BEFORE THE GREATER WELLINGTON REGIONAL COUNCIL AND HUTT CITY COUNCIL

EASTERN BAYS SHARED PATH PROJECT

Under	the Resource Management Act 1991
In the matter	of applications for resource consents by Hutt City Council under section 88 of the Act, to carry out the Eastern Bays Shared Path Project

STATEMENT OF REBUTTAL EVIDENCE OF DR JOHN FENTON COCKREM (AVIFAUNA (KORORĀ / LITTLE PENGUINS AND SHOREBIRDS)) ON BEHALF OF THE APPLICANT

14 December 2020

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INTRODUCTION

1. My full name is **Dr John Fenton Cockrem**.

2. My rebuttal evidence is given on behalf of Hutt City Council ("**HCC**") in relation to its applications under section 88 of the Resource Management Act 1991 ("**RMA**") for resource consents for the Eastern Bays Shared Path Project ("**Project**"). This is my second statement of evidence for the Project following my evidence-in-chief ("**EIC**") dated 30 November 2020.

3. My evidence relates to the potential effects of the construction and ongoing operation of the Project on avifauna, the measures proposed to address those potential issues, and the overall effects of the Project on avifauna with those measures in place.

4. I have the qualifications and experience set out in my EIC.

5. I repeat the confirmation given in my EIC that I have read the 'Code of Conduct' for expert witnesses contained in the Environment Court Practice Note 2014 and my evidence has been prepared in compliance with that Code.

SCOPE OF EVIDENCE

6. In this statement of rebuttal evidence, I respond to the section 42A addendum report prepared by Dr Roger Uys (on behalf of GWRC)[1] dated 2 December 2020[2] ("**Uys Addendum**") and the submission provided by Michael Rumble dated 7 December 2020.

RESPONSE TO UYS ADDENDUM

7. In my EIC I provided an overview of the existing avifauna (including variable oystercatchers) values in the Project Area, set out the potential effects of the Project on oystercatchers, and provided an assessment of the effects of the Projects on avifauna (including oystercatchers). My overall assessment was (and is) that when all the potential effects, measures to address potential effects and benefits to birds are considered, the overall effects of the Project on kororā / little penguins, variable oystercatchers and other bird species are likely to be less than minor. Dr Uys comes to a different conclusion, which is that the effects on variable oystercatchers may be more than minor. I explore the differences (and similarities) between our views below.

8. Before responding directly to the Uys Addendum, I will provide some background information about variable oystercatchers, especially in the Wellington region, to give the context for consideration of potential effects of the Project on oystercatchers.

[1] And briefly to the section 42a addendum report prepared by Shannon Watson, dated 8 December 2020.
[2] I note that this document was provided by GWRC on 8 December 2020.

Variable oystercatchers in Te Whanganui a Tara / Wellington Harbour

9. I discuss below some publications about variable oystercatchers that are particularly relevant to the Project.

Hugh Robertson's 1992 paper: "Trends in the numbers and distribution of coastal birds in Wellington Harbour"

10. Dr Robertson's paper ("**1992 paper**") was published in Notornis, the journal of the Ornithological Society of New Zealand ("**OSNZ**"). The 1992 paper describes results from surveys of coastal birds along the shore of Wellington Harbour undertaken by OSNZ in 1975-1977 and 1986-1988. The surveys each took place every month for two years.[3]

11. The 1992 paper reported that:

    (a) *"*variable oystercatchers breed at various isolated spots around Wellington Harbour, but most breed on Somes Island*"*;[4]

    (b) the 1986 - 1988 survey recorded 78% more variable oystercatchers than the 1975 – 1977 survey did;[5]

    (c) most oystercatchers, and the highest densities, were found around Petone Beach. However in the second survey there were increases in birds recorded in Evans Bay and on the south coast from Palmer Head to Owhiro Bay;[6]

    (d) however, on the coast between Pencarrow Lighthouse and the end of the road at Eastbourne a pair of variable oystercatchers usually managed to raise one or two young;[7]

    (e) variable oystercatchers were also recorded at Petone Beach and adjacent areas, on the rocky shore between Horokiwi and Ngauranga, on the rocky shore near Shelly Bay, on Taputeranga Island (in Island bay), on Matiu/Somes Island and Mākaro/Ward Island.[8]

[3] Page 263 of the 1992 paper The 1992 paper is available at: Trends in the numbers and distribution of coastal birds in Wellington Harbour (osnz.org.nz)
[4] Page 276 of the 1992 paper.
[5] Page 279 of the 1992 paper.
[6] Page 279 of the 1992 paper.
[7] Page 286 of the 1992 paper.
[8] Page 287 of the 1992 paper.

