

**BEFORE A PANEL OF INDEPENDENT HEARING COMMISSIONERS
APPOINTED BY ENVIRONMENT CANTERBURY AND CHRISTCHURCH
CITY COUNCIL**

IN THE MATTER of the Resource Management Act 1991(the **Act**)

AND

IN THE MATTER of Resource Consent applications CRC242267,
CRC242268, CRC242269, CRC242269 and
RMA/2023/3243 by Christchurch City Council (**the
Applicant**) for Southshore and South New Brighton Park
Estuary Edge Project

**STATEMENT OF EVIDENCE OF JAZ NYE MORRIS
ON BEHALF OF CHRISTCHURCH CITY COUNCIL
(TERRESTRIAL VEGETATION AND WETLANDS)
Dated: 21 November 2025**

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LAWYERS

1. SUMMARY OF EVIDENCE

- 1.1 My evidence addresses terrestrial vegetation and wetland habitats (saltmarsh and saltmeadow) within the Avon–Heathcote Estuary Ihutai project site and evaluates ecological effects arising from the Southshore and South New Brighton Park Estuary Edge Project. My evidence is based on the updated Ecological Impact Assessment dated 29 May 2025, which supersedes the original report lodged with the applications. The updated assessment reflects design changes, stakeholder engagement, and engineering advice received since lodgement.
- 1.2 My evidence confirms that the proposed works will result in very low-level losses of exotic vegetation, and temporary impacts (which will be remedied to achieve no net loss) to indigenous species within saltmarsh and saltmeadow habitats. Adverse effects will be managed through avoidance, minimisation, remediation, and mitigation measures outlined in the updated EclA and volunteered conditions of consent. I have had input into these conditions and confirm that they reflect my recommendations. Key measures include indigenous planting, replanting of affected species, weed control, and creation of a saltmeadow remediation area. The remediation approach replaces the earlier offset proposal and ensures that residual effects are addressed within the project footprint.
- 1.3 Potential concerns raised in submissions and peer reviews, including coastal squeeze and saltmeadow loss, have been considered. The assessment concludes that effects on saltmarsh are negligible or positive within the consent duration and that saltmeadow impacts will be fully remedied. The proposed measures will achieve no net loss and are expected to deliver a net gain for terrestrial vegetation. There are no outstanding matters of disagreement with the peer reviewers from Canterbury Regional Council and Christchurch City Council within my area of expertise.

2. INTRODUCTION

- 2.1 My full name is Dr Jaz Nye Morris.
- 2.2 My evidence is given on behalf of the Applicant.
- 2.3 My evidence relates to terrestrial vegetation and habitats (including saltmarsh and saltmeadow wetland areas) at the Avon-Heathcote Estuary

lhutai estuary (**estuary**) project site (**site**), and ecological effects to these areas arising from the project.

2.4 I was one of the four co-authors of the *Southshore and South New Brighton Park Flood Protection Works – Ecological Impact Assessment* report, dated 1 December 2023 (**original EclA**), which was included as Appendix M to the Applicant's Assessment of Environment Effects (**AEE**) submitted to the Canterbury Regional Council (**CRC**) and Christchurch City Council (**CCC**)¹. Following lodgement of the applications, I was also involved in providing advice to the Applicant in response to the Requests for Further Information (**RFIs**) issued under s92 of the RMA by CRC² and CCC³.

(a) I co-authored a memo, *Resource consent application RMA/2023/3243 - Estuary South New Brighton Park and Southshore - Request for further information – FINAL*, dated 13 February 2025, which was included in the Applicant's response to the CCC RFI.

(b) As part of the CCC RFI response, I was also involved in updating the original EclA in order to address design changes made in response to the RFI requests, ongoing engagement with stakeholders, and updated engineering advice.

2.5 The **updated EclA**, dated 29 May 2025, fully supersedes the original EclA, should be relied upon as the Applicant's assessment of ecological impacts arising from the proposal, and forms the basis of my evidence.

3. QUALIFICATIONS AND EXPERIENCE

3.1 I am currently employed as a Senior Ecologist / Associate Principal with Boffa Miskell Limited (Boffa Miskell), a national multi-disciplinary environmental planning and design consultancy. I have held this position for 6.5 years.

