BEFORE THE ENVIRONMENT COURT
I MUA I TE KŌTI TAIAO O AOTEAROA

AT CHRISTCHURCH **KI OTAUTAHI**	**ENV-2018-CHC-000036**
IN THE MATTER	of the Resource Management Act 1991
AND	of an appeal under clause 14 of the First Schedule of the Act
BETWEEN	**Director-General of Conservation** ***Tumuaki Ahurei*** Appellant (ENV-2016-CHC-000036)
AND	**Southland Regional Council** Respondent

Topic B Tranche 1 Expert Evidence (Planning) of Linda Elizabeth Kirk for Director-General of Conservation *Tumuaki Ahurei*, as a s274 Party

Dated 4 February 2022

Department of Conservation Te Papa Atawhai
Planning, Permissions and Land
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Introduction

1. My full name is Linda Elizabeth Kirk. My experience and qualifications are set out in my 'Topic A' evidence in chief dated 15 February 2019.

2. I have been asked by the Director-General of Conservation *Tumuaki Ahurei* (D-G) to provide independent planning evidence in relation to her outstanding Topic B Tranche 1 matters as a section 274 party on the proposed Southland Water and Land Plan (pSWLP).

3. In preparing this evidence, the additional information and documents I have read and considered since my Topic B Tranche 1 evidence dated 20 December 2021 are the:

    a. Statement of Evidence on behalf of Aratiatia Livestock Limited (dated 17 December 2021) from:

        i. Claire Jordan;

    b. Statements of Evidence on behalf of Beef+Lamb New Zealand Limited (dated 20 December 2021) from:

        i. Thomas Orchiston;

        ii. Dr Rene Corner-Thomas; and

        iii. Christine Foster – Planning;

    c. Statements of Evidence on behalf of DairyNZ Ltd and Fonterra Co-operative Group Ltd (Dairy Interest parties) (dated 20 December 2021) from:

        i. Gerard Willis – Planning;

        ii. Dawn Dalley – Farm Systems; and

        iii. Dr Craig Depree – Water Quality;

    d. Statements of Evidence on behalf of Federated Farmers of New Zealand Inc (Federated Farmers) (dated 20 December 2021) from:

        i. Bernadette Hunt;

        ii. Geoffrey Young; and

        iii. Peter Wilson – Planning;

e. Statements of Evidence on behalf of Ngā Rūnanga (dated 20 December 2021) from:

   i. Dr Jane Kitson – Environmental Science and Mātauranga Māori;

   ii. Ailsa Cain – Culture and Policy; and

   iii. Treena Davidson – Planning;

f. Statements of Evidence on behalf of Rayonier New Zealand Ltd (Rayonier) (dated 20 December 2021) from:

   i. Hamish Fitzgerald – Forestry;

   ii. Chris Phillips – Soil Erosion; and

   iii. Jerome Wyeth – Planning;

g. Statements of Evidence on behalf of Royal Forest and Bird Protection Society of New Zealand Inc (Forest & Bird) and the Southland Fish and Game Council (Fish & Game) (dated 20 December 2021) from:

   i. Kathryn (Kate) McArthur – Freshwater Ecologist and Water Quality Scientist; and

   ii. Ben Farrell – Planning; and

h. Statement of Evidence on behalf of Wilkins Farming Co Ltd (Wilkins) (dated 20 December 2021) from:

   i. Sharon Dines – Planning.

Code of Conduct

4. I confirm that I have read the code of conduct for expert witnesses as contained in section 7.1 of the Environment Court's Practice Note 2014. I have complied with the practice note when preparing my evidence and will do so when I give oral evidence before the Court.

5. The data, information, facts and assumptions I have considered in forming my opinions are set out in my evidence to follow. The reasons for the opinions expressed are also set out in the evidence to follow.

6. Unless I state otherwise, this evidence is within my sphere of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope

7. I have been asked by the D-G to provide independent planning evidence in relation to her outstanding Topic B Tranche 1 matters as a section 274 party on the pSWLP that have not been agreed to either in the JWS Planning (dated 10 December 2021) or is in the evidence that has been filed since on the following matters:

   a. Defining "Minimise"

   b. 'Ephemeral River'

   c. Wetlands – Rule 51 and Rule 74

   d. Weed and sediment removal for drainage maintenance – Rule 78

   e. Farming Activities

      i. Policy 16; and

      ii. Appendix N.

   f. Mapping of waterbodies in need of improvement.

8. For clarity, I agree with both the Planning JWS and Planning Forestry JWS (both dated 10 December 2021). I only provide further comment where I agree or disagree with any further amendments put forward on those matters to which the D-G is a s274 Party.

Executive Summary

9. I support the inclusion of the term "minimise"[1] in the glossary of the pSWLP as put forward by Mr Farrell at [52-53] (shown in blue below). The addition may aid in clarity for the Plan user.

> *Minimise means to reduce to the smallest amount reasonably practicable.*

[1] Farrell Evidence dated 20 December 2021 at [20]: "*Minimise means to reduce to the smallest amount reasonably practicable.*"

10. I support Mr Farrell in seeking to retain the definition of "*ephemeral waterbody*" and to further amend Planning JWS 2021 Rule 70(a) as follows in blue:

> **Ephemeral waterbody ~~flow paths rivers~~**
>
> ~~Rivers~~ Swales or depressions ~~which~~ only contain flowing or standing water following rainfall events or extended periods of above average rainfall.
>
> **Rule 70**
>
> (a) ~~From 1 July 2020,~~ The disturbance of roosting and nesting areas of the black fronted tern, black billed gull, banded dotterel or black fronted dotterel located in the bed of a lake, river, (including an ephemeral waterbody ~~flow path river~~), modified watercourse, or ~~natural wetland~~ by stock including cattle, deer, pigs or sheep is a prohibited activity.

11. The reinstatement of "ephemeral waterbodies" in Rule 70(a) is required so that the disturbance of roosting or nesting areas of threatened birds remains as a prohibited activity as the rule intended. The inclusion of "ephemeral waterbodies" will avoid the unintended perverse outcomes of such disturbance not being a prohibited activity that has arisen in the Planning JWS 2021. Reinstating "ephemeral waterbodies" in Rule 70(a) would give effect to the pSWLP framework (Objectives 1, 2, 13, 14, and 18; and Policy 18).

12. My interpretation of Ms McArthur's and Mr Farrell's evidence is that the lack of setbacks from critical sources areas within the Plan provisions, may be the outstanding area of concern from Ms McArthur and Mr Farrell. I would need further technical advice as to whether or not critical source areas/ ephemeral waterbodies can be identified well enough to apply setback areas, and clarification from Ms McArthur and Mr Farrell of their concerns and preferred wording of provisions. At this time, I consider that the definition of critical source areas which encompasses ephemeral flow paths and the associated rules and Appendix N in the Planning JWS 2021 provide for the management of effects.