*S Marchant and P.J. Higgins' Handbook of Australian, New Zealand & Antarctic Birds. Volume 2, Raptors to lapwings. 1993 – Haematopodidae unicolor (variable oystercatchers) chapter ("**1993 Chapter**")*

12. This 1993 Chapter[9] reported that variable oystercatchers:

    (a) are mainly coastal (scattered around coasts of mainland and offshore islands), and breed and feed on sandy and rocky coasts, especially near mouths of rivers and near estuaries;[10] and

    (b) are mostly resident and territorial, but some are dispersive. Post-breeding flocks with numbers of oystercatchers that can be much greater than local breeding populations[11] form in winter, and flocks may move 20 km or more in a day to visit another estuary.[12]

13. The 1993 Chapter noted approximately 20 pairs breeding in Te Whanganui a Tara / Wellington Harbour, including Matiu/Somes Island and Taputeranga Island, and 1-2 pairs on Mana and Kāpiti Islands and Waikanae Estuary.[13]

OSNZ's Wellington Region Newsletter: March 2009

14. This newsletter[14] referred to a talk Dr Robertson gave in February 2009, comparing the changes over a 30-year period in bird species recorded around Te Whanganui a Tara / Wellington Harbour and along the south coast of Wellington. At the time this newsletter was written, a third OSNZ survey had been carried out (in the 1990s), in addition to the 1970s and 1980s surveys.

15. Dr Robertson noted large increases in numbers in several bird species, including variable oystercatchers. A summary of counts around the Harbour recorded 90 oystercatchers in December 2008, 0 in January 2009 and 180 in February 2009.

[9] This is available at 224 Variable Oystercatcher (nzbirdsonline.org.nz).
[10] Page 748 – 749 of the 1993 Chapter.
[11] In my experience this is up to 200 birds in the Wellington Region.
[12] Page 750 – 751 of the 1993 Chapter.
[13] Page 749 of the 1993 Chapter. These figures cite Fleming, 1990; T. Hook; H.A. Robertson.
[14] Available at: ORNITHOLOGICAL SOCIETY OF NEW ZEALAND (birdsnz.org.nz)

GWRC's September 2013 report : Coastal and freshwater sites of significance for indigenous birds in the Wellington region

16. This report ("**2013 Report**")[15] describes results from a desktop review of existing data describing the distribution of rare and threatened indigenous birds in the Wellington Region.[16]

17. Appendix 2 to the 2013 Report sets out coastal marine area sites of significance for indigenous birds in the Wellington Region. The relevant site for current purposes (the site where the majority of the Project Area is located) is titled "*Wellington Harbour foreshore; northern end of Day's Bay to Point Howard."* The ecological context for that site is stated as providing *"seasonal or core habitat for variable oystercatcher, red-billed gull, black shag, little back shag and pied shag",*[17] and that information was sourced from the 1992 paper and unpublished OSNZ data.

GWRC's February 2015 report: A review of coastal and freshwater habitats of significance for indigenous birds in the Wellington Region

18. As set out in its Executive Summary, this report ("**2015 Report**")[18] describes a process to identify and evaluate habitats possessing "significant biodiversity values", to be considered for inclusion in Schedule F2 of the PNRP.

19. Appendix 1 to the 2015 Report includes the New Zealand threat classification system rankings for bird species. The ranking for variable oystercatchers was (and still as) *At Risk, Recovering.*

20. Appendix 4 set out habitats of significance for indigenous birds in the coastal marine area of the Wellington Region. For the "*Wellington Harbour foreshore; northern end of Day's Bay to Point Howard"* site, the description noted that five threatened or 'at risk' species were known to be resident or regular visitors to the site, including variable oystercatchers.

Department of Conservation's report: Conservation status of New Zealand birds, 2016

21. This report ("**2016 Report**")[19] is a follow-up assessment to Robertson et al's 2013 audit of the conservation status of 473 taxa of New Zealand birds.