3.2 I have a Doctor of Philosophy from the University of Otago (2018) for botanical studies, and a Bachelor of Science with Honours First Class in Botany (2011) from the University of Otago. My previous work experience from 2010-2018, alongside postgraduate study in the Botany Department of the University of Otago, included botanical surveys and ecological surveys in coastal environments, as a contractor / research assistant. I have published

¹ The original EclA was attached as Appendix M to each of the AEEs lodged with CRC and CCC in December 2023.

² RFI dated 25 May 2024.

³ RFI dated February 9 2024.

ecological and botanical research relating to my postgraduate studies in national and international peer-reviewed journals.

- 3.3 In my role at Boffa Miskell I provide ecological consultancy services to a wide range of clients throughout the South Island. I specialise in the survey and assessment of terrestrial ecological values and preparation of ecology reports for Assessments of Effects on the Environment. I have prepared expert evidence on ecological matters for Environment Court proceedings and various Council Hearing processes.
- 3.4 I have completed numerous terrestrial ecology and wetland surveys / assessments in Christchurch city / Ōtautahi and in the wider Canterbury region / Waitaha, including as part of a 12-month secondment to CRC's Land Ecology Science team. Relevant project experience includes:
- (a) Christchurch Coastal Pathway (ecological assessments for CCC for Stage 4 at the estuary edge at Moncks Bay), 2020-2022.
 - (b) Green Edge Pathway (ecological assessment for CCC for proposed walkway / cycleway from Bridge St to Humphreys Dr, along the estuary edge), 2019-2022.
 - (c) Amberley Beach bund renewal (ecological assessment for Hurunui District Council), 2022.
 - (d) Various CCC projects in the Ōtākaro Avon River Corridor, including Goodman St Wetland Restoration (2024), Anzac Dr Road Removals (2024), and Kerrs Reach Flatwater Sports Proposal (2023).

4. CODE OF CONDUCT

- 4.1 Although this matter is not before the Environment Court, I confirm that I have read the Code of Conduct for Expert Witnesses outlined in the Environment Court's Practice Note (2023) (**Code**) and have complied with it in preparing this evidence. I also agree to follow the Code when presenting evidence to the Panel. I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state that I rely upon the evidence of other expert witnesses. I also confirm that I have not omitted to consider material facts known to me that might alter or detract from my opinions.

- 4.2 I am also a Certified Environmental Practitioner with the Environment Institute of Australia and New Zealand (**EIANZ**), a full member of EIANZ, and am bound by the Institute's code of ethics.
- 4.3 In respect of the Code, I note that I have resigned from Boffa Miskell effective 12 December 2025 and will be starting a full-time position as a Senior Scientist (Land Ecology Science) at CRC from 12 January 2026. I also note that my recent secondment to CRC has not involved wetland surveys and assessments in the Southshore or South New Brighton Park (**SNBP**) areas, nor have I had any discussions regarding this project with CRC's s42A reporting officer and peer reviewers, and there are no conflicts of interest to raise.

5. SCOPE OF EVIDENCE

- 5.1 This statement of evidence covers the following:
- (a) A summary of my evidence (see **Section 1** above)
 - (b) **Section 6:** An update to my ecology assessment addressing terrestrial vegetation and wetlands.
 - (c) **Section 7:** My comments on the issues raised in submissions that fall within my area of expertise;
 - (d) **Section 8:** My comments on the issues raised in the Section 42A Report that fall within my area of expertise;
 - (e) **Section 9:** Conclusions.

6. UPDATE TO MY TERRESTRIAL VEGETATION AND WETLANDS ASSESSMENT

Project Updates (As Outlined in Ms Bould's 5 November 2025 Memo)

- 6.1 Following lodgement of the updated EclA, the Applicant has made further design changes to the proposal, as set out in Ms Bould's memo provided to the Hearing Panel on 5 November 2025⁴ and as summarised in Mr Little's evidence. These changes largely relate to access to the estuary bed and

⁴ Bould, J. (2025). *Summary of Changes to Application: RMA2023/3243 and CRC242267, CRC242268, CRC242269 and CRC251999*. Memo prepared by Town Planning Group on behalf of Christchurch City Council, dated 5 November 2025.

design changes within the coastal marine area (**CMA**) and involve the use of a *'soft edge' natural beach* trial at SNBP.

