

XX October 2021

Ministry for the Environment
PO Box 10362
Wellington 6143

Tēnā koutou,

Environment Canterbury submission on the Managing our Wetlands Discussion Document

Environment Canterbury welcomes the opportunity to provide feedback on the 'Managing our Wetlands' Discussion document.

Over the past 150 years many of New Zealand's natural wetlands have been drained or modified through historic activities and land use change. Today, only 10% remain and the country faces significant challenges in areas of freshwater, biodiversity and adaptation to climate change. Wetlands play an important role in responding to these challenges by providing habitat for indigenous fauna, improving freshwater quality and improving resilience to impacts of climate change (e.g. through buffering of storm events).

Having reviewed the proposals the Council has significant concerns that implications of proposed definition changes and new consenting pathways for Canterbury's wetlands have not been fully appreciated and that further loss of wetlands will occur.

From the Council's perspective it is critical that changes made to the National Policy Statement for Freshwater (NPSFM 2020) and National Environmental Standard for Freshwater (NES-F) give effect to the NPSFM objective of Te Mana o te Wai. If this outcome is secured there is a higher likelihood the framework will be fit for purpose when evaluated against the environmental outcomes in the Natural and Built Environments Bill. Ensuring a fit for purpose regulatory framework is critical not only for environmental reasons, but also for providing regulatory certainty to resource users affected by the provisions.

Furthermore, Environment Canterbury considers any changes made to the NPSFM and NES-F should implement equitable policy responses. The Council has significant concern with proposals that implement enabling policy frameworks for urban and industrial activities, while retaining restrictive frameworks for rural activities. This has the potential to create community division at a time when approaches which foster collaboration and working towards common goals should be encouraged.

We welcome any opportunities to discuss these matters with you as the framework is further developed.

Yours sincerely

Jenny Hughey
Chair, Environment Canterbury

Submission to the Ministry for the Environment

Managing our Wetlands

Introduction

1. Environment Canterbury welcomes the opportunity to provide feedback on the *Managing our Wetlands (MoW)* discussion document. Our submission is presented in relation to Environment Canterbury's roles, functions and responsibilities under the Resource Management Act 1991 (RMA) and the Local Government Act 2002 (LGA).
2. In developing this submission the Council has drawn on its experiences with implementing the Government's Essential Freshwater package across diverse wetland environments. Those experiences have highlighted the need for a framework that is robust, effective and implementable, and we comment on each of these matters later in our submission.
3. Environment Canterbury is also acutely aware that regional councils have primary responsibility for implementing the NPSFM and NES-F. It is therefore critical that the implications and nuances of the proposed framework for each region are understood, and we would welcome any opportunity to review draft wording prior to amendments being finalised.

Principles that have guided development of Environment Canterbury's submission

4. Environment Canterbury's feedback on the *MoW* discussion document has been guided by the following principles:
 - the proposed changes should achieve the Government's objective of '*no net loss of wetland extent or value*.'
 - the proposed changes should be consistent with the 'sustainable management' purpose of the Resource Management Act and give effect to the principles and hierarchy of obligations implicit in Te Mana o te Wai.
 - as far as practicable, policy responses should enhance or assist with achieving outcomes promoted in the Council's strategic direction
 - as far as practicable, policy responses for different types of activities should be equitable, unless there is a compelling reason otherwise.
 - the proposed changes should provide certainty to resource users, and be able to be implemented effectively and efficiently.
 - the proposals should incentivise landowners to undertake voluntary actions that preserve and restore wetlands and remove barriers to the process.

Structure of our submission

5. Environment Canterbury's submission is separated into four parts:
 - Part 1 of our submission includes our over-arching comments regarding the proposals.

- Part 2 of our submission responds to the discussion document and provides feedback on the proposals
- Appendix 1 of our submission includes our responses to questions in the discussion document. Given the binary nature of some of the questions, any response provided should be considered alongside our more fulsome discussion of the proposal in Part 2.
- Appendix 2 of our submission includes examples and supplementary information in support of our feedback.

Part 1 – Overarching comments and key points

Canterbury / Waitaha wetlands

6. Canterbury / Waitaha is fortunate to contain some of New Zealand's largest and most extensive ecologically significant wetland systems which exist across diverse environments including alpine zones, hill- and high-country areas, lowland plains and coast, and along the edges of braided river systems.
7. Over the past 150 years, approximately 90% of Canterbury's freshwater wetlands and half of the region's coastal wetlands have been lost as a result of human activity. Canterbury's remaining wetlands are therefore significant and highly valued, not just for their intrinsic value but also as a symbol for what they represent – precious remaining vestiges of once expansive wetland systems. Ecologically significant wetlands in Canterbury include relatively intact hill and high-country wetlands systems, as well as more modified, but still significant, remnant wetland areas on the lowland plains and coast (see Figures 1, 2, 3, 4 and 5 in Appendix 2).

Canterbury's commitment to wetlands

8. Canterbury and its communities have committed to strategies and initiatives to preserve, enhance and restore the region's natural wetlands. These include:
 - the Canterbury Biodiversity Strategy, a multi-agency document that sets out a common vision for biodiversity in the region, including within wetlands. As a first priority the Strategy advocates for protecting and sustaining threatened ecologically significant habitats, and as a second priority restoring representative habitats and ecosystems that have been lost or severely degraded.
 - the Canterbury Water Management Strategy which sets targets and goals relating to the protection, restoration and enhancement of wetlands and a framework for delivery through Zone Implementation Programmes (ZIPs).
 - The Long Term Plan / Te Pae Tawhiti (2021 – 2031) which sets out planned activities for the next decade and which includes programmes to protect and enhance habitats and wetlands through collaboration with the community. Funded programmes include: the 'Managing Wetlands as Farm Assets' project where farmers share knowledge and advice on the benefits of wetlands as farm assets, and the 'Wetland Action Plans' project which provides advice and funding for restoration of priority wetlands by motivated landowners.

- Whakaora Te Ahuriri – a multi-agency project to create a constructed wetland at Ahuriri Lagoon and improve water quality, biodiversity and mahinga kai values.
9. Environment Canterbury considers each of these initiatives, alongside the important work already being carried out by landowners, will contribute to the preservation and restoration of wetlands across the region.