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[15] Available at: CoastalandfreshwatersitesofsignificanceforindigenousbirdsintheWellingtonRegion.PDF (gwrc.govt.nz)
[16] Page 1 of the 2013 Report.
[17] Page 38 of the 2013 Report.
[18] Available at: A-review-of-coastal-and-freshwater-habitats-of-significance-for-indigenous-birds-in-the-Wellington-region.pdf (gw.govt.nz)
[19] Available at: Conservation status of New Zealand birds, 2016 (doc.govt.nz)

22. Variable oystercatchers were listed as *At Risk, Recovering (A),* with 'A' denoting species with 1000-5000 mature individuals *or* total area of occupancy equal or less than 1 km^2 and predicted increase greater than 10%.[20]

Fred Overmars' April 2019 technical report: An assessment of ecological effects of the proposed Eastern Bays Shared Path Project on coastal vegetation and avifauna

23. Dr Overmars' report ("**Vegetation and Fauna AEE**"[21]) referred to two surveys:

    (a) Coastal avifauna surveys undertaken in the Eastern Bays area in May 2016 and May 2017 (results shown at Table 6-1 of the *Vegetation and Fauna AEE)*;[22] and

    (b) OSNZ's series of 24-month-long coastal bird surveys undertaken in 1975-1977, 1986-1988, 1998-2000 and December 2008 – December 2010.[23]

24. The May 2016 and May 2017 surveys recorded a total of 18 variable oystercatchers over the survey period.[24]

25. An excerpt of Table 6-2 of the *Vegetation and Fauna AEE,* which shows the results of OSNZ's 24-month surveys, is as follows:[25]

Species	Burdan's Gate to Days Bay				Days Bay to Point Howard			
	1975-1977	1986-1988	1998-2000	2008-2010	1975-1977	1986-1988	1998-2000	2008-2010
Variable oystercatchers	43	45	258	322	6	36	116	74

26. Table 6-2 also noted, for variable oystercatchers:[26]

> *Resident and breeding in Harbour, most on Matiu/Somes Island; Sections 2 & 3*[27] *numbers increasing (2.5% of Harbour population in 1986–88; Robertson 1992); bred in 2016, 2017 and 2018 at Sorrento Bay (OSNZ—Birds New*

[20] Page 13 of the 2016 Report.
[21] Appendix C-1 to the AEE.
[22] Page 54 of the *Vegetation and Fauna AEE.*
[23] See page 58 of the *Vegetation and Fauna AEE.*
[24] See page 72 of the *Vegetation and Fauna AEE.*
[25] See page 58 of the *Vegetation and Fauna AEE.*
[26] See pages 58-59 of the *Vegetation and Fauna AEE.*
[27] Burdan's Gate to Point Howard

Zealand 2016; Anon. 2017; pers. obs.); possibly breeding under Sorrento Bay boatshed (de Lisle 2018a).

27. After the *Vegetation and Fauna AEE* was filed, and after my 28 July 2019 report (responding to questions raised by GWRC) was provided, Wildlife Management International ("**WMIL**") released a report in August 2019, as below.

WMIL's August 2019 report: A baseline survey of the indigenous values of the Wellington region coastline.

28. This report ("**2019 WMIL Report**")[28] was prepared for GWRC by WMIL, following a complete region-wide coastal bird survey carried out in 2017-2018. The 2019 WMIL Report included the following survey results:

    (a) A total of 712 adult variable oystercatchers were recorded across 236 of the 460 ~ 1 km sections of coastline surveyed;[29]

    (b) High local concentrations of oystercatchers were recorded on lengthy sections of sandy beach and on Mana, Matiu/Somes and Mākaro/Ward Islands;[30]

    (c) The 712 variable oystercatchers counted during the WMIL survey, together with 16 and 18 birds counted along the eastern shoreline of Lake Wairarapa in November 2017 and 2018, could be combined to provide an estimate that the Wellington Region currently supports a breeding population of at least 728 variable oystercatchers;[31]

    (d) Kāpiti, Mana, Matiu/Somes and Mākaro/Ward Islands are likely to be supporting highly productive 'source populations' of variable oystercatchers that are experiencing high productivity rates in the absence of mammalian predators and with low rates of human disturbance;[32]

    (e) Assuming a regional breeding population of at least 728 variable oystercatchers, no single section of coastline surveyed was considered sufficient to meet the 'Rarity' criterion developed by McArthur et al (2015) for inclusion in Schedule F2c of the PNRP; and

[28] Available at: Wellington-coastal-bird-survey-report-July-2019-v4.pdf (gw.govt.nz)
[29] Page 22 of the 2019 WMIL Report.
[30] Page 22 of the 2019 WMIL Report.
[31] Page 22 of the 2019 WMIL Report.
[32] Page 22 of the 2019 WMIL Report.

