

*Tabled @ Hearing
05.10.2016*

BEFORE THE HEARING COMMISSIONERS

IN THE MATTER of the Resource Management Act 1991

**AND IN THE
MATTER** of Proposed Plan Change 5 to the partly
operative Canterbury Land and Water
Regional Plan

**LEGAL SUBMISSIONS ON BEHALF OF THE ROYAL FOREST AND BIRD
PROTECTION SOCIETY OF NEW ZEALAND INCORPORATED**

5 October 2016

MAY IT PLEASE THE HEARINGS COMMISSIONERS

1. The critical issues for Forest & Bird in PC5 relate to the provisions regarding the protection of significant indigenous vegetation and significant habitats of indigenous fauna (significant indigenous biodiversity) and the water quality outcomes and limits for rivers. In relation to these matters:
 - a. Forest & Bird is very supportive of the provisions regarding the protection of significant indigenous biodiversity in the Upper Waitaki FMU.
 - b. Forest & Bird generally supports the freshwater outcomes for lakes (Table 15B(b) and limits but considers that some changes and additions are needed to the freshwater outcomes and the water quality limits for Waitaki Rivers as set out in Tables 15(a) and 15(c) to ensure that the limits properly provide for ecological health.
2. Forest & Bird relies on the evidence of Dr Adam Canning, called for the Lower Waitaki River Management Society. In particular, Forest & Bird, relies on his evidence that some of the freshwater outcomes and limits for rivers do not provide for ecological health.
3. These submissions start by addressing the critical issues for Forest & Bird and then address other provisions that Forest & Bird submitted on.

SIGNIFICANT INDIGENOUS BIODIVERSITY

4. Policy 15B.4.23 provides a degree of protection to significant indigenous vegetation and significant habitats of indigenous fauna in the Upper Waitaki FMU. This policy is supported by related provisions in the rules, in particular condition 1 and restricted discretionary matter 11 of Rule 15B.5.20.
5. Forest & Bird is very supportive of these provisions on the basis that:
 - a. there has been significant biodiversity loss in the Upper Waitaki FMU, primarily as a result of land use change, in particular land intensification associated with agriculture;
 - b. The RPS seeks to halt the decline of biodiversity and gives direction that this is to be achieved through the identification and protection of sites that meet the criteria set out in the RPS.

6. At the current time the Mackenzie and Waitaki District plan provisions are inadequate and do not give effect to the RPS. They do not provide for the identification and protection of significant indigenous biodiversity. This is despite the RPS becoming operative in January 2013, getting on for four years ago.
7. Policy 15B.4.23 recognises both the loss and the RPS requirements that significant sites are protected.
8. The Regional Council can include land use rules in its plans aimed at protecting significant sites. This is the clear finding from *Property Rights in New Zealand Inc v Manawatu-Wanganui RC*.¹
9. The RPS anticipates that the District Councils “will” manage the effect of land use on indigenous biodiversity. However, it is submitted that the RPS does not prevent the Regional Council from including Policy 15B.4.23. The language used by the RPS is not exhaustive. The RPS says what Councils “will” do and what they “should” do. However, it does not say what Councils can not do.
10. It is submitted that the RPS is clear that significant indigenous vegetation and significant habitats of indigenous fauna should be identified in accordance with the RPS criteria and protected. While the RPS anticipates that the District Council will take the lead, it does not prevent the Regional Council from doing so, particularly in the circumstances where the District Plans have failed to give effect to their responsibilities over a prolonged period.
11. These provisions are an interim measure only and will only be in place until such time as district plan provisions are notified and take effect. It is anticipated that the new plans will give effect to the RPS and PC5 provisions will no longer be necessary.
12. They should remain in PC5.

WATER QUALITY OUTCOMES – TABLES 15B(a)-(g)

13. Forest & Bird considers that PC5 should provide for ecological health in the waterbodies in the area. Water quality in the Waitaki catchment is not perfect and there are some areas that are over allocated. However, the challenges are much

¹ [2012] NZHC 272

less significant than those facing other parts of Canterbury, particularly on the Plains, which are overallocation is common and serious.

