

In the Environment Court of New Zealand
Christchurch Registry

I Mua I Te Kōti Taiao o Aotearoa
Ōtautahi Rohe

ENV-2018-CHC-037
ENV-2018-CHC-050

Under the Resource Management Act 1991 (**RMA**)

In the matter of an appeal under clause 14 of Schedule 1 of the RMA in relation to decisions on the Proposed Southland Water and Land Plan

Between **Royal Forest and Bird Protection Society of New Zealand Incorporated**

Appellant

And **Southland Fish and Game Council**

Appellant

And **Southland Regional Council**

Respondent

274 Party Evidence of Ben Farrell

Topics B2, B3, B4, B5

4 February 2022

[EDITED 22 FEB 2022](#)

Contents	
Abbreviations/terms used	2
Introduction	3
Qualifications and experience	3
Code of Conduct for Expert Witnesses	3
Scope of Evidence	3
Executive Summary	4
Evidence	5
Rule 70(ca)(iii)	5
Rule 78 (drain clearance)	6
Intensive winter grazing	8
Rule 25 (cultivation)	10
Rule 51 (natural hazard works in natural wetlands)	11
Policy 18(2) and Rule 70 (stock grazing in natural wetlands)	14
Appendix N (reliance on consent conditions)	14
Ngāi Tahu indicators of health	15
Conclusion	15
Appendix BF1 - Recommended amendments	17

ABBREVIATIONS/TERMS USED

B&L	Beef and Lamb NZ Limited
DOC	Director-General of Conservation
EiC	Evidence in chief
Federated Farmers	Federated Farmers of New Zealand Inc
F&B	Royal Forest and Bird Protection Society of New Zealand Incorporated
F&G	Southland Fish and Game
IHP	Independent Hearing Report and Recommendations of the Hearing Commissioners, 29 January 2018 (in the matter of the RMA and the pSWLP)
IWG	Intensive Winter Grazing
JWS Farm Systems 1	JWS: farm system experts, 22 November
JWS Farm Systems 2	JWS: farm system experts, 6 December
JWS Forestry	JWS: forestry experts, 29 November
JWS Planning	JWS: planning experts, 10 December 2021
JWS Science 2019	JWS: water quality and ecology science experts (rivers, estuaries and lakes) 22 November 2019
JWS Science 2021	JWS: water quality science experts, 24-26 November
NESFM	Resource Management (National Environmental Standards for Freshwater) Regulations 2020
Ngā Runanga	Waihopai Rūnaka, Hokonui Rūnaka, Te Rūnanga o Awarua, Te Rūnanga o Oraka Aparima, and Te Rūnanga o Ngāi Tahu
OWP	Operative Water Plan
pSWLP	Proposed Southland Water & Land Plan: <ul style="list-style-type: none"> • Notified Version • Decisions Version • Partially Operative Version
SRC	Southland Regional Council / Environment Southland

INTRODUCTION

Qualifications and experience

- 1 My full name is Ben Farrell. I reside in Queenstown. I am an environmental planning expert. I hold a Master of Environmental Policy and Bachelor of Resource Studies (majoring in environmental policy and planning). I am a full member of the New Zealand Planning Institute. My qualifications and experience are as set out in my evidence in chief (**EiC**) dated 20 December 2021.
- 2 I gave expert planning evidence on behalf of the Royal Forest and Bird Protection Society Incorporated of New Zealand (FB) and Southland Fish and Game (FG) the before the Environment Court in the Topic A hearings. For Topic B I have participated in most expert conferencing sessions and provided EiC dated 20 December 2021.

Code of Conduct for Expert Witnesses

- 3 I confirm I have read the Code of Conduct for expert witnesses contained in the Environment Court of New Zealand Practice Note 2014 and that I have complied with it when preparing my evidence. Other than when I state I am relying on the advice of another person, this evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

