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

AND

IN THE MATTER **appeals under clause 14(1) of Schedule 1 of the Act in respect of Proposed Southland Water and Land Plan**

between:

TRANSPOWER NEW ZEALAND LIMITED
(ENV-2018-CHC-26)

FONTERRA CO-OPERATIVE GROUP
(ENV-2018-CHC-27)

HORTICULTURE NEW ZEALAND
(ENV-2018-CHC-28)

ARATIATIA LIVESTOCK LIMITED
(ENV-2018-CHC-29)

WILKINS FARMING CO
(ENV-2018-CHC-30)

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STATEMENT OF REBUTTAL EVIDENCE OF GERARD MATTHEW WILLIS FOR FONTERRA COOPERATIVE GROUP LTD AND DAIRYNZ LTD

(PLANNING – TOPIC B)

22 FEBRUARY 2022

GORE DISTRICT COUNCIL, SOUTHLAND DISTRICT COUNCIL & INVERCARGILL DISTRICT COUNCIL (ENV-2018-CHC-31)

DAIRYNZ LIMITED
(ENV-2018-CHC-32)

H W RICHARDSON GROUP
(ENV-2018-CHC-33)

BEEF + LAMB NEW ZEALAND
(ENV-2018-CHC-34 & 35)

DIRECTOR-GENERAL OF CONSERVATION
(ENV-2018-CHC-36)

SOUTHLAND FISH AND GAME COUNCIL
(ENV-2018-CHC-37)

MERIDIAN ENERGY LIMITED Act 1991
(ENV-2018-CHC-38)

ALLIANCE GROUP LIMITED
(ENV-2018-CHC-39)

FEDERATED FARMERS OF NEW ZEALAND
(ENV-2018-CHC-40)

HERITAGE NEW ZEALAND POUHERE TAONGA
(ENV-2018-CHC-41)

STONEY CREEK STATION LIMITED
(ENV-2018-CHC-42)

THE TERRACES LIMITED
(ENV-2018-CHC-43)

CAMPBELL'S BLOCK LIMITED
(ENV-2018-CHC-44)

ROBERT GRANT
(ENV-2018-CHC-45)

SOUTHWOOD EXPORT LIMITED, SOUTHLAND PLANTATION FOREST COMPANY OF NZ, SOUTHWOOD EXPORT LIMITED (ENV-2018-CHC-46)

TE RUNANGA O NGAI TAHU, HOKONUI RUNAKA, WAIHOPAI RUNAKA, TE RUNANGA O AWARUA & TE RUNANGA O

ORAKA APARIMA
(ENV-2018-CHC-47)

PETER CHARTRES
(ENV-2018-CHC-48)

RAYONIER NEW ZEALAND LIMITED
(ENV-2018-CHC-49)

ROYAL FOREST AND BIRD PROTECTION SOCIETY OF NEW ZEALAND
(ENV-2018-CHC-50)

Appellants

and:

SOUTHLAND REGIONAL COUNCIL
Respondent

Contents

1. EXECUTIVE SUMMARY

1.1 This planning evidence responds to the planning evidence of Mr McCallum-Clark for the Southland Regional Council (**Council**), Ms Kirk for the Director-General of Conservation and Mr Farrell (or the Southland Fish and Game Council and the Royal Forest and Bird Protection Society, as well as the water quality (mapping) evidence of Dr Snelder (for Council).

1.2 I generally agree with the evidence of Mr McCallum-Clark with the exception of the change he proposed to Rule 70 in response to Ms Kirk's concern about bird roosting/nesting in ephemeral flow paths. I have also identified what appears to be a minor error in the drafting of Rule 35B.

1.3 With respect to the matters on which Mr McCallum-Clark does not express a definitive opinion I support:

(a) The management of winter grazing on pasture by way of the farm environment plan (**FEMP**) rather than a separate rule for the reasons set out in my 4 February evidence and because I consider that Mr McCallum-Clark's suggested definition of 'high risk winter grazing on grass' does not provide sufficient certainty as the entry 'gateway' for such a rule; and

(b) The inclusion of the two maps of catchments in need of improvement produced by Dr Depree because they will have the same planning effect as the maps produced by Dr Snelder but will not risk pre-empting important decisions to be taken within the Plan Change Tuatahi process about, in particular, the appropriate nutrient concentrations and criteria.

2. INTRODUCTION

2.1 My full name is Gerard Matthew Willis. I have the qualifications and experience set out in my primary evidence dated 20 December 2021 (**my 20 December evidence**).

3. BACKGROUND

Code of conduct

3.1 I have read the Environment Court's Code of Conduct for Expert Witnesses, and I agree to comply with it. I confirm that the issues addressed in this brief of evidence are within my area of expertise, except where I state I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed.

Scope of evidence and preliminaries

3.2 I have been asked to prepare this rebuttal evidence for Fonterra Co-operative Group Ltd (**Fonterra**) and DairyNZ Ltd (**DairyNZ**), collectively referred to as the 'dairy interests'. My evidence responds to:

(a) the planning evidence of Ms Linda Kirk in relation to Rule 70;

(b) the planning evidence of Mr Matthew McCallum-Clarke in relation to his proposed:

(i) new Rule 35B[1];

(ii) amendment to Rule 70[2];

(iii) the proposed definition of winter grazing on pasture; and

(c) The evidence of Dr Antonius (Ton) Snelder in relation to the use of national bottom lines and his approach to mapping.

(d) The planning evidence of Mr Ben Farrell in relation to clause 3 of Part A of Appendix N.

