BEFORE THE AUCKLAND UNITARY PLAN 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	The Proposed Auckland Unitary Plan Topic 016: RUB North/West

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STATEMENT OF REBUTTAL EVIDENCE OF BERNARD MICHAUX

ON BEHALF OF

THE OKURA ENVIRONMENTAL GROUP (SUBMITTER NUMBER 5466)

AND

THE LONG BAY-OKURA GREAT PARK SOCIETY (SUBMITTER NUMBER 4462)

(TERRESTRIAL ECOLOGY)

19 DECEMBER 2015

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1. **INTRODUCTION**

1.1. My name is Bernard Michaux.

1.2. I have a BA (Hons) from University College, Oxford in Natural Sciences (1973), an MPhil (1st Class Honours) in Ecology from the University of Auckland (1983), and a PhD in Evolutionary Biology from Auckland University (1986)

1.3. I have 31 peer-reviewed publications in scientific Journals, have contributed four peer-reviewed chapters to books, and have published a book (Michaux, 2014). The New Zealand avifauna features as data in a number of these publications. In addition I wrote entries for 13 species on the New Zealand Birds Online website (http://nzbirdsonline.org.nz/).BEF

1.4. I am a member of Birds New Zealand (formerly the Ornithological Society of New Zealand) and have been active in monitoring waders for the past six years (winter and summer censuses at Mangawhai and Jordan's Island, Kaipara Harbour; New Zealand Dotterel breeding and post-breeding censuses at Mangawhai), monitoring tomtits (*Petroica macrocephela*) at Atuanui Scenic Reserve (Michaux, 2009), and monitoring the breeding success of Variable Oystercatchers (*Haematopus unicolor*) at Long Bay – Okura Great Park (Michaux, 2013).

1.5. I have been recording numbers and diversity of birds at the Okura Shell Bank (opposite the end of the Okura River Road), the Okura Estuary, and Karepiro Bay since the opening of the Okura Bush Walk track in 2006 which allowed access to these areas. I have continuous written records in notebooks going back to 31/10/06 and have placed the last 4 years records (2012-2015) in a freely available electronic format on eBird (Appendix A).

1.6. I have been asked to provide evidence in relation to the appropriate location of the RUB proposed in the PAUP along Piripiri Ridge and Vaughans Road.

1.7. I have read the Joint Statement of Evidence of Carol Bergquist, Megan Carbines and Shona Myers of behalf of Auckland Council (Ecology in the Marine Receiving Environment ï Okura) and the Primary Evidence of David Charles Slaven on behalf of Okura Holdings Limited and wish to respond to their findings.

1.8. Other than where I state that I am relying on the evidence of another person, my 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 that I express.

2. SUMMARY

2.1. The area of Karepiro Bay and the Okura Estuary is the most important east coast wader feeding and roosting site south of Mangawhai and north of Miranda, Firth of Thames.

2.2. I concur with Bergquist (Para 5.11) that the Long Bay-Okura Marine Reserve provides important feeding, roosting and breeding areas for a number of wading and shorebirds, including threatened species.

2.3. The shores of the Okura Estuary cannot be regarded in isolation from Grannyôs Bay to the mouth of the Wade River which is the area used by Waders and other shorebirds whose habitats lie within the Okura Estuary.

2.4. Slaven, in his evidence Para 21, has stated that in relation to shore birds and waders, very few have been observed in the Okura Estuary.

This is contrary to my experience of having observed the shore birds in the Estuary regularly over the past nine years.

2.5. In Para 19, Slaven has listed a number of introduced and native birds utilising the [OHL proposed development] site. He contends that the great majority of these species are ubiquitous in Aucklandôs rural and bush landscapes, and while some foraging areas (presently pasture) will be lost, there is an abundance of alternative open pasture habitat in the local area for those species that prefer such. While this may be true of some species, it is my observation that these pasture lands are important for others.

3. **Shore birds of the Okura Estuary**

3.1. Slaven, in Para 21, he has stated that in relation to shore birds and waders, very few have been observed in the Okura Estuary in two Boffa Miskell investigations (2006 and 2014).

3.2. I have been a regular observer of shore birds in the area from Grannys Bay to the mouth of the Wade River, including the areas of the Okura Estuary and Karepiro Bay, for the past nine years, and this has not been my experience. I have observed many birds within the Estuary itself.

3.3. For example, there are particular important bird species living and nesting, on the Shell Spit itself including nesting nationally endangered New Zealand Dotterels and the Variable Oystercatchers, both of which are fully protected endemics.

3.4. However, it is my observation that it is impossible when talking of the areas that birds use to take particular parts of this area, eg, inside the Okura Estuary, the Okura Shell Spit etc, and treat them in isolation of the whole area.