13. I support Mr Farrell in seeking to amend Rule 51(e) in Topic B3 of the Planning JWS 2021 by deleting "*for the purpose of land drainage"* so that any activity that results in drainage from a natural wetland is a non-

complying activity. This amendment would give effect to Policy 33[2], regardless of the cause or purpose of the diversion and the direction of Policy 33A – Natural inland wetlands (Clause 3.22 of the NPSFM 2020). Amended wording of Rule 51 is shown as follows:

Rule 51 – Minor diversions of water

"…(e) The diversion of water from a natural wetland ~~for the purpose of land drainage~~ is a non-complying activity.

14. I do not support any further change to Rule 78 to exclude other threatened freshwater and taonga species habitat as there is too much uncertainty in including these additional species at this stage of the planning process and due to the permissive nature of this rule and the wide extent of habitat of these species, would make the rule unworkable. I do support further good management practice initiatives and Ngā Rūnanga consultation being pursued for weed and sediment removal in modified watercourses that contain threatened freshwater and taonga species habitat. In my opinion, Rule 78 is not adequate to manage for threatened indigenous species and taonga species and that further work is required to redraft provisions in Plan Change Tuatahi on this activity.

15. I do not support Mr Farrell's proposal to insert the term "degraded" before the term "waterbodies that require improvement" throughout the provisions. In my opinion, the addition of the two maps of catchments in need of improvement for ecosystem health and human health, helps clarify how Objective 6 is being given effect to in the Plan.

16. I agree with Mr Willis's further minor amendments to Policy 16 of the JWS Planning dated 10 December 2021 as follows:

Policy 16

1(a) ensuring that ~~for~~ existing farming activities:

(i) Minimise nitrogen, phosphorus, sediment or microbial contaminant discharges ~~are minimised~~; and …

[2] pSWLP ***Policy 33 – Adverse effects on natural wetlands***
Prevent the reduction in area, function and quality of natural wetlands, including through drainage, discharges and vegetation removal.

17. I support Mr Farrell's clarification of the wording of Appendix N at his paragraph 91(b) with the following minor amendments (in blue):

    (i) *Ki uta ki tai and hauora: an understanding by people managing ~~farming~~ the land how they: …*

    (iii) *Identify and understand what species might be present, including taonga and mahinga kai species …*

    ~~*(ix) Consider taonga and mahinga kai species…*~~

    (xii) *Avoid reductions in natural form of ~~your~~ waterways, …*

18. I support Mr Willis' minor amendment to Appendix N, for reasons of clarity as shown in blue to Appendix N, clause 6(b) Part B as follows:

    "(b) where the farm is located within a catchment of a waterbody that requires improvement identified in Schedule X, the mitigations that will achieve a reduction in the discharge of the contaminants where relevant to the farming activity that trigger the requiring improvement status of the catchment (noting that in catchments of waterbodies where aquatic ecosystem health requires improvement, reductions and mitigation required will address nitrogen, phosphorus and sediment losses and the effect of those losses)."

19. I support the inclusion of the two maps of catchments in need of improvement for ecosystem health and human health as put forward by Dr Depree and supported by Mr Willis. These two maps appear to cover the bulk of the Southland region where there are human-induced water quality effects and are of such a broad scale that the provisions of the pSWLP can be readily applied.

20. Please note that Appendix 1 provides the collated amendments sought from my evidence dated 20 December 2021 and from the response to s274 matters through this evidence to assist the Court.

Topic B Tranche 1 matters for consideration

Defining "Minimise" and Applying it Across the PSWLP

21. I note that the definition of "minimise" is not a specific D-G s274 party matter, so my following response is in my expert planning opinion to inform the Court.

22. I support the inclusion of the term "minimise"[3] in the glossary of the pSWLP as put forward by Mr Farrell at [52-53]. The addition aids in clarity for the Plan user.

Reference to 'Ephemeral Rivers'

23. I note that the reference to "ephemeral rivers" is not a specific D-G s274 party matter, so my following response is in my expert planning opinion to inform the Court as to my position in relation to the Planners JWS 2021 in this regard.

24. In the Planning JWS 2021, the definition of critical source area has been amended and the definition of "ephemeral rivers" was deleted as follows:

> **"*Critical source area***
>
> *(a)* *a landscape feature ~~like an ephemeral flow path,~~ a gully, swale or a depression (including ephemeral flow paths) that accumulates runoff (sediment and nutrients) from adjacent flats and slopes, and delivers it to surface water bodies (including lakes, rivers, artificial watercourses and modified watercourses) or subsurface drainage systems.~~; and~~*
>
> *(b)* *a non-landscape feature that has high levels of contaminant losses, such as, silage pits, fertiliser storage areas, stock camps and laneways.*
>
> *~~(b) areas which arise through land use activities and management approaches (including cultivation and winter grazing) which result in contaminants being discharged from the activity and being delivered to surface water bodies.~~*

[3] Farrell Evidence dated 20 December 2021 at [20]: "*Minimise means to reduce to the smallest amount reasonably practicable.*"

> ~~**Ephemeral flow paths rivers**~~
>
> ~~Rivers Swales or depressions which only contain flowing or standing water following rainfall events or extended periods of above average rainfall.~~"

25. The Planning JWS 2021 then removed any references to "ephemeral rivers/flow paths" from the provisions in the Plan as it was considered that as the definition of critical source area encompassed ephemeral rivers/flow paths, there was no further need to specify ephemeral rivers within the provisions themselves. I agree with that.

26. Ms McArthur raises concerns in her evidence [63-70] "*that the important ecological values of ephemeral streams are not identified the plan provisions (including Appendix N and the definitions) and these values will not be protected through addressing ephemeral streams as only as critical source areas and apply subsequent mitigations*" (Ms McArthur 2021, [70]).

27. Ms McArthur supports the "*removal of provisions from the pSWLP which sought to exclude ephemeral streams from protection*". While these provisions are not explicitly stated in Ms McArthur's evidence, I interpret those provisions include the definition of critical source area; Policy 18; Rules 14, 20, 25, 35A and Rule 40 and that it is appropriate that those provisions remain as agreed in the Planners JWS 2021.

28. Mr Farrell has revised his position from the agreed Planners JWS 2021 as a result of Ms McArthur's evidence and discussions with counsel on matters of statutory interpretation[4]. Mr Farrell has sought to retain the definition of "*ephemeral waterbody*" (a more accurate name for "ephemeral river" and any references to "*ephemeral flow path*" to be replaced with "*ephemeral waterbody"*).

29. I am unclear on the application of Mr Farrell's position on any further amendments in the planning provision themselves.

30. In my opinion, the application of the Planning JWS 2021 for managing critical source areas addresses the concerns raised by Ms McArthur as the provisions refer to critical source areas which as now defined clearly encompasses ephemeral flow paths. Policy 18 and Rules 20, 20A and 25

[4] Farrell Evidence dated 20 December 2021 at [54-55]

and Appendix N, all refer to critical source areas/contaminant pathways. Rules 20, 20A, 20B and 70 refer to farm environmental management plans (FEMPs) being prepared, certified[5] and implemented in accordance with Appendix N.