Scope of Evidence

- 4 I have prepared this evidence in relation to the s.274 party interests of the Royal Forest and Bird Protection Society of New Zealand Inc (**Forest & Bird**) and the Southland Fish and Game Council (**Fish & Game**) in appeals by Beef + Lamb NZ Limited, Federated Farmers of New Zealand Inc, the Director-General of Conservation (**DoC**) and Waihopai Rūnaka, Hokonui Rūnaka, Te Rūnanga o Awarua, Te Rūnanga o Oraka Aparima, and Te Rūnanga o Ngāi Tahu (**Ngā Runanga**).
- 5 My evidence draws on the evidence in chief of numerous other experts involved in Topic B and the respective joint witness statements (all referenced in my (EiC), plus the s.274 party evidence of Ms McArthur dated 4 February 2022.
- 6 I confirm I maintain the opinions I expressed in the JWS Planning.
- 7 There is a degree of overlap between different parties' appeal points. My rebuttal evidence (due 22 February 2022) will respond to matters raised in other experts' evidence that relate to appeal points for Forest & Bird or Fish

& Game. This evidence focuses on matters arising from other experts' EIC in support of other appeals, to the extent these matters were not addressed in my EIC, in relation to the following provisions or matters:

- (a) Rule 70(ca)(iii) (stock exclusion from waterbodies)
- (b) Rule 78 (weed and sediment removal for drainage maintenance)
- (c) Intensive winter grazing (definitions and rule(s) 20 and 20A)
- (d) Rule 25 (cultivation)
- (e) Rules 51 and 74 (natural hazard works in natural wetlands)
- (f) Policy 18(2) and Rule 70 (grazing of stock in natural wetlands)
- (g) Appendix N (contents of FEMPs)
- (h) Ngāi Tahu Indicators of Health

8 I have prepared my evidence based on my expertise as a planner given my qualifications and experience noted in my EIC as updated above.

EXECUTIVE SUMMARY

9 Upon consideration of the relevant policy direction and reliance on many of the findings and recommendations set out in this abovementioned evidence I consider:

- (a) Responding to Ms Foster's EIC, I do not agree clause (ca)(iv) in rule 70 should be deleted. While I agree there is some overlap/repetition with rule 70(ca)(iv) and Appendix N Part 5(d)), it is unclear whether the term "stock damage" (used in Appendix N Part 5(d))) would capture "significant de-vegetation leading to exposure of soil of the bed and banks; and any pugging or alteration to the profile of the bed and banks".
- (b) Rule 78 should be amended to require resource consent for all drainage clearance activities. All modified watercourses are actually or potentially habitats of threatened native fish and taonga species. Policies 3 and 30 collectively require the maintenance of these habitats to protect habitats of significant species (such as threatened native fish and taonga). This appears to be the most appropriate method (identified to date) to protect against significant adverse effects on the habitats of threatened native fish and taonga species,

and which prioritises the health and well-being of waterbodies and their ecosystems.

- (c) I do not agree with Mr Wilson's recommendations for the IWG and cultivation provisions.
- (d) Rules 51 and 74 should not be amended to permit drainage from natural wetlands.
- (e) Policy 18(2) and Rule 70 should not be amended to permit grazing of stock in natural wetlands.
- (f) The amendment to Appendix N Clause 3 recommended by Mr Willis are unlikely to be appropriate because most existing FEMPs prepared in accordance with existing resource consent conditions will need to be updated to reflect additional outcomes and requirements of the pSWLP, for example managing critical source areas and applying a physiographic risk approach to the management of nutrient loss.
- (g) In relation to the pSWLP framework/architecture, I understand there is no dispute that the Ngāi Tahu indicators of health:
 - (i) Are a tool to be used within the pSWLP framework to, among other things, identify which waterbodies are degraded (i.e. Schedule X will be informed by both the JWS Science 2019 and the Ngāi Tahu Indicators of Health); and
 - (ii) Include the indicators of health set out in the Memorandum of Counsel for Ngā Rūnanga Regarding Cultural Indicators of Health (19 November 2019).

10 My rebuttal evidence will address other matters raised by experts in relation to matters addressed in my EiC and provide a list of refined recommended amendments to the Topic B provisions subject to appeal.

EVIDENCE

Rule 70(ca)(iii)

- 11 Ms Foster's evidence recommends deletion of Rule 70 clause (ca)(iii).
- 12 Rule 70(ca)(iv) and Appendix N Part 5(d)) effectively require, among other things as a permitted activity standard, the avoidance of "stock damage" to "waterways, critical source areas, natural wetland, and their margins".

