IN THE MATTER	the Resource Management Act 1991
AND	
IN THE MATTERS OF	60 applications for water permits, 30 applications for land use permits and 20 applications for discharge permits in the upper Waitaki catchment

---

STATEMENT OF EVIDENCE OF ANNA CAMERON ON BEHALF OF THE ROYAL FOREST AND BIRD SOCIETY OF NEW ZEALAND INC.

Dated: 01 December 2009

Kenton Chambers
190-192 Hereford Street
PO Box 2516
Christchurch 8140
Tel +64 3 366 4190
Fax +64 3 365 0788

INTRODUCTION

1. My name is Anna Cameron and I am presenting planning evidence today on behalf of the Royal Forest and Bird Protection Society of New Zealand Incorporated (the Society) in opposition to the 60 applications for water permits, 30 applications for land use permits and 20 applications for discharge permits in the upper Waitaki catchment.

2. I hold a Masters degree in Regional Resource Planning from the University of Otago. I have fours years experience practicing in resource management planning and I am a graduate member of the New Zealand Planning Institute.

3. My planning background has included resource consent development, consents analysis and policy planning. Currently I am employed as a planner with the Society's Central Branch.

4. I have read the Environment Court's Code of Conduct for Expert Witnesses and I agree to comply with it. My qualifications are set out above. I can confirm that the issues addressed in this brief of evidence are within my area of expertise.

5. I have not omitted to consider facts known to me that might alter or detract from the opinions expressed.

SCOPE OF EVIDENCE

6. In September 2007 the Society's Central Branch lodged a single submission with Environment Canterbury (ECan) opposing the 161 applications seeking consent to develop water resources in the upper Waitaki Catchment[1]. A number of those consent applications have now been withdrawn subsequent to this hearing process. Therefore I will address the remaining 110[2] live consent applications.

[1] The South Canterbury Branch of Forest and Bird lodged submissions opposing the proposed developed by Lone Star Farms Ltd, Glentanner Station Ltd, Simons Pass Station Ltd and Simons Hill Station Ltd. The Central Branch of the Society has adopted these submissions.

[2] Section 42A Officers Report: Report 1 – Introductory Report

7. This evidence addresses planning-related issues with regard to the potential adverse in-stream effects that the consents application could have on the upper Waitaki tributaries, wetlands, groundwater, springs, lakes and the ecosystem that they support.

8. My evidence will address the following:
   - Resource management issues
   - Planning framework
   - Further consenting requirements
   - Farm Environmental Management Plans (FEMP)
   - Considerations under the Resource Management Act

RESOURCE MANAGEMENT ISSUES

9. Over the past five years the land use patterns and activities in the upper Waitaki have been changing rapidly. Until recently the upper Waitaki was predominantly characterised by dry land sheep and beef farming. Currently we are experiencing a dramatic shift in the land use practices to dairy cows and winter feed crops. With the development of new technologies and methods land that was once thought to be marginal is now being developed into intensive farming operations. The intensification of the upper Waitaki is reliant on the availability of water and consequently the issuing and the renewal of the subject resource consent applications.

10. The water quality in the mid to upper parts of mountain-sourced rivers and lakes are essentially in their natural state. This natural state is being threatened by land intensification[3]. Adverse effects on water quality and quantity directly affect the health of instream ecosystems.

11. Non-statutory national strategies and policies prepared by the Central Government, such as the New Zealand Biodiversity Strategy aims to assist Councils to perform their functions to maintain indigenous biological diversity and maintain and enhance ecosystems in water bodies.

[3] Proposed Canterbury Natural Resource Regional Plan, Chapter 4 – Water Quality (July 2004)

NEW ZEALAND BIODIVERSITY STRATEGY

12. Regional Councils have the responsibility to maintain and enhance ecosystems in water bodies (RMA s.30(1)(iiic)) and to implement objectives, policies and methods for maintaining indigenous biological diversity (RMA s.30(1)(ga)).

