

**Before the Independent Hearing Panel appointed by
the Canterbury Regional Council**

IN THE MATTER OF The Resource Management Act
1991

AND

IN THE MATTER OF Application CRC242267 to
undertake erosion and inundation protection works at
Southshore and South New Brighton Park

Addendum to Section 42A Officer's Report

Report of Philip Grove

Introduction

Background

1. This report forms part of the Canterbury Regional Council's (CRC) audit of the assessment of environmental effects (AEE) provided by Christchurch City Council (the applicant) in support of resource consent applications for a series of coastal erosion and inundation protection works along the Ihutai/Avon-Heathcote Estuary margin between South New Brighton Park and Southshore Spit.
2. This report will provide the decision-maker with information and advice related to:
 - a. The actual and potential effects of the proposed activity on terrestrial and wetland ecology, specifically the wetland habitats of the estuary margin and avifauna that utilise these margin habitats and/or those of the adjoining estuary.
3. This report should be considered alongside that of CRC coastal ecology scientist Ms Melanie Burns which provides advice on effects of the proposed activity on intertidal estuary habitats, and that of CRC coastal hazards scientist Mr Bruce Gabites which provides advice of effects of proposed activities on nearshore coastal processes.
4. Effects on ecology of the terrestrial environment landward of the Coastal Marine Area (CMA) are considered under resource consent applications to Christchurch City Council (CCC). I note that Ihutai / Avon -Heathcote Estuary is a scheduled Site of Ecological Significance (SES) in the Christchurch City Plan and that for this reason, the evidence of CCC ecology experts, prepared as part of the CCC audit of the assessment of environmental effects, overlaps with that of CRC ecology experts.
5. While not required for a Council hearing for a resource consent application, I have read the Code of Conduct for Expert Witnesses in giving evidence to the Environment Court. I agree to comply with that code when giving evidence to the Hearing Panel in this matter. All my evidence is within my expertise and I have considered and stated all material facts known to me which might alter or qualify the opinions I express

Qualifications

6. I hold the degrees of MSc and PhD in botany from the University of Otago.

7. I have been employed by Canterbury Regional Council as a terrestrial and wetland ecology scientist since 2001 and have carried out inventory and monitoring of wetlands and terrestrial ecology over that time. Monitoring of coastal wetland ecosystems, including Ihutai, has been a focus this work. I regularly provide advice to CRC Consent Planners on effects of proposed activities on terrestrial and wetland ecology.

Scope of Report

8. This report is prepared under the provisions of section 42A of the Resource Management Act 1991 (RMA). This section allows a council officer or consultant to provide a report to the decision-maker(s) on a resource consent application made to the council and allows the decision-maker(s) to consider the report at the hearing. Section 41(4) of the RMA allows the decision-maker(s) to request and receive from any person who makes a report under Section 42A *"any information or advice that is relevant and reasonably necessary to determine the application"*.
9. This report is supplementary to the Section 42A Report prepared by the CRC for the above resource consent applications. Full details of the consent applications are provided in that report. To carry out this audit of the consent applications I have considered:
 - a. Assessment of Effects on the Environment (Jacobs, 2023);
 - b. Appendix C - Drawings (Jacobs, 2023);
 - c. Appendix D - Design Report (Jacobs, 2023);
 - d. Appendix M - Ecological Impact Assessment (Boffa Miskell, 2023);
 - e. Further information that was provided by the applicant on 9 April 2024, 23 October 2024, 20 November 2024, and 19 December 2024;
 - f. Amended Ecological Impact Assessment (Boffa Miskell, May 2025);
 - g. Memo of site visit and proposed amendments/further investigation (CCC, 16 July 2025).

I attended a site visit on 16 July 2025 with the applicant and their consultants.
10. In addition, I have read and considered ecological evidence that formed part of the Christchurch City Council's audit of the assessment of environmental effects (AEE) provided by the applicant. As noted above, matters covered in the evidence of Dr Shane Orchard and Mr Andrew Crossland overlap that of CRC ecologists.
11. Finally, I have also taken into account relevant issues raised by submitters in relation to the effects I have considered in this report.

Assessment of Receiving Environment

12. The Christchurch City Council is proposing to construct and install a series of coastal protection structures along the Avon-Heathcote Estuary edge and adjoining land between South New Brighton and Southshore. Intent of these works is to protect residential and open space areas adjoining the estuary from inundation and erosion and provide public recreational/amenity assets (i.e. walking track, access to the estuary for kayaks etc).
13. The current estuary edge in this area (South Brighton Park to Southshore Spit) contains a series of ad-hoc and informal protection structures that were presumably installed by the previous adjacent landowners at various times and to varying construction and engineering standards and with a wide variety of materials. A large portion of these

existing or remnant protection structures along this stretch of coastline are in a poor condition and many individual structures have failed during, and as a result of the Christchurch Earthquake Sequence (CES).