- 13 I understand “stock damage” to include any “significant de-vegetation leading to exposure of soil of the bed and banks” and “any pugging or alteration to the profile of the bed and banks”. On this basis, and upon reflection of Ms Foster’s evidence, I agree there is some overlap and repetition between clause 70(ca)(iii) and clause 70(ca)(iv) coupled with Appendix N Part 5(d)). However, the pSWLP does not define “stock damage” so it is unclear whether stock damage actually or sufficiently captures “significant de-vegetation leading to exposure of soil of the bed and banks” and “any pugging or alteration to the profile of the bed and banks”. On this basis I do not support deletion of clause 70(ca)(iii) as recommended by Ms Foster.

Rule 78 (drain clearance)

Amendments supported by SRC and DOC

- 14 Ms Kirk support SRCs recommended plan amendments to address DOC’s concerns about the protection of habitats of non-diadromous galaxias. I support these amendments insofar as these protect habitats of non-diadromous galaxias. In my opinion the permitted activity thresholds proposed by SRC and supported by Ms Kirk are inadequate because:
- (a) As discussed by Ms McArthur¹ (who draws on the JWS Science 2021), and Ms Davidson², the amendments do not address the fundamental issue that many (if not all) open drains in Southland are potentially habitats of threatened native fish and taonga species, and that (more relevantly) the activity of drain clearance can kill threatened native fish, which I understand the freshwater ecologists to be saying is a significant adverse and inappropriate environmental effect. Specifically, it is not acceptable to have a regime which permits continued species decline of threatened native fish and taonga species.
 - (b) The permitted activity conditions will not implement Policy 3 and 30 respectively. Policy 3 requires the management of activities that adversely affect taonga species, and policy 30 (specific to drainage maintenance) recognises the community benefits of maintaining flood conveyance capacity and land drainage, whilst *ensuring that drainage maintenance activities within artificial watercourses and the beds of modified watercourses are managed in a way that either: 1.*

¹ s 274 evidence par 15

² @ par 22-26

avoids, remedies or mitigates significant adverse effects on the aquatic environment; or 2. maintains or enhances habitat value.

Identifying significant habitats of indigenous fauna

- 15 The relief sought by F&B, which I supported in my EiC, is to ensure that the rule framework ceases to permit the clearance of habitats of threatened native fish.
- 16 To provide certainty, ideally all significant habitats of indigenous fauna (inclusive of threatened native fish and taonga species) would be mapped. However, this appears to be an impractical and unrealistic outcome given the migratory nature of fish and the large extent of their habitats across the Southland region. This issue is discussed in the evidence of Ms Kitson, Ms Davidson³ and Ms McArthur⁴ (who also reference the JWS Science 2021).
- 17 Ms Davidson⁵ is recommending that additional permitted activity standards be included in Rule 78 to protect taonga species, as follows:
 - a) restrict sediment size;
 - b) reduce the extent to which the bed is relevelled in order to retain variability in bed profile;
 - c) require trapping suspended sediment and retaining in the area being cleared;
 - d) 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; and
 - e) require protection of non-diadromous galaxias through mapping their habitat extent.
- 18 Based on the evidence referenced above I think it will be difficult to write effective permitted activity conditions that meets the directives set out in Policies 3 and 30 (nobody has been able to do it yet).
- 19 An alternative to mapping could be to rely on experts to identify if a modified watercourse is a significant habitat. In my experience this approach is not uncommon in resource management plans in New Zealand, particularly in respect of the identification of areas of significant indigenous vegetation and significant habitats of indigenous fauna. However, this alternative introduces inefficiencies associated with relying on experts (such as increased costs and delays) and can result in inconsistent approaches by different experts (particularly in the absence of clear criteria for determining

³ @ par 22

⁴ @ par 11-13

⁵ @ par 24

if a habitat is significant or not). In the absence of workable permitted activity conditions, it appears the only other way to ensure threatened native fish and taonga species are protected is to simply require resource consent for all drain clearance activities.