14. Forest & Bird supports the tables overall on the basis that they generally provide for ecological health. There are some areas where amendments are proposed to better to clarify and/or provide for ecological health.

15. The particular issues in the tables are discussed below.

NPSFM “covering the field”

16. Forest & Bird disagrees with the section 42A report conclusion that the NPSFM does not cover the field.²

17. The section 42A report position can be summarised as:

1.36 In terms of whether the NPSFM 2014 “covers the field”, unlike the NZCPS (which includes a range of enabling policies, for example Policy 6) the NPSFM is not concerned with enabling activities that require water. This is left to other policy statements (notably the National Policy Statement for Renewable Electricity Generation 2010), and other superior documents such as the RPS. In this case, it is submitted that the NPSFM does not “cover the field”.

18. It is submitted that this is not correct. The NPSFM covers the field with respect to freshwater management and must be given effect to in the development of PC5. The argument that the NPSFM is “not concerned with enabling activities that require water” is not correct.

19. The Section 32 Evaluation for the NPSFM 2011 fully considered economic matters. Economic matters were one of the considerations about whether proposed objectives would meet the purpose of the Act.³ In addition the evaluation of whether the policies would meet the purpose:⁴

The evaluation of the proposed policies required an assessment of their appropriateness in achieving the objectives. The terms used in the Act are efficiency and effectiveness.

² AS set out in Appendix B

³ 4.2

⁴ 4.3

- *Efficiency refers to the costs and benefits associated with the policy. An efficient policy is one where the benefits are greater than the costs.*
- *Effectiveness means how successful the proposed policy would likely be in achieving the objective.*

20. The *Summary of Board of Inquiry Recommendations and Minister for the Environment's Decision* and the preamble to the NPSFM, support that economic matters were fully considered in development of the NPSFM.
21. The NPSFM sets out a framework for freshwater management, with greater detail to be provided by regional policy statements and plans. It requires that freshwater objectives and limits are set and enforced. Activities are enabled so long as they do not breach the objectives and limits. A good example of this occurs in the Haldon Zone. Land use activities are enabled provided that the 1.6 kg n/ha/year is not breached in the interim and the Upper Waitaki Nitrogen Headroom is not breached when the plan becomes operative.
22. The argument that somehow the NPSFM does not provide for economic well being of communities should not be accepted. The NPSFM provides for economic well being in much the same way as the NZCPS. Activities in the coastal environment are enabled so long as they do not conflict with directive policies of the NZCPS, such as Policy 11 which requires certain adverse effects on indigenous vegetation are avoided. Activities that impact on freshwater are enabled so long as the freshwater objectives and limits are achieved.

Scope

23. The changes sought to Table 15B(a) are set out in Appendix 1. Appendix 1 identifies changes from the section 42A recommendations. It is submitted that the changes sought to Table 15B(a):
- a. Related to chlorophyll a, are within the scope of Forest & Bird's submission;
 - b. Cyanobacteria are within the scope of the Canterbury District Health Board submission.
24. The changes recommended by the section 42A report are based on the Fish and Game submission, which was supported by Forest & Bird.

25. In relation to Table 15B(c), Forest & Bird's submission expressly sought limits that were as restrictive as, or more restrictive than those recommended by Dr Canning for the:

- a. Upper Waitaki – Spring Fed Upland - Willowburn Quailburn Rd: map reference 1359156 5072727;
- b. Valley and Tributaries - Spring fed plains - Penticotico Stream: map reference 1413126 5034783;
- c. Northern Fan - Spring fed plains - Whitneys Creek: map reference 1451757 5026547; and
- d. Northern Fan - Spring fed plains -Waikākahi Stream at Te Rd: map reference 1449636 5024541.

26. It is submitted that the remaining changes to the tables that were sought by Forest & Bird are based on the submission that PC5 needs to provide for ecological health.