(f) The regional population trend for variable oystercatchers was recorded as a greater than 10% increase.[33]

29. Appendix Two of the 2019 WMIL Report contains a list of all of the Wellington Region's *"coastal habitats of significance for indigenous birds"* identified by applying Policy 23 translation criteria presented in the GWRC February 2015 report.[34] The site "*Wellington Harbour (Port Nicholson) foreshore; Days Bay to Burdan's Gate"* contains a small part of the Project Area (the northern end of Eastbourne to the southern end of Day's Bay (Windy Point)). This site includes variable oystercatchers. The majority of the Project Area (the northern end of Day's Bay to Point Howard) is not included in Appendix Two's *"coastal habitats of significance for indigenous birds".*

30. Appendix Two lists the following other sites in Wellington Harbour as *"coastal habitats of significance for indigenous birds"* where variable oystercatchers are included:

(a) *Wellington Harbour (Port Nicholson) foreshore; Burdan's Gate to Pencarrow sewer outfall;*

(b) *Wellington Harbour (Port Nicholson) foreshore; Palmer Head to Lyall Bay;*

(c) *Wellington Harbour (Port Nicholson); Point Halswell to Worser Bay boat club;*

(d) *Wellington Harbour (Port Nicholson); Point Howard to eastern shore of Te Awa Kairangi/Hutt River mouth;*

(e) *Wellington Harbour (Port Nicholson) foreshore; Te Raekaihau Point to Ohiro Bay Road end, including Taputeranga Island foreshore;*

(f) *Wellington Harbour (Port Nicholson) foreshore; Worser Bay boat club to Point Dorset;* and

(g) *Wellington south coast (Sinclair Head to Owhiro Bay);*

Observations

31. Based on these surveys and documents, it can be noted for variable oystercatchers that:

(a) population numbers recorded in the Wellington Region have been increasing since the 1970s, with the 2019 WMIL Report estimation of a breeding population

[33] Page 28 of the 2019 WMIL Report.
[34] Beginning page 43 of the 2019 WMIL Report.

of at least 728 variable oystercatchers (with an increasing trend of more than 10%);

(b) variable oystercatchers are dispersed widely around the Wellington Region, with high local concentrations of oystercatchers on Mana, Matiu/Somes, and Mākaro/Ward Islands and these islands likely to be highly productive 'source populations' of variable oystercatchers; and

(c) only a small part of the Project Area (Eastbourne to the southern end of Day's Bay) has been included in Appendix Two of the 2019 WMIL Report's list of coastal habitats of significance for indigenous birds.

Effects

32. Appendix A of Dr Overmars' *Vegetation and Fauna AEE* included EIANZ tables for assigning ecological value and describing magnitude of effect and level of effects. Below I refer to, and adopt, the EIANZ guidelines (Roper-Lindsay et al., 2018) for assessing levels and magnitude of effects on avifauna.

33. Table 5 from Appendix A to the *Vegetation and Fauna AEE* (*Factors to consider in assigning value to terrestrial species for Ecological Impact Assessment)* is reproduced below:

Determining factors	
Nationally Threatened species, found in the ZOI either permanently or seasonally	Very High
Species listed as At Risk — Declining, found in the ZOI, either permanently or seasonally	High
Species listed as any other category of At Risk, found in the ZOI either permanently or seasonally	Moderate
Locally (ED) uncommon or distinctive species	Moderate
Nationally and locally common indigenous species	Low
Exotic species, including pests, species having recreational value	Negligible

34. As an *At Risk, Recovering* species, variable oystercatchers are assigned a *Moderate* ecological value.

35. Table 8 from Appendix A to the *Vegetation and Fauna AEE* (*Criteria for describing magnitude of effect)* is reproduced below:

Magnitude	**Description**
Very high	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
High	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high proportion of the known population or range of the element/feature
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to predevelopment circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