14. CRC understands that existing unconsented protection structures cannot be considered to form the 'existing environment' for the purposes of these consent applications. The AEE therefore needs to consider the existing 'baseline' estuary environment as it was prior to installation of unconsented coastal structures. The heading of Section 3 – Existing Environment in the Boffa Miskell s92 response would be better worded as 'Current Environment' to clarify that what is being described here is *not* the 'existing environment' baseline against which effects of the proposal can be assessed.
15. As noted above, the proposed works area lies within and/or alongside the scheduled City Plan Ihutai Site of Ecological Significance. The ecological importance of the estuary is well-recognised. For example, as a whole the estuary is an Internationally Significant wildlife habitat (O'Donnell 2000), while saltmarsh wetland vegetation/habitats of the estuary margin are considered to be of regional ecological significance.

Assessment of Effects on the Environment

16. The key effects or issues of concern I consider in this report are: i. construction phase loss of saltmarsh vegetation and other littoral (estuary margin) habitats; ii. construction phase disturbance of estuary birdlife; iii. post-construction disturbance to estuary birdlife. iv. post-construction loss of estuary margin saltmarsh and littoral habitats due to coastal squeeze.
17. These effects are of concern because the estuary habitats and species, including its birdlife and saltmarsh vegetation, are ecologically significant under multiple Canterbury Regional Policy Statement (CRPS) assessment criteria. CRPS Policy 9.3.1 directs that areas identified as significant will be protected to ensure no net loss of indigenous biodiversity or indigenous biodiversity values as a result of land use activities.
18. I deal with these effects in turn discussing whether I agree with the Applicant's assessment of effects, and whether I consider the Applicant's proposed mitigation measures are adequate to address adverse effects.

Construction phase direct loss of estuary margin saltmarsh vegetation and habitats

19. I agree with the description of 'saltmarsh herbfield' (Section 3.1.2.5) and 'saltmarsh rushland' (3.1.2.6) vegetation types in the Ecological Impact Assessment Report (Boffa Miskell 2025). However, I give no consideration or weight to the accompanying assessments of 'ecological value' of these vegetation types (or other ecological features described in the report). What is relevant, from an effects management perspective, is 'ecological significance'. These vegetation types are ecologically significant under CRPS assessment criteria, both of themselves but more importantly as part of the wider, highly significant estuary ecosystem.
20. I leave review of the applicant's description of 'Estuarine Species and Habitats' (Section 3.2 of the Ecological Impact Assessment report) to my CRC colleague Ms Burns, other than to note that these areas are also important avifauna habitat.
21. The applicant has not provided an estimate of direct loss of existing saltmarsh rushland vegetation as a result of proposed works, saying that level of effect is not possible to determine at this stage. While I appreciate the uncertainty as to precise area / number of sea rush plants affected, having visited the proposed works area recently I consider that some loss is likely to occur. I agree that would constitute a loss of significant biodiversity values in this context. I also agree that, if consent is granted as sought, any

loss of this significant vegetation area should ideally be avoided or otherwise (sub-optimally) remedied (Section 7.2.1.5 Ecological Impact Assessment Report)

22. The applicant has estimated that approximately 0.17 ha of existing saltmeadow vegetation will be lost due to direct construction impacts of loss of hydraulic connection to the estuary. I agree with this estimate and that this is a moderate level of adverse effect on an ecologically significant vegetation/habitat. I agree that, as these effects cannot be avoided if consent is granted as sought, adverse effects must be remediated to achieve no net loss (Section 7.2.1.6 Ecological Impact Assessment report).

Construction phase disturbance to estuary birdlife

23. I disagree with the applicant's description of avifauna populations and habitat use in the vicinity of the proposed works area (Section 3.4 of the Ecological Impact Assessment Report). I rely instead on the extremely comprehensive review evidence of Mr Andrew Crossland for the CCC Consents audit, which is based on decades of bird counts carried out around the estuary over all seasons and (importantly) stages of tidal inundation. Mr Crossland has clearly identified deficiencies in the applicant's description of the avifauna 'environment'; deficiencies which then translate across to erroneous assessments of 'ecological value' and assessments of effects.
24. As noted above, I disagree with the applicant's assessment of these effects, preferring the evidence of Mr Crossland on this matter.
25. The applicant has offered no mitigation for construction-phase disturbance effects on wading birds, gulls, terns and waterfowl. The 'offer' of mitigation for disturbance effects on 'cryptic swamp birds' is just a distraction given these species are unlikely to even be present in the area, compared to the obvious large numbers of waders, gulls, terns and waterfowl that will be impacted.