3.5. Over the past four years I have observed a large number of birds whose habitats or territory lie within the Grannys Bay to Wade River including the Okura Estuary. (Refer Appendix 2 Map). These include:

3.6. Resident Breeding Waders

3.6.1. Variable Oystercatcher (*Haematopus unicolor*). These endemic waders are listed as Nationally Recovering with an estimated population of 6000 birds in 2006 (Bell, 2010). The birds are highly territorial and actively defend breeding territories during the breeding season. Outside the breeding season some pairs remain on territory while others (and that seasonôs young) form winter flocks. These birds are ground nesters making shallow scrapes above the spring high tide mark or laying directly on rocky ledges. One to three eggs are laid in this area usually in late November and are incubated for about four weeks (Heather & Robertson, 1996). During this period (which coincides with maximum summer usage by people) both incubating birds and eggs are vulnerable to disturbance and predation. The young leave the nest after a few days and are looked after by their parents on wave-cut platforms or beaches within the breeding territory, but remain vulnerable to people, horses and dogs due to their ñsquat and freezeôbehaviour when threatened. Young birds remain with their parents until they disperse away from their parentsôterritory in the autumn, shortly after they are able to fly. There are between 10 and 12 active breeding territories between Grannyôs Bay and the Wade River Spit including those on the Shell Spit within the Estuary.

3.6.2. New Zealand Dotterel (*Charadrius obscurus*). These endemic waders are listed as Nationally Threatened. Apart from an isolated Stewart Island population, these birds are restricted to the upper half of the North Island. The total North Island population is about 1400 birds (Heather & Robertson, 1996). NZ Dotterels have successfully bred on the Wade River Spit (2-3 breeding pairs) for a number of years where a community group actively manages

the breeding site. Birds have periodically attempted to breed at Karepiro Bay and the Okura Shell Bank and recent predator control and roping off of potential breeding sites is likely to increase breeding success (one pair nesting presently on the Okura Shell Bank). A maximum of 19 birds have been recorded roosting at Karepiro Bay (January, 2014)

3.6.3. Pied Stilt (*Himanotopus himanotopus*). While the shores of Grannys Bay to the Wade River, including the Estuary, are utilized primarily as a post-breeding, winter feeding site, there is a resident breeding pair at Karepiro Bay.

3.7. Post-breeding and Winter Migrant Birds

3.7.1. Table 1 below indicates the post-breeding and Winter Migrant birds observed on specific months between 2012 and 2015.

Table 1 High count for species (month)

Common name	Scientific name	2012	2013	2014	2015
SI Pied Oystercatcher	*Haematopus ostralegus*	**420** (Feb)	**424** (Jan)	**174** (Jan)	**381** (April)
Variable Oystercatcher	*Haematopus unicolor*	**18** (Jan)	**21** (Jan)	**32** (July)	**21** (Jan)
Pied Stilt	*Himanotopus himanotopus*	**31** (April)	**22** (Jan)	**27** (Feb)	**30** (May)
NZ Dotterel	*Charadrius obscurus*	**11** (Feb)	**18** (April)	**19** (Jan)	**9** (Jan)
Red-billed Gull	*Larus novaehollandiae*	**56** (July)	**83** (Jan)	**115** (July)	**74** (July)

Black-backed Gull	*Larus dominicanus*	**30** (April)	**33** (Feb)	**31** (April)	**40** (Aug)
White-fronted Tern	*Sterna striata*	-	**80** (April)	**28** (April)	**57** (Aug)

3.7.2. South Island Pied Oystercatchers (*Haematopus ostralegus*). These waders breed on the braided river systems of the South Islandôs east coast, and more recently Hawkes Bay, and migrate north following breeding where they overwinter. There are always some non-breeding birds remaining over spring, but the majority of birds are found from the late summer to autumn (maximum 424 recorded in January, 2013) where they feed in the outer Okura Estuary and Karepiro Bay and roost at Karepiro Bay beach.

3.7.3. Gulls and Terns disperse away from their breeding colonies and utilize the stretch between Grannys Bay and Wade River, including the Okura Estuary, to feed offshore and roost over the winter months at low tide.

3.7.4. Large rafts of tubenoses, predominantly Fluttering Shearwaters (*Puffinus gavia*), can be found just off the Okura Estuary during the winter months where they feed on small fish that congregate inshore.

3.7.5. Arctic skuas (*Stercorarius parasiticus*) can be seen offshore chasing White- fronted Terns to get them to disgorge small fish they have caught.

3.8. **Summer Migrants from the northern Hemisphere**

3.8.2. Table 2 below indicates the Summer Migrant bird observed at various months between 2012 and 2015.

3.8.3. Table 2 High count for species (month)

Common name	Scientific name	2012	2013	2014	2015
Eastern Bar-tailed Godwit	*Limosa lapponica*	**150** (Jan)	**120** (Dec)	**126** (Jan)	**195** (Nov)

3.8.4. A flock of Eastern Bar-tailed Godwits feed in the outer estuaries of both the Okura and Wade rivers as well as Karepiro Bay, and roost at Karepiro Bay beach. These iconic New Zealand birds were voted NZ Bird of the Year for 2015 and are classified as Declining, probably due to pressure on feeding and roosting sites on the East Asia flyway. Of the 150 000 birds of this subspecies, 90 000 occur in New Zealand (Woodley, 2013). Perhaps the most remarkable fact about these birds is the 8-10 day non-stop return journey they make from Alaska (where they breed) to New Zealand (Woodley, 2009).