27. Forest & Bird respectfully disagrees with the approach to scope that the Commissioners adopted in Variation 1 and Variation 4. Forest & Bird considers that the approach adopted has been unduly narrow and inconsistent with case law. In particular, Forest & Bird's concern is that the Commissioners:

- a. have placed too much emphasis on the requirement to provide specific details of the relief sought in the submission; and
- b. have taken an unduly narrow approach in determining the relevant part of the submission upon which scope is determined;
- c. given too much weight to the question of whether other people are prejudiced, particularly with respect to technical matters.

28. Forest & Bird's High Court appeal on Variation 4 directly raises these issues. This has not yet been heard by the High Court.

29. It is anticipated that the Commissioners will take a similar approach to scope in PC5. In these circumstances, counsel does not propose to repeat submissions that have already been considered by the Commissioners.

Table 15B(a)

Temperature and Dissolved Oxygen

30. The section 42A report recommended changes to:
- a. dissolved oxygen, changing it from 70% to 80% in spring fed plains rivers in the valley and tributaries catchments;
 - b. temperature from 20° to 19° in all rivers.

31. Forest & Bird supports these changes.

Chlorophyll a

32. Forest & Bird, along with Fish and Game and Lower Waitaki River Management Society, sought that chlorophyll a not be set above 120 mg chl-a/m² for hill fed lower rivers (Willowburn and Omarama Streams) and lake fed rivers, including the Tekapo River, in the Upper Waitaki FMU.

33. This was not accepted by the section 42A report on the basis that it might not be achievable.

The lake fed rivers of the upper Waitaki, especially the Tekapo River, contain both diatomaceous and filamentous algal growths but are dominated by Didymo a diatomaceous growth that may form very thick mats (>40 mm depth). Accordingly, we would consider 120 mg/l chl a is an unrealistic aspiration for the Tekapo River. The hill fed lower rivers in the Upper Waitaki FMU are the Willow Burn and Lower Omarama Stream. However, both of these waterways are in fact primarily fed by upwelling groundwater and have a tendency to grow considerable biomass of macrophytes as well as periphyton. As a result we do not consider that a concentration of 120 mg/l chl a would be appropriate for the hill-fed lower rivers in the Upper Waitaki FMU.

34. Dr Canning responded that the reason that 120 mg chl-a/m² is appropriate and necessary to achieve ecological health. Dr Canning is of the view that the high chlorophyll a levels in the Tekapo River and the Willowburn and Omarama Streams are caused by human activities and that these can be managed.

In summary, the potentially high chlorophyll a levels in the areas mentioned by the in the Section 42A report are likely to be caused or exacerbated by anthropogenic alterations. More importantly, all of these impacts can be managed to reduce periphyton biomass and improve the likelihood of achieving the desired biomass levels I recommend as being integrally necessary to achieve ecosystem health.

35. It is submitted that 120 mg chl-a/m² should be adopted for hill fed lowland rivers and lake fed rivers in the Upper Waitaki FMU. This limit would not be appropriate if it could not be achieved due to natural factors. However, the section 42A report recommends different limits based on the difficulty in achieving the outcomes, which appropriately provide for ecological health. It is submitted that the difficulty in achieving the ecological health outcomes should not prevent limits providing for ecological health being imposed.

36. This is particularly appropriate with respect to the Willowburn. The ZIPA recommends a whole of catchment rehabilitation is consistent with a successful.⁵

12.27 For the Willowburn, a whole of catchment rehabilitation programme is recommended to improve the ecosystem health of the stream. This includes: identification and management of critical source areas for nutrients, stream blocking willow removal, and enhancement of the nohoanga area.

37. Having outcomes set at ecological health gives recognition to ZIPA and the importance of implementing this rehabilitation programme. It will also give a good indication of how successful the catchment rehabilitation scheme has been.

38. Dr Canning has also recommended additional outcomes be included to ensure that ecological health is achieved. These include:

- a. Fish Index of Biotic Integrity;
- b. Maximum dissolved saturation;
- c. Minimum dissolved oxygen; and
- d. Proportion of the catchment with naturalised riparian margin.

