

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a Board of Inquiry appointed under s149J of the Resource Management Act 1991 to consider Notice of Requirements and applications for Resource Consent made by the New Zealand Transport Agency in relation to the East West Link roading proposal in Auckland.

**SUMMARY OF EVIDENCE OF TIMOTHY GEORGE LOVEGROVE ON BEHALF OF
AUCKLAND COUNCIL
AVIFAUNA**

1. Corrections to Evidence

- (a) In s7.4 of my EIC, 140,000 should read 125,000, as some species have declined.
- (b) The Department of Conservation (DOC) has updated the Conservation Status of New Zealand Birds (Robertson *et al.* 2017). Appendix 1 (attached) shows these changes.

2. Overview of Key Conclusions of Evidence

- (a) The proposed reclamation will result in the permanent loss of ca. 24 ha of important intertidal shorebird feeding habitat in Mangere inlet. Proposed boardwalks and disturbance by people and dogs using them will reduce this area even further.
- (b) Proposed dredging will mobilise sediment and contaminants, which could have adverse effects on intertidal marine life upon which waders, such as the Threatened wrybill plover, depend. The Inlet is a key habitat for wrybill, at times supporting 20-25% of the global population of this unique NZ species, which numbers just 5000 birds.
- (c) Proposed landscape features will trap sediments and encourage mangroves, further reducing the area of open intertidal shorebird feeding habitat within the Inlet.
- (d) At Anns Creek, a proposed construction yard in an already consented but as yet unreclaimed area, will threaten wetland bird habitats. Construction and operational phases of the proposed Anns Creek viaduct will disturb shy wetland species such as bittern and banded rail through direct human disturbance, noise and lighting.

3. Summary of Issues Resolved and Unresolved (as between ecology experts)

Issues resolved – General

- (a) An integrated ecosystem approach to managing adverse effects, through mitigation and offset, should be followed, and to achieve the benefits sought, the proposed mitigation and offsets in Dr. DeLuca's EIC (Table 7) must be fully and successfully implemented.

Issues resolved – relevant to Mangere Inlet avifauna

- (b) The loss of ca. 24 ha of intertidal feeding habitat will adversely affect the shorebirds including Threatened and At Risk species. Minimising the reclamation footprint and removing boardwalks from the CMA would reduce significant adverse effects.

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- (c) Sedimentation near headlands will encourage mangroves, further reducing mudflat foraging areas for shorebirds, but increasing the habitat for banded rail.
 - (d) Avoiding dredging would be a better ecological outcome, but if there is dredging, sediment plumes that could threaten wrybill foods, must be minimised.
 - (e) Proposed draft conditions have addressed all practicable steps to protect Threatened and At Risk avifauna during construction.

Issues resolved relevant to Anns Creek avifauna

- (f) Adverse effects on rare and threatened biodiversity and ecosystems are significant. An Ecological Management Plan (ECOMP) will include measures to mitigate adverse effects on Threatened bittern and At Risk banded rail.
- (g) Formal protection of the greatest extent of Anns Creek East as possible is proposed as an offset measure. Long term commitment will be required to minimise further loss of biodiversity and to ensure successful restoration.
- (h) The proposed construction yard should not be located at Anns Creek East, if possible (although I understand that the NZTA has decided to proceed with this construction yard).
- (i) The term of the weed and animal pest control and maintenance of restoration planting should be sufficient to achieve the objectives of the ECOMP.

Issues unresolved

- (j) I have stated that outcomes for some of conditions could be uncertain (pp 19-20). These include EM.14A, statutory protection for high tide roosts; EM.14B, the high tide wading bird roost in Mangere inlet; and EM.14C, the proposed support of pest control on South Island braided river wader breeding habitat. These are all worthwhile initiatives, but we cannot guarantee successful outcomes:
 - i. Condition EM.14A is unclear as to how many high tide roosts will be protected, whether people, dogs and kite surfing will be restricted, and whether the costs contribution to DOC covers signage and enforcement.

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- ii. Regarding EM.14B, in the past some constructed wader roosts have not worked, while others have been highly successful. We know how to make them attractive for roosting birds, but we cannot guarantee that they will be used. However, in my opinion we should still pursue this option, especially because Mangere Inlet lacks a good high tide roost located within the CMA.
 - iii. Condition EM.14C has been developed following consultation with DOC. However the benefits of predator control for wrybills in an existing long-running DOC programme in the Tasman Valley are inconclusive. In light of this, Condition EM.2E or EM.14C must also include funding to support monitoring, research and reporting of the proposed braided river predator control. It is essential to find out whether this is successful or not. I am also concerned what protective measures will continue when the term outlined in EM.14C ends. At the end of the 5-year post-construction period the EWL will still be in place covering shorebird feeding habitat in Mangere Inlet, but the offsite mitigation set up to compensate for this, will have stopped. The period of mitigation, i.e. EWL construction period plus 5 years as currently outlined, is clearly insufficient.