13. The New Zealand Biodiversity Strategy (Strategy) and the New Zealand Statement of National Priorities are intended to help inform local authorities about biodiversity issues and to understand the national context within which the region sits. The significance of native biodiversity in the region may not be apparent until it is considered against the full range of New Zealand's biodiversity.

14. The Strategy contains a set of goals that seek change in the way biodiversity is managed.

    Goal Three: Halt the decline in New Zealand's indigenous biodiversity

    Maintain and restore a full range of remaining natural habitats and ecosystems to a healthy functioning state, enhance critically scarce habitats, and sustain the more modified ecosystems in production and urban environments, and do what else is necessary to maintain and restore viable populations of all indigenous species and subspecies across their natural range and maintain their genetic diversity.

15. Goal three is aimed at halting the decline of indigenous biodiversity. Halting the decline is described in supporting documents as the bottom line nationally. Management actions should identify and prevent and mitigate the causes of biodiversity loss. The Strategy also recognises that communities may wish to set higher targets for particular systems within their regions. The Strategy contributes to the sustainable management outcome by recognising there may be sustainable use of the component parts, but not where they may result in long term decline.

STATEMENT OF NATIONAL PRIORITIES FOR THE PROTECTION OF RARE AND THREATENED NATIVE BIODIVERSITY ON PRIVATE LAND

16. The Statement of National Priorities is one of the tools to help achieve the goal of halting the decline in native biodiversity by 2020.

17. Recognising that many local authorities already have programmes in place to promote the protection of biological diversity, the Strategies work programme includes non-statutory guidance. The Statement of National Priorities is part of that work programme. The Statement provides a national perspective which Councils can use in their planning and decision making. The Statement focuses on where the need is greatest, but does not detract from the need to manage remaining less threatened ecosystems.

18. The statement of national priorities consists of four priorities. They are as follows:

    National Priority 1:

    To protect native vegetation associated with land environments, (defined by Land Environments of New Zealand at Level IV), that have 20 percent or less remaining in native cover.

    National Priority 2:

    To protect native vegetation associated with sand dunes and wetlands, ecosystem types that have become uncommon due to human activity.

    National Priority 3:

    To protect native vegetation associated with 'originally rare' terrestrial ecosystem types not already covered by priorities 1 and 2.

    National Priority 4:

    To protect habitats of acutely and chronically threatened native species.

19. The policy intent behind National Priority 1 and 2 is not to reduce environments to the point where only 20% is remaining, but to halt the decline and to retain and restore that which remains. I understand that this includes action at the local level to achieve national objectives.

A BIODIVERSITY STRATEGY FOR THE CANTERBURY REGION

20. February 2008 Environment Canterbury and 18 other Councils, government departments, non-government organisations and companies adopted the Canterbury Biodiversity Strategy. The vision of this statement is to sustain and enhance the biodiversity of the Canterbury Region. The purpose of the strategy is to provide guidance and a common focus for policy and decision making, resource allocation, and on the ground initiatives relating to biodiversity management in the region.

21. The Strategy identifies that the intermontane basins provide important indigenous habitat and that the iconic landscapes are an important feature of Canterbury's biodiversity.

22. The Strategy acknowledges that an increasing priority in Canterbury is the inland hill country and intermontane basin environments. As a result of the Land Tenure Review process and the development of irrigation potential at increasingly higher altitudes, parts of these environments are currently undergoing some of the most rapid changes in land use within the region[4]. This dramatic land use change coupled with the low level of protection within these environments, means enormous pressure is being placed on the remaining indigenous habitats and ecosystems. As a result there is a real threat that the biodiversity in the hill country will continue to be degraded and lost.

23. The Strategy is a non-binding non-statutory document. However Environment Canterbury has adopted the strategy, and in doing so has acknowledged the importance of biodiversity and their role in sustaining it.

PLANNING FRAMEWORK

Canterbury Regional Policy Statement