4. EVIDENCE OF MS KIRK

4.1 At paragraph 35 of her evidence, Ms Kirk states that the Planning JWS agreement to remove reference to 'ephemeral river' from Rule 70 would

[1] The dairy interests do not have scope on this aspect of the Rule. However, I have offered an opinion because it is apparent to me that there appears to be an error in the proposed drafting.
[2] The dairy interests do not have scope to remove the reference to 'ephemeral rivers' from Rule 70(a). However, the removal was agreed in the Planning JWS as part of a wider response to addressing the issue of ephemeral flow paths being a matter that the dairy interests do have a s274 interest in.

mean that the disturbance of any roosting and nesting area of listed bird species in an ephemeral flow path would not be captured by the prohibited rule.

4.2 I agree with Ms Kirk that that is the consequence of the change. I also confirm that there was no express intention to have the effect Ms Kirk highlights. In principle, I support stock exclusion from the roosting and nesting areas of the bird species specified in Rue 70 (a) from the beds of all waterbodies. However, for the reasons set out in my evidence of 4 February (and in the evidence of Dr Depree and Mr Duncan of the same date), I do not consider an ephemeral flow path is, or should be regarded as, a river or 'waterbody' and hence I do not consider these features to have a 'bed' in the terms defined in section 2 of the RMA.

4.3 I am not aware of technical (ecological) evidence on the question of whether the listed bird species roost or nest in depressions in the landscape that are in pasture (as opposed to river beds) and for that reason it is difficult for me to form a view about the necessity for a rule protecting those sites from disturbance.

4.4 I also note that even if ephemeral flow paths are actual or potential roosting or nesting sites there is a question as to whether Rule 70 (being a rule expressly related to the beds of waterbodies) is appropriately extended to address that matter (being a question of land use).

4.5 I discuss this matter further from paragraph 5.5 below.

5. EVIDENCE OF MR MCCALLUM-CLARK

Rule 35B - Sacrifice paddocks

5.1 Mr McCallum-Clark proposes a new Rule 35B to address the issue of sacrifice paddocks. This involves removing the term 'sacrifice paddock' from the definition of feed pad/lot.

5.2 I agree with Mr McCallum-Clark on this matter. Sacrifice paddocks are quite distinct from feed pads/lots and the risk to water quality that they pose is more appropriately addressed through a specific rule.

5.3 I also generally agree with the new Rule 35B proposed by Mr McCallum-Clark. However, there appears to be an error with part (a) (i) of the

proposed rule. This refers to animals not remaining on the *feed pad/lot* for longer than 60 days in any six-month period. I believe the intention is that it read *"animals not remaining ~~on the feed pad/lot~~ in the sacrifice paddock for longer than 60 days…".* I therefore propose that minor amendment.

5.4 I set out this correction in full in Appendix 1.

Rule 70 – Ephemeral flow paths and roosting and nesting areas

5.5 In response to the evidence of Ms Kirk, Mr McCallum-Clark proposes to include the words "*(including ephemeral flow paths)"* after the word "*rivers*" in Rule 70 (a). The Planning JWS had agreed to delete the reference to ephemeral rivers.

5.6 In principle I support protecting sites of importance to the listed bird species, however, for the following reasons I do not support this amendment:

(a) As noted in paragraph 4.2 above, I do not consider ephemeral flow paths to be rivers. Mr McCallum-Clark's amendment implies that they are a form of river and I think that would introduce uncertainty that would be unhelpful to the implementation of the pSWLP.

(b) As also noted in paragraph 4.2 above, because ephemeral flow paths are not rivers (or other form of waterbody) they do not have beds. Rule 70 is a 'bed disturbance' rule and is expressly structured to address roosting and nesting "*located in the bed of*" waterbodies.

(c) Rule 70 is a prohibited activity rule. In my opinion it is important for the scope of prohibited activity rules to be very clear and certain. For the reasons given, I consider that including the words "(including ephemeral flows paths)" would reduce the clarity and certainty associated with this rule.

5.7 While I did attempt to draft amendments that sought to overcome the difficulties referred to above, I eventually concluded that it was not possible to achieve the certainty required. Given the absence of evidence (as far as I understand) of the relative importance of ephemeral flow paths as

roosting and/or nesting areas[3], I propose that the term simply remain deleted from Rule 70 (a) as agreed in the Planning JWS.

5.8 For the avoidance of doubt, I agree with all other suggested amendments to the Planning JWS version attached to Mr McCallum-Clark's 11 February evidence.

Winter grazing on pasture

5.9 I agree with Mr McCallum-Clark when he says at paragraph 133 of his evidence that a definition of 'high risk winter grazing on grass' is a critical part of a workable rule.

5.10 In my 4 February 2022 evidence I made a similar point and concluded that a workable definition did not seem possible given the various factors involved in targeting the genuinely high-risk activity.

5.11 Mr McCallum-Clark has proposed a definition at paragraph 134 of his evidence. That definition focuses on:

(a) how, and on what, animals are fed (break-feeding pasture and supplementary feed); and

(b) when that occurs (June July and August); and

(c) what the effect of that activity is (de-vegetation to the extent that more than 50% of the paddock area requires resowing).

5.12 While I agree that Mr McCallum-Clark's definition touches on some of the key variables, I remain concerned that such a definition is insufficiently targeted and remains uncertain. My understanding is that most livestock in Southland are break-fed pasture and supplied with some level of supplementary feed over the June-August period. This means that only criterion (c) above would distinguish between *all* livestock farming and the high-risk grazing sought to be targeted by the rule.