36. For the reasons set out in my EIC, and in this statement of rebuttal evidence, I consider the magnitude of effect, in terms of the Project's effect on variable oystercatchers, is likely to be *Low.* This consideration arises from the *Low* magnitude of effect being classified as either a minor shift away from existing baseline conditions or a minor effect on the known population or range of the element/feature. One

breeding pair of variable oystercatchers is known along the coastline of the Project. The variable oystercatcher population of the Wellington region has recently been estimated to be at least 728 birds and to be increasing. The proposed measures for oystercatchers at Sorrento Bay mean that it is likely that the Project will be of net benefit to this breeding pair of variable oystercatchers in the Project Area. If there was an adverse effect on this pair this effect would be negligible in relation to the variable oystercatcher population of the Wellington region. In that sense, my assessment that the Project's magnitude of effect is likely to be *Low* is conservative.[35]

37. Table 10 from Appendix A to the *Vegetation and Fauna AEE* (*Criteria for describing level of effects)* is reproduced below:

Ecological Value	**Very high**	**High**	**Moderate**	**Low**	**Negligible**
Magnitude					
Very high	Very high	Very high	High	Moderate	Low
High	Very high	Very high	Moderate	Low	Very low
Moderate	High	High	Moderate	Low	Very low
Low	Moderate	Low	Low	Very low	Very low
Negligible	Low	Very low	Very low	Very low	Very low
Positive	Net gain	Net gain	Net gain	Net gain	Net gain

38. Therefore, given variable oystercatchers have a *Moderate* ecological value (in accordance with Table 5 above) and I have assessed the magnitude of effect as *Low*, in accordance with Table 10 the level of effects is *Low.*

39. According to Roper-Lindsay et al. (2018), the overall level of effect can be used to guide ecological management responses required. For instance:

    (a) Where very high adverse effects occur then a net biodiversity gain is appropriate;

    (b) High and moderate adverse effects require no net loss of biodiversity values;

    (c) Low and very low effects should not normally be of concern.

[35] In that the Project may also meet the criteria for a *Negligible* magnitude of effect.

40. As above, the overall level of effect in this case is considered to be *Low*. However, whilst the Project's effects on oystercatchers can be categorised as "*not normally of concern"*, I have recommended a number of measures in my EIC that have been incorporated in the Project, including four fenced protection areas, a Habitat Enhancement Plan, dog exclusion from two beaches, a managed works zone in Sorrento Bay, an oystercatcher study, signage, construction restrictions and setbacks near kororā / little penguin and oystercatcher nest sites, surveys, at least 100 permanent nesting opportunities for kororā (little penguins) and $60,000 in funding for pest management, among others.

Specific responses to the Uys Addendum

41. In response to paragraph 9 of the Uys Addendum: The coastline from the northern end of Day's Bay to Point Howard is identified as a significant habitat for indigenous birds in the coastal marine area in Schedule F2c of the Proposed Natural Resources Plan for the Wellington Region attached to the Decision Version of 31 July 2019. The 2019 WMIL Report reports results from a complete region-wide coastal bird survey. The 2019 WMIL Report states that *"As a result of this survey, a total of 69 coastal sites have been identified which meet the threshold for being identified as "habitats of significance for indigenous birds"* in Wellington's proposed Natural Resources Plan". Appendix two of the 2019 WMIL Report *"contains a list of all of the Wellington region's "coastal habitats of significance for indigenous birds" identified by applying the Policy 23 translation criteria developed by McArthur et al., (2015a) to the bird abundance and distribution data collected during this region-wide coastal bird survey".* This appendix includes the shoreline from Day's Bay to Burdan's Gate and does not include the shoreline from Day's Bay to Point Howard. It would thus appear that the report did not consider that the shoreline from Day's Bay to Point Howard, which is the majority of the shoreline in the Project Area, is a coastal habitat of significance for indigenous birds.

42. In response to paragraph 10: I agree with Dr Uys that variable oystercatchers are an *At Risk, Recovering* species, as I discuss in my EIC and above in this statement of rebuttal evidence. For context, the categories contained in the National Threat Rankings are:[36]

    (a) Extinct since first human contact;

[36] As set out at Table 2 (page 4) of the 2016 Report.

(b) Data deficient;

(c) Threatened – Nationally Critical;

(d) Threatened – Nationally Endangered;

(e) Threatened – Nationally Vulnerable;

(f) At Risk – Declining;

(g) At Risk – Recovering;

(h) At Risk – Relict;

(i) At Risk – Naturally Uncommon;

(j) Non-resident – Coloniser;

(k) Non-resident – Migrant;

(l) Non-resident – Vagrant;

(m) Not Threatened; and

(n) Introduced and Naturalised.