4. Matters Raised by the Board

Dr Bull was asked by the Board ... If the EWL does not have direct effects on bird populations (because they can move somewhere else to feed etc), why are the effects so significant? Dr Bull responded that the birds can move to other parts of the harbour and feed there. While this is correct in part, I wish to add the following comment:

- (a) The effects are significant because of the cumulative loss or degradation of a special type of intertidal shorebird feeding habitat in the harbour. About 190 ha of intertidal habitat have already been lost in Mangere Inlet. The EWL will cover a further 24 ha, with additional significant habitat loss from boardwalks in the intertidal zone, and increased mangrove cover due to sedimentation. This will adversely affect a range of shorebird species in Mangere Inlet.
- (b) Although the Manukau Harbour is large, and at certain times of year supports large numbers of shorebirds, there are certain key areas that some species such as wrybill, rely on. I have highlighted the wrybill because it is a threatened endemic species that depends on Mangere Inlet and a few other very specific sites within the harbour. In the

Manukau and southern Firth of Thames near Miranda, wrybills specialise on biofilm, or the surface ooze of soft mud (Figs 1 & 2). In the Manukau, this only occurs in the sheltered upper reaches of the harbour, and these favoured areas are of very limited extent. The Mangere Inlet provides one of the most significant areas of this type of intertidal habitat within the Manukau. The significance of this habitat type is reflected in the fact that Mangere Inlet may support 20-25% of the global wrybill population; hence my concerns about habitat loss along with adverse effects, through sedimentation and release of contaminants, in this key intertidal habitat in the Mangere Inlet.

- (c) There are good overseas examples, where habitat loss due to reclamation has resulted in the collapse of shorebird populations. Reclamations in parts of the Yellow Sea have caused a catastrophic decline of the great knot population (a wader which migrates to Australia), and a sharp drop in the numbers of lesser knots visiting New Zealand. This area is the only refuelling stop for these waders on their migration path from Australia and New Zealand to their arctic breeding grounds. New Zealand experts have been advocating internationally for the protection of migratory birds on the East Asian-Australasian Flyway, as the migration path is called. As outlined in my EIC, we need to be seen to be protecting all of our local shorebird habitats, so that we can present a credible case in our international advocacy to protect these important overseas sites used by our migratory birds.



Fig.1. Wrybill showing sideways-twisted bill



Fig. 2. Wrybill feeding by scooping to the right through surface biofilm

Appendix 1. Updated Conservation Status of species listed in Table 1 of T.G. Lovegrove's Evidence in Chief

Species	Conservation status (Robertson et al. 2013)*	Conservation status (Robertson et al. 2017)	Change to conservation status
black shag	At Risk. Naturally Uncommon	At Risk. Naturally Uncommon	No change
pied shag	At Risk. Naturally Uncommon	At Risk. Recovering	Less threatened
little shag	At Risk. Naturally Uncommon	Not Threatened	Less threatened
little black shag	At Risk. Naturally Uncommon	At Risk. Naturally Uncommon	No change
Australasian bittern	Threatened. Nationally Endangered	Threatened. Nationally Critical	More threatened
Royal spoonbill	At Risk. Naturally Uncommon	At Risk. Naturally Uncommon	No change
grey duck	Threatened. Nationally Critical	Threatened. Nationally Critical	No change
banded rail	At Risk. Naturally Uncommon	At Risk. Declining	More threatened
pied oystercatcher	At Risk. Declining	At Risk. Declining	No change
variable oystercatcher	At Risk. Recovering	At Risk. Recovering	No change
pied stilt	At Risk. Declining	Not Threatened	Less threatened
black stilt	Threatened. Nationally Critical	Threatened. Nationally Critical	No change
bar-tailed godwit	At Risk. Declining	At Risk. Declining	No change
lesser knot	Threatened. Nationally Vulnerable	Threatened. Nationally Vulnerable	No change
NZ dotterel	Threatened. Nationally Vulnerable	At Risk. Recovering	Less threatened
banded dotterel	Threatened. Nationally Vulnerable	Threatened. Nationally Vulnerable	No change
wrybill	Threatened. Nationally Vulnerable	Threatened. Nationally Vulnerable	No change
red-billed gull	Threatened. Nationally Vulnerable	At Risk. Declining	More threatened
Caspian tern	Threatened. Nationally Vulnerable	Threatened. Nationally Vulnerable	No change
White-fronted tern	At Risk. Declining	Threatened. Nationally Vulnerable	More threatened

*Categories are ranked according to risk of extinction, with Threatened species ranking higher than At Risk species

Update from:

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