5.13 My concern about that is that, while I support the concept, it is unclear to me that the criterion could be applied effectively in practice. Whether the rule applies to the activity needs to be clear and certain. I understand that

[3] Particularly since these often consist of improved pasture indistinguishable from the adjoining land.

whether a paddock requires resowing (or how much of a paddock may require resowing) at the end of the grazing period may not be known, or knowable[4], in advance of the grazing occurring meaning that consent could only be required retrospectively in many instances. I do not consider that a good basis for a rule.

5.14 For those reasons, I consider that the proposal included in my 4 February 2020 evidence for this issue to be managed by the FEMP remains the most appropriate and pragmatic planning approach to adopt.

6. EVIDENCE OF DR SNELDER

6.1 Dr Snelder's evidence includes maps prepared in accordance with the thresholds suggested in the Science JWS.

6.2 I agree with Dr Snelder's comments at paragraph 18 of his evidence, that *"the threshold values used to define 'degraded' and 'not-degraded' water bodies cannot be determined scientifically or solely by experts"* and that *"the 'right' threshold value implies a judgement about 'how things should be' for all* [social, cultural, economic and environmental] *values. This judgement depends on the relative importance or rank given to the values and is therefore not a question a scientist can answer".*

6.3 In my opinion, that is the understanding that underpins the approach in the NPSFM 2020 (and its predecessors). The NPSFM does not prescribe mandatory standards for each attribute. Rather Appendices 2A and 2B set out a *range* of potential 'standards' for each attribute and allows regional councils to choose the level which will become their plan's target attribute state. How aspirational they are in choosing the target attribute state (ie. whether they choose a target state in the A, B or C band) will depend on the assessment of other values and considerations as will be identified by the mandatory community and tangata whenua engagement process (required by clause 3.7 (1) of the NPSFM) and the section 32 evaluation.

6.4 The discretion to choose the target attribute state is not unfettered however, with regional councils unable to choose a state that is less than

[4] Based on the 4 February 2022 evidence of Dr Dalley that the condition of pastures and soil following grazing is variable depending on soil type, winter rainfall and pasture cover during grazing and that the extent of regrassing required will vary from year to year based on specific winter weather conditions (paragraphs 34-35).

current ('baseline') state (NPSFM, clause 3.11 (2)). There are also proscribed 'national bottom lines' for many (though not all) attributes. No target attribute state can be set below the national bottom line[5] (NPSFM, clause 3.11(4)).

6.5 Dr Snelder says at paragraph 19 of his evidence that he is comfortable with the threshold values provided by the October 2019 JWS (which he has used in his mapping) because they *"generally adopted the national bottom-line or 'minimum acceptable state' to define the 'degraded' condition".*

6.6 In the absence of target attributes states being set, I agree that basing the thresholds for mapping on national bottom lines is an appropriate 'interim' approach to take for the mapping exercise. However, based on the assessment set out in Table 1 of Dr Depree's evidence it is not apparent to me that national bottom lines have been 'generally' used (quite simply because there are no national bottom lines for some of the parameters Dr Snelder has mapped).

6.7 Dr Depree sets out the thresholds used by Dr Snelder and the relationship of these to national bottom lines in his Table 1. I do note that Dr Depree's mapping of MCI has also not strictly used national bottom lines but adopts the more stringent threshold for upland rivers consistent with the recommendation in the Science JWS.

6.8 As discussed in my 4 February 2021 evidence, my understanding is that one of the key differences between the modelling approach of Dr Snelder versus that of Dr Depree is that Dr Snelder's mapping includes mapping those areas where DIN and DRP thresholds are modelled to be exceeded[6]. The reasons why Dr Depree did not use those parameters but focused instead on MCI are set out in Dr Depree's 4 February 2022 evidence and elaborated on further in his 22 February evidence. I understand these reasons centre on the acknowledged poor relationship in Southland

[5] Although some exceptions apply.

[6] The October 2019 Science JWS proposed DIN and DRP thresholds (which were carried over in to the November 2021 Science JWS recommendation). However, it is worth noting that the October 2019 JWS was prepared at a time when consideration was being given at the national level to including DIN as an attribute (with associated national bottom line) into what became the NPSFM. The explanation of the source of these thresholds noted in Table 1 of the October 2019 JWS referenced "Bottom of the B of MfE 2019". As stated by Dr Depree in his 20 December 2020 evidence (paragraph 4.11), subsequent to that the government advisory group recommended against the inclusion of DIN (and DRP) thresholds and the proposal for DIN was subsequently not included in the August 2020 NPSFM.

between DIN and DRP and the trophic conditions (periphyton) that the Council and community is concerned about from an ecological health perspective. I would simply add that the modelling of DIN and DRP exceedance relies on threshold numbers that have no formal status in planning terms and are not, as noted above, 'national bottom lines'.

6.9 Another key difference is that Dr Snelder has produced a single map when any one of the five attribute states (including four individual compliance statistics for *E.coli*) is modelled as exceeding the thresholds. I understand that is consistent with what he was asked to do. Dr Depree, on the other hand, has produced two maps one relating to the compulsory ecosystem health (based on MCI and estuarine trophic state) and the other human contact values (based on *E.coli*). In my opinion, having a separate map for each *value (ie. ecosystem health and human health)* but not each individual attribute, has merit because the two values are very different with ecosystem health not impacted by *E.coli* levels.

6.10 In that respect, I agree in part with Mr McCallum-Clark when he observes that (non-statutory) maps of individual contaminants could assist in the preparation of tailored FEMPs. I do, however, think that point can be taken too far because, from a practical perspective, the sorts of actions and mitigations required through FEMPs will very often have benefits across a range of diffuse contaminants as noted by Mr Duncan at paragraphs 112-116 of his 4 February evidence.