39. Forest & Bird supports the inclusion of these attributes for reasons set out in Dr Canning's evidence.

Table 15B(c)

40. There is an issue with the Table 15B(c). In particular, the limits in Table 15B(c) are not set appropriately to meet the freshwater outcomes in Table 15B(a). This was addressed by Dr Canning as follows.

⁵ Section 42A report

50 For the nutrient concentrations to be aligned with (and approximately achieve) the proposed QMCI outcomes in Table 15(a):

- The hill-fed upper sites DIN concentration should range between 0.02mg/L and 0.167mg/L, and DRP between 0.005 mg/L and 0.09mg/L.
- The hill-fed lower sites DIN concentration should range between 0.02mg/L and 0.444mg/L, and DRP between 0.005mg/L and 0.09 mg/L.
- The plains sites DIN concentration should range between 0.21mg/L and 0.63mg/L, and DRP between 0.009 and 0.012.

41. As a result Dr Canning recommended that changes be made to the nitrate-nitrogen concentrations in Table 15(c) to ensure they were set at a level that corresponds with the outcomes 15B(a). The changes sought were attached to his supplementary evidence.

42. There will be a disconnect between the Table 15B(a) and 15B(c). It is submitted that this inconsistency needs to be addressed one way or the other. If the inconsistency is not addressed, the plan will then lack internal coherence.

43. It is submitted that it would not be appropriate to amend the Table 15B(a) such that the limits did not provide for ecological health. This would be contrary to the objectives and policies of the NPSFM, particularly Objective A1 and Policy A1. The amendments should be made to Table 15(c) as recommended by Dr Canning.

Table 15B(b), (d) and (f)

44. Forest & Bird supports the contents of these tables as recommended by the section 42A report except insofar as the recalculation of water quality in the rivers referred to in paragraph 50 of Dr Canning's evidence is undertaken in accordance with paragraph 51 of his evidence.

POLICIES AND RULES

45. Forest & Bird's generally supports the policies and rules. The underlying approach is supported. The desired freshwater outcomes are identified, this is linked to catchment loads, the available headroom that that ensures these outcomes are

met is calculated and then allocated that across the FMU using rules to ensure that the headroom is not exceeded.

46. Forest & Bird's key concern is ensuring that this approach works in practise and that the uncertainty associated with modelling the dynamic and complex ecosystems of the Waitaki is properly provided for. If this modelling is inaccurate, then the freshwater outcomes may not be achieved.
47. There are two areas where this concern can be shown:
 - a. The modelling of catchment loads and headroom to avoid overallocation;
 - b. The use of OVERSEER to model on farm loads.

Modelling of catchment loads and headroom

48. The uncertainty in the modelling is apparent in the proposed developments at High Country Rosehips Orchards Limited and Rosehips Orchards New Zealand Limited (Rosehips) in the Haldon Zone. The water permits for irrigation on this were declined and appealed. Forest & Bird is a party. These applications and appeals are referred to in Appendix G to the section 42A report.⁶
49. Appendix G indicates that the unirrigated land will leach about 2kg N/ha/year and that after irrigation this will increase to 21 kg N/ha/year, resulting in an increase of 22 tonnes N/year at source.⁷

In total, the two proposals potentially increase the nitrogen load to the Haldon Zone by approximately 22 tonnes nitrogen/year (at source). The nitrogen 'headroom' in the Haldon Zone is 275 tonnes nitrogen for agriculture (at source). The result of granting these consents would be that the zone may become over-allocated if the interim rules remained in place. If the consents are granted and it was considered that land use managed under these consents should be classified as permitted activity in PC5, the PC5 headroom would need to be recalculated, resulting in a reduction of approximately 8%, and subsequent reduction of the allocation available on a per hectare basis. This exercise would ensure that once the re-allocation of nitrogen were undertaken, the Haldon Zone would no longer be over-allocated.

⁶ Page 88

⁷ Page 89 of Appendix G, 12 tonnes for Rosehips Orchards New Zealand Limited and 9.5 tonnes for High Country Rosehips Orchards Limited.