31. For example, Rule 25 (Cultivation) also has been redrafted to manage critical source areas with Rule 25(a)(v) stating that "*critical source areas are not cultivated when forage crops used for intensive winter grazing are established and sediment detention is established when cultivation critical source areas for any other purposes".*

32. In my opinion, the issue raised by Ms McArthur at her paragraph [66] that "*ephemeral streams are often considered not to have a definitive 'bed'"* is also managed for within Part B(3) of Appendix N (Farm Environmental Management Plan Default Content). Part B(3) of Appendix N requires an FEMP to show the location of both waterbodies with a definitive 'bed' and ephemeral streams that do not have a definitive 'bed' as follows:

> Appendix N, Part B(3)(c) - "*all lakes, rivers/streams (including intermittent rivers), springs, ponds, artificial watercourses, modified watercourses and natural wetlands*";
>
> Appendix N Part B(3)(h) - "*all critical source areas not already identified above*" to be identified.

33. Therefore, in my opinion, I consider that the provisions adequately manage critical source areas (which includes ephemeral waterbodies).

34. I note that Policy 18 and Rule 35A delete reference to their "exclusion of ephemeral rivers" which I do not consider is at issue.

35. Rule 70 also removes reference to ephemeral river (both its inclusion and exclusion) and does not manage effects of concern nor critical source area explicitly. As a result, the disturbance of roosting and nesting areas in an ephemeral waterbody is now **not** captured as a prohibited activity. I understand that these threatened species of birds do roost and nest in ephemeral waterbodies/flow paths. Thus, I consider this is an unintended perverse outcome of the amendments in the Planning JWS 2021 which I do not support, as there may be significant adverse effects on these

[5] I note that there is some inconsistency between the provisions as to whether "certified" is included. For consistency, I seek that this is rectified and included in these provisions.

threatened species and this would not give effect to the pSWLP framework (Objectives 1, 2, 13, 14, and 18; and Policy 18). As a result, Rule 70 does require further amendment to reinstate '*ephemeral waterbodies*' as they are areas ecologically defined as not having a definitive 'bed' as Ms McArthur has stated at paragraph [66].

36. Therefore, I support Mr Farrell in seeking to retain the definition of "*ephemeral waterbody*" in the glossary and to further amend Planning JWS 2021 Rule 70(a) as follows in blue (with the additional minor typographical errors of including hyphenation of the bird species as this is more accurate):

> **Ephemeral waterbody ~~flow paths rivers~~**
> ~~Rivers~~ Swales or depressions ~~which~~ only contain flowing or standing water following rainfall events or extended periods of above average rainfall.
>
> **Rule 70**
>
> (a) ~~From 1 July 2020,~~ The disturbance of roosting and nesting areas of the black-fronted tern, black-billed gull, banded dotterel or black-fronted dotterel located in the bed of a lake, river, (including an ephemeral waterbody ~~flow path river~~), modified watercourse, or ~~natural wetland~~ by stock including cattle, deer, pigs or sheep is a prohibited activity.

37. My interpretation of Ms McArthur's and Mr Farrell's evidence is that the lack of setbacks from critical sources areas within the provisions, may be an outstanding area of concern. Further technical advice as to whether or not critical source areas/ephemeral waterbodies can be identified well enough to apply setback areas is required, but I expect that these could have a wide extent and therefore not be practicable to apply in the Plan. Clarification from Ms McArthur and Mr Farrell of their concerns and preferred wording of provisions may further assist the Court.

Wetlands

38. The D-G is a s274 party in support of F&B appeal on Rule 51 and in support of Ngā Rūnanga on Rule 74 (which I agree is more appropriate to address under Rule 51[6]).

39. Mr Farrell (as shown in Appendix 1 on page 39) seeks to amend Rule 51(e) by deleting "*for the purpose of land drainage"* so that any activity that results in drainage from a natural wetland is a non-complying activity:

> ***Rule 51 – Minor diversions of water***
>
> *"…(e) The diversion of water from a natural wetland ~~for the purpose of land drainage~~ is a non-complying activity.*

40. I support this amendment as this more correctly gives effect to Policy 33[7], regardless of the cause or purpose of the diversion and the direction of Policy 33A – Natural inland wetlands (Clause 3.22 of the NPSFM 2020).

Weed and Sediment Removal for Drainage Maintenance – Rule 78

41. The D-G is a s274 party in support of F&B, F&G and Ngā Rūnanga appeals on Rule 78 to include habitats of threatened freshwater and taonga species to be excluded from the permitted activity rule.

42. I support Mr Farrell's conclusion at his paragraph [68], that the relief sought by F&B (to insert an additional limb to restrict drain clearance activities in habitats of threatened native fish) will be more appropriate than the decisions version.

43. As stated in my evidence of 20 December 2021 (paragraph 18 and in Appendix 1 in relation to Rule 78), to give better effect to the NPSFM 2020, the inclusion of the identification of habitats of other threatened species in "Rule 78"[8] is required.

44. As noted by Mrs Funnell[9], the Ecology JWS (December 2021) lists the adverse effects of drainage management (that being weed and sediment

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[6] Ms Davidson Evidence dated 20 December 2021 @ Paragraph [18]

[7] pSWLP ***Policy 33 – Adverse effects on natural wetlands***
Prevent the reduction in area, function and quality of natural wetlands, including through drainage, discharges and vegetation removal.

[8] Kirk Evidence dated 20 December 2021, @ paragraph [18] and Appendix 1 – incorrect reference to Policy 16 – it should be Rule 78.

[9] Funnell Evidence dated 20 December 2021, @ paragraph [10]

removal in modified watercourses) on freshwater species and attaches a memorandum from Dr Greer which details several key threats on freshwater species. Dr Greer's memorandum states that "*waterway clearance is an intentionally destructive activity; it is not possible to fully mitigate the effects of using an excavator in a modified watercourse. Accordingly, the best method of minimising the effects of waterway clearing is to reduce its frequency and extent (i.e. length of stream)* (last paragraph in section 3).

45. As Mrs Funnell[10] summarises, Dr Greer concludes that the "*activity is destructive, and the adverse effects on threatened species and non-diadromous galaxiids is likely to be significant*".

46. Mrs Funnell's evidence dated 20 December 2021 contained, as Attachment 1, a memorandum by Dr Nicholas Dunn who had carried out an analysis of the extent of co-incidence of native freshwater fish habitat potentially affected by Rule 78.