Which mapping approach should be used?

6.11 Dr Snelder, has very usefully provided a detailed explanation of what he did, why he did it and how it differs from Dr Depree's mapping approach. However, the question remains as to which map(s) should be included in the pSWLP.

6.12 Based on a comparison of Dr Snelder's "all indicators" map (Dr Snelder's Figure 4) with the combined effect of Dr Depree's MCI map (Dr Depree's Figure 6) and his *E.coli* map (Dr Depree's Figure 7) I see only one substantive difference. That is that Dr Snelder identified the the Upper Waiau catchment including that land west of Lakes Manapouri and Te Anau as degraded/in need of improvement. An analysis of Dr Snelder's maps indicates that area is 'triggered' because it is up stream of a segment of the lower Waiau river that is degraded for *E.coli*.

6.13 However, as Dr Snelder notes, the Upper Waiau is largely in natural state. While it can be argued (as Dr Snelder does) that it therefore does not matter that the area is identified as degraded as there is no 'land use', I prefer the approach of Dr Depree. Dr Depree sets out his reasons for why he does not consider it appropriate to include the Upper Waiau river catchment as degraded for *E.coli* (outside of the areas he has himself has identified) at paragraph 52 of his evidence. Based on that evidence and my own opinion that it would not be helpful to the general integrity of the plan to label these areas as degraded given they include a large area of the Fiordland National Park and other conservation land, I propose that that area be omitted from the 'catchments in need of improvement' map.

6.14 Based on the map comparison, I understand that the inclusion of nutrients in the mapping has no bearing on the total area mapped.

6.15 Dr Depree is clear that including nutrients in the mapping exercise at this time is not appropriate. I agree with him for the reasons already given.

6.16 In summary, I prefer to rely on the mapping based on attributes and thresholds that are specified in the NPSFM as national bottom lines and not on attributes and associated thresholds that are (in some cases at least) less certain, appear strongly contested and which will be a matter considered and resolved through the up-coming Plan Change Tuatahi. It seems to me unnecessary, and potentially inefficient, to risk pre-empting the setting of nutrient concentration and exceedance criteria for Plan Change Tuatahi when an alternative mapping approach exists that will generate the same planning benefit/outcome. Accordingly, I propose that Dr Depree's two maps included in his 20 December 2021 evidence (as updated in Dr Depree's 22 February 2022 evidence) be included within the pSWLP.

7. EVIDENCE OF MR FARRELL

7.1 In his 4 February 2022 evidence, Mr Farrell suggests that, although agreed in the Planning JWS, the addition to Part A of Appendix N to allow FEMPs to be based on those management plans required by industrial wastewater discharge consents is *"not appropriate or not required".*

7.2 I do not understand Mr Farrell's planning opposition to this additional clause. Inserting the clause poses no risk to the environment nor does it create any risk that the FEMPs associated with farming on land used for industrial wastewater disposal will be of lesser quality or stringency.

7.3 The change does, however, provide assurance that owners of land receiving industrial wastewater dischargers (for example, Fonterra), are not at risk of having to prepare *two* FEMPs for the same land – one in accordance with the conditions of its discharge consent and another under the Rule 20 of the pSWLP. In my opinion, that is a possible interpretation of the provisions in the absence of the addition of clause 3 to Part A of Appendix N.

7.4 In short, the amendment sought, and agreed to in planning conferencing, is a 'belts and braces' assurance that there need only be one comprehensive and 'Appendix N-compliant' FEMP for farming land receiving industrial wastewater discharges. In my opinion, that level of clarity and certainty is appropriate, particularly given the regional significance of industries such as Fonterra's Edendale manufacturing site.

7.5 I note that Mr McCallum-Clark continues to support the Planning JWS version of Appendix N that included the addition of clause 3 to Part A.

8. CONCLUSION

8.1 I support the version of the Topic B5 pSWLP provisions attached to Mr McCallum-Clark's 11 February evidence with the exception of the following matters:

(a) a minor correction required to Rule 35B;

(b) the term "ephemeral flow paths" should not be reintroduced into Rule 70(a); and

(c) The definition of high-risk winter grazing on pasture provides, in my opinion, insufficient certainty as a gateway to a new rule.

8.2 Although I note that there is little difference in planning outcome terms, I continue to prefer the maps of 'catchment of waterbodies in need for

improvement' produced by Dr Depree (as updated) over those maps prepared by Dr Snelder.

Gerard Matthew Willis

22 February 2022

ATTACHMENT 1 – PROPOSED AMENDMENTS

Text in red underscored font is used for the amendments shown by Mr McCallum-Clark in his 11 February evidence (these are relative to the agreed planning JWS version). I agree with all the amendments shown in red.

Text in blue underscored font is used for my proposed corrections and minor amendments to the version attached to Mr McCallum-Clark's 11 February evidence.

Note:

- this version replaces those versions attached to my 20 December and 4 February evidence in chief that contained several errors that have been corrected in the version below.
- the numbering used in Policy 16 has been corrected and differs from that shown in the Planning JWS (and from that used in the body of this evidence).