43. In response to paragraph 12: My opinion remains that the Project's effects on oystercatchers are likely to be less than minor and may be positive.

44. In response to paragraph 14 (and paragraph 7(a) of Mr Watson's section 42A addendum report): In my view it is unlikely that any oystercatchers will be displaced by the Shared Path given only one pair of nesting oystercatchers has been identified in the Project Bird Area, and the proposed Shared Path will not run through the location of that nest. Variable oystercatchers that spend time in the Project Area, apart from those that have come from eggs laid in the nest at Sorrento Bay, must all come from nests outside the Project Area.

45. In response to paragraph 15: I recognise the concerns of Dr Uys about the cumulative loss of shorebird habitat that has occurred around Te Whanganui a Tara / Wellington Harbour. At the same time, with respect to oystercatchers we can note that the number of variable oystercatchers counted around the Harbour coastline increased from 1975-77 to 1986-88 (as above) and that the numbers of oystercatchers counted in OSNZ surveys from Burdan's Gate to Days Bay and from Days Bay to Point Howard increased from surveys in the 1970s to surveys in the late 2000s (as above). It would

appear that, notwithstanding the loss of shorebird habitat that has occurred over the years around the Harbour, the number of variable oystercatchers that are present around the Harbour has been increasing for some time.

46. In response to paragraphs 16 and 17: Shorebird habitat includes areas where birds feed and areas where birds roost. Dr Uys commented that *"bare rock with no food for shorebirds"* provides valuable roosting habitat for oystercatchers and mentioned flight initiation distance. This distance can be defined as the distance between a prey animal and an approaching intruder when the prey animal begins its escape.[37] Flight initiation distances for birds are measured by a person approaching a bird and then measuring the distance between the person and where the bird had been when it began to move away from the person. I have measured flight initiation distances in birds. Flight initiation distances for individuals of a species of bird in relation to the approach of people depend on a variety of factors including the familiarity of the birds with people and the behaviour of the people. Flight initiation distances are not the same as the distances at which birds will continue with their natural behaviour in the presence of people. For example, birds may continue to feed in close proximity to people that are walking and not looking at the birds but if the people stop and look at the birds then the birds may move away. This is relevant to the presence of people on the Shared Path as their presence will not automatically mean that oystercatchers are displaced from roosting along areas of shoreline where the path will bring people into closer proximity to the shoreline that has been the case in the past. I have taken this into account in reaching my views on the likely effects of the Project on variable oystercatchers.

47. In response to paragraph 18: I envisage that the majority of the Bishops Park and HW Shortt Park protection areas will consist of habitat for shorebirds including variable oystercatchers, with the penguin nesting areas located at the back (landward) edges of the protection areas. Detailed design of the new habitat for shorebirds and the new habitat for penguins will be undertaken when the Habitat Enhancement Plan is prepared.

48. In response to paragraph 19: I consider that the proposed Sorrento Bay oystercatcher protection area is likely to be used by oystercatcher adults and chicks, and that the establishment of this area will be of benefit to the oystercatchers of Sorrento Bay. The new area is at road level, above the foreshore, and will provide an area for chicks

[37] Runyan, A. M. and Blumstein, D. T. (2004). Do individual differences influence flight initiation distance? Journal of Wildlife Management 68: 1124-1129.

where they can be safe from disturbance by dogs. I discuss this in paragraph 63 of my EIC.

49. In response to paragraphs 20 and 21:

(a) It is not correct to say that the natural behaviour of variable oystercatchers is negatively affected by the presence of people. Instead, I note that the natural behavior of variable oystercatchers may be negatively affected by the presence of people, and also that oystercatchers can continue with their natural behaviour in the presence of people. I will give two recent examples of observations that I have made of variable oystercatchers. As a first example, in November I spent some time on the Rona Bay beach adjacent to the proposed Bishops Park bird protection area. Whilst I was standing still, variable oystercatchers were feeding along the tide line within several metres of me. As a second example, recently I walked along a beach on Mana Island off the Porirua coast line. Oystercatchers on this stretch of beach on Mana Island see people infrequently. As I walked along the beach a pair of oystercatchers remained about 4 metres from me. When I sat down on the beach the oystercatchers stood still and went to sleep. Some minutes later they got up and walked past me along the tide line at a distance of approximately 3 metres as they went to investigate some oystercatchers that had just landed on the beach. These observations are examples of how the presence of people does not in itself mean that variable oystercatchers will be affected by the presence of people. Nonetheless, we have recognised that the presence of people and dogs on the Shared Path will be a change from the current situation and have included a range of measures aimed not only at limiting possible effects of the presence of people and dogs, but also at reducing adverse effects of dogs on oystercatchers along the Eastbourne coast line.