3.9. **Rarer birds**

3.9.1. Biodiversity is increased by the occurrence of rarer birds that utilise the area between Grannys and Karepiro Bays, including within the Okura Estuary, including; Reef Heron (*Egretta sacra*), Royal Spoonbill (*Platelea regia*) Brown Teal (*Anas aucklandica*), Spotless Crake (*Porzana tabuensis*), Shore Plover (*Thinornis novaeseelandiae*), Banded Dotterel (*Charadrius bicinctus*), Whimbrel (*Numenius phaeopus*), and Lesser Knot (*Calidris canutus*). Some of these birds are nationally, not just locally, rare.

4. Depriving birds of their natural territories

4.1. Mr Slaven, in his evidence, has listed in Para 19 a number of birds utilising the site (of the proposed development). He contends that the great majority of these species are ubiquitous in Aucklandôs rural and bush landscapes, and while some foraging areas (presently pasture) will be lost, there is an abundance of alternative open pasture habitat in the local area for those species that prefer such.

4.2. It is my observation that some birds do not necessarily remain in the primary area of their habitat. For example, I have observed winter flocks of between 100 and 250 Pied Oystercatchers using the paddocks of the OHL land when stressed by winds blowing from the north-east. As my observations were only periodic, there may have been more frequent occasions that the birds used the OHL land for shelter and foraging. It is my opinion that even if the area has been built to 4ha sites, the birds will still shelter there in the lee of the wind. However, if the OHL land were to be much more intensively developed, these flocks of birds may not have an alternative protective area to retreat to from storms.

5. Marsh birds

5.1. Slaven, Para 22, asserts that in relation to marsh birds, the only potential habitats available to them in the vicinity of the [OHL] site are at Antrim Bay and a small inlet further to the east. He says that despite two targeted surveys in 2014, no marsh birds were seen utilising these areas.

5.2. Bergquist says in her evidence (Para 5.11) that she has seen the footprints of Banded Rail in the creek to the west of the OHL Slaven (Para 5) questions this. I concur with Bergquist that these are a secretive bird, and therefore not easily spotted. While I myself have not seen Banded Rail, I have seen other even rarer marsh birds such as the Spotless Crake, in the area.

5.3. I have reason to believe that if Spotless Crake are present in this area, other rail species may well be resident in the mangrove fringe

6. Effects of Development

6.1. Waders and other shorebirds are in decline worldwide due to increased human-induced pressures on coastal land and adjacent feeding grounds. (Woodley, 2012) The urbanisation of the land that OHL proposes to develop will certainly accord with the same pressures that have led a decline in waders and other shore birds. There will be much increased human activity within and around the

Estuary. There is a high likelihood of increased cat and dog menace for the birds.

6.2. It is my opinion that that the proposed housing development will, have a detrimental effect on the wading birds in the area by:

6.3. Increasing disturbance of nesting birds resulting in lower rates of breeding success. For example, my continued monitoring of Variable Oystercatcher breeding has shown that alteration to Long Bay Regional Park bylaws in 2014 allowing dogs north of Vaughn Stream has resulted in breeding failure of the Grannys and Pohutakawa Baysô pair to fledge chicks despite success in earlier years.

6.4. Increasing disturbance of roosting birds resulting in increased stress and loss of condition.

6.5. Depriving winter migrants of roosting and feeding sites on the paddocks south of the Okura River during winter storms.

6.6. Degrading the carrying capacity of the Estuary and surrounding areas through adverse environmental impacts on the benthic fauna that the waders feed on.

7. Conclusion

7.1. For the above reasons, I cannot support the OHL proposal for urban development south of the Okura Estuary and support that the Rural Urban Boundary remain in its current location.

8. References

Bell, M. 2010. A census of variable oystercatcher (*Haematopus unicolor*) in the Marlborough Sounds. *Notornis 57*: 169-172.

Heather B., Robertson H. 1996. Field Guide to the Birds of New Zealand. Viking, New Zealand.

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Michaux B. 2014. *Tewkesbury Walks: Essays in Biogeography and Evolution*. Springer, New York, 2014

Woodley, K. 2009. *Godwits: long-haul champions*. Raupo/Penguin, Auckland.

Woodley, K. 2012. Shorebirds of New Zealand. Penguin, New Zealand.

Woodley, K. 2013. Bar-tailed godwit *in* Miskelly, C.M. (ed.) *New Zealand BirdsOnline*. www.nzbirdsonline.org.nz

Appendix A: E Bird Highest Count numbers and Species List for Karepiro Bay, Long Bay and the Okura Shell Bank www.ebird.org

Appendix B: Map showing location of bird habitats