Policy 16

1. ~~Minimising~~ Avoid where practicable, or otherwise minimise, 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:

   ~~(a) discouraging the establishment of new dairy farming of cows or new intensive winter grazing in close proximity to Regionally Significant Wetlands and Sensitive Water bodies identified in Appendix A; and~~

   ~~(b) ensuring that, in the interim period prior to the development of freshwater objectives under Freshwater Management Unit processes, applications to establish new, or further intensify existing, dairy farming of cows or intensive winter grazing activities will generally not be granted where:~~
   ~~(i) the 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~~ or mitigated~~; or~~
   ~~(ii) existing water quality is already degraded to the point of being overallocated; or~~
   ~~(iii) water quality does not meet the Appendix E Water Quality Standards or bed sediments do not meet the Appendix C ANZECC sediment guidelines~~

   ~~(c) ensuring that, after the development of freshwater objectives under Freshwater Management Unit processes, applications to establish new, or further intensify existing, dairy farming of cows or intensive winter grazing activities:~~
   ~~(i) will generally not be granted where freshwater objectives are not being met; and~~
   ~~(ii) where freshwater objectives are being met, will generally not be granted unless the proposed activity (allowing for any offsetting effects) will maintain the overall quality of groundwater and water in lakes, rivers, artificial watercourses, modified watercourses, wetlands, tidal estuaries and salt marshes.~~

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

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

(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 Environment Management Plans prepared in accordance with (c) below and in addition

(b) ensuring that 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 microbial contaminant discharges; and

(ii) minimises nitrogen, phosphorus, sediment or microbial contaminant discharges; and

(iii) reduces nitrogen, phosphorus, sediment or microbial contaminant discharges where it ~~the farming activity~~ occurs in a ~~within the~~ catchment of a ~~degraded~~ waterbody that requires improvement identified in Appendix X; and

(iv) is avoided in close proximity to Regionally Significant Wetlands and Sensitive Water bodies identified in Appendix A; and

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

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

(1) identifies whether the farming activity is occurring, or would occur, in a catchment which contains a degraded waterbody identified in Schedule X;

(2) identifies and responds to the contaminant pathways (and variants) for the relevant Physiographic Zones;

(3) set 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 identified in Schedule X, reduced;

(4) is certified as meeting all relevant requirements of this plan and regulation prepared under Part 9A of the RMA; and

(5) is independently audited and reported on;

(ii) ~~actively manage~~ avoid where practicable, or otherwise minimise, 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

(iii) ~~manage~~ avoid where practicable, or otherwise minimise, 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.

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.

Minimise means to reduce to the smallest amount reasonably practicable

Rule 20A – Intensive winter grazing

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

(i) intensive winter grazing does not occur on more than 50ha or 10% of the area of the land holding, whichever is the greater; and

(ii) the slope of land that is used for intensive winter grazing must be 10 degrees or less; and

(iii) livestock must be kept at least:
   (1) 20 metres from the bed of any Regionally Significant Wetland or Sensitive Water Bodies listed in Appendix A, nohoanga listed in Appendix B, mātaitai reserve, taiāpure, estuary or the coastal marine area; and
   (2) 10 metres from the bed of any other river, lake, artificial watercourse (regardless of whether there is any water in it at the time), modified water course or natural wetland; and

(iv) critical source areas within the area being intensively winter grazed must:
   (1) be identified in the Farm Environmental Management Plan; and
   (2) have stock excluded from them; and
   (3) not be cultivated into forage crops for intensive winter grazing

(v) the land that is used for intensive winter grazing must be replanted as soon as practicable after livestock have grazed the land's annual forage crop; and

(vi) a Farm Environmental Management Plan for the landholding is prepared and implemented in accordance with Appendix N, that also includes a grazing plan that includes:
   (1) downslope grazing or a 20 metre 'last-bite' strip at the base of the slope; and
   (2) back fencing to prevent stock entering previously grazed areas; and
   (3) transportable water troughs; and

(vii) no intensive winter grazing occurs at an altitude greater than 800 metres above mean sea level; and

(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 and implemented in accordance with Appendix N; and

(ii) the area used for intensive winter grazing on the property is no greater than the average area used on the property for the five years prior to the application being made;

The Southland Regional Council will restrict its discretion to the following matters:

1. ~~the quality of and~~ compliance with Appendix N and the quality of the Farm Environmental Management Plan for the landholding;
2. whether the intensive winter grazing activity is being undertaken in a catchment of a waterbody that requires improvement identified in Schedule X, and if so, the mitigation actions to be implemented to improve water quality;
3. mitigation actions and good management practices to be undertaken, including those to minimise the discharge of nitrogen, phosphorus, sediment and microbiological contaminants to water from the use of land, taking into account contaminant loss pathways;
4. the potential benefits of the activity to the applicant, the community and the environment;
5. the potential effects of the farming activity on surface and groundwater quality and sources of drinking water;
6. monitoring and reporting undertaken to assess the effectiveness of any mitigation implemented.

(c) The use of land for intensive winter grazing that does not meet conditions of Rule 20A(b) is a non-complying activity.

(d) The use of land for intensive winter grazing that does not meet condition (vii) of Rule 20A(a) is a prohibited activity.