(b) I have recommended and continue to recommend that dogs should be required to be on leash on the Shared Path at all times so that dogs cannot run towards birds on the foreshore. A local resident told me that they had recently seen a dog off leash on the Rona Bay Beach adjacent to the new Bishops Park protection area (i.e. an area where dogs are currently prohibited during daylight hours during daylight saving time). The local resident also told me that there are currently no signs at the end of the beach indicating that dogs are prohibited from the beach during daylight saving time. I have recommended that the Applicant initiate the statutory processes to exclude dogs from the beaches at

Rona Bay and Sorrento Bay year-round. Furthermore, clearly there is a need for signs to indicate where dogs are prohibited from the foreshore and I recommend that the Project includes the placement of signs to indicate dog prohibition areas and the placement of signs along the Shared Path to provide information to people about the need to keep dogs under control and about the adverse effects that the presence of dogs can have on shoreline birds.

(c) I have already recommended that signs be placed along the edge of the Shared Path to tell the story of the oystercatcher family that lives in Sorrento Bay and to educate the public about the importance of not disturbing oystercatcher habitat during nesting and incubation. I have recommended that signs should be placed on the shoreline adjacent to the oystercatcher nest, and that these signs should have current information about nesting and should ask people not to go on to the shoreline adjacent to the oystercatcher nest when it is occupied. Such signage will have a clear benefit to the oystercatchers nesting at Sorrento Bay that will come from the Project.

(d) In addition to that signage, I recommend that the Applicant undertake an education campaign in the Eastern Bays for recognising and protecting the avian community (including variable oystercatchers). This directly targets Dr Uys' concern regarding ongoing effects of the Project on oystercatchers and people's and dogs' behaviour affecting oystercatchers. It will also have immediate effect, which is an additional benefit. I recommend that the education campaign continue each year for a minimum of five years, and provides people with current information about the oystercatcher family, in particular information about the progress of the oystercatcher nest at Sorrento Bay during the breeding season.

50. In response to paragraph 22: The study will provide information about oystercatchers that will contribute to the management of effects on birds in the project area. The results will inform matters such as signage, other areas of potential dog exclusion and other potential opportunities that would assist oystercatchers (and other shorebirds) along the Eastern Bays. Results from the study could be incorporated into the planning of other projects that could affect variable oystercatchers. The purpose of the study is to assist in understanding what behavioural effects, if any, the Shared Path has caused on oystercatchers in the Project area. As far as I am aware, no similar study on the behaviour of oystercatchers has been undertaken in New Zealand.

51. In response to paragraph 23:

(a) There is one known variable at oystercatcher nest site along the Eastbourne shoreline from Point Howard to Burdan's gate. The nest site is on a rock a short distance offshore from the mainland. This is the only offshore rock along this stretch of coastline that is high enough above the water to have a taupata bush growing on it and to provide a nest site that is sheltered from waves during storms. Unfortunately, people do go out to this rock, and hence the nest is vulnerable to disturbance by people. However, because the nest is on an offshore rock it is much less likely to be disturbed by people or by dogs than any areas of the mainland shoreline. The absence of reported nests on the mainland shoreline indicates that this shoreline does not presently provide nesting opportunities for variable oystercatchers. The oystercatcher nest on the offshore rock will not be directly affected by the Shared Path and the absence of any other nesting opportunities for variable oystercatchers along this coastline suggests that the Project will not adversely affect breeding opportunities for oystercatchers at Eastbourne.

(b) Whilst Dr Uys refers to a loss of variable oystercatcher habitat, we are unable to predict in advance what, if any, effect this will have on the population of oystercatchers that spends time along the shoreline adjacent to the Shared Path. I remain of the opinion that when all the measures that will be taken to improve nesting opportunities and reduce disturbance to oystercatchers are taken into account, the net effect of the Project on variable oystercatchers is likely be less than minor and may be positive.