50. An issue would arise if intensification occurred at Rosehips that had not been considered in Appendix G. The effect of this is that the “*about 2kg N/ha/year*” figure used for unirrigated land may not be accurate.
51. An issue would arise if the 2kg N/ha/year underestimated the amount of N losses that have occurred on the site. The problem would arise if the higher level of N losses:
- a. were not taken into account in the determining the existing catchment load;
 - b. formed a baseline that provided for the increased level of N losses.
52. A possible consequence would be an inadvertent overallocation in the Haldon Zone.

Uncertainty in OVERSEER

53. There are significant inherent uncertainties in OVERSEER. The Board of Enquiry for the Tukituki referred to this as being +/- 30%.

[465] Nutrient Budgets will be required for all properties, with the nutrient losses being modelled using Overseer or an alternative model approved by HBRC (unless the nutrient losses are measured). Some submitters questioned the use and validity of Overseer given the acknowledged +/- 30% prediction error associated with the various versions of the model. However, Overseer was acknowledged by all of the experts in the farm management field to be the best tool currently available to predict nutrient losses at the farm scale level (particularly where the model applies the same parameters to pre and post intensification scenarios so that the relative change so that relative change can be ascertained).

54. While Forest & Bird does not dispute that OVERSEER is the best tool currently available to predict N losses, it is clear that the levels of uncertainty in OVERSEER are such that care has to be taken to ensure that these uncertainties do not inadvertently result in overallocation.

Implications for PC5

55. Given these uncertainties it is critical that PC5:
- a. adopts a precautionary approach to the setting of load limits;

- b. uses prohibited activities to avoid cumulative effects that may arise from numerous small breaches of the headroom;
- c. has strong policies that ensure that reductions in N losses are required where the freshwater outcomes or limits are not met.

56. In relation to these matters, Forest & Bird supports:

- a. The section 32 report, which indicates that the limits Haldon and Mid Catchment Zone were set at a precautionary level.⁸

“The Haldon Zone and the Mid Catchment Zone limits include an amount of ‘headroom’. This is the amount of nitrogen loss above the current and consented load. The headroom is estimated to provide for further development while applying a precautionary approach to managing the zones within their current state(oligotrophic)’

- b. Strong policies that restrict nitrogen losses such as 15B.4.20 (a) and (b).
- c. The use of prohibited activity status for activities that will result in a breach of the headroom;
- d. Policies which provide that all consent will have monitoring and response conditions that link back to the water quality limits.

Freshwater management units, Community wastewater and industrial discharges and aquaculture (Policies 15.4.5- 9)

57. Forest & Bird submitted on these provisions. Forest & Bird is satisfied that the matters it has raised are appropriately addressed in the section 42A report and would be satisfied if these recommendations were adopted.

Nutrient management

58. Forest & Bird submitted on:

- a. 15B.4.10, seeking that the addition of the requirement to meet water quality limits; and
- b. 15B.4.16, seeking the addition of aquaculture.

59. The amendment to 15B.4.16 has been recommended by the 42A report writer and the amendment sought to 15.4.10 partially recommended. Forest & Bird sought

⁸ 13-6

that the addition of a reference to all water quality limits in 15.7 be included in Policy 15.4.10. The section 42A report recommends that reference be made to 15B(c), (d) and (e).

60. Forest & Bird seek that the reference to 15.7 be included as per its submission. This is particularly the case with respect to Table 15B(f), which contains the catchment load limits. The rules framework is geared around ensuring that the load limits in Table 15B(f) are not breached. This is done to ensure that the other limits and targets are met.
61. Given the central role that Table 15B(f) plays in ensuring the freshwater outcomes are met, it is submitted that it is appropriate to have a policy foundation for achieving the limits in 15B(f). The relief sought in Forest & Bird's original submission should be adopted.