- 20 There appears to be no other options available (or at least identified to date) which will satisfactorily protect significant habitats.
- 21 I do not understand the costs or negative implications of requiring resource consent for all drain clearance activities. However, the option of simply requiring resource consent could be simpler than requiring experts to identify significant habitats on a case-by-case basis, for example:
- (a) There is potential for a “global consenting approach” with standardised conditions and methodologies, particularly in respect of the drainage activities undertaken by SRC;
 - (b) Further research will presumably be ongoing by experts in this field, and information gathered, which can then be used to help inform and streamline individual resource consent application processes.
- 22 On this basis I consider Rule 78 should be amended, by either:
- (a) Specifying that threatened native fish species’ habitats are to be avoided (as a permitted activity condition), and rely on experts to determine case-by-case if a modified watercourse/drain is a habitat for these species; or
 - (b) Delete the permitted activity conditions altogether, so that resource consent is required for any clearance of vegetation and sediment from modified watercourses.
- 23 In respect of (b) above, I note the activity status could be provided as restricted discretionary activity (as opposed to full discretionary), with the matters of discretion restricted to those currently listed in clause (a), with the addition of a clause relating to the habitats of threatened native fish and taonga species.

Intensive winter grazing

Rule 20(a)(iii)(1): 10% or 15% permitted threshold

- 24 Mr Wilson is recommending that clause (a)(iii)(1) of rule 20 (the permitted percentage of landholding threshold for IWG) should be 15% as per the decisions version of the plan.

- 25 I do not agree the permitted landholding threshold should be increased above the 10% specified in the NESFM:
- (a) The NESFM was gazetted two years after the decisions version of the pSWLP.
 - (b) A rule in a regional planning document cannot be less stringent than a regulation in a NES in these circumstances.
 - (c) Contrary to Mr Wilson's statement at par 6.2 that "*the pSWLP fails to provide a pathway for farmers who can demonstrate that their effects are the same as that permitted*", the pSWLP does provide a pathway for farmers who can demonstrate that their effects are the same as that permitted. This is actually acknowledged by Mr Wilson when he notes at par 6.3 that alternative options for IWG are still available through a resource consent process.
 - (d) At 6.3 Mr Wilson suggests that there is no additional risk to the environment in enabling flexibility for the size and design of winter grazing operations to be considered in the context of the permitted activity rule 20A, given the strict requirements of the FEP regime in Appendix N, as well as the ability of farm certifiers to decline to certify all or part of a farm plan. However, I am unsure of any evidential basis which Mr Wilson is relying on to say this.
 - (e) In my opinion IWG poses a significant risk to water quality and it is appropriate for reasonably strict regulations to apply to it (as covered in my EiC).

Rule 20B – Other Winter Grazing

- 26 Mr Wilson is recommending a new definition for High-risk winter grazing as follows:

"High risk winter grazing" is the break-feeding of stock on fodder crops or pasture (where the farm environment plan certifier has determined the farm activity to be of the same risk as intensive winter forage crop grazing) between 1 May and 30 September of the same year. It excludes dairy cows in a springer mob prior to calving, and dairy cows in the milking herd after calving

- 27 While I support a rule that covers intensive winter grazing on pasture (as opposed to fodder crops, which the decisions version is limited to), in my opinion this definition is problematic because it requires a farm environment plan certifier to determine (through applying their own discretion) if a farm activity is of the same risk as intensive winter forage crop grazing. It is unclear what risks need to be considered and what criteria will be applied to evaluate those risks.

28 In my opinion the primary/core risk to water quality associated with IWG is the exposure of bare earth, so it is logical and practical to link this specific concern to the definition. I maintain that reference to “*exposure of soil and / or pugging of the soil*” is more appropriate than Mr Wilsons abovementioned definition.

Rule 25 (cultivation)

29 Mr Wilson⁶ is recommending that rule 25 be amended to permit *no till* and *minimum till* cultivation methods irrespective of slope gradient.