Rule 35A – Feed pads/lots

(a) The use of land for a feed pad/lot is a permitted activity provided the following conditions are met:

(i) ~~if accommodating cattle or deer, each feed pad/lot services no more than 120 adult cattle, or 250 adult deer, or equivalent numbers of young stock at any one time;~~

~~(ii) animals do not remain on the feed pad/lot for longer than three continuous months;~~

(iii) the feed pad/lot is not located:

(1) within 50 metres from the nearest sub-surface drain, lake, river ~~(excluding ephemeral rivers),~~ artificial watercourse, modified watercourse, natural wetland, or the coastal marine area ~~or another feed pad/lot on the same landholding~~; or

(2) within a microbial health protection zone of a drinking water supply site identified in Appendix J, or where no such zone is identified, then within 250 metres of the abstraction point of a drinking water supply site identified in Appendix J; or

(3) within 200 metres of a place of general assembly or dwelling not located on the same landholding, or

(4) within 20 metres of the boundary of any other landholding; or

(5) within a critical source area;

(iv) the feed pad/lot is constructed with:

(1) a sealed and impermeable base and any liquid animal effluent or stormwater containing animal effluent discharging from the feed pad/lot is collected in a sealed animal effluent storage system authorised under Rule 32B or Rule 32D; or

(2) a minimum depth of 500 millimetres of wood-based material (bark, sawdust or chip) across the base of the feed pad/lot; and

(v) any material scraped from the feed pad/lot, including solid animal effluent, is collected and if applied to land is applied in accordance with Rule 38; and

(vi) the overland flow of stormwater or surface runoff from surrounding land is prevented from entering the feed pad/lot.

(b) The use of land for a feed pad/lot that does not meet one or more of the conditions of Rule 35A(a) is a discretionary activity.

Rule 35B

(a) The use of land for a sacrifice paddock is a permitted activity provided the following conditions are met:

(i) animals do not remain on the ~~feed pad/lot~~ sacrifice paddock for longer than 60 days in any six month period;

(ii) the slope of land that is used for a sacrifice paddock must be 10 degrees or less; and

(iii) livestock must be kept at least 50 metres from:

(1) any nohoanga listed in Appendix B, mātaitai reserve, taiāpure, estuary or the coastal marine area; and

(2) the bed of any river, lake, artificial watercourse (regardless of whether there is any water in it at the time), modified water course or natural wetland; and

(iv) critical source areas within the area being used as a sacrifice paddock must:

(1) be identified in the Farm Environmental Management Plan; and

(2) have stock excluded from them; and

(v) the land that is used as a sacrifice paddock must be replanted as soon as practicable after livestock have been removed from the paddock; and

(vi) a Farm Environmental Management Plan for the landholding is prepared and implemented in accordance with Appendix N; and

(vii) no part of the sacrifice paddock is located on land with an altitude greater than 800 metres above mean sea level.

(b) The use of land for a sacrifice paddock that does not meet one or more of the conditions of Rule 35B(a) is a discretionary activity.

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 flow paths),~~ modified watercourse, or ~~natural wetland~~ by stock including cattle, deer, pigs or sheep is a prohibited activity.

(b) ~~From 1 July 2020,~~ The disturbance of the bed of a Regionally Significant Wetland or Sensitive Water Body listed in Appendix A by stock including cattle, deer, pigs or sheep is a prohibited activity.

(c) The disturbance of the bed of a river ~~(excluding ephemeral rivers where stock access is permitted under Rule 20(aa))~~ or modified watercourse for the purposes of moving stock including cattle, deer, pigs or sheep (but excluding dairy cattle on a dairy platform or on land used for dairy support) is a permitted activity provided the stock are being supervised and are actively driven across the water body in one continuous movement.

(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:

(i) the waterbody is not already fenced to prevent sheep access;

(ii) the sheep are not being break fed or intensively winter grazed;

(iii) there is no significant de-vegetation leading to exposure of soil of the bed and banks, pugging or alteration to the profile of the bed and banks, other than at fords or stock crossings; and

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

(cb) The use of land within a natural wetland or the disturbance of the bed of a water body within a natural wetland for access or grazing by stock is a non-complying activity.

(d) Bed disturbance activities that do not comply with Rule 70(c) are a non-complying activity.

(e) Other than as provided for by Rules 70(c) and 70(d), the disturbance of the bed of a lake, river ~~(excluding ephemeral rivers where stock access is permitted under Rule 20(aa))~~, modified watercourse or open drain ~~natural wetland~~, by cattle, deer or pigs is a permitted activity prior to the dates set out in Table 1 for the land having listed land slopes after which time it is respectively a discretionary activity on that land.

Table 1: Timetable for stock exclusion from water bodies

	Land slope (as classified by the LRI slope dataset)		
Farm/stock type	**Plains (0-3°)**	**Undulating/rolling land (>3-15°)**	**Steeper land (>15° and over)**
Dairy cattle (on dairy platforms) and pigs	All water bodies (including open drains) that are: • over 1 metre wide from 1 July 2017 on all slopes • less than 1 metre wide from 1 July 2020 on the plains and undulating/rolling land		
Dairy support ~~(on either land owned/leased by the dairy farmer or third party land)~~	All water bodies, and open drains from 1 July 2022	All water bodies, and open drains over 1 metre wide from 1 July 2022	All water bodies, and open drains where break feeding occurs from 1 July 2022

Beef cattle and deer	All water bodies (including open drains) from 1 July 2025	All water bodies (including open drains) over 1 metre wide from 1 July 2030, unless the average stocking rate on the land directly adjacent to the water body is less than 6 stock units per hectare
	All water bodies (including open drains) where break feeding or supplementary feeding occurs from 1 July 2022	

Appendix N – Farm Environment Management Plan Requirements

A Farm Environmental Management Plan must be:

(1) A Freshwater Farm Plan prepared, 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 and implemented in accordance with Parts A to C below.

Part A – Farm Environment Management Plans

A Farm Environment Management Plan (FEMP) can be based on ~~either of~~ any one of the following:

1. The ~~material~~ default content set out in Part B below; or

2. Industry prepared FEMP templates and guideline material, with Southland-specific supplementary ~~material~~ default content set out in Part B below; or

3. A management plan and nutrient budget prepared in accordance with a condition of resource consent to discharge industrial wastewater onto land that is also used for farming activity, provided it includes the material set out in Part B below in relation to each farm receiving industrial wastewater.