(c) The creation of new shorebird habitat in the Bishops Park and HW Shortt Park Bird protection areas will create new nesting opportunities for variable oystercatchers at Eastbourne. Whilst it is impossible to quantify with absolute certainty the expected effect of the Shared Path on the number of variable oystercatcher breeding territories, we can say that it is likely that the number of variable oystercatcher breeding territories will not be reduced from the current number of one, and that the number of breeding territories will be increased if oystercatchers begin to nest in one or more of the new bird protection areas. I also note that on 8 December 2020 I spoke to a local resident who told me that the nest which was occupied several weeks ago has been abandoned and that they had seen a person fishing on the rocks close to the nest. The presence of people on the rocks could cause incubating birds to abandon their nest and the birds are presently vulnerable to disturbance by people during incubation of their eggs. The Project, with its signage, fencing of protection areas and education

campaign will in my opinion lead to greater public understanding of and respect for variable oystercatchers and other birds around the Eastern Bays.

(d) As expressed in my EIC, the protection areas will lead to more roosting and breeding opportunities for oystercatchers being available in the long-term than if the Shared Path had not been constructed. In addition, by providing new textured seawalls and beach nourishment (along with the protection areas) the Project may provide additional habitat for oystercatchers in the face of sea level rise.

52. Dr Uys does not comment on the effects of climate change on oystercatchers. But, as explained in the evidence of **Dr Allis**, it is a critical effect that will greatly influence the area into the future. For oystercatchers the key issue will be a significant reduction in habitat as sea level rise and areas of beach and of rocky habitat are no longer available to oystercatchers. Further, the effect of storms on nesting birds will increase. These effects will place pressure on oystercatchers (and other shorebirds) within the Project area irrespective of whether the Project proceeds or not. By providing protection areas higher up on beaches (and above storm tide effects) the Project provides protected habitat for oystercatchers that will not exist otherwise. This is an important benefit of the Project (the beach nourishment and textured seawalls may provide some additional benefits).

53. As a final point, I reiterate that notwithstanding the fact that only one pair of oystercatchers has been identified in the Project Bird Area, I have nevertheless made a number of recommendations – and the Applicant has accepted these as part of the Project's design and conditions – aimed at ensuring that oystercatchers receive increased protection as a consequence of the Shared Path Project. These are set out above and in my EIC. With all of these measures in mind, my view remains that the overall effects of the Project on kororā / little penguins, variable oystercatchers and other bird species are likely to be less than minor and that the Project may have net benefits for coastal birds at Eastbourne.

RESPONSE TO MICHAEL RUMBLE'S SUBMISSION ON PENGUINS

54. I have read Mr Rumble's submission dated 7 December 2020. While he may have read my EIC, his submission does not specifically refer or respond to it, nor to the conditions that were attached to **Caroline van Halderen's** EIC Mr Rumble attended a meeting of people interested in penguins that was convened by HCC and held on 2 March 2020. As explained in the evidence of **Mr Cager** he prepared a table that

addressed suggestions made at this meeting and on 18 May 2020 sent the table to the participants at the meeting.

55. Mr Cager sent the table again, together with maps of three proposed penguin and shorebird protection areas, on 28 September 2020 and asked meeting participants to send him comments on the table. The table and maps form Appendix D of Memorandum 6. Some of the matters raised by Mr Rumble in his submission were addressed in Mr Cager's table. While Mr Rumble states that he holds the DoC permit for handling kororā / little penguins at Eastbourne, I note that several people may be authorised to handle a species of wildlife in a specified area and there is no exclusive DoC permit to handle kororā / little penguins at Eastbourne.

56. I consider the concerns raised in Mr Rumble's submission have been appropriately addressed through the Table prepared by Mr Cager, my EIC and the proposed conditions attached to **Ms van Halderen's** EIC. Therefore, while I understand and share Mr Rumble's passion for kororā / little penguins, my view remains (as set out in my EIC) that when all the potential effects, measures to address potential effects, and benefits to kororā / little penguins (and all shorebirds) are considered, then the overall adverse effects of the Project on kororā / little penguins, variable oystercatchers and other bird species are likely to be less than minor. While the Project will change the local environment it is already highly modified and subject to the effects of sea level rise (and climate change). Overall, I consider that the Project provides the "Win-Win" outcome sought by Mr Rumble in his submission.

John Fenton Cockrem

14 December 2020