

Before the Expert Fast-track Panel

FTAA-2511-1150

Under the Fast-track Approvals Act 2024 (**FTAA**)

And

In the Matter of an application for approvals by **MCCALLUM BROTHERS LIMITED** for the Te Ākau Bream Bay Sand Extraction Project located at Te Ākau Bream Bay, Northland

**Evidence of David Thompson on behalf of McCallum Brothers Limited in
Response to Invited Comments**

(Avifauna)

Dated 12 August 2026

Jeremy Brabant

Barrister

Level 7, 50 Albert Street, Auckland Central
PO Box 1502, Shortland Street, Auckland 1140

M: 021 494 506

E: jeremy@brabant.co.nz

Introduction

1. My name is David Richard Thompson.
2. I am a seabird ecologist and Group Manager (Pelagic Ecosystems) at the Wellington campus of the New Zealand Institute for Earth Science (formerly the National Institute of Water and Atmospheric Research Ltd.), where I have been employed since 1998. I hold a Bachelor of Science (Hons.) in Marine Biology from the University of Liverpool (1985) and a PhD in Zoology from the University of Glasgow (1990).
3. I have 36 years (post-PhD) of professional experience in marine biology, particularly seabird ecology. I have research interests and experience in at-sea distributions of seabirds, seabirds as sentinels of marine ecosystems, seabird-fishery interactions and the use of stable isotopes in marine ecology. I have authored over 100 science journal papers, five book chapters and over 60 science reports and statements of evidence for a broad range of clients.
4. This evidence is provided as part of McCallum Brothers Limited's (**MBL**) response to comments on the Te Ākau Bream Bay Sand Extraction Project (**Project**).
5. I prepared the following material lodged in support of MBL's application:
 - a. Report titled Sand extraction in Te Ākau Bream Bay: potential effects on seabirds and shorebirds dated April 2025 included as Appendix 13 to the MBL Assessment of Environmental Effects.

Scope of Evidence

6. My evidence responds to comments received on the Project:
 - a. I have grouped comments as they relate to avifauna in to relatively broad 'themes'. These themes are 1. impacts to coastal breeding and roosting habitat; 2. effects of sediments on seabird prey availability and abundance; 3. impacts of underwater noise on

seabirds; 4. effects of a loss of fuel or oil from the extraction vessel;
5. effects of artificial nocturnal lighting; and, 6. cumulative effects.

- b. The following respondents provide comments on avifauna. Tāngaroa Tuia te Ora - Endangered Species Foundation (file number 1: themes 1 and 2), Ruakākā Reserve Board (file number 10: themes 1 to 3, inclusive), Bream Bay Coastal Care Trust (file number 12: themes 1 and 2), Te Rūnanga Papa Atawhai o Te Tai Tokerau – Northland Conservation Board (file number 21: themes 1 and 6), Te Pou Atawhai Taiao o Aotearoa - New Zealand Conservation Authority (file number 29: themes 1 and 2), Largs Cove Residents Association (file number 36: themes 1 and 2), Waipū Boat & Fishing Club (file number 39: theme 2), Te Papa Atawhai – Department of Conservation (file numbers 41b and 41c: themes 1 to 6, inclusive) and Royal Forest and Bird Protection Society of New Zealand (file number 44: themes 2 and 3).

Code of Conduct

7. Although this is not a hearing before the Environment Court, I confirm that:
- a. I have read and am familiar with the Environment Court’s Code of Conduct for Expert Witnesses as specified in the Environment Court’s Practice Note 2023 (**Code**); and
- b. The report referred to above authored by me:
- i. Is within my area of expertise (except where I state that I rely upon the technical reports of other expert witnesses provided in support of the application);
 - ii. Has been prepared in accordance with the Code; and
 - iii. I have not omitted to consider any material facts known to me that might alter or detract from the opinions expressed.

Response to Comments

Impacts to coastal breeding and roosting habitats (theme 1)

8. Respondents raised concerns around the potential impact on the shoreline, and birds' breeding and roosting habitats¹, from the proposed sand extraction activity, with a focus on the potential impacts on tara iti New Zealand fairy tern.
9. I have noted at section 3.1 of my report (Attachment 13²) that beach erosion, resulting in the loss of breeding habitat for tara iti New Zealand fairy tern, could have a measurable and significant adverse effect on the population. Other shorebird taxa that breed or roost along the Te Ākau Bream Bay shoreline could be similarly impacted by coastal erosion.
10. However, based on Beetham (2026), Attachment 8³, it is my understanding that the proposed sand extraction area is to be located beyond the depth of closure, that is the most landward depth seaward of which there is no significant change in bottom elevation and no significant net sediment transport between the nearshore and the offshore. Further, in assessing the effects of the proposed sand extraction on coastal processes, Beetham (2026) concluded that extraction is not expected to directly or indirectly influence the beach and dune environment and that the effect on coastal morphology would be negligible. Therefore, and on this basis, it follows that the proposed sand extraction will have a negligible effect on the upper shore breeding and roosting habitats of birds.
11. The Department of Conservation comment includes advice from Dr Beauchamp which at paragraph 30 references my earlier assessment and

¹ For example, Tāngaro Tuia te Ora - Endangered Species Foundation (file number 1) at paragraph 5, Te Rūnanga Papa Atawhai o Te Tai Tokerau – Northland Conservation Board (file number 21) at paragraphs 4 to 6 and Te Papa Atawhai – Department of Conservation (file number 41b) at paragraph 42.