Part B – Farm Environmental Management Plan Default Content

1. ~~A written FEMP that is:~~
   - ~~(a) prepared and retained, identifying the matters set out in clauses 2 to 56 below; and~~
   - ~~(b) reviewed at least once every 12 months by the landholding owner or their agent and the outcome of the review documented; and~~
   - ~~(c) provided to the Southland Regional Council upon request.~~
2. The FEMP contains the following landholding details:
   - (a) physical address; and
   - (b) description of the landholding ownership and the owner's contact details; and
   - (c) legal description(s) of the landholding; and
   - (d) a list of all resource consents held for the landholding and their expiry dates.; and
   - (e) the type of farming activities being undertaken on the property, such as "dairy" or "sheep and beef with dairy support".
3. The FEMP contains a map(s) or aerial photograph(s) of the landholding at a scale that clearly shows the locations of:
   - (a) the boundaries; and
   - (b) the physiographic zones (and variants where applicable) and soil types (or Topoclimate South soil maps); and
   - (c) all lakes, rivers/streams (including intermittent rivers), springs, ponds, artificial watercourses, modified watercourses and natural wetlands; and
   - (d) all existing and proposed riparian vegetation and fences (or other stock exclusion methods) adjacent to waterbodies; and

(e) places where stock access or cross water bodies (including bridges, culverts and fords); and

(f) the location of all known subsurface drainage system(s) and the locations and depths of the drain outlets; and

(g) all land that may be cultivated and land to be cultivated over the next 12-month period; and

~~(h) all land that may be intensively winter grazed and the land to be planted for winter grazing for the next period 1 May to 30 September; and~~

(h) all critical source areas not already identified above; and

(i) ~~for~~ land to be:

(1) cultivated; or

(2) intensively winter grazed; or ~~or break fed on pasture between 1 June and 31 July~~,

(3) used to graze livestock on pasture in the period 1 May to 30 September where the pasture will provide less than 50% of the animals' diet

and the slope of the land used for any of the activities described in (1) to (3) above and intended setbacks from any lake, river, artificial watercourses, modified watercourse or natural wetland and any other critical source areas; and:

~~(i) critical source areas; and~~

~~(ii) Intended setbacks from any lake, river (excluding ephemeral or intermittent rivers), artificial watercourses, modified watercourse or natural wetland; and~~

~~(iii) land with a slope greater than degrees~~

(j) any areas of the land within a catchment of a waterbody that requires improvement identified in Schedule X; and

(k) any heritage site recorded in the relevant district plan, on the New Zealand Heritage List/Rārangi Kōrero or on the New Zealand Archaeological Association website; and

(l) the presence of taonga species listed in Appendix M within water bodies on the farm (if known); and

(m) other significant values and uses (if known) on nearby land and waters.

4. Nutrient Budget/Nutrient Loss Risk Assessment

For all landholdings over 20ha, the FEMP contains either:

(a) a nutrient budget (which includes nutrient losses to the environment) calculated, using a ~~the latest version of the OVERSEER model in accordance with the latest version of the OVERSEER Best Practice Data Input Standards (or an alternative~~ model ~~nutrient loss assessment tool~~ approved by the Chief Executive of Southland Regional Council); or

(b) a nutrient loss risk assessment undertaken using a nutrient loss risk assessment tool approved by the Chief Executive of Southland Regional Council);

and the Nutrient Budget or Nutrient Loss Risk Assessment is repeated: ~~which is repeated~~:

(~~a~~1) where a material change in land use associated with the farming activity occurs (including a change in crop area, crop rotation length, type of crops grown, stocking rate or stock type) at the end of the year in which the change occurs, and also every three years after the change occurs; and

(~~b~~2) each time the nutrient budget or nutrient loss risk assessment is repeated all the input data used to prepare it shall be reviewed by or on behalf of the landholding owner, for the purposes of ensuring the nutrient budget or nutrient loss risk assessment accurately reflects the farming system. A record of the input data review shall be kept by the landholding owner; and

(3) the nutrient budget or nutrient loss risk assessment must be prepared by a suitably qualified person that has been approved as such by the Chief Executive of Southland Regional Council.

5. Objectives of Farm Environmental Management Plans

A description of how each of the following objectives will, where relevant, be met:

(a) Irrigation system designs and installation: To ensure that all new irrigation systems and significant upgrades meet Industry best practice standards;

(b) Irrigation management: To ensure efficient on-farm water use that meets crop demands, including through upgrading existing systems to meet Industry best practice standards, and ensuring that water and contaminant losses to waterbodies are avoided where practicable or otherwise minimised;

(c) Nutrient and soil management: To avoid where practicable, or otherwise minimise, nutrient and sediment losses from farming activities to ground and surface water, to maintain or improve water quality;

(d) Waterways and wetland management: To manage activities within 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.

(e) Collected animal agricultural effluent management: To manage the operation of collected agricultural effluent in accordance with best industry practice, to ensure contaminants derived from collected agricultural effluent do not cause adverse effects on water quality.

(f) Drainage maintenance: To manage drainage maintenance activities to ensure contaminant losses to water bodies and damage to aquatic habitats are avoided where practicable, or otherwise minimised.

(g) Pasture-based wintering: To ensure that the grazing of animals on pasture over winter avoids damage to critical source areas and minimises both the period in which significant devegetation occurs and the risk of contaminant loss.

The FEMP must also identify additional objectives relevant to the farming activities and/or to address environmental risks associated with the land holding and the environment within which it is located.

6. The description for (5) above shall include, for each relevant objective in 5 above:

(a) an identification of the adverse environmental effects, and risks associated with the farming activities on the property, including, consideration of the risks associated with the relevant physiographic zone/s (and variants), and how the identified effects and risks will be managed and mitigated; and

(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

(c) defined mitigations that clearly set a pathway and timeframe for achievement of the objectives; and

(d) the records to be kept for demonstrating mitigations have been actioned and are achieving the objective; and

(e) identification of any specific mitigations required by a resource consent held for the property.

7. ~~If any Intensive Winter Grazing is occurring on the landholding,~~ The Farm Environmental Management Plan must ~~also~~ include a~~n intensive~~ winter grazing plan where:

(a) any Intensive Winter Grazing is occurring on the landholding; and/or
(b) land is used to graze livestock on pasture in the period 1 May to 30 September where the pasture will provide less than 50% of the animals' diet

The winter grazing plan must take~~s~~ into account and respond~~s~~ to the risk pathways for the relevant physiographic zones (and variants) and include good management practices that respond to the risks and effects identified in accordance with section 6 (a) above. In determining the mitigations to apply to grazing covered by the winter grazing plan that is not intensive winter grazing, particular regard must be had to the potential benefit of:

(a) Excluding critical source areas from grazing;
(b) Providing a minimum 5m setback from rivers, lakes artificial watercourse and wetlands;
(c) Resowing the pasture as soon as practicable after grazing (if required);
(d) The practices set out in Rule 20A (a) (vi).

~~6. Good Management Practices~~

~~The FEMP contains a good management practices section which identifies:~~

~~(a) the good management practices implemented since 3 June 2016; and~~

~~(b) the good management practices which will be undertaken over the coming 12-month period. These must include practices for:~~

~~(i) the reduction of sediment and nutrient losses from critical source areas, particularly those associated with overland flow;~~

~~(ii) cultivation (including practices such as contour ploughing, strip cultivation or direct drilling);~~

~~(iii) the use of land for intensive winter grazing (including those practices specified in Rule 20(a)(iii);~~

~~(iv) riparian areas (including those from which stock are excluded under Rule 70) and the type of riparian vegetation to be planted, how it will be maintained and how weeds will be controlled; and~~

~~(v) minimising of the discharge of contaminants to surface water or groundwater, with particular reference to the contaminant pathways identified for the landholding.~~

~~Examples of general good management practices are provided on the Southland Regional Council, DairyNZ and Beef and Lamb New Zealand websites and in the document titled "Industry-agreed Good Management Practices relating to water quality, Version 2, 18 September 2015".~~

Part C – Farm Environmental Management Plan Certification, Auditing, Review and Amendment

1. Farm Environmental Management Plan Certification

(a) The FEMP must be certified, prior to implementation on the farm, by a Suitably Qualified Person (SQP) that has been approved as such by the Chief Executive of Southland Regional Council.

(b) The purpose of FEMP certification is to confirm that the farming activities on the farm will be carried out in a way that will achieve the Objectives in this Appendix and will comply with any resource consent for the property.
(c) The FEMP must be re-certified, prior to implementation, following any amendments to the FEMP carried out in accordance with Part C(3)(a) of this appendix.
(d) Within one month of a FEMP being certified, a copy of the certified FEMP must be provided to the Southland Regional Council.

2. Auditing of the certified Farm Environmental Management Plan
(a) Within 12 months of the landholding's first FEMP being certified, the landholding owner must arrange for an audit of the farming activities' compliance with the certified FEMP. Thereafter, the frequency of auditing will be in accordance with any conditions of consents held for the landholding, or alternatively, where there are no consent or consent conditions requiring auditing, auditing timeframes associated with the audit grade assigned. *Note: Southland Regional Council will provide, on its website, a schedule of the auditing frequency required for FEMP's based on the audit grade assigned to each landholding.*
(b) The auditor must be a Suitably Qualified Person (SQP) that has been approved as such by the Chief Executive of Southland Regional Council and must not be the same person or from the same organisation that prepared the FEMP.
(c) The auditor must prepare an audit report that:
(i) sets out the auditor's findings;
(ii) stating whether compliance has been achieved and the final compliance grade; and
(iii) any other recommendations from the auditor.

(d) Within one month, of the final audit report being prepared, the audit report must be provided to the Southland Regional Council by the auditor.

3. Review and Amendment of the Farm Environmental Management Plan
The FEMP must be reviewed, by the landholding owner, or their agent, as follows:
(a) when there is a material change to the nature of the farming activities occurring on the landholding, and where that material change is not provided for within the landholding's certified FEMP; and
(b) at least once every 12 months; and
(c) to respond to the outcome of an audit.

The outcome of the review is to be documented and amendments to the FEMP must be made where Part C(3)(a) applies and in circumstances where the annual review identifies that amendments are required.

Glossary

~~**Ephemeral rivers**~~
~~Rivers which only contain flowing or standing water following rainfall events or extended periods of above average rainfall~~

Note, in addition to the above, incidental changes are required to remove the term 'ephemeral rivers' from the definitions of 'artificial watercourse' and 'modified watercourse' and from Objective 16, Policy 18, Rules 14, 40 and 59A and Appendix L.2.

Feed pad/lot
A fenced in or enclosed area located on production land used for feeding or loafing of cattle or deer to avoid damage to pasture when soils are saturated, and which can be located either indoors or outdoors. It includes ‘~~sacrifice paddocks~~’, wintering pads, stand-off pads, calving pads, loafing pads, and self-feed silage storage facilities.