- (a) Changes in relation to estuary access points and other design changes within the CMA do not materially alter the expected outcomes for terrestrial vegetation and habitats (including saltmarsh and saltmeadow wetland habitats), and do not change my conclusions and recommendations.
 - (b) The proposed *'soft edge' natural beach* would require further clearance / loss of vegetation adjacent to the existing Estuary walkway at SNBP, with this area (requiring vegetation clearance) extending roughly 15 m inland of the existing coastal edge.
- 6.2 Largely, this is an area of an existing (gravel) track, rank exotic grass, planted ngaio trees, and exotic (weedy) shrubs (as described in the updated EclA at Section 3.1.2.1) of negligible ecological value. Additional loss of planted ngaio and exotic species (compared to the original proposal) is not of ecological concern. The only ecologically significant values in this area relate to (potential) southern grass skink, which would be appropriately managed (as described in Mr Turner's evidence).
- 6.3 The upper edge of the *'soft edge'* would be planted in appropriate native species, remedying temporary loss of vegetation, and the balance of the (extensive) landscape plan would still form part of the activity. I consider that any additional losses of coastal vegetation at SNBP would still be outweighed by implementation of the proposed native plantings (landscape plan). The impacts of the *'soft edge' natural beach* aspect of the proposal are relevant largely to marine habitats and avifauna (and possibly grass skink) and do not affect my conclusions and recommendations.

Differentiation Between 'Saltmarsh' and 'Saltmeadow'

- 6.4 The original and updated EclA refers to two types of saline wetland habitat, 'saltmarsh' and 'saltmeadow.' In hindsight, my use of these two very similar sounding (and ecologically overlapping) terms has been unhelpful. These terms have sometimes been used incorrectly or interchangeably in other reports or plans prepared by the applicant and councils.
- 6.5 In the interest of avoiding any further confusion, and to clarify:

- (a) 'Saltmarsh' (in my reporting) refers to areas of largely sea rush rushland (with some areas of oioi reeds) growing on the estuary mudflat, around or below Mean High Water Springs (**MHWS**).
 - (b) 'Saltmeadow' refers to associations of low-growing (turfy) herbaceous plant species growing above MHWS on saline soils. At Southshore, these occur on former lawns / gardens etc. elevated above the estuary mudflat in the residential red zone (**RRZ**).
- 6.6 Technically speaking, saltmeadow is really an informal term for a vegetation structural class that often occurs within (as a subset of) the estuarine wetland type known as saltmarsh, and in more natural contexts (without seawalls) sea rush rushlands can grade into or intermingle with saltmeadow herb species. Purely for the purposes of this application, I distinguish the two. As shown in Figures 1-2 respectively, saltmarsh is on the estuary bed (CMA), and saltmeadow occurs on the RRZ.



Figure 1. Saltmarsh on estuary mudflat around or below MHWS.



Figure 2. Saltmeadow on RRZ above MHWS.

Saltmeadow Remediation

- 6.7 I also highlight that the updated EclA included an important change compared to the original EclA within my area of expertise:
- (a) This change is the *remediation* of the loss of saltmeadow habitat within a 'saltmeadow remediation area' (based on updated engineering advice that this approach is feasible⁵), rather than *offsetting*. The draft Saltmeadow Offset Plan contained in the original EclA is now redundant.
 - (b) Following sequential application of the effects management hierarchy, offsetting is no longer required in relation to residual effects to terrestrial vegetation and habitats.