² Thompson, D. (2025) Sand extraction in Te Ākau Bream Bay: potential effects on seabirds and shorebirds. NIWA Client Report 2024250WN. Prepared for McCallum Bros Limited.

³ Beetham, E. (2026) Te Ākau Bream Bay sand extraction: coastal process effects assessment. Report prepared by Tonkin & Taylor Ltd. for McCallum Bros Ltd.

agrees I correctly identify key risks to tara iti. That comment is followed by apparent criticism in the context of discussing breeding locations that my assessment “does not discuss the importance of the Waipu and Ruakaka estuaries in increasing the number of pairs and resilience of the population”. I do not dispute the importance of those estuaries. The point, however, is that in my opinion, based on Beetham (2026), Attachment 8, the activity proposed will not threaten those estuaries.

12. I note that the Langs Cove Residents Association also suggests that vessel traffic along transit routes introduces disturbance to breeding birds. I understand the transit route to be used by the *William Fraser* is separated from the shore by a reasonable distance for navigational safety reasons. Given the location of that route, and the fact that the William Fraser is a single, relatively low-speed vessel progressing through the coastal marine area approximately 3-5 days a week, I see no basis upon which that activity would disturb breeding birds.

Effects of sediments on seabird prey availability and abundance (theme 2)

13. Respondents raised concerns around the effects of sediment from sand extraction activities in the water column⁴ and how this affected seabirds’ ability to feed efficiently (as visual foragers) and primary productivity at the base of the food web (being dependent on sunlight).
14. The proposed sand extraction activity will produce a plume of sediment in the water column behind the extraction vessel, and I agree with respondents that this plume will increase turbidity levels in the water column, which in turn could reduce foraging efficiency in seabirds and lower levels of primary productivity.

⁴ For example, Tāngaroa Tuia te Ora - Endangered Species Foundation (file number 1) at paragraph 5, Bream Bay Coastal Care Trust (file number 12), Te Pou Atawhai Taiao o Aotearoa - New Zealand Conservation Authority (file number 29) at section 4 and Te Papa Atawhai – Department of Conservation (file number 41c) at paragraphs 27 to 30.

15. However, as noted in my report (Attachment 13), an assessment of water quality (SLR 2025, Attachment 9⁵) found that turbidity and suspended sediment concentrations returned to ambient levels within approximately 2 km and 30 minutes of the point of discharge on the sand extraction vessel. On this basis (i.e., the plume occupying a relatively small space and diminishing over a relatively short timeframe) I concluded that the effects of the plume on seabirds and on levels of primary productivity would be less than minor to negligible, including for seabird species that are known to feed within Te Ākau Bream Bay. This remains my opinion.
16. In that regard, I note at paragraph 57 of the evidence in response to comments prepared by Pete Wilson and Emily Jones which maintains the opinions previously expressed for reasons set out and concludes in the context of assessing water quality “...in relation to plume behaviour and receiving environment characteristics, I do not consider that adverse cumulative effects will occur. As discussed in Section 6 of the Water Quality Assessment (Attachment 9), sediment disturbance associated with the proposed activity is expected to be short-lived, localised, and rapidly attenuated. In my opinion, water quality effects will not persist or accumulate in the water column between successive extraction events or in relation to other seabed disturbance activities in proximity to the Application Area”.
17. The effects of proposed sand extraction on the Te Ākau Bream Bay food web were specifically addressed in the additional assessment included as Appendix C to the Assessment of Benthic Ecological Effects (Attachment 12).
18. Further comment on potential food web effects is addressed in the evidence in response to comments by Simon West at paragraph 164. Mr West undertakes a quantitative prey biomass estimate and concludes that “...annual extraction will affect a measurable quantity of benthic prey biomass within the extraction footprint. However, when considered in the context of the wider available habitat, fish mobility, temporary nature of the effect, partial return of material, and expected benthic recovery, I assess

⁵ SLR (2025) Te Ākau Bream Bay sand extraction: water quality assessment of environmental effects. Report prepared by SLR Consulting New Zealand for McCallum Brothers Limited.

the effect on fish food resources as low locally and negligible to low in the context of the wider embayment”.

