modifications to the shoreline.**





2012

2024



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**Review of proposed Significant  
Natural Areas**

MAP TITLE  
**SNA WC176 Lyall Bay - Historic  
Images**

MAP REVISIONS  
26 August 2024  
Initial version by MA.

**Legend**

-  New Zealand Coastline - mean high water (LINZ)
-  Proposed Significant Natural Areas (SCHED8) - Proposed District Plan

MAP PROJECTION  
NZGD2000 / New Zealand Transverse Mercator  
2000

SOURCES  
Land Information New Zealand (LINZ)  
Nearmap.com

**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  
**1:1,000 @ A3**

MAP NO.  
**67515 Map 1**





1938

1988

2024

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**Review of proposed Significant  
Natural Areas**

MAP TITLE  
**SNA WC175 Moa Point - Historic  
Images**

MAP REVISIONS  
26 August 2024  
Initial version by MA.

**Legend**

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-  Proposed Significant Natural Areas (SCHED8) - Proposed District Plan

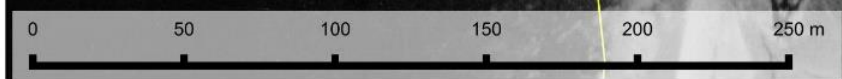
MAP PROJECTION  
NZGD2000 / New Zealand Transverse Mercator  
2000

SOURCES  
Land Information New Zealand (LINZ)  
Retrolens.co.nz  
Nearmap.com

DISCLAIMER:  
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SCALE  
**1:2,500 @ A3**

MAP NO.  
**67515 Map 2**



1/7 8



**APPENDIX C**

**Maps with originally proposed SNA areas and recommended updated extents for proposed Moa Point and Lyall Bay SNAs**





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**Review of proposed Significant  
Natural Areas**




MAP TITLE

**SNA WC175 Moa Point -  
Recommended extent**

MAP REVISIONS

26 August 2024  
Initial version by MA.

**Legend**

-  New Zealand Coastline - mean high water (LINZ)
-  Proposed Significant Natural Areas (SCHED8) - Proposed District Plan
-  Recommended SNA extent for WC175 Moa Point

MAP PROJECTION  
NZGD2000 / New Zealand Transverse Mercator  
2000

SOURCES  
Land Information New Zealand (LINZ)  
Nearmap.com

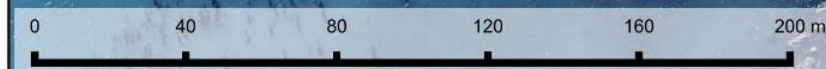
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SCALE

**1:2,000 @ A3**

MAP NO.

**67515 Map 3**







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**Review of proposed Significant  
Natural Areas**

MAP TITLE  
**SNA WC176 Lyall Bay -  
Recommended extent**

MAP REVISIONS  
26 August 2024  
Initial version by MA.

**Legend**

-  New Zealand Coastline - mean high water (LINZ)
-  Proposed Significant Natural Areas (SCHED8) - Proposed District Plan
-  Recommended SNA extent for WC175 Moa Point

MAP PROJECTION  
NZGD2000 / New Zealand Transverse Mercator  
2000

SOURCES  
Land Information New Zealand (LINZ)  
Nearmap.com

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SCALE  
**1:4,500 @ A3**

MAP NO.  
**67515 Map 4**