Conclusion of EclA Remains Unchanged

- 6.8 I confirm that my assessment and conclusions in relation to terrestrial vegetation and habitats (which includes wetlands) as set out in the updated EclA are materially unchanged (referring to Sections 3.1, 5.2, 7.2, 8.0 of the updated EclA).
- 6.9 I maintain my conclusion that impacts to terrestrial vegetation and habitats at the project site can be adequately managed by implementation of the

⁵ Tom Parsons, CCC, pers. comm. 2025. See the updated EclA, section 5.2.

recommendations of the updated EclA (avoidance / minimisation, remediation, and mitigation measures), to achieve no net loss / net gain for all components of the terrestrial ecological environment within my area of expertise. This includes:

- (a) Indigenous plantings to remedy very low-level losses of 'exotic grassland / herbfield' arising from construction of estuary edge protection (cobble beach and revetment) and the inundation bund along the RRZ at Southshore.
- (b) Indigenous plantings to remedy very low-level losses of 'exotic forest / treeland' arising from construction of estuary edge protection (soft beach / cobble beach and revetment) and the inundation bund within the coastal edge and coastal forest area at SNBP.
- (c) Replanting of any indigenous herbs, rushes and shrubs arising from very low-level losses due to construction of the inundation bund in 'saltmarsh ribbonwood / exotic grass grassland' at the south end of the project Site at Southshore, remedying impacts, and additional mitigation in the form of weed control.
- (d) Replanting of any sea rush plants on the edge of 'saltmarsh' at the estuary edge at Southshore, remedying impacts, and additional mitigation in the form of weed control. Additional impacts to saltmarsh due to sea level rise and coastal squeeze are not anticipated within the 20-year consent duration, with effects uncertain and ranging from negligible to positive (due to potentially increased habitat).
- (e) Creation of a 0.2 ha 'saltmeadow remediation area' between the erosion protection structures and the inundation bund.

6.10 As described in the updated EclA, potentially moderate-level adverse impacts may arise from loss of existing saltmeadow herbfield areas that have developed in low-lying parts of the RRZ since the Canterbury Earthquake Sequence.

6.11 These impacts would be remedied in the 'saltmeadow remediation area' via establishing suitable low-lying areas of saline soils to encourage recolonisation of saltmeadow herb species to achieve no net loss / net gain. The updated EclA also recommends that, in the event that remediation is deemed unsuccessful, additional planting of saltmeadow species or other

adaptive management measures are required (such as creation of an alternative saltmeadow area elsewhere within the project site, or off-site).

- (a) The requirements to replant (remedy) any lost plants in the 'saltmarsh ribbonwood / exotic grass grassland' and 'saltmarsh,' and to establish a 'saltmeadow remediation area' along with additional / adaptive measures, are all included in the volunteered conditions of consent attached to Ms Bould's evidence.

- 6.12 The no net loss / net gain conclusion is due to remediation of all temporary loss of habitat, or otherwise due to the implementation of a substantial indigenous planting plan at the Southshore RRZ and SNBP that represents an improvement on current conditions for terrestrial vegetation and wetlands.

7. ISSUES RAISED IN THE SUBMISSIONS

- 7.1 The CCC submission by Scott Butcher in opposition to the proposal raises the issue of coastal squeeze affecting the future extent of saltmarsh, by preventing migration up the shore following construction of a hard edge. His submission also proposes an alternative (more inland) shoreline alignment at SNBP in order to offset the loss of saltmarsh caused by the project, noting the opportunity to establish greater areas of saltmarsh ribbonwood plants (etc.). In response:

- (a) In relation to coastal squeeze: I have considered the potential for this effect within the proposed consent duration (to 2045). I maintain the conclusion in the updated EcIA (at Section 7.2.2.1) that effects due to coastal squeeze are either negligible or positive (i.e., effects are likely to be minimal, but the direction of change is uncertain). This is because the largest saltmarsh (sea rush rushland) area at Southshore would be adjacent to cobble beach, not revetment. It could potentially migrate into the 'buffer' area between the existing saltmarsh and the cobble beach (see Figure 47 in the updated EcIA), or even up the gentle slope of the cobble beach, within the lifetime of the consent. Impacts to the other much smaller isolated saltmarsh patches elsewhere along Southshore are null; they are currently prevented from moving upslope already (as they are adjacent to existing ad hoc coastal edge protection), and the new revetment will have a similar effect.

- (b) In relation to loss of saltmarsh and Mr Butcher's proposed offset / realignment: I maintain the conclusion of the updated EclA (at Section 7.6, Table 32) that there is no net loss of saltmarsh resulting from the proposal. Effects on salt marsh plants (e.g. sea rush) are essentially based on margin-of-error overlap with the mapped extent of saltmarsh and the construction footprint (6 m² of overlap)⁶, and any losses of existing saltmarsh plants that cannot be avoided must be adequately remedied (following the volunteered conditions of consent attached to Ms Bould's evidence). I understand his comments relate more to a long-term view (beyond the lifetime of the consent) and his general preference for a 'soft' coastal edge inland of the existing edge. Whilst I am sympathetic to this view, as there are no residual adverse effects to saltmarsh, in my opinion neither offset nor compensation (including Mr Butcher's proposed realignment) are required.
- (c) My conclusions in respect to the impact on terrestrial vegetation and wetlands (both temporary and permanent) as a result of the proposal have not changed following my reading and consideration of Mr Butcher's submission.
- 7.2 No other CCC submitters in opposition to the proposal raise matters within my expertise. On the other hand, various CCC submissions in support of the proposal note the benefits to terrestrial vegetation values associated with proposed indigenous planting (for example, the submissions of Maria Smolar and Annette Bolton).
- 7.3 The CRC submission from the Director General of Conservation (**DOC**) raises matters of concern with the proposal as assessed in the original EclA that are within my area of expertise. However, DOC has subsequently submitted a letter (dated 17 September 2025) to CCC, stating that the updated EclA resolved previous concerns raised in the earlier ECan submission. For example, DOC's concerns with the initial proposal to offset the loss of saltmeadow have essentially been addressed by the updated proposal to remedy loss of saltmeadow. There are no outstanding matters in DOC's submissions to address within my evidence.

⁶ A typo in the updated EclA section 7.2.1.5 expresses this as 0.01 ha (with rounding). In fact, this equates to 0.001 ha, as correctly stated in the updated EclA at Table 17.

- 7.4 No other CRC submitters in opposition to the proposal raise matters within my area of expertise. On the other hand, various CRC submissions in support of the proposal note the net benefits to vegetation values associated with proposed indigenous planting (for example, the submission of Southshore Residents' Association).

8. ISSUES RAISED IN THE SECTION 42A REPORTS

- 8.1 I have read the Section 42A Reports prepared by Ms Murray and Ms Carter (s42A officers for CRC and CCC, respectively). I have also read the technical peer review comments provided to the CRC and CCC s42A officers by Dr Grove and Dr Orchard, respectively. Both Dr Grove and Dr Orchard have visited the project site. Importantly, Dr Orchard's position has shifted compared to his original peer review report dated February 2024⁷ based on changes to the updated EclA (and project updates discussed therein), as reflected in his addendum report dated June 2025⁸.
- 8.2 As reflected in the s42A Officers' reports for CRC and CCC, Dr Grove, Dr Orchard, and I appear to be in general agreement on:
- (a) Existing ecological values / significance of terrestrial vegetation and wetlands (saltmarsh in the CMA, and saltmeadow on land);
 - (b) The levels of effects of the proposed activity (although Dr Orchard disagrees in relation to coastal squeeze for saltmarsh, based on his different approach, i.e., a longer-term view); and:
 - (c) The proposed impact management approach, including:
- 8.3 The saltmeadow remediation approach.
- 8.4 Additional mitigation measures relating to saltmarsh; and
- 8.5 Additional mitigation measures relating to sand dune planting and weed control.
- 8.6 Whilst we essentially reach the same conclusions, Dr Grove's evidence (for CRC) distinguishes between the 'existing environment' and 'current

⁷ Orchard, S. (2024). Review of ecological impact assessments for coastal protection structures at Southshore and South New Brighton Park. Report prepared by Waterlink Limited for Christchurch City Council, dated 21 February 2024. [note: the cover page of this report states 'January 2024']

⁸ Orchard, S. (2025). RMA2023 3243 - South New Brighton and South Shore Hazard Protection Works – Technical Memorandum. Memo prepared by Waterlink Limited for Christchurch City Council, dated 13 June 2025.

environment' as it relates to the ongoing presence of the ad hoc coastal edge protection. Whilst I consider that the correct 'existing environment' is strictly a technical planning / legal matter, I record that my terrestrial ecology and wetland assessment considered the effects of the activity compared to the status quo situation, i.e. with the existing ad hoc coastal edge protection in place. I note Ms Carter for CCC (from her paragraph 33) has received legal advice that this is the correct approach because it would not be straightforward to conceptualise the fictional environment that would exist if these unlawful structures had not been built. The existence of these structures has led to the status quo ecological environment, including (for example) the presence of saltmeadow perched above the estuary bed on periodically inundated saline soils on former residential properties in the RRZ. Ms Murray for CRC does not appear to specifically address this matter.

- 8.7 As discussed by Ms Carter, Dr Orchard's original peer review requested changes to the project, in particular the remediation approach for saltmeadow, and additional conditions relating to effects management for sand dune areas. I agree with Dr Orchard that, following his useful comments in his original peer review, the saltmeadow remediation approach has *"simplified the project and should be seen in a positive light."*
- 8.8 Ms Carter's s42A report and Dr Orchard's addendum report (for CCC) are generally supportive of the project changes reflected in the updated EclA. I do note that Dr Orchard would prefer that a Saltmeadow Remediation Plan (**SRP**) is prepared upfront (i.e., ahead of the hearing). I agree with Ms Carter, who considers that adverse effects to saltmeadow can be appropriately managed by implementation of proposed conditions including preparation of an SRP prior to exercise of consent.⁹
- 8.9 The differences of opinion or approach noted above are not material to the overall ecological outcome for terrestrial vegetation and wetlands.
- 8.10 There are no important outstanding matters of disagreement between my evidence and the s42A officers / peer reviewers within my area of expertise.

⁹ The draft Saltmeadow Offset Plan appended to the original EclA, while now redundant, also provides a useful basis for an SRP (in terms of species and targets), albeit that the proposed location and approach to the establishment of saline soils varies. That draft plan also provides photographs illustrating rapid and reliable establishment of saltmeadow at other sites at the Estuary. Whilst the approach proposed here varies (creation of saline soils by proximity to saline groundwater rather than via direct estuarine inundation), I consider that these other examples generally illustrate that saltmeadow can be reliably established and that upfront preparation of an SRP is unnecessary.

9. CONDITIONS OF CONSENT

9.1 I recommend that the draft conditions of consent are updated to include contingency / adaptive management measures for saltmeadow remediation. I understand that technical advice is that establishment of saline soils is feasible, and on this basis, I conclude re-establishment (with supplementary planting) of saltmeadow species is a reasonably likely outcome in the short to medium term. Nevertheless, the conditions of consent should be updated to include the extra layers of assurance outlined in the updated EclA (at Section 8.1.2.1):

- (a) Successful remediation can be measured by achieving >0.2 ha of low-lying area with at least 45% cover of indigenous plants comprising at least 5 indigenous saltmeadow species, within three years post-construction (following inspection of the saltmeadow remediation area by a suitably qualified ecologist / botanist), and if this is not successful:
- (b) Additional planting of saltmeadow species is required, or other adaptive management measures such as creation of an alternative saltmeadow area elsewhere within the project site, or off-site.

9.2 In addition, the conditions of consent should also be updated to include planting of pingao on sandy soils and to include control of woody tree / shrub weeds (as a one-off activity) within sand dune areas, as recommended in the updated EclA at Section 8.1.2.1 and 8.1.3.

10. CONCLUSIONS

10.1 I confirm that the key conclusions and recommendations of the updated EclA remain unchanged with respect to terrestrial vegetation and wetlands. There are no important areas of disagreement arising from the CRC and CCC s42A officers' reports, and I have considered and responded to submitter feedback within my area of expertise.

10.2 Indigenous planting and remediation of saltmeadow and dune areas will maintain or improve ecological values compared to the current situation, with the large-scale indigenous planting proposed for the SNPB and RRZ areas at Southshore being a particularly positive aspect. The project is consistent with best practice application of the effects management hierarchy and will

not result in residual adverse effects on terrestrial vegetation or wetland habitats following implementation of recommended conditions of consent.

A handwritten signature in black ink, appearing to read 'Jaz Nye Morris', with a stylized, cursive script.

Jaz Nye Morris

Dated 21 November 2025