Impacts of underwater noise on seabirds (theme 3)

19. I think it would be fair to say that this topic is a developing field of research, but that currently the perception of, and response to, underwater noise by seabirds is relatively poorly understood.
20. Nevertheless, Pine (2025), Attachment 11⁶, concluded that in kororā northern little penguin small behavioural responses would be unlikely to occur beyond approximately 200 m from the vessel.
21. Respondents raised concerns around underwater noise and the impact it might have on feeding efficiency of seabirds⁷, notably kororā northern little penguin.
22. It is possible that seabirds, including kororā northern little penguin, may respond to underwater noise from the extraction vessel by moving away from the area of active extraction (partial or total exclusion from the area).
23. However, such a response is likely, in my opinion, to have a less than minor effect on seabirds given the temporal and spatial scales over which underwater noise would occur and given the ability of seabirds to move away from the extraction vessel.
24. I note the Langs Cove Residents Association includes on page eight of their comment assertions that there are potential adverse effects from noise by reference to various identified bird species. It is unclear whether the noise being referred to is underwater or airborne (or both). In any event in reliance on the assessment and analysis undertaken by Pine (2025), Attachment 11, including the further evidence in response to comments

⁶ Pine, M. (2025) Assessment of underwater noise levels: proposed sand extraction Te Ākau Bream Bay. Report prepared by Styles group for McCallum Brothers Limited.

⁷ For example, Te Papa Atawhai – Department of Conservation (file number 41c) at paragraph 60 and Royal Forest and Bird Protection Society of New Zealand (file number 44) at paragraph 23.

from Dr Pine, my opinion remains that noise will have a less than minor effect on seabirds.

Effects of a loss of fuel or oil from the extraction vessel (theme 4)

25. Respondents for the Department of Conservation note that the likelihood of a fuel or oil spill from the sand extraction vessel is remote, but that the impacts of such a spill could be significant for avifauna⁸. I agree with this assessment (see section 3.5 of my report, Attachment 13).
26. Respondents for the Department of Conservation argue that I “appear to rely on the applicant having an oil spill contingency plan signed off by Maritime New Zealand, but there is no indication in the current plan about what equipment the *William Fraser* must carry to deal with onboard spills”. A list of equipment carried by the *William Fraser* to deal with spills is detailed in the Oil Spill Contingency Plan (Attachment 33), along with processes and operational responses to a spill. In dealing with this topic (see section 3.5 of my report, Attachment 13) my intention was to suggest that the applicant should operate with best practice plans and procedures in the highly unlikely event a spill should occur.

Effects of artificial nocturnal lighting (theme 5)

27. As described in section 3.4 of my report (Attachment 13), the sand extraction proposal includes predominantly daytime (as opposed to nighttime) extraction, with the provision for relatively short ‘operating windows’ of a maximum of approximately 16 minutes extending beyond civil twilight when artificial lighting may be required on the extraction vessel.
28. Should all extraction activities occur during the hours of daylight then there would be no requirement for the vessel to utilise lighting (except for that

⁸ Te Papa Atawhai – Department of Conservation (file number 41b) at paragraph 8 and (file number 41c) at paragraphs 55 to 57.

required for navigational purposes), and the overall effect of vessel lighting on birds would be negligible.

29. Nevertheless, concern has been raised around any nocturnal vessel activity requiring deck and other lighting and its potential impact on seabirds⁹, including fledglings from nearby breeding colonies.
30. Given that sand extraction is proposed to occur predominantly during daylight, with relatively short periods of extraction and transiting away from the proposed sand extraction area possibly occurring when deck lighting may be required, coupled with the range of standard mitigation measures outlined in section 3.4 of my report (Attachment 13), it remains my opinion that the overall effect on seabirds will be minor.

Cumulative effects (theme 6)

31. Respondents note that marine fauna are exposed to a number of potential stressors¹⁰, including marine heat waves, severe weather events and other impacts resulting from human-induced climate change and commercial fishing activities.
32. Whilst I agree that multiple stressors are operating in the marine environment, it is my opinion that the impacts to shorebirds and seabirds from the proposed sand extraction will be minor to negligible and, furthermore, will be very much smaller in scale and magnitude compared to impacts from other sources, such as marine heat waves for example. Therefore, additional effects resulting from sand extraction will be relatively small, possibly inconsequential.
33. The advice from Chris Gaskin included in the Department of Conservation comment, states at paragraph 65 “I believe that Dr Thompson has underestimated the importance of Te Ākau Bream Bay for locally breeding ‘At Risk’ species”. I disagree. Accepting this comment extends beyond just the potential risk to habitat, as a general statement I acknowledge Te Ākau

⁹ Te Papa Atawhai – Department of Conservation (file number 41c) at paragraphs 43 to 46.

¹⁰ For example, Te Rūnanga Papa Atawhai o Te Tai Tokerau – Northland Conservation Board (file number 21) at paragraph 11 and Te Papa Atawhai – Department of Conservation (file number 41c) at paragraphs 61-63.

Bream Bay is important for seabirds. Where we diverge, as previously indicated, is that in my opinion the activity proposed will not adversely affect locally-breeding seabird taxa.

Conclusions

34. Whilst a number of respondents have raised concerns around impacts to coastal breeding and roosting habitat, effects of sediments on seabird prey availability and abundance, impacts of underwater noise on seabirds, effects of a loss of fuel or oil from the extraction vessel, effects of artificial nocturnal lighting and cumulative effects with respect to avifauna, it remains my opinion that for the reasons outlined in this statement of evidence the impact on shorebirds and seabirds will be within the range minor to negligible.

David Richard Thompson

11 August 2026