Freshwater Management Unit Policies

62. Forest & Bird generally supports the policies related to the FMUs.
63. In the FMU's that are not overallocated, framework which provides for:
- a. the setting of an amount of headroom that ensures the water quality limit are not be exceeded;
 - b. allocating that headroom across the FMU, equally or on a first come first served basis; and
 - c. restricting increases to within that headroom.
 - d. in the case of the Upper Waitaki FMU, all resource consents containing conditions that provide that steps can be taken to address the situation where the outcomes and limits in 15.7 are not met.⁹
64. It is submitted that the conditions of this nature are critical to ensuring that the outcomes and limits are achieved on an ongoing basis. This is important as there are a number of uncertainties discussed above. Many consents in the Upper Waitaki contain conditions of this nature.
65. In the overallocated zones, including the Ahuriri and Upper Waitaki Hill Zone, Forest & Bird considers that it is important that there are reductions in N losses that mean the zones are no longer over allocated.

⁹ Policy 15.4.20(d)

RULES

66. Forest & Bird is generally supportive of the rules framework. It is critical that the load limits set out in Table 15B(f) are strictly enforced and not subject to cumulative effects as a result of multiple minor breaches of the headroom.
67. Forest & Bird is supportive of the use of prohibited activity status to prevent activities that load limits set out in Table 15B(f) will not be breached.

CONCLUSION

68. Forest & Bird is supportive of many aspects of PC5.
69. The provisions providing for added protection of significant indigenous vegetation and significant habitat of indigenous fauna fill an important gap resulting from inadequate district plan provisions.
70. The freshwater objectives and limits and the planning framework, which includes a precautionary approach to the setting of load limits, the use of prohibited activities to avoid cumulative effects, and strong policies that ensure that reductions in N losses are required where the freshwater outcomes or limits are not met.
71. That said, there are inconsistencies that need to be addressed.

Dated: 5 October 2016



Peter Anderson
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Forest + Bird

Appendix A Changes sought to Table 15B(a) - Freshwater Outcomes for Waitaki Rivers to be achieved by 2030

Freshwater Management Unit	River Type	Ecological Health Attributes					Macrophyte Attributes		Periphyton Attributes		Riparian attribute	Siltation Attribute	Human Health for Recreation Attributes			Tangata Whenua values									
		QMCI (min score)	Fish IBI (min score) ¹	Dissolved oxygen (min/max ¹ saturation [%])	Dissolved oxygen (minimum [mg/l]) ¹	Temp. (Max) [degrees C] ²	Emergent macrophytes [max cover of bed] [%]	Total macrophytes [max cover of bed] [%]	Chlorophyll a [mg chl-a/m ²]	Filamentous Algae >20mm [max cover of bed]	Proportion of catchment with naturalised riparian on either side at least 10m wide (%) ¹	Fine sediment <2mm diameter [max cover of bed] [%]	Cyano-bacteria mat cover [%]	SFR G	E.Coli [E.coli/100ml]										
Natural state		Rivers are maintained in a natural state																							
Upper Waitaki	Alpine-upland	6	35	90/110	8	19	No Values Set	No Values Set	50	10	80	10	20 ³	Good	<260	<260	Freshwater mahinga kai species sufficiently abundant for customary gathering, water quality is suitable for their safe harvesting, and they are safe to eat								
	Hill-fed upland																	15							
	Hill-fed lower																		200/120 ⁴	30	Good to Fair	<540			
	Lake-fed																		20	30			50	10	10
	Spring-fed upland																								
Valley and Tributaries	Hill fed lower	5	80/110	No Values Set	No Values Set	200/120 ⁴	30	15	Good to Fair	<540															
Lake fed	20										50	No value set													
Spring fed plains																									
Hakataramea	Hill fed lower	6	90/110	No Values Set	No Values Set	15	Good to fair																		
	Spring fed lower basin							30	30	10	Fair														
Northern Fan Catchment	Hill-fed lower	6	80/110	No Values Set	No Values Set	15	Good to fair																		
	Spring-fed plains							30	50	20	No value set														

¹ Within scope of Forest & Bird submission seeking ecological health outcomes
² Fish and Game submission (accepted by section 42A report)
³ Canterbury District Health Board submission Pt 33
⁴ Expressly sought by Forest & Bird submission