47. Dr Greer's technical advice attached[11] to the Ecology JWS 2021 identified "*that the vast majority of taonga fish species, non-migratory galaxias and threatened fish species present in the Southland Region can be found in modified watercourses (Table 1)".*[12]

48. The Ecology JWS 2021 (at questions 2 to 5) discussed Rule 78 and the application on indigenous and taonga species. It was concluded for question 2 that:

> "*The current mitigation outlined in the rule is insufficient to protect the values of taonga freshwater species and will not meet Objective 15 and Policy 3 provisions (recognising, providing for and avoiding adverse effects on taonga species).*
>
> *For freshwater indigenous species, a higher level of protection is required. Effects on threatened species should be avoided. The memorandum by Dr Michael Greer notes in section 3.5 that the most effective method of minimising the effects of week and sediment removal is to reduce the frequency and extent of the activity. He concludes that the activity is destructive, and the*

[10] Funnell Evidence dated 20 December 2021, @ paragraph [10]
[11] JWS Ecology dated 1 December 2021 – Greer Memo – attachment 1
[12] Supra, Greer Memo @ Section 2.3 Results, page 3

> *adverse effects on threatened species and non-diadromous galaxiids is likely to be significant.*"

49. Dr Greer's Table 1 identified the taonga fish species, threatened native fish species and non-migratory galaxiids found in modified water courses in the Southland Region. While Dr Dunn identified issues with mapping freshwater species and the amount of water courses identified as drains[13], Dr Dunn was able to map freshwater taonga species (which includes threatened and not threatened indigenous species).

50. However, the Ecology JWS 2021 at question 5 expressed concerns to the use of mapping for all taonga species but did note that:

> "*the species in Southland that [mapping] could apply to include non-diadromous galaxiids (already a provision in the draft rule), giant kokopu, kanakana and waikakahi. Mapping of the known distribution of species such as Giant kokopu, kanakana and waikakahi and waikoura would afford a higher level of protection than the permitted activity rule currently provides. However, this does not detract that unmapped habitat will be at risk from this activity."*

51. From my analysis of Dr Greer's Table 1 and Dr Dunn's mapping, there is one additional map (as well as mapping the non-diadromous galaxias habitat) that I have considered supporting to include in Rule 78[14] of threatened native fish species with a high coincidence with managed drains – that being a map of Lamprey/kanakana (Threatened, Nationally Vulnerable). Including a further threatened species to be excluded from the permitted activity and require a discretionary activity status is more appropriate and is supported by the pSWLP framework[15] and NPSFM 2020[16]. This would align with the direction of the water quality and safeguarding the life supporting capacity of ecosystem objectives and policies in the Plan, as well as Policies 1 and 9 of the NPSFM 2020.

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[13] One issue is that it is likely the LINZ Topo50 drain layer is an underrepresentation of the water courses subjected to weed and sediment removal.
[14] Kirk evidence, 20 December 2021 @ paragraphs [16-18]; and Rule 78 analysis in Appendix 1].
[15] Relevant pSWLP provisions for managing threatened species: Objectives 1, 2, 3, 4, 6, 7, 13, 14, 15, 17, 18; Policies 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, Policy A4 of the National Policy Statement for Freshwater Management 2014 (as amended in 2017), 13, 15A, 15B, 28, 30, 32, and 39A.
[16] Relevant NPSFM 2020 provisions: Objective 1; Policies 1, 3, and 9.

52. However, as a result of the answer to Question 5 in the Ecology JWS 2021 as referred to above at paragraphs [43-44], I am uncertain that there is agreement amongst the ecology experts as to whether or not to include this map at this stage of the planning process. If there was agreement and confidence that surveys have been undertaken for the purposes of mapping the extent of species distributions then, in my opinion, I would support the inclusion of the Lamprey/kanakana (Threatened, Nationally Vulnerable) habitat map in the Map Series. However, I do not have that certainty as the Ecology JWS appears to be only confident in mapping in the Waituna catchment of Mataura and Waikawa for kanakana and tuna. Therefore, I cannot support the inclusion of additional maps for any further freshwater threatened or taonga or threatened native fish species such as the threatened lamprey/kanakana at this stage of the planning process and consider further work is required to review Rule 78 and its application on threatened freshwater and taonga species as part of Plan Change Tuatahi that is due to be notified by 31 December 2023[17].

53. The response to Question 3 in the Ecology JWS 2021, on additional or alternative best practice water course maintenance measures that can be applied across modified rivers in Southland, acknowledged that various guidance documents recommend the use of mitigation measure similar to those listed in Table 1 of the Ecology JWS.

54. I agree with Ms Davidson at her paragraph [23][18] that the drafting or providing for additional clauses to protect taonga species' habitat is not possible given the current permissive nature of the rule and, as can be seen from the freshwater taonga species maps in Dr Dunn's memorandum and the wide extent of freshwater taonga species across the managed drain network throughout the Southland Region, that would then make this permissive rule unworkable as intended and require resource consent for weed and sediment removal in these areas.

[17] Evidence of Matthew McCallum-Clark, Topic B Overview dated 22 October 2021, @ paragraph [60]

[18] Evidence of Treena Davidson dated 20 December 2021

55. I agree with Ms Davidson that there is uncertainty as to the trigger for applying an area of volume limit to those matters in her paragraph 24 that have not already been encompassed by Rule 78:

    i. Reduce the extent to which the bed is relevelled in order to retain variability in bed profile;
    ii. Require trapping suspended sediment and retaining in the area being cleared; and
    iii. Identify if there are any fish captured or stranded by the activity, including in the spoil. And any species are returned, preferably upstream of the activity immediately.

56. For the two other matters identified by Ms Davidson at her paragraph [24], those being restricting sediment size, and requiring the protection of non-diadromous galaxias through mapping their habitat extent, I consider that the relief sought in my evidence dated 20 December 2021 provides for these matters.

57. I support the additional relief that Ms Davidson suggests at her paragraph [26] that would sit outside of the pSWLP such as development of good management practice guidance and Ngā Rūnanga consultation. Both initiatives would help inform the future Plan Change process (Plan Change Tuatahi) and acknowledges that Rule 78 is not adequate to manage for the broader threatened indigenous species and taonga species in drainage maintenance and further work is required.

58. I consider that Appendix N will help identify taonga species as required by Part B(3)(l) of Appendix N: "*the presence of taonga species listed in Appendix M within water bodies on the farm (if known)*". This requirement helps signal that behaviour change is required to support hauora and Te Mana o te Wai as well as for the recognition of these values. This will help give effect to the NPSFM 2020 and to Objectives 1, 2, 4, 14 and 15 of the pSWLP in the future.

Farming Activities (Policy 16, Rule 20/20A, Appendix N)

59. The D-G is a s274 party on Policy 16, Rule 20 and Appendix N. The D-G is not a s274 party to the definition of intensive winter grazing. Therefore, I have not commented on the definition of intensive winter grazing.

60. I do not support Mr Farrell at his paragraph 91(a) where he seeks to insert the term “degraded” before the term “waterbodies that require improvement” throughout the provisions. In my opinion, the wording of the Planning JWS 2021 endeavoured to ‘identify catchments of a waterbody that requires improvement’. While I agree with Mr Farrell that the term ‘degraded’ more accurately engages with the language of Objective 6 and that used in the JWS Science/ Water Quality 2021, I consider that adding the term ‘degraded’ to provisions identified would create confusion and uncertainty for the Plan user as to what is meant by ‘degraded’.

61. In my opinion, the addition of the two maps of catchments in need of improvement for ecosystem health and human health as discussed at Paragraphs [65-67] below helps clarify how Objective 6 is being given effect to in the Plan.

Policy 16

62. I agree with Mr Willis’s further minor amendments to Policy 16 of the JWS Planning dated 10 December 2021 as follows:

> *Policy 16*
>
> *1(a) ensuring that ~~for~~ existing farming activities:*
>
> *(ii) Minimise nitrogen, phosphorus, sediment or microbial contaminant discharges ~~are minimised~~; and …*

Appendix N

63. I support Mr Farrell’s clarification of the wording of Appendix N at his paragraph 91(b) with the following minor amendments (in blue):

> *(ii) Ki uta ki tai and hauora: an understanding by people managing ~~farming~~ the land how they: …*
>
> *(iv) Identify and understand what species might be present, including taonga and mahinga kai species …*
>
> *~~(x) Consider taonga and mahinga kai species…~~*
>
> *(xiii) Avoid reductions in natural form of ~~your~~ waterways, …*

64. I support Mr Willis' minor amendment for reasons of clarity as proposed in blue at his paragraph 5.30 to Appendix N, in clause 6(b) Part B as follows:

> "(b) where the farm is located within a catchment of a waterbody that requires improvement identified in Schedule X, the mitigations that will achieve a reduction in the discharge of the contaminants where relevant to the farming activity that trigger the requiring improvement status of the catchment (noting that in catchments of waterbodies where aquatic ecosystem health requires improvement, reductions and mitigation required will address nitrogen, phosphorus and sediment losses and the effect of those losses)."

Mapping of catchments in need of improvement

65. I support the inclusion of the two maps of catchments in need of improvement for ecosystem health and human health as put forward by Dr Depree and supported by Mr Willis. As I understand, both maps are conservative in their approach and generally consistent with the agreed technical work reported in October and November 2019 water quality JWSs with the:

a. Ecosystem health (combined riverine and estuarine receiving environments) based on a direct measure of macroinvertebrate aquatic life (MCI) being a good holistic proxy for stream ecosystem health and incorporates ki uta ki tai[19]

b. "*E.coli* assessment likely significantly over-estimates the areas in need of improvement"[20] for human health.

66. From what I can tell, these two maps cover the bulk of the Southland region where there are human-induced water quality effects and are of such a broad scale that the provisions of the pSWLP can be readily applied.

67. I agree with Mr Willis'[21] identification of the key relevant planning provisions for the inclusion of the two maps (those provisions being

[19] Dr Depree Evidence dated 20 December 2021 2 paragraphs 4.1, 4.13, 4.14 and 4.15
[20] Dr Depree Evidence dated 20 December 2021 2 paragraph 5.13
[21] Mr Willis Evidence dated 20 December 2021 @ paragraphs 5.20,5.22, 5.24. 5.25

NPSFM 2020 – Policy 3; NZCPS 2010 – Policy 21; Southland RPS – Objectives WQUAL.1 and WQUAL.2; and pSWLP – Objective 6).

Linda Elizabeth Kirk

4 February 2022

Appendix 1: Summary of Kirk's Collated Amendments sought @ 4 February 2022

Amendments sought (in red, green, purple or blue)

Source: **Planning JWS dated 10 December 2021**

Tracked changes key:

Red = changes that show Council's preferred relief

Green = changes post first tranche of conferencing

[Purple = changes on last day of conferencing]

Blue = further changes as sought as a s274 Party interest (blue shows further changes Kirk proposes to witnesses' amendments sought in evidence)

Glossary

Insert the term "minimise"[22] in the pSWLP glossary as follows:

Minimise means to reduce to the smallest amount reasonably practicable.

Retain and amend the definition of "*ephemeral waterbody*" as follows:

Ephemeral waterbody ~~flow paths rivers~~
~~Rivers~~ Swales or depressions ~~-~~which only contain flowing or standing water following rainfall events or extended periods of above average rainfall.

Policy 16

Amend Policy 16 of the JWS Planning dated 10 December 2021 as follows:

1. ~~Minimising~~ Avoid where ~~reasonably~~ practicable, or otherwise minimise ~~remedy or mitigate~~, any ~~the~~ adverse environmental effects (including on the quality of water in lakes, rivers, artificial watercourses, modified watercourses, wetlands, tidal estuaries and salt marshes, and groundwater) from farming activities by:

~~(iii)~~ ~~(a) discouraging avoiding the establishment of new dairy farming of cows or new intensive winter grazing activities any new, or further~~

[22] Farrell Evidence dated 20 December 2021 at [20]: "*Minimise means to reduce to the smallest amount reasonably practicable.*"

~~intensification of any existing, dairy farming of cows or intensive winter grazing activities in close proximity to Regionally Significant Wetlands and Sensitive Water bodies identified in Appendix A; and~~

(a~~b~~) ensuring that~~, for~~ existing farming activities:

(i) ~~existing farming activities minimise~~ minimise nitrogen, phosphorus, sediment and ~~or~~ microbial contaminant discharges ~~are minimised~~;
(ii) reduce adverse effects on water quality where the farming activity occurs within the catchment of a waterbody that requires improvement identified in Schedule X; and
(iii) demonstrate how (i) and (ii) is being or will be achieved through the implementation of Farm Environmental Management Plans prepared in accordance with (c) below and in addition,

(ba) ensuring that for ~~(ii)~~ the establishment of new, or further intensification of existing, dairy farming of cows or intensive winter grazing activities:

(i) does not result in an increase in nitrogen, phosphorus, sediment and ~~or~~ microbial contaminant discharges; and
(ii) minimises nitrogen, phosphorus, sediment or microbial contaminant discharges ~~through the implementation of farm plans prepared in accordance with (c) below~~; and
(iii) reduces nitrogen, phosphorus, sediment or microbial contaminant discharges where ~~is~~ the farming activity occurs within the catchment of a ~~degraded~~ waterbody that requires improvement identified in ~~Appendix~~ Schedule X; and
(iv) is avoided in close proximity to Regionally Significant Wetlands and Sensitive Water bodies identified in Appendix A; and
~~(v) resource consent is not granted to establish new, or further intensify existing, dairy farming of cows or intensive winter grazing activities where any adverse effects, including cumulatively, on the quality of groundwater, or water in lakes, rivers, artificial watercourses, modified watercourses, wetlands, tidal estuaries and salt marshes cannot be avoided [where [reasonably] practicable], or minimised otherwise remedied or mitigated; or and~~

(c)~~2.~~ requiring all farming activities to:

(a) be undertaken in accordance with ~~implement~~ a Farm Environmental Management Plan which:

(i) identifies whether the farming activity is occurring, or would occur, in a catchment of a waterbody that requires improvement ~~which contains a degraded waterbody~~identified in Schedule X;
(ii) identifies and responds to the contaminant pathways (and variants) for the relevant Physiographic Zones;
(iii) sets out how adverse effects on water quality from the discharge of contaminants from farming activities will be minimised or, where the farming activity is occurring in a ~~degraded~~catchment of a waterbody that requires improvement identified in Schedule X, reduced;
(iv) is certified as meeting all relevant requirements of this plan and regulation prepared under Part 9A of the RMA; and
(v) is independently audited and reported on;

(d) ~~actively manage~~ avoid where practicable, otherwise minimise remedy or mitigate, sediment run-off risk from farming and hill country development activities by identifying critical source areas and implementing actions and maintaining practices including setbacks from water bodies, sediment traps, riparian planting, limits on areas or duration of exposed soils and the prevention of stock entering the beds of surface water bodies; and

(e) ~~manage~~ avoid where practicable, otherwise minimise ~~remedy or mitigate~~, collected and diffuse run-off and leaching of nutrients, microbial contaminants and sediment through the identification and management of critical source areas and the contaminant pathways identified for the relevant Physiographic Zones (and variants) within individual properties.

2~~3~~. When considering a resource consent application for farming activities, consideration should be given to the following matters:

(a) whether multiple farming activities (such as cultivation, riparian setbacks, and winter grazing) can be addressed in a single resource consent; and

(b) granting a consent duration of at least 5 years where doing so is consistent with Policy 40.

Policy 18

Amend Policy 18 as follows:

Policy 18 – Stock exclusion from water bodies

…

5. showing, in a Farm Environmental Management Plan prepared, certified, and implemented and audited in accordance with Appendix N, how 1-4 will be achieved and by when.

Rule 20

Amend Rule 20 as follows:

Rule 20 - Farming

(a) The use of land for a farming activity, other than for intensive winter grazing, is a permitted activity provided the following conditions are met:

…

(ii) where the farming activity includes a dairy platform on the landholding, the following conditions are met:

…

(4) ~~from 1 May 2019,~~ a Farm Environmental Management Plan for the landholding is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N; and

…

(iii)~~(iv)~~ for all other farming activities~~, from 1 May 2020~~ a Farm Environmental Management Plan is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N.

…

~~(d)~~(c) The use of land for a farming activity, other than for intensive winter grazing, that ~~meets all conditions of Rule 20(a) other than (i), (ii), (iii)(1),(iii)(4) or (iii)(5) or~~ does not meet ~~condition (i) of Rule 20(b)~~ any one of conditions (ii)(1)-(6) or (iii) of Rule 20(a) is a restricted discretionary activity, provided the following conditions are met:

(i) a Farm Environmental Management Plan is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N; and

…

Rule 20A

Amend Rule 20A as follows:

Rule 20A – Intensive winter grazing

(a) Intensive winter grazing is a permitted activity provided the following conditions are met:

…

(vi) a Farm Environmental Management Plan for the landholding is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N, that also includes a grazing plan that includes: …

(b) The use of land for intensive winter grazing that does not meet conditions (a)(i)-(vi) of Rule 20A is a restricted discretionary activity provided the following conditions are met:

(i) a Farm Environmental Management Plan is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N; and

…

Rule 20B

Amend Rule 20B as follows:

Rule 20B –High risk winter grazing on pasture

(a) High risk winter grazing on pasture is a permitted activity provided the following conditions are met:

…

iv) a Farm Environmental Management Plan for the landholding is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N, that also includes a grazing plan that includes:

…

(b) The use of land for high risk winter grazing on pasture that does not meet conditions (a)(i)-(vi) of Rule 20B is a restricted discretionary activity provided the following conditions are met:

(i) a Farm Environmental Management Plan is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N

Rule 51

Amend Rule 51 as follows:

Rule 51 – Minor diversions of water

"…(e) The diversion of water from a natural wetland ~~for the purpose of land drainage~~ is a non-complying activity.

Rule 70

Amend Planning JWS 2021 Rule 70(a) as follows:

Rule 70 – Stock exclusion from water bodies

(a) ~~From 1 July 2020,~~ The disturbance of roosting and nesting areas of the black fronted tern, black billed gull, banded dotterel or black fronted dotterel located in the bed of a lake, river, (including an ephemeral waterbody ~~flow path river~~), modified watercourse, or ~~natural wetland~~ by stock including cattle, deer, pigs or sheep is a prohibited activity.

…

(ca) The disturbance of the bed of a lake, river or modified watercourse by sheep, other than as regulated by Rule 70(a) and 70(b), is a permitted activity, provided the following conditions are met:

…

(iv) a Farm Environmental Management Plan for the landholding is prepared, certified, ~~and~~ implemented and audited in accordance with Appendix N, and shows how access by sheep will be managed;

…

Rule 78

Rule 78 – Weed and sediment removal for drainage maintenance

(a) The removal of aquatic weeds and plants and sediment from any modified watercourse for the purpose of maintaining or restoring drainage outfall, and any associated bed disturbance and discharge resulting from carrying out the activity, is a permitted activity provided the following conditions are met:

(ai) general conditions (e), (f), (g), (h) and (l) set out in Rule 55A;

(i) the activity is undertaken solely to maintain or restore the drainage capacity of a modified watercourse that has previously been modified or

maintained for drainage maintenance or restoration purposes at that location;

(ii) the activity is restricted to the removal of aquatic weeds and plants or sediment deposits, provided that at least 95% of the sediment removed shall have a grain size of less than 2mm;

~~(iia) the removal of river bed material, other than aquatic weeds, plants, mud or silt is avoided as far as practicable;~~

(iii) any incidental bed disturbance is only to the extent necessary to undertake the activity and must not result in lowering of the bed below previously modified levels;

(iv) upon completion of the activity, fish passage is not impeded as a result of the activity;

(v) the operator takes all reasonable steps to return any fish captured or stranded by the activity to water immediately preferably to a location upstream of the activity;

(vi) between the beginning of June and the end of October, there is no disturbance of the spawning habitat of trout; ~~and~~

(xiii) where the modified watercourse is spring-fed, removal of aquatic weeds and plants is only to the extent that is necessary to undertake the activity and is kept to the absolute minimum; and

(xiv) the modified watercourse is not shown in Map Series 8 as a habitat of threatened non-diadromous galaxias.

Note: *In addition to the provisions of this Plan and any relevant district plan, any activity which may modify, damage or destroy pre-1900 archaeological sites is subject to the archaeological authority process under the Heritage New Zealand Pouhere Taonga Act 2014. The responsibilities regarding archaeological sites are set out in Appendix S.*

(b) The removal of aquatic weeds and plants and sediment from any modified watercourse for the purpose of maintaining or restoring drainage outfall and any associated bed disturbance and discharge resulting from the carrying out of the activity that cannot meet one or more of the conditions of Rule 78(a) is a discretionary activity.

Appendix N

Amend Appendix N, Part B, clause 5 with the following amendments (in blue):

Appendix N - Farm Environment Management Plan Requirements

A Farm Environmental Management Plan must be:

(1) A Freshwater Farm Plan prepared, certified, implemented and audited in accordance with regulations prepared under Part 9A of the RMA and which apply within the Southland region, plus any additional information or components required by Parts B (3) and (6)(b) as below; or

(2) if Freshwater Farm Plans, under Part 9A of the RMA, are not yet required in the Southland region, a Farm Environmental Management Plan prepared, certified, ~~and~~ implemented and audited in accordance with Parts A to C below.

…

Part B – Farm Environmental Management Plan Default Content

5. Objectives of Farm Environmental Management Plans
A description of how each of the following objectives will, where relevant, be met: …

d) Waterways and wetland management: To manage activities within and nearby waterways, critical source areas, natural wetlands, and their margins, by avoiding stock damage, and avoiding where practicable, or otherwise minimising inputs of nutrients, sediment and faecal contaminants to ground and surface water.

….

(g) Degraded waterbodies: Where the farm is located within a catchment of a degraded waterbody that requires improvement identified in Schedule X: a reduction in contaminants of concern entering the waterbody, such that the ecological and cultural health of the waterbody become less degraded.

(h) Ki uta ki tai and hauora: An understanding by people ~~farming~~ managing the land how they recognise:

(i) *the connectivity between land and water including downstream effects on downstream waterbodies; and*

(ii) *how the mauri of water provides for te hauora o te taiao (health and mauri of the environment), te hauora o te wai (health and mauri of the waterbody) and te hauora o te tangata (health and mauri of the people).*

(iii) *Understand and identify what species might be present, including taonga and mahinga kai species*

(iv) *Understand the current state of cultural and environmental health*

(v) *Have an understanding of deposited sediment in farm waterways and changes through time*

(vi) *Undertake best practice for drain maintenance*

(vii) *Retain instream debris for habitat*

(viii) *Restore riparian vegetation with consideration of biodiversity*

~~(ix) *Consider taonga and mahinga kai species*~~

(x) *Identify ephemeral head water streams, springs and other waterbodies, e.g., wetlands, on farm and the linkages between them.*

(xi) *Identify and manage spawning habitat.*

(xii) *Avoid reductions in natural form of ~~your~~ waterways for example, keeping natural winding shape and variations in depth and velocity.*

(xiii) *Remove fish passage barriers with the exception of barriers introduced for protecting native fish.*

(xiv) Avoid piping of waterways.

…

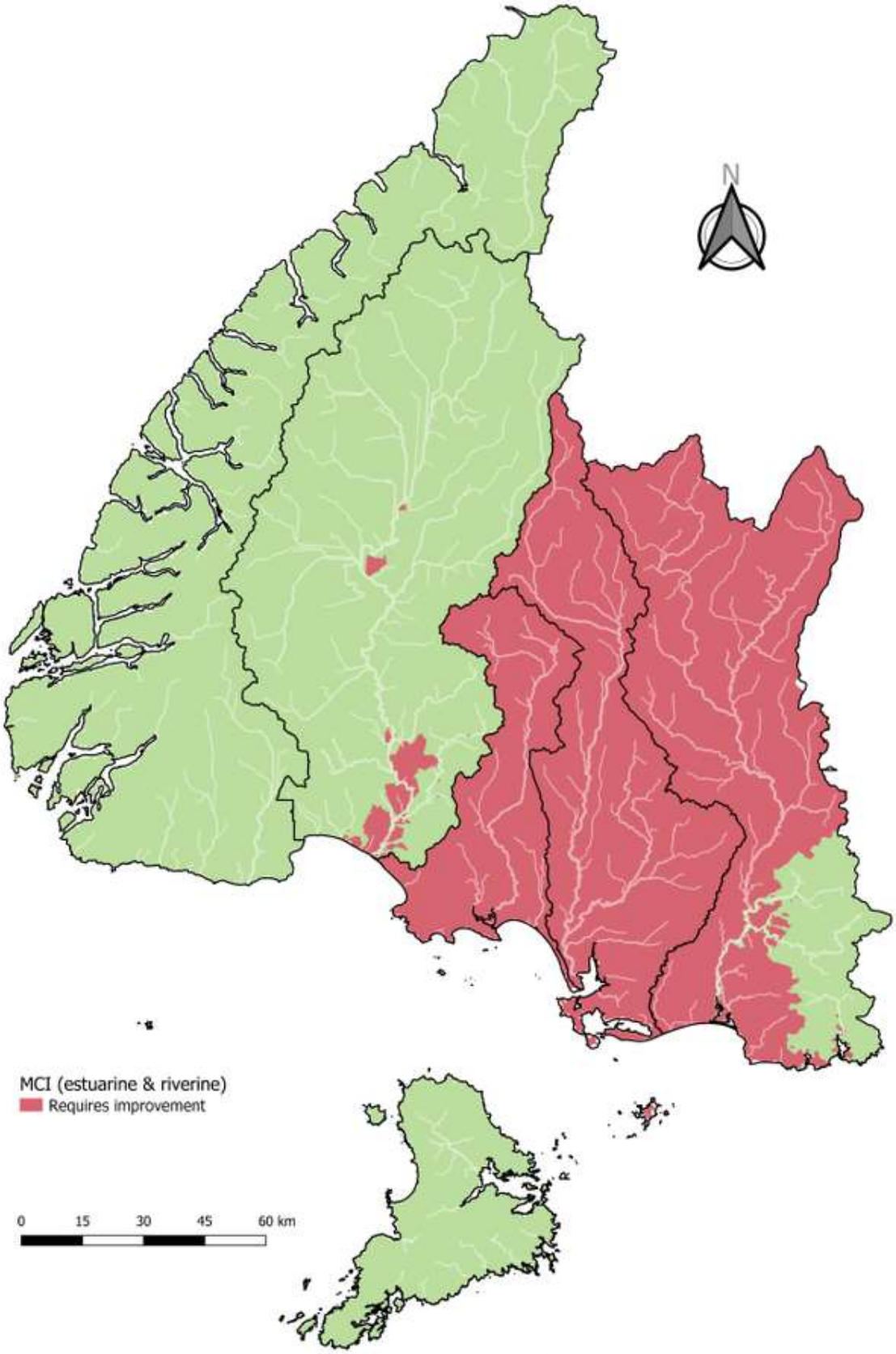
Amend Appendix N, Part B, clause 6(b) as follows:

(b) *where the farm is located within a catchment of a waterbody that requires improvement identified in Schedule X, the mitigations that will achieve a reduction in the discharge of the contaminants where relevant to the farming activity that trigger the requiring improvement status of the catchment (noting that in catchments of waterbodies where aquatic ecosystem health requires improvement, reductions and mitigation required will address nitrogen, phosphorus and sediment losses and the effect of those losses); and*

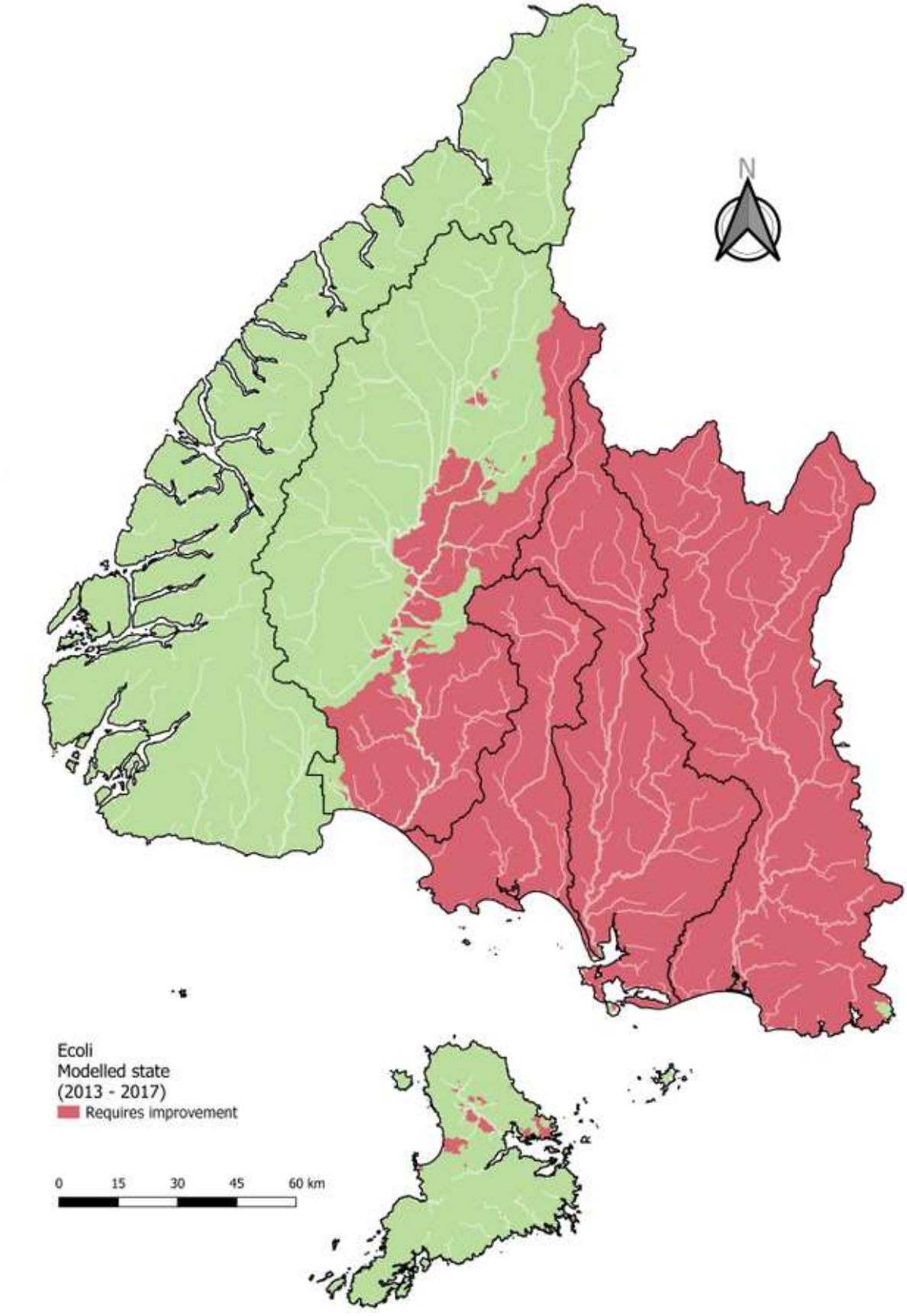
Maps

Include two maps of catchments in need of improvement for ecosystem health and human health as follows:

Map 1: Catchment area in need of improvement for ecosystem health – combined riverine and estuarine receiving environments

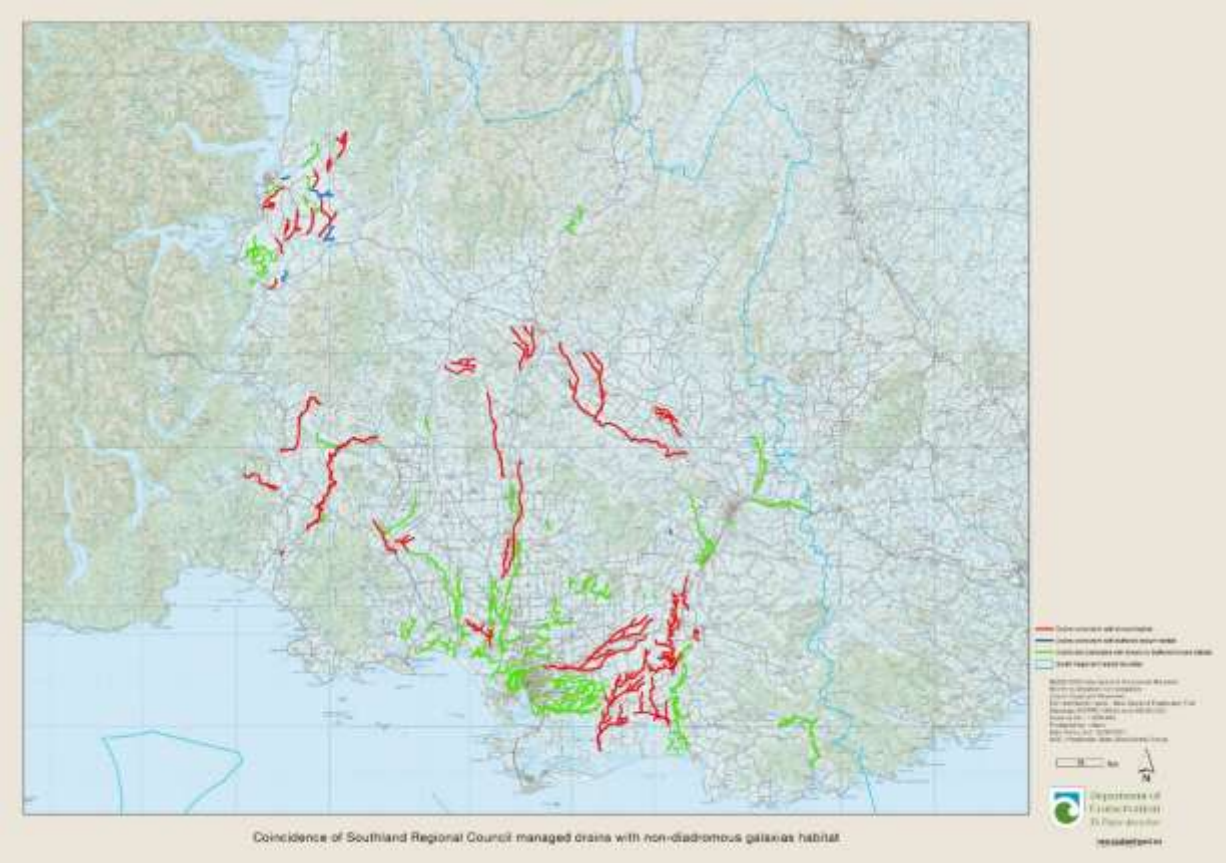


Map 2: Catchment area in need of improvement for human health / contact



Schedule X Maps[23]:

Map 1: Southland Regional Council managed drains coincidence with non-diadromous galaxias habitat



[23] Dunn, Dr N., 2021, "*Memo: Assessment of Southland Regional Council proposed Southland Water and Land Plan – Rule 78 weed and sediment removal rule testing*", dated 18 June 2021, internal memorandum, Department of Conservation.

Map 2: LINZ Topo50 identified drains coincidence with non-diadromous galaxias habitat