Post-construction disturbance to birdlife

26. Again, I disagree with the applicant's description of the affected avifauna environment and their assessment of effects of post-construction disturbance on estuary birdlife. I agree with Mr Crossland's evidence and conclusions on this matter.
27. While the proposed new adjustment to only two formalised (concrete stair) access points to the estuary *may* reduce direct human disturbance (e.g. trampling) of estuary habitats relative to that from a larger number of access points, with the promotion of the area for recreational activity a significant increase in general use and therefore avifauna disturbance is foreseeable. This will likely also involve increased use of small watercraft (e.g. kayaks, kite surfers) with additional disturbance to avifauna (as is evident at the Ferrymead-Humphreys Drive side of estuary). The applicant's ecologists have dismissed this effect.
28. I also agree with Mr Crossland that the applicant's claim of a net gain of intertidal mudflat habitat extent fails to account for habitat quality. The 'new' mudflat areas are fragmented, individually limited in size and situated along shoreline margins prone to weed accumulation, algal growth and tidal debris. This will limit their value as feeding and roosting habitat for estuary birdlife.

Loss of estuary margin habitats - saltmarsh vegetation and habitats (including tidal mudflats and littoral supra-tidal habitats) due to coastal squeeze

29. The applicant's assessment of effects of habitat loss due to coastal squeeze was limited in scope both temporally (20 years) and spatially, with the focus of their assessment

being impacts on seagrass bed habitats. Coastal squeeze effects on estuary seagrass beds are reviewed in the evidence of CRC colleague Ms Burns. She concluded that there is still uncertainty around the potential adverse effects from coastal squeeze on seagrass beds, intertidal soft sediment habitats and macroinvertebrate communities.

30. Effects of coastal squeeze on higher-elevation estuary and estuary margin habitats above the (current) seagrass bed elevation limits have not been considered by the applicant. For example, they have not assessed effects of coastal squeeze on the ability of estuary margin saltmarsh and littoral vegetation/habitats to adjust and persist in the face of rising sea levels, or effects on high tide roosting habitats of shorebirds.
31. I consider that loss of these higher elevation estuary margin habitats (due to coastal squeeze against existing informal/unconsented structures) is already underway, and that further loss (against proposed new structures) over the next twenty years is inevitable. And there is of course no guarantee that the new structures will be removed in 20 years.
32. In any case, the applicant's assessment of effects of coastal squeeze is based on a false premise, that is their consideration of the current unconsented structures as the 'existing environment' baseline.

Proposed Conditions

33. I have read the 'Revised Proposed Conditions' provided by the applicant on 21 October 2025. Regional Consents Ecological Management conditions 4 - 8 do, in my opinion, provide appropriate remediation or offsetting for direct effects / construction phase loss of saltmarsh vegetation and other littoral (estuary margin) habitats.
34. However, other adverse effects identified - that is construction phase disturbance of estuary birdlife, post-construction disturbance to estuary birdlife and post-construction loss of estuary margin saltmarsh and littoral habitats due to coastal squeeze – are not addressed in the Revised Proposed Conditions.

Response to issues raised by submitters

35. Ihutai Estuary Trust raised concerns about loss of estuary habitat through coastal squeeze, the use of cobble beaches and reduced ecosystem functionality, and increased access onto the intertidal mudflats. I agree with their concerns, as covered in my evidence.
36. Department of Conservation (DOC) raises concerns about coastal squeeze reducing the areas of saltmarsh and mudflat habitat due to the proposed erosion protection structures and recommend monitoring seagrass and mudflat for effects of coastal squeeze. I agree with their concerns and have covered these in my evidence.

Conclusions and Recommendations

37. I do not consider that construction phase disturbance impacts of proposed works on estuary avifauna have been correctly assessed. These effects are therefore not appropriately mitigated.
38. Given the advice from Bruce Gabites that proposed works are excessive or unnecessary relative to the level of coastal inundation and erosion risk over the next 20 years, the

uncertainty of the potential adverse effects on seagrass beds and mudflat communities identified by Ms Burns, and the adverse effects on higher elevation estuary margin and littoral habitats from coastal squeeze discussed in my evidence, I share their opinion that 'harder' engineered erosion protection structures as proposed should be avoided.

39. As also noted by CCC consent reviewers, there may instead be opportunities for achieving nature based coastal protection solutions that are embedded within a more naturalised landscape.
40. Mitigation for human disturbance of wildlife and wildlife habitats should also have been included. The proposal as it stands represents a substantial lost opportunity for estuary wildlife habitat remediation - for example safe roost provision, disturbance screening, improvements to shoreline feeding habitats – that could have been considered as part of the project.

References

- Boffa Miskell 2025. Southshore and South New Brighton Park Flood Protection Works: Ecological Impact Assessment Report prepared by Boffa Miskell for Christchurch City Council. May 2025.
- O'Donnell C.F.J. 2000. The significance of river and open water habitats for indigenous birds in Canterbury, New Zealand. Environment Canterbury Unpublished Report U00/37.