30 At par 8.1 Mr Wilson suggests that the original intent of rule 25 was “*a proxy to control and manage farming in general, in particular, to tightly control the development of and replacement of pasture in the hill country*”. I note I was one of the early drafters of this rule⁷ and I have no recollection of this rule being used as a proxy to manage farming activities on sloping land in general. I recall the primary intent of the cultivation rule being about managing farming activities which increase the loss of sediment to reduce risks on water quality, while also encouraging good soil conservation and ecosystem outcomes. At paragraphs 205 and 206 the IHP notes the original intent of the rule, referencing back to the Section 32 Report, and outlines the relevant policies and objectives being implemented:

[205] The Section 32 Report noted that the pSWLP manages cultivation on sloping ground primarily through setbacks from waterways, with setback distances increasing with increasing slope. The aim is to prevent soil loss into waterways as this has benefits for soil conservation, water quality, and near-stream habitats and ecosystems. **We understand that the primary purpose of the management regime is the maintenance or improvement of surface water quality.** [206] The Section 32 Report noted that although cultivation was not explicitly regulated under the antecedent RWP, that earlier plan required that intensive winter grazing did not occur within 3 metres of a water body, creating a ‘pseudo cultivation setback’ for fodder crops. The report also stated that the pSWLP cultivation provisions (primarily Policy 16 and Rule 25) assisted with achieving Objectives 1, 2, 6, 13, 14, 17 and 18 of the pSWLP. We agree that those are the relevant objectives. **(my emphasis)**

31 The IHP outlines its findings and recommendations for Rule 25 at paragraphs 205-220. Paragraphs 216 and 217 specifically address the issue of slope gradients, including the use of non-tillage techniques, confirming that the IHP was not persuaded by submitters wanting cultivation to be permitted on slopes greater than 20 degrees, and that

⁶ EIC par 8

⁷ Discussed in my EIC for Topic A

“cultivation on slopes in excess of 20 degrees should be scrutinized through a consent process” (including cultivation “by any method”):

[216] A number of submitters sought an increase to the permitted activity threshold of 20 degrees, stating that they had historically cultivated slopes steeper than that (often in the order of 25 to 35 degrees) without taking health and safety risks or inducing soil erosion. We were not persuaded by those submissions. We are satisfied, for the reasons set out by the section 42A authors, that cultivation on slopes in excess of 20 degrees should be scrutinized through a consent process, which we anticipate will be informed by a FEMP for the landholding concerned.

[217] We recommend that cultivation by any method on slopes up to 20 degrees is permitted. Cultivation **by any method** on steeper land will require a restricted discretionary activity resource consent. That includes both non-tillage techniques (direct drilling) and herbicide spraying followed by over sowing (‘spray and pray’). We have recommended amendments to the Glossary definition of ‘cultivation’ accordingly. However, in response to numerous submissions, we consider that spraying for the sole purpose of controlling pest plants (including gorse and broom) should be allowed on land of any slope and also within the cultivation setback from water bodies. We therefore recommend that such spraying is excluded from the definition of ‘cultivation’.

- 32 I am not aware of any technical or expert evidence that support the amendments recommended by Mr Wilson. My anecdotal experience is that a 20° slope is generally recognised as the maximum for undertaking cross contour cultivation using a wheeled tractor, and I am not aware of:
- (a) other regional plans that allow minimum or no till cultivation on slopes between 20 - 30° as a permitted activity.
 - (b) any research comparing sediment loss between different forms of cultivation on slopes of 20 - 30°, including techniques that avoid the exposure of bare earth (for example nil till (spray & pray / hoof and tooth) or minimum till (direct drilling)).

Rule 51 (natural hazard works in natural wetlands)

- 33 My EIC⁸ sets out why I support a resource consent regime for any drainage of natural wetlands. Ms Davidson⁹ has provided evidence outlining why in her opinion it is appropriate that the SWLP provisions for diversions from natural wetlands are more restrictive than the NESFM.

⁸ EIC pars 57-63

⁹ EIC pars 18-21

- 34 Mr Wilson¹⁰ has provided evidence to the contrary. He recommends that Rule 51 should be amended to provide for natural hazard works addressed in the NESFM.
- 35 In my experience one issue with relying on the NESFM provisions is that they are subject to change. For example, I observe central government is currently reviewing the NESFM and has sought feedback on *“making it easier to undertake maintenance and restoration activities in and around natural wetlands”*¹¹.
- 36 Clause 51 of the NESFM permits the taking, use, damming, diversion, or discharge of water within, or within a 100 m setback from a natural wetland subject to the following conditions:
- (a) the activity must not result in land becoming unstable; or result in, or involve, debris or other materials being deposited in the natural wetland; and
 - (b) the activity must be undertaken only to the extent necessary to achieve the purpose of the natural hazard works; and
 - (c) if the activity changes the profile of the bed of the natural wetland, the profile must be restored so that it does not inhibit the passage of fish; and
 - (d) if the activity is earthworks or land disturbance, erosion and sediment control measures must, during and after the earthworks, be applied and maintained at the site of the activity to minimise adverse effects of sediment on the natural wetland; and include stabilising or containing soil that is exposed or disturbed by the activity as soon as practicable after the activity ends; and
 - (e) as soon as practicable (but no later than 3 months) after the activity ends, debris, materials, and equipment relating to the activity must be removed from the site; and
 - (f) the site must be free from litter.
- 37 The above permitted activity conditions are vague and not easily measurable or enforceable, especially the subjective and discretionary