Cultural significance of Canterbury / Waitaha wetlands

10. Environment Canterbury recognises all natural wetlands and the wetland species that inhabit them as intrinsically linked and important to Māori. Wetlands, as taonga, are treasured not only for their value as sources of mahinga kai but also as locations of historic and spiritual connection.
11. Over generations wetlands have been heavily impacted by land use change. These changes have extended beyond the wetlands themselves, with repercussions for mahinga kai and social and familial connections through indigenous displacement and impediment of traditional practices and mātauranga exchange. Mahinga kai species historically abundant in Canterbury wetlands have included freshwater fishes (tuna (eels), tipokopoko (bullies) and kōkopu) shellfishes (kēkēwai (crayfish) and kākahi (mussels)) and waterfowl (pūkeko, mataki (bittern) and a variety of ducks). Many of these are now declining and some can no longer be found in Canterbury's wetland. From the Council's perspective this only emphasises the need to protect and preserve those wetlands that remain.
12. Environment Canterbury in partnership with Ngāi Tahu has committed to initiatives to enhance and restore degraded wetland systems. These include the Whakaora te Waihora and Te Waikēkēwai projects which aim to revitalise and restore not only the wetlands themselves but also the mana of these locations.
13. Other wetland projects part-funded through the Canterbury Water Management Strategy and Zone Committees include restoration of Tūtaepatu Lagoon, Otukaikino wetland and Travis wetland. Each of these wetlands is highly valued for their landscape, ecological, and recreational attributes which contribute to peoples sense of place, enjoyment and health and well-being. These projects alongside regulatory controls are the first critical steps towards giving effect to Te Mana o te Wai in Canterbury.
14. For Environment Canterbury it is critical that any changes to regulatory controls not undermine the progress already made in protecting and restoring wetlands. For those outcomes to be safe-guarded, the Government must consider the proposals through a Te Ao Māori lens – one that recognises the interconnectedness of all living and non-living things and which implements policy responses that will provide for intergenerational outcomes.

Broader benefits of wetlands and costs of policy responses

15. Environment Canterbury considers the broader benefits of wetlands must be taken into account when formulating policy responses. This is critical to ensure the implications of

policy responses and trade-offs are understood and to ensure long-term objectives are not sacrificed for short-term gain.

16. However, the Regulatory Impact Statement (RIS) makes only cursory mention of the broader benefits of natural wetlands, and as a consequence underestimates the true cost of the proposed policy responses. In addition to providing direct benefits to freshwater quality, wetlands can help with mitigating and adapting to the effects of climate change (through capture and sequestration of atmospheric carbon dioxide), improve resilience to natural hazards (through buffering impacts of storm surges, flooding, coastal inundation), assist with river and aquifer recharge and provide breeding and feeding habitats for migratory birds. Combined, these benefits contribute to ecological well-being (through provision of eco-system services - e.g. pollination of crops by insects), social well-being (through recreation opportunities) economic well-being (e.g through new ecotourism and agritourism opportunities) and cultural well-being (by maintaining connections between people and places).
17. For Canterbury, these benefits are critically important to recognise given the impacts of climate change are likely to reduce the overall extent and distribution of wetlands. Rising sea levels will contribute to a 'squeezing' of coastal wetlands, while a drier climate will make ephemeral wetlands more sensitive to impacts through reduced inflow and temperature changes. For Canterbury to respond to these challenges, policy responses are needed that preserve and restore remaining wetlands and encourage the creation of new wetlands.

Incentivising preservation, enhancement and restoration of natural wetlands

18. Environment Canterbury considers that if the objectives of the Essential Freshwater Programme are to be achieved¹, non-statutory methods that incentivise preservation, enhancement and restoration of natural wetlands must be implemented alongside regulatory controls to prevent further loss.
19. In Canterbury, approximately 76% of natural wetlands occur on private land with only 20% existing on public land². Leveraging the good work undertaken by landowners, as environmental stewards, is therefore critically important to achieving the Government's objectives.
20. Environment Canterbury considers the Government should investigate and develop solutions to minimise the economic impacts³ for landowners undertaking wetland creation and restoration works. These impacts include both up-front costs (e.g. physical works, infrastructure, purchase of appropriate wetland plant species) but also the more significant costs associated with surrender of productive land for wetland creation. By finding a pathway that incentivises these works the Government is more likely to achieve its objective of 'reversing past damage within a generation'.

¹ Stop further degradation of New Zealand's freshwater resources; reverse past damage to New Zealand's freshwater resources, waterways and ecosystems to a healthy state within a generation

² The remaining 4% is classified as 'unknown' in StatsNZ data

³ Being both direct impacts arising from the creation or restoration of wetlands, and less direct impacts arising from a loss of productive land,

Objectives of the proposal

21. Environment Canterbury supports the Government's objective that changes made to regulatory instruments should ensure no net loss of natural wetland extent or values⁴. We also support regulatory solutions that improve efficiency, provide certainty to landowners and resource users and which can be practically implemented.
22. However, the Council has concerns these objectives will not be achieved if the proposals proceed as indicated. Key areas of concern include proposed changes to the definition of 'natural wetland' and new consent pathways for quarrying, mining, landfills, managed fills, controlled fills and plan-enabled urban development.
23. In the Council's opinion these changes have the potential to cumulatively reduce the extent of protection afforded to natural wetlands. Definition changes will reduce the range of wetlands captured by the definition, with the consequence that fewer policies and rules will apply to activities near existing natural wetlands. In addition, new consent pathways will enable further loss through offsetting and compensation mechanisms. The Council therefore impresses on the Government of the need to review and evaluate the proposals in light of the desired objectives.

The case for change

24. Environment Canterbury is not convinced the 'case for change' has been made for all changes proposed in the discussion document. For changes to be justified, evidence must be produced that demonstrates each of the identified problems is real, that it applies throughout New Zealand, and that there is a high opportunity cost if left unaddressed.
25. The Regulatory Impact Statement (RIS) includes limited evidence to demonstrate the extent and significance of each problem, in each region. Instead high level and generalised statements have been included supported by data that is not regionally specific. For example, paragraph 28 of the RIS justifies the need for additional landfills, cleanfills and managed fills on the basis of the estimated spoil produced from construction of housing developments in Auckland, over the next 30 years.
26. Given other avenues available to the Minister to address location-specific issues (e.g. preparing or amending national direction to apply to a specific location)⁵, and the potential impacts if these proposals proceed, the Council considers a more robust evidence base is required to support the changes.

Legislative and Policy Framework

27. Environment Canterbury has reservations regarding the overall consistency of the proposals with the 'sustainable management' purpose of the RMA and the principles set out in Part 2. Section 6 imposes an explicit obligation on persons exercising functions and powers under the Act to preserve wetlands from inappropriate use and

⁴ *Managing our wetlands discussion document, Purpose of the Review,*

⁵ RMA, s43(4)(b) and s43(4)(c)

development. It is difficult to see how proposals that would allow further wetland loss align with this outcome.

28. Furthermore, some proposals appear inconsistent with the principles of Te Mana o te Wai⁶, the NPSFM's objective of prioritising the health and well-being of waterbodies and freshwater ecosystems above other needs and uses, and policies⁷ which require no further loss of extent of natural inland wetlands and which promote improvements in degraded waterbodies and protection of indigenous freshwater habitats alongside an integrated, 'whole of catchment' approach to freshwater management. The Council considers clear analysis that sets out how the proposals align with these outcomes is therefore required.

Inequitable treatment of activities

29. Environment Canterbury has significant concerns with what it perceives as the on-going and inequitable treatment of rural activities. Through recent resource management reforms and proposed changes to freshwater policy (e.g. Freshwater Farm Plans, Intensive Winter Grazing standards) the Council has observed a general trend towards enabling policy frameworks for urban and industrial activities while retaining restrictive frameworks for rural activities.
30. The Council sees this once again reflected in these proposals which propose discretionary rules for works associated with quarries, fills, mining and urban development, while retaining non-complying and prohibited rules for those same activities if associated with rural activities.
31. In Environment Canterbury's opinion this approach is picking winners and losers by activity type. Rural activities are required to internalise adverse effects, while urban and industrial activities can externalise adverse effects through offsetting and compensation mechanisms. The Council considers a more equitable and sustainable approach would be to retain a framework that sets clear environmental limits and policy responses which require all activities to avoid, remedy or mitigate adverse effects.

Complexity and uncertainty

32. Environment Canterbury supports solutions that provide certainty for resource users, improve consistency and reduce regulatory complexity. However, the Council has concerns a potential outcome of the proposed definition change is a more complex regulatory environment. Whether by design or omission, the proposed definition changes apply only to the NPSFM and NES-F and not the Stock Exclusion Regulations. For farms required to comply with regulations in both instruments (e.g. regulations that apply to intensive winter grazing and stock exclusion near wetlands) the lack of an aligned definition will create implementation challenges. The Council considers this a highly undesirable outcome and requests these matters are reviewed and resolved before changes made.

⁶ mana whakahaere, kaitiakitanga, manaakitanga, governance, stewardship, care and respect

⁷ NPSFM policies 3, 4, 5, 6 and 9

Part 2 – Responding to the Discussion Document / Feedback on specific proposals

Opening remarks

33. Environment Canterbury has structured its feedback to align with the layout and structure of the discussion document. For each section the Council has included the ‘problem statement’⁸ the proposed changes are designed to respond to, and provided feedback on the proposals. In addition a summation of the Council’s responses to questions is include in Appendix 1.
34. However, the exercise of responding to the discussion document has been limited by an absence of draft wording for the proposed regulatory changes. Given ‘implementation challenges’ is listed as the primary reason for initiation of the proposals, the Council urges the Government to provide an opportunity to review and comment on the draft wording before changes are approved.

Section 1 – Overview of Wetland Management

Our opening remarks on Section 1

35. Environment Canterbury agrees with comments in Section 1 regarding the overall importance of wetlands and the need to preserve those that remain. We also agree any proposed changes must be consistent with the purpose and principles of the RMA and ensure no net loss of natural wetland extent or values.
36. However, the Council reiterates its comments in Part 1 of the submission regarding the risk for further loss of wetlands if the proposed definition changes and new consent pathways proceed. Further, detailed comment on these matters is provided later in the submission.

Section 2 – Overview of Wetland Management

Problem Statement: *“The current definition of ‘natural wetland’ in the NPSFM is problematic to apply and captures some heavily modified, exotic pasture-dominated wet areas.”*

Our opening remarks on Section 2

37. Environment Canterbury agrees the existing definition of a ‘natural wetland’ in the NPSFM and NES-F has been problematic to apply and resulted in some areas of heavily modified, exotic pasture-dominated wet areas being captured.
38. However, the Council has three fundamental concerns with the proposed definition changes which are set out below.
39. **First**, the proposal to amend the definition is promulgated on the basis of attempting to achieve a particular policy outcome. Section 2 of the discussion document, states:

⁸ Environment Canterbury has interpreted each problem statement based on the description of the ‘problem’ in the blue box immediately following each section heading.

“The revised definition will better acknowledge the original intent that wet pastures, even if they were once ‘natural wetlands’ are now highly modified environments and should be able to continue their current use or be able to shift in land use.’

40. The Council considers a more appropriate way to achieve that outcome (if desired) would be through changes to objectives, policies and rules. A commonly accepted planning principle is that definitions should be drafted agnostic of policy outcomes. Applying that principle, the definition of a ‘natural wetland’ should take into account all relevant attributes and features (e.g. soil factors, hydrology, vegetation etc) and be fit for purpose across a range of environments.
41. Once defined, a separate exercise of developing nuanced policy responses to enable or restrict activities depending on the significance of the wetland and its values, and the potential effects of the activity (positive and negative) can be undertaken. The Council remains concerned that attempts to achieve a policy outcome through definition changes will have unintended consequences for other provisions that incorporate the definition.
42. **Second**, the Council has significant concerns the definition would exclude a large number of ecologically significant wetlands, or large parts of ecologically significant wetlands. We anticipate this is not a desired or intended outcome and instead an unintended consequence of proposed amendments.
43. **Third**, the Council considers there is an underlying and fundamental issue with how the discussion document interprets the application of the wetland delineation protocols (WDPs) to the NES-F definition. Clause 3.23 of the NPSFM directs that:
- (1) Every regional council must identify and map every natural inland wetland in its region that is:
 - (a) 0.05 hectares or greater in extent; or
 - (b) of a type that is naturally less than 0.05 hectares in extent (such as an ephemeral wetland) and known to contain threatened species.
 - (2)
 - (3) In case of uncertainty or dispute about the existence or extent of a natural inland wetland, a regional council must have regard to the Wetland delineation protocols (see clause 1.8).
 - (4) The mapping of natural inland wetlands must be completed within 10 years of the commencement date....
44. The above indicates a clear role for the WDPs when undertaking wetland mapping exercises under the NPSFM 2020. Recent guidance material⁹ issued by the Ministry for the Environment has clarified how the WDPs¹⁰ are to be applied. WDPs can be used to assess whether a subject area meets the definition of a ‘wetland’ under the RMA, but cannot be used to distinguish between the RMA definition and a ‘natural wetland’. This

⁹ Defining ‘natural wetlands’ and natural wetlands’ – 14 September 2020, Section 3.4, Figure 1 and Section 4.1

¹⁰ comprising a Vegetation Tool, Hydric Soil Tool and Hydrology Tool

latter step requires consideration of the exemptions listed in clauses (a) to (c) of the 'natural wetland' definition.

45. Once regional councils have completed the exercise of mapping wetlands, councils, landowners and resource users will have greater certainty on which areas meet the definition of a 'natural wetland' under the NPSFM 2020. However the challenge for the NES-F is ensuring a robust method for delineating natural wetlands in the interim period before wetland mapping is completed.
46. The Council considers this difficult for two reasons. First, the WDPs are not incorporated nor referenced in the NES-F and therefore carry no legal weight in the context of that regulation. Second, even if the WDPs were recognised by the NES-F, correct application of these protocols in the field requires expert botanical and ecological knowledge.
47. As a consequence, the Council considers there is a high probability that:
 - a) landowners will attempt to make their own assessments as to whether a subject area meets the definition of a 'natural wetland'; and
 - b) the critical first step of applying the WDPs to a subject area and determining if it meets the RMA definition a 'wetland' will be missed; and
 - c) landowners will place undue emphasis on the exclusionary factors in clauses (a) to (c), focusing solely on vegetation type and cover without regard to other wetland attributes such as hydrology, soils and fauna; and
 - d) ecologically significant wetland areas will be unintentionally excluded by landowners.
48. This exposes one of the tensions with the NES-F – the need for a clear, objective definition for use in a regulation, rubbing up against the need for a definition that is ecologically robust. For a matter as complex as wetland delineation, expert knowledge and judgement is required for robust assessments.
49. The Council acknowledges some of the challenges identified above are inherent in the existing NES-F definition. However, proposed definition changes exacerbate the problem by further excluding wetlands with ecological value with the potential for poorer ecological outcomes. For that reason, the Council considers alternative solutions for achieving the proposal's objectives should be considered.
50. As a starting point, the Council states its position that it considers the WDPs offer significant value when defining a 'wetland' under the RMA. Recognition of the protocols within the NES-F would be helpful to ensure the protocols have legal weight in the context of that document.
51. However, the Council also recognises the need for solutions that provide certainty for landowners and enable informed decision-making. The WDP protocols are not appropriate for use by laypersons and cannot be readily converted into a form that is. On that basis, a better approach may to be abandon the proposed definition changes

and instead accelerate solutions that enable better access to ecological advice, information and support.

52. These mechanisms should come at low or no-cost to landowners and could include funding to increase the number and capacity of ecologists within the sector and technology solutions that enable better access to digital information held by the Council (e.g. wetland mapping etc).

Comments on specific changes to the definition

53. Despite reservations with the proposed definition changes, the Council has provided feedback on each of the specific amendments and the potential implications and impacts of those changes.

Proposed deletion of 'improved'

54. The Council acknowledges debate over the correct interpretation of 'improved pasture' has hindered implementation of the 'natural wetland' definition.

55. However, the Council considers the proposal to replace the phrase 'improved pasture' with 'pasture' could result in ecologically significant wetlands being excluded from the definition. 'Improved pasture' is defined in the NPSFM 2020 as:

improved pasture means an area of land where exotic pasture species have been **deliberately sown or maintained for the purpose of pasture production**, and species composition and growth has been modified and is being managed for livestock grazing`.

56. A key element of the definition is the distinction between areas that have been '*deliberately sown or maintained for the purpose of pasture production*' and areas of pasture in a wetland that have established through natural drift.

57. The crux of the issue is 'at what point does a wetland transition from being a wetland interspersed with areas of pasture, to an area of pasture with wetland attributes?' The RIS is unhelpful in this regard appearing to confuse the issue when setting out the rationale for the changes:

deleting 'improved' pasture is to remove room for interpretation as to what 'improved' means (e.g., a certain level of nitrogen application has been suggested) **when the intent is just to capture pasture (that also happens to be a wetland)**,

58. Within Canterbury there are many examples of ecologically significant wetlands where exotic pasture species have established through natural drift (see Figure 6 of Appendix 2). The Council maintains these wetlands should not be excluded from the definition given the ecological importance of these sites.

59. Nevertheless if changes to the definition are made, Environment Canterbury maintains it will be important to distinguish between areas that have been deliberately sown or maintained for productive purposes, and areas which contain pasture as a consequence of natural drift. This will help ensure relevant policies and rules continue to apply to

natural wetlands that have been invaded by exotic species, but which still are ecologically significant.

Proposed deletion of 'at the commencement date'

60. Environment Canterbury considers the phrase 'at the commencement date'¹¹ fulfils an important role in establishing a historic reference point for determining if a natural wetland previously existed at the site. The phrase is particularly helpful where non-compliance is suspected (e.g. where wetlands have been illegally modified through draining or earthworks) and where the previous existence of a wetland can no longer be observed.
61. Removing this phrase would result in decisions on whether a 'natural wetland' existed being based on present-day observations. Environment Canterbury considers this would compromise the Council's ability to take compliance action and therefore deletion of the phrase is opposed.

Proposed deletion of 'dominated by (that is more than 50% of)' and replacement with '50 percent ground cover comprising exotic pasture species or exotic species associated with pasture.'

62. Environment Canterbury has significant concerns with the proposal to exclude wetlands where groundcover comprises more than 50% pasture species or exotic species associated with pasture.
63. Many of Canterbury's ecologically significant lowland wetlands contain groundcover dominated by exotic grass species, or exotic species associated with pasture (e.g. exotic rush and buttercup species). Some of these wetlands contain an overlying native canopy with pasture dominated groundcover, or a high proportion of exotic groundcover relative to native wetland species.
64. On the lowland plains and in the high-country there are examples of seasonally wet marsh habitats and ephemeral tarn wetlands that have been invaded by exotic plant species but which are ecologically significant because they support threatened native species (see Figure 7 of Appendix 2). Another example is the moraine landforms in the Mackenzie Basin which contain ephemeral tarn wetlands surrounded by pastoral farming land uses (see Figure 8 of Appendix 2).
65. In many of these wetlands self-sown exotic plant species (grasses and herbs) now dominate the vegetation cover. However, these wetlands also support populations of rare/threatened native wetland plants such as mousetail (*Myosurus minimus*) and sneezewort (*Centipeda aoteoroana*). While exotic vegetation remains the dominant cover during dry periods, in winter and spring these tarns become shallow water wetlands with native wetland plants becoming more prominent. During wet periods these systems also support a diverse range of indigenous and migratory wetland fauna. These examples would fail to meet the proposed definition of 'natural wetland' in the NPSFM / NES-F despite meeting criteria in the Canterbury Regional Policy Statement for significant indigenous vegetation and / or significant habitats of indigenous fauna.

¹¹ At the commencement date refers to the date the NPSFM came into force – 3 September 2020

66. While the Council acknowledges a '50% exotic pasture' threshold is already included in the current definition, the proposal to reference 'percentage *ground cover*' and to expand the exception to include 'exotic species associated with pasture' further exacerbates problems with the definition. On this basis the proposed changes are not supported.
67. Finally, the Council considers the phrase 'exotic species associated with pasture' will be challenging to monitor in practice. The test of whether an exotic species is 'associated' with pasture is subjective and will lead to lengthy debate. If proposed changes to the definition remain, then a list of 'exotics associated with pasture' should be included in the NPSFM and NES-F.

Concluding remarks of the definition changes

68. Environment Canterbury does not support any proposed changes to the definition, on the basis that these would exclude ecologically significant areas and reduce protection to wetlands through an absence of regulatory controls.
69. However, as a concluding remark the Council reiterates its earlier statement that it fully supports solutions that will exclude legitimate areas of pasture. This outcome appears inordinately difficult to achieve through definition changes and therefore alternative solutions should be explored (e.g. provision of ecological advice and expertise at low or no cost to landowners).

Section 3 – Better provision for restoration, maintenance and biosecurity activities in natural wetlands

Problem Statement: *"The NPS-FM does not currently cover biosecurity work to prevent new pest problems (e.g. the eradication of a weed that is not yet widespread) or maintenance of current state."*

Our opening remarks on Section 3

70. Environment Canterbury agrees with statements in the discussion document that the cost and time associated with obtaining a resource consent for maintenance and restoration activities can discourage or delay works being carried out. The Council also agrees that given the contribution of maintenance, biosecurity and restoration activities to broader outcomes that a more enabling rule framework is appropriate, provided risks to wetlands can be minimised.
71. The Council's primary concern with maintenance and biosecurity activities is the potential for habitat loss, harm to non-target wetland species, and the removal and replacement of rare, ecologically significant wetland plant species with common or inappropriate wetland natives. Further comments are provided below.

Providing for maintenance within regulations relating to restoration.

72. Subject to our comments below, the Council supports expanding the regulations for restoration activities to include 'maintenance' activities and requests it is expanded to include wetland enhancement activities (e.g. extending a natural wetland) and works in natural wetlands which contribute to freshwater outcomes at the catchment scale (e.g.

works to create a constructed wetland in a natural wetland for the purpose of treating contaminants).

73. Environment Canterbury requests that if these provisions are included that clear, concise definitions of 'wetland maintenance', 'wetland restoration' and 'wetland enhancement' are included in the NES-F, with clear boundaries for each term.

Maintenance and restoration activities – removal of exotic plant species

74. Many of Canterbury's rare and significant native wetland plant species occur in environments where non-natives also flourish. Distinguishing native wetland plants from surrounding exotic vegetation can be difficult to their diminutive size and the need for expert botanical knowledge for accurate identification (see Figures 9 and 10 in Appendix 2). In addition, while having low inherent value, exotic plants can provide important habitat for indigenous and migratory fauna.
75. Consequently, the Council has concerns that permitting the removal of exotic plant species from wetlands could result in negative impacts for native plant species and fauna. Collateral damage to native wetland species (e.g. through overspray of agrichemicals – see Figures 12, 13, 14, 15 in Appendix 2) and targeted removal of exotics are primary pathways through which harm is likely to occur.
76. The Council acknowledges these risks are reduced, but not eliminated, through conditions¹² in the NES-F that require persons carrying out works to notify the regional council prior to works commencing. Environment Canterbury supports the proposal to apply these conditions to works involving the removal of exotic vegetation.
77. Environment Canterbury also notes Regulation 55(9)¹³ imposes additional restrictions on works carried out in wetland areas identified as fish and bird habitats, and supports these applying to restoration and maintenance activities. However, in the Council's opinion, these restrictions should also apply to habitats of indigenous mammals (e.g. long-tailed bats / pekapeka) and habitats of reptiles and amphibians, so as to ensure risks of harm are minimised. In addition, thresholds should be lowered to ensure the application of these restrictions to other high value habitats.
78. Currently, Regulation 55(9) only applies to habitats of *threatened fish* or a *fish spawning area* listed in a water conservation order or regional plan. Threatened' species are those meet the classification of 'nationally critical', 'nationally endangered' or 'nationally vulnerable' in the NZ Threat Classification System.
79. Environment Canterbury has been progressively implementing plan changes to recognise and protect habitats for a broad range of fauna and species classified as 'at-risk - declining'. These include habitats for freshwater fish and freshwater invertebrates (i.e. kōura / kēkēwai and kākahi). For this reason, the Council requests amendments to Regulation 55(9) to afford protection to a broader range of habitats.

¹² Regulation 55(1)

¹³ General conditions relating to bird and fish habitats forming part of wetlands

Maintenance and restoration activities carried out in accordance with a 'council-approved wetland strategy'

80. Environment Canterbury considers there are benefits to permitting maintenance and restoration works carried out in accordance with a 'Council-approved wetland strategy', but maintains there are some risks with that approach.
81. Wetland restoration efforts can result in a loss of biodiversity values where works are carried out without expert guidance. Figures 11 - 16 in Appendix 2 provide an example where well-meaning but unguided 'wetland restoration' has been carried out, resulting in plantings of inappropriate species and the removal of rare plants. The requirement to notify a regional council prior to restoration works commencing should reduce this risk and ensure wetland restorations are carried out in a strategic, co-ordinated manner with the 'right wetland species' planted in the 'right location'.
82. Incentivising wetland restoration requires a policy framework that encourages and landowners to 'do the right thing'. The Council considers one way to achieve this is by making expert advice and guidance available at low or no cost to applicants (e.g. pro-bono review of wetland restoration proposals).
83. Finally, while Environment Canterbury supports the proposal in principle, further explanation is needed on how the process would work in practice. For example, clarity as to the type of information required to be included with proposals, and processes and criteria to be taken into account by the Council when making decisions on a proposal (including grounds for decline). The Council considers refinement of these details essential to effective and efficient implementation.

Biosecurity and pest management activities in natural wetlands

84. All pest management activities carry an inherent level of risk (e.g. collateral damage to non-target species) but the Council acknowledges there are broader benefits of enabling timely responses to pest incursions. In this regard there is a balance to be struck between protecting wetlands and avoiding the establishment or spread of invasive species.
85. For this reason, the Council supports a more permissive pathway for biosecurity and pest management activities in natural wetlands, and requirements for persons carrying out activities to notify the Council prior to commencement of pest management responses.

Weed clearance as a permitted activity

86. Environment Canterbury requests that if a permitted activity rule for weed clearance using hand-tools is included in the NES-F that a definition of 'hand-held tools' is also included. In the Council's opinion, the *definition* should refrain from being a prescriptive list of implements and the *rule* should include conditions to minimise the risk of harm to non-target wetland plants.

Section 4 – Additional consent pathways

MfE Problem Statement: “Without a consenting pathway set out in the regulations, activities such as earthworks are unable to be carried out within or near a ‘natural wetland’”

Our opening remarks on Section 3

87. Environment Canterbury does not agree that a consent pathway for general earthworks near a ‘natural wetland’ does not exist. Regulation 52 of the NES-F classifies earthworks carried out within 100 metres of a natural wetland as a non-complying activity, while works within a natural wetland are prohibited under Regulation 53.
88. The existing prohibited status for works in a wetland is supported by the Council given the potential for significant and irreversible harm if works occur. A prohibited rule is the only way (in a regulatory sense) for ensuring development is avoided and the Council considers such an approach consistent with the general principle of ‘managing within environmental limits’.
89. The existing non-complying status (rather than discretionary) is also supported for works carried out within 100m of a wetland. One of the benefits of a non-complying status is it imposes additional tests¹⁴ on resource consent applications. Consent authorities must first consider whether the proposal is contrary to the objectives and policies of the plan or would result in more than minor adverse effects.
90. Applications that pass one or both tests may proceed to be considered under s104 of the RMA, while proposals that fail both tests must be declined. This is entirely appropriate given the potential for significant adverse effects and helps weed out proposals that would not achieve the ‘sustainable management’ purpose of the RMA and which are inconsistent with the principles of Te Mana o te Wai.

Evidence base for proposals

91. Environment Canterbury reiterates its earlier comments that insufficient evidence has been provided to demonstrate a more enabling consent pathway for quarrying, cleanfills, managed fills, landfills, mining and plan-enabled development is required in all regions.
92. The Council accepts, that in some regions (e.g. Auckland), access to natural material (i.e. aggregate) and capacity constraints on fills may be constraining further urban development. In these circumstances regulatory intervention and more enabling consent pathways may be justified on the basis that these are necessary to achieve broader outcomes (e.g. access to affordable housing).
93. However, given the potential for significant impacts on natural wetlands, consent pathways should only be established where there is evidence of a real and demonstrated need. The Council remains unconvinced has been established for Canterbury and therefore does not support the proposals. Despite this point the Council has provided its comments on the proposed use of the ‘gateway’ test and the ‘effects management hierarchy’ below.

¹⁴ Under s104D of the RMA

Gateway tests

94. Environment Canterbury supports, in principle, the 'gateway test' as a method for distinguishing between proposals that provide significant national or regional benefits and those which do not.
95. This distinction is already made in the NES-F through rules which provide a discretionary status for activities related to 'specified infrastructure'. Specified infrastructure is defined under the NPSFM 2020 as lifeline utilities, regionally significant infrastructure identified in a regional policy statement or regional plan, public flood control, flood protection or drainage works carried out by or on behalf of a local authority, or those for the purpose of drainage under the Land Drainage Act 1908.
96. In the Council's opinion, it is appropriate these activities have access to a less restrictive consent pathway given the type and scale of benefits offered and their more limited application. In contrast, quarries, cleanfills, landfills, managed fills, mining and urban development are likely to offer localised benefits but result in potentially significant adverse effects on wetlands and ecosystems. These adverse impacts are likely to be felt at a national or regional scale, with cumulative habitat loss contributing to more fragmented ecosystems.
97. For this reason, the Council reiterates its position that more enabling consent pathways are not appropriate. If, however new consent pathways are included in the NES-F, then it is critically important the 'gateway test' set a high bar for entry, as this will determine which activities may apply for resource consent and which may not. Setting the bar too low will open the floodgates for consent applications, with both operational¹⁵ and environmental consequences.
98. Environment Canterbury also considers if these 'gateway tests' are to be implemented consistently, further clarity is needed on how each test is to be applied to an individual application. Clear criteria or principles are needed to guide decisions on whether a proposal meets the threshold of providing 'significant national or regional benefit' or demonstrates a 'functional need'. While Environment Canterbury notes 'functional need' is a defined term in the National Planning Standards, applying this phrase to some activities (e.g. quarrying) is challenging in Canterbury and we comment on this later in the submission.

Effects management hierarchy

99. Environment Canterbury does not agree with statements in the discussion document that the 'effects management hierarchy' will ensure 'no net loss of wetland values or extent'. In contrast, the 'effects management hierarchy' contemplates and allows for loss through aquatic offset and aquatic compensation provisions.
100. While offset mechanisms are intended to achieve 'no net loss' (and preferably a net gain) this will be challenging to achieve in practice. Form, function and attributes of natural wetlands are site-specific and derived from complex biophysical interactions

¹⁵ E.g. operational impacts for Councils include impacts on consent and science sections as a higher number of applications are received and assessed.

within the local environment. In addition, wetland 'values' are subjective and informed by an individual's experience and connection with a place. Replicating these in an alternative location is generally not possible given the loss of connection.

101. Additionally, aquatic compensation mechanisms will result in a very direct loss of wetland habitat by allowing loss to be compensated for, provided a 'conservation outcome' is provided for in another location. Given statements in the discussion document regarding the need to preserve remaining wetlands, the Council considers compensation mechanisms wholly inconsistent with the Government's objectives.

102. As a final point, the Council acknowledges there are many examples of developments that have contributed positively to freshwater outcomes through creation of new wetlands or restoration of existing wetlands. However, the Council remains of the view the emphasis should be on preserving and enhancing existing wetlands rather than attempting to offset or compensate for loss through the creation of new wetlands.

Quarrying, mining, landfills, cleanfills and managed fills and plan-enabled development

103. Environment Canterbury has included responses to each of the 'activity-specific' questions in Appendix 1 of its submission. Many of the questions asked in the discussion document apply to all activities and the Council's feedback is generally consistent across all activities. In summation, the Council:

- **does not support** a discretionary status for quarrying, mining, landfills, cleanfills, managed fills and plan enabled development within a wetland. A prohibited status is appropriate where these activities occur within a natural wetland, and non-complying where they occur within 100m of a natural wetland.
- **supports in principle**, the use of gateway tests to distinguish proposals that provide significant national or regional benefit and which should be subject to a less restrictive activity classification. However, the Council **does not support** the application of these gateway tests to quarrying, mining, landfills, cleanfills managed fills and plan-enabled development given the potential for localised benefits but significant national or regional adverse effects.
- **does not recommend** additional conditions for "resource consents" for quarrying, mining, landfills, cleanfills, managed fills and plan-enabled development. The Council also notes the framing of Questions 9, 11, 14 and 16 in the discussion document is unclear. While the question refers to conditions on a 'resource consent' (i.e. conditions applied to a resource consent once it has been granted) other parts of the document infer the question relates to entry conditions to a rule. For clarity, the Council does not support 'standard' conditions on resource consents. These should be established on a case by case basis, taking into account the type and values of a wetland and the range and significance of any adverse effects.

104. In addition to the above comments, the Council has provided feedback on specific elements of each proposal below.

Quarrying

105. Environment Canterbury considers there are challenges with implementing a 'functional need' test for quarrying within the Canterbury region. Functional need is defined in the National Planning Standards as:

means the need for a proposal or activity to traverse, locate or operate in a particular environment because the activity can only occur in that environment.

106. Canterbury has significant aggregate reserves due to alluvial and fluvial processes that led to the formation of the Canterbury plains. Given the wide-spread, distributed nature of this material, the Council considers it could be challenging for quarries to demonstrate a 'functional need' for an activity in a specific location. For quarries, there may be several sites which could be used as a source of aggregate, but factors limiting site selection generally include proximity to sensitive locations (e.g. residential areas), roading and transport management, and the cost of transporting material.

107. Environment Canterbury has already indicated it does not support a more enabling pathway for quarries, but if one is included the application of the 'functional need' test within Canterbury must be clarified.

Mining

108. Environment Canterbury is strongly opposed to a more enabling consent pathway for mining activities near, or within, natural wetlands, and specifically opposes a more enabling framework for mining of fossil fuels.

109. Environment Canterbury was the first local authority in the country to declare a 'climate emergency'. Since that time the Council has incorporated climate change considerations across all its work programmes and remains committed to pathways and mechanisms that enable a transition away from fossil fuels.

Landfills, cleanfills and managed fills

110. Environment Canterbury considers there is limited justification for a consent pathway for landfills, cleanfills and managed fills. The discussion document states a consent pathway is required as 'most fill sites in New Zealand are situated within valleys or gullies and **are often damp areas of pasture or gully heads**'.

111. However, if proposed changes to the definition of 'natural wetland' are made, or alternative mechanisms implemented to exclude legitimate areas of pasture, there appears to be little justification for a more enabling pathway for fills.

112. The Council also agrees there is rarely a 'functional need' for landfills, cleanfills and managed fills to be sited within a wetland, and objects to providing a more enabling pathway solely on the basis of economic arguments¹⁶. In Environment Canterbury's opinion this would be entirely inconsistent with the hierarchy of obligations in Te Mana o te Wai, which prioritises the health and well-being of waterbodies and freshwater above other uses, including economic well-being.

¹⁶ Managing our Wetlands Discussion Document, Page 12

Plan-enabled development

113. Environment Canterbury does not support a discretionary consent pathway for 'plan-enabled development'.

114. While the Council agrees there is some logic in providing a pathway for developments already zoned in an operative or proposed district plan, a non-complying status for developments near a wetland is appropriate as this ensures application of additional regulatory tests (e.g. s104D of the RMA).

115. Environment Canterbury also maintains its position that a prohibited status is appropriate for proposals to establish developments within a natural wetland. A prohibited status sends a clear message that developments must be planned around natural wetlands and encourages developments that are sympathetic to the natural environment and resilient to the impacts of climate change (e.g. flooding).

Appendix 1 – Responses to questions in the Discussion Document.

Given the binary nature of the questions in the discussion document, the Council's responses to these questions should be read in conjunction with our more fulsome comments in Part 1 and 2 of the submission.

Q1: Do you agree with the proposed changes to the definition of 'natural wetland'? Why/why not?

The Council does not support the proposed changes to the definition of 'natural wetland'. The proposed changes would result in a large number of ecologically significant wetlands, or large parts of these wetlands, being excluded from the definition with the consequence of limited regulatory oversight of activities in, and near, existing wetlands.

In addition the Council reiterates the need for cost-effective solutions that help landowners identify wetlands and mechanisms which recognise the good work already undertaken by landowners and which further incentivise and encourage wetland preservation and restoration. This is critical if the Government's objective of preventing further wetland loss is to be achieved.

Q2: Should anything else be included or excluded from the definition of 'natural wetland'?

The Council does not recommend any additional changes to the definition of a 'natural wetland', but suggests it would be appropriate for the NES-F to recognise the wetland delineation protocols to ensure the protocols carry legal weight.

Q3: Should maintenance be included in the regulations alongside restoration? Why/why not?

The Council supports extending the permitted activity rule for restoration to include 'maintenance' and enhancement activities. A clear definition of wetland maintenance, wetland restoration and wetland enhancement is required to support effective implementation.

Q4: Should the regulations relating to restoration and maintenance activities be refined, so any removal of exotic species is permitted, regardless of the size of the area treated, provided the conditions in regulation 55 of the NES-F are met? Why/why not?

The Council does not support allowing the removal of exotic plant species as a permitted activity given the potential risks to native wetland plant species (e.g. collateral damage to native plants through spraying of exotics) and impacts on indigenous fauna that use exotic vegetation as habitat areas. Further detailed comment is included in Part 2 of our submission on measures to minimise risks.

Q5: Should activities be allowed that are necessary to implement regional or pest management plans and those carried out by a biosecurity agency for biosecurity purposes? Why/why not?

The Council supports a permitted activity rule for this purpose, provided requirements to notify the Council prior to works being undertaken are included as part of the rule.

Q6: Should restoration and maintenance of a ‘natural wetland’ be made a permitted activity, if it is undertaken in accordance with a council-approved wetland management strategy? Why/why not?

The Council supports, in principle, permitting maintenance and restoration of a ‘natural wetland’ as a permitted activity where it is undertaken in accordance with a council-approved wetland management strategy. Further discussion on critical element to enable this proposal to be implemented effectively is included in Part 2 of our submission.

Q7: Should weed clearance using hand-held tools be a permitted activity? Why/why not?

If a permitted activity rule is included for weed clearance using hand-held tools, a definition for ‘hand-held tools’ should be included. Refer to Part 2 of our submission for matters to be taken into account when drafting these provisions.

Q8: Should a consenting pathway be provided for quarries? Is discretionary the right activity status? Why/why not?

The Council does not support a discretionary consent pathway for quarries / quarrying. Quarrying should remain a prohibited activity within a natural wetland, and non-complying where it is carried out within 100m of a natural wetland. Refer to Part 2 of our submission for specific comments on challenges with the ‘functional need’ test as it relates to quarries in Canterbury.

Q9: Should resource consents for quarrying be subject to any conditions beyond those set out in the ‘gateway test’? Why/why not?

The Council does not support standard conditions on a resource consent. Conditions should be established on a case by case basis taking into account the significance of the wetland and the range of potential effects (positive and negative) associated with the activity.

Q10: Should a consenting pathway be created for landfills, cleanfills and managed fills? Is discretionary the right activity status? Why/why not?

The Council does not support a discretionary consent pathway for landfills, cleanfills and managed fills. Landfills cleanfills and managed fills should remain a prohibited activity within a natural wetland, and non-complying where these activities are carried out within 100m of a natural wetland. Refer to Part 2 of our submission for specific comments regarding our concerns with fills being justified on the basis of economic arguments.

Q11: Should resource consents for landfills, cleanfills and managed fills be subject to any conditions beyond those set out in the 'gateway test'? Why/why not?

The Council does not support standard conditions on a resource consent. Conditions should be established on a case by case basis taking into account the significance of the wetland and the range of potential effects (positive and negative) associated with the activity.

Q12: Should a consenting pathway be provided for mineral mining? Is discretionary the right activity status? Why/why not?

The Council strongly opposes a discretionary consent pathway for mining, particularly where mining of fossil fuels is concerned. Mining should remain a prohibited activity within a natural wetland, and non-complying where these activities are carried out within 100m of a natural wetland. Proposals to provide a consent pathway for mining of fossil fuels would undermine the Council's commitments to assist communities adapt and respond to the effects of climate change.

Q13: Should the regulations specify which minerals are able to be mined subject to a resource consent? Why/why not?

If a consent pathway for mining is provided in the NES-F the regulations should state which minerals may be mined and explicitly exclude fossil fuels.

Q14: Should resource consents for mining be subject to any conditions beyond those set out in the 'gateway test'? Why/why not?

The Council does not support standard conditions on a resource consent. Conditions should be established on a case by case basis taking into account the significance of the wetland and the range of potential effects (positive and negative) associated with the activity.

Q15: Should a consenting pathway be provided for plan-enabled urban development? Is discretionary the right activity status? Why/why not?

The Council strongly opposes a discretionary consent pathway for urban development. Plan enabled development should remain a prohibited activity within a natural wetland, and non-complying where activities are carried out within 100m of a natural wetland. These mechanisms will ensure developers plan around natural wetlands and ensure more resilient developments in the face of climate change.

Q16: Should resource consents for urban development listed in a district plan be subject to any conditions beyond those set out in the 'gateway test'? Why/why not?

The Council does not support standard conditions on a resource consent. Conditions should be established on a case by case basis taking into account the significance of the wetland and the range of potential effects (positive and negative) associated with the activity.

Q17: Is the current offsetting requirement appropriate for all types of urban infrastructure, for example, public amenities such as schools and medical centres? Why/why not?

The Council does not consider there are compelling reasons to exempt certain types of infrastructure (e.g. schools, medical centres) from off-setting provisions. While these establishments provide broader social benefits, there is insufficient justification to exempt these from off-setting requirements.

Appendix 2 – Supplementary information and examples to support our submission



Figure 1 Mt Sunday wetland, Upper Rangitata valley



Figure 2 Riparian swamp wetland North Canterbury coastal hill country (land cleared for forestry in background)



Figure 3 Yarrs Lagoon wetland near Lincoln. Remnant of what was formerly thousands of hectares of low plains swamp wetland, now developed farmland. Te Waihora in background. Note the active drainage system within the wetland.



Figure 4 Washdyke lagoon, a coastal wetland near Timaru.



Figure 5 Cameron Fan Lake Heron. This is a fen wetland in the Ashburton Lakes / O Tu Wharekai wetland complex. Ashburton Lakes is one of NZ's best inter-montane wetland showcasing red tussock fen (pictured) and a range of other wetland types.



Figure 6 Spring-fed wetland at base of terrace. Near Potts River – Rangitata river confluence. Pasture species are spreading into the wetland as a result of natural drift.



Figure 7 A shallow ephemeral tarn adjacent to Lake Lyndon. In dry seasons or years the wetland is colonised by exotic 'pasture species' (such as the thistle and grasses shown in the top row) and would not meet the definition of natural wetland. However, at other times the wetland has shallow water and supports native aquatic and semi-aquatic wetland plants (including *Chenopodium detestans* which is Threatened – Nationally Critical) which have sprouted from the substrate seedbank. At these times it is an important wetland bird habitat.



Figure 8 Ephemeral tarn in Mackenzie Basin moraine landform has more than 50% exotic pasture species cover so would be excluded from the proposed new NPS-FM / NES-F definition of 'natural wetland' despite also supporting threatened native plant species.



Figure 9 shows the small stature of many important Canterbury native wetland plant species in Canterbury. This illustrates the need for expert scrutiny prior to restoration activities and the level of expertise required to adequately assess the wetland edge. Clockwise from top left, *Juncus antarcticus* Not Threatened but a rare record from Canterbury Plains, *Isolepis basilaris* At Risk – Declining, *Schoenus apogon* not threatened but rare in Canterbury, *Juncus novae-zelandiae* Not Threatened but rare on Canterbury Plains, *Isolepis caligenis* Not Threatened but rare on Canterbury Plains.

Figures 11 - 16

Wetland restoration efforts often result in loss of existing biodiversity values when not guided by experts.

The site is a wetland induced by the diversion of the Waimakariri in the 1930s and occupies an old braid channel. Prior to restoration efforts, the site was occupied by a number of plants characteristic of relatively infertile wetlands and rare in the Low Plains Ecological District of Canterbury. However, the plants were not recognised and identified prior to restoration. The site was sprayed in preparation for planting. Kahikatea, harakeke, *Carex secta*, toetoe, and some oddities such as salt marsh ribbonwood (well outside of its natural habitat near the coast) and *Olearia* “dartonii” (a hybrid of a threatened tree rarely found in Canterbury and a Chatham Island tree) were planted — none were appropriate to the wetland type. In time, several species from the original rarer plant community recruited back into the site from seed bank. These were sprayed with herbicide. The seed bank of naturally-occurring plants was eventually exhausted. Ultimately, most of the planted plants failed to thrive, as the site was not right for them and some were sprayed by contractors.



Figure 10 Upper Otukaikino, this would not be considered a wetland under proposed new definition as predominant vegetation cover is exotic species associated with pasture, including gorse and soft rush. However, the photo on the right shows the understorey of the left photo. This close-up view shows presence of high proportion of native species, many of which are threatened (*Mazus novaezeelandiae* subsp. *impolitus* f. *impolitus*, Threatened - Nationally Endangered). However, because the native plant species are under the 50% cover threshold this wetland would not be considered a ‘natural wetland’ under the proposed definition change. Nevertheless, in a lowland Canterbury Plains context, this wetland would actually rate as one of the more intact and significant remaining examples of its type.



Figure 122 Native plant *Centella uniflora* recruited back to site, but sprayed.



Figure 11 Example of similar site, before restoration efforts (note not the site described in the example – this is for illustrative purposes).



Figure 133 Native plant *Gratiola sexdentata*. This was the first observation of this species in Canterbury in 20 years. Sprayed off to establish planted plants.



Figure 14 Planted kahikatea. Sprayed with herbicide.



Figure 16 *Olearia* "dartonii" (trees); harakeke in plant guard. Re-establishing *Gratiola sexdentata* in red circle. Note bare ground from maintenance spraying.



Figure 15 Recovering wetland habitat with *Carex secta*, *Gratiola sexdentata* lower centre. All vegetation except *Carex secta* sprayed to establish planted plants.