¹⁰ EIC par 9

¹¹ <https://environment.govt.nz/what-government-is-doing/areas-of-work/freshwater/e/review-of-provisions-for-natural-wetlands/>

tests for example in (b) (“to the extent necessary”) and (d) “to minimise adverse effects of sediment on the natural wetland”.

38 I have been advised by staff at both F&B and F&G of a recent example where a landowner undertook considerable wetland drainage and, upon enquiry, SRC determined that the drainage was permitted under the NESFM, except that the landowner failed to advise SRC of the works occurring¹².

39 The following images¹³ illustrate this specific example. Figure 1 shows a recent Google Earth image (from late 2020) which shows evidence of an historic drain, but this is obviously different in scale to that excavated in late 2021”.



Figure 1 Google Earth image of wetland at Te Anau Downs Station, 2020

¹² Based on correspondence with F&B and F&G staff, and a letter by SRC dated 13 October 2021

¹³ Images supplied by F&G staff.



Figure 2 Drone image of the same wetland, 2021

40 I also note that Mr Wilson¹⁴ believes “*the planning JWS version of Rule 51 has not considered the consequences of preventing natural hazards from being managed in and around natural wetlands*”. I note I have no recollection of any person or party suggesting that the management of natural works in and around natural wetlands should be prevented.

Policy 18(2) and Rule 70 (stock grazing in natural wetlands)

41 Mr Wilson is recommending that grazing of sheep should be permitted within natural wetlands. For reasons set out in my EIC¹⁵ and in reliance on Ms McArthur’s evidence (and having read the evidence of Ms Hunt, Mr Young, Dr Corner-Thomas and Mr Orchiston) I consider it is more appropriate to exclude stock grazing, including sheep, within natural wetlands.

Appendix N (reliance on consent conditions)

42 Mr Willis is recommending an amendment to Appendix N Clause 3 so that FEMPs prepared in accordance with consent conditions for existing industrial wastewater discharges onto land can be relied on to inform the content of a FEMP, rather than Appendix N.

43 In my opinion the amendment recommended by Mr Willis is not appropriate or not required because, either:

¹⁴ EIC par 9

¹⁵ EIC pars 57-63

- (a) Most existing FEMPs prepared in accordance with existing resource consent conditions will need to be updated to reflect additional outcomes and requirements of the pSWLP, for example managing critical source areas and applying a physiographic risk approach to the management of nutrient loss.
- (b) If the relief sought allows FEMP's to be updated (to address my concern in (a) above), then the additional clause seems redundant.

Ngāi Tahu indicators of health

44 Ms Cain¹⁶ identifies that the pSWLP utilises tools such as the Ngāi Tahu indicators of health and Ms Kitson¹⁷ identifies that the pSWLP needs to include the Ngāi Tahu indicators of health. The *Ngāi Tahu indicators of health* are defined in the pSWLP as:

A tool for Papatipu Rūnanga to facilitate monitoring and provide long term data that can be used to assess land, water and taonga species health over time.

45 Both Ms Kitson and Ms Cain refer to the Ngāi Tahu indicators of health as including those indicators set out in the Memorandum of Counsel for Ngā Rūnanga Regarding Cultural Indicators of Health (19 November 2019).

46 To clarify, I understand the Ngāi Tahu indicators of health are, among other things, a tool used within the pSWLP framework to identify which waterbodies are degraded (in this regard Schedule X will be informed by both the JWS Science 2019 and the Ngāi Tahu Indicators of Health). This is logical, and seemingly necessary, to implement Policy 2 which requires “any assessment of an activity covered by this Plan” to take into account any relevant iwi management plan; and assess water quality and quantity, taking into account Ngāi Tahu indicators of health.

CONCLUSION

47 My evidence is limited to matters arising from other experts which I have not addressed in my EiC. Appendix BF1 sets out my revised recommended amendments having regard to these matters arising. My rebuttal evidence, due 22 February 2022, will address other matters raised by experts in relation to matters already addressed in my EiC, and I expect to provide a refined set of recommended amendments at that time.

¹⁶ EiC par 19

¹⁷ EiC par 14, 16, 18

Ben Farrell

Dated this 4th day of February 2022

APPENDIX BF1 - RECOMMENDED AMENDMENTS

Revised 4 February 2022

Double underline or ~~strike through~~ reflects changes to EIC amendments

Identification of degraded waterbodies (Schedule X)

- 1 Insert into the pSWLP a schedule and map the spatial extent of degraded waterbodies in Southland (Schedule X).

~~References to ephemeral rivers~~

- ~~2 Rename “ephemeral rivers” to “ephemeral waterbody” and retain the definition in the pSWLP.~~
- ~~32 Replace “ephemeral flow path” in the definition of “critical source area” with “ephemeral waterbody”.~~

Wetlands (Rule 51)

- ~~43 Amend Rule 51 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.~~

Weed and sediment removal for drainage maintenance (Rule 78)

- ~~54 Amend Rule 78 to insert new limb Rule 78(a) (xiv): “the modified watercourse is not a habitat of threatened native fish”~~

Or

- ~~65 Amend Rule 78 to require resource consent for the removal of aquatic weeds and plants and sediment from any modified watercourse for the purpose of maintaining or restoring drainage outfall, for example as follows:~~

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: (a) 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;~~

~~(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;~~

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

~~(xii) 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.~~

~~(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.~~

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

Reference to degraded (Policy 16, Rule 20, Rule 20A, Appendix N)

76 Insert the term “degraded” before the term “waterbodies that require improvement” throughout the provisions wherever Schedule X is

referenced (or where water quality is degraded). I understand this would apply to clauses:

- (a) Policy 16 clauses (1)(b)(ii), 16(1)(ba)(iii), 16(1)(c)(i), and 16(1)(c)(iii).
- (b) Rule 20(2)(a)
- (c) Rule 20A(b)(2)
- (d) Appendix N clauses 3(j) and 6(b).

Appendix N

87 As above, insert the term “*degraded*” before the term “*waterbodies that require improvement*” throughout the provisions. I understand this would be limited to clauses

98 Inserting the additional objectives in Table 2 of the Science JWS 2021 specifically in relation to ecological and cultural health.

109 Clarify the wording of Appendix N clauses 5 and 6 so that the “objectives” in clause 5 are clearer as to what clause 6 matters need to achieve in respect of “improvement” of degraded water bodies in the context of applying Policy 16 and implementing Objectives 2 and 6 of the pSWLP. For example, insert a new objective specifically referencing the need for farming practitioners to be aware of the extent of improvement in the quality of water required where it is degraded, as follows:

(5) 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 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 what species might be present
 - (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 waterway 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.

Intensive Winter Grazing – Definition

4110 Define “Intensive Winter Grazing” as sought by F&G:

Grazing of stock at any time between 1 May and 30 September of the same year inclusive on fodder crops or pasture to the extent that the grazing results in the exposure of soil and / or pugging of the soil.

- (a) Alternatively, I would support the option identified in the JWS Planning (new rule 20B) of identifying a new farming activity (High Risk Winter Grazing on Pasture).

~~*Intensive Winter Grazing – Rule 20B(a)(iii)(2)) Setbacks from waterbodies*~~

~~12 Subject to an assessment of the technical evidence, I would support amending the minimum setback/buffer distance between intensive winter grazing and waterbodies (in Rule 20A(a)(iii)(2)) from 10m to 20m (as recommended by Ms McArthur).~~

Meaning of “Drain”

4311 Amend definition of Drain as follows:

Drain means any artificial watercourse designed, constructed, or used for the drainage of surface water, but excludes subsurface drains and artificial watercourse used for the conveyance of water for electricity generation irrigation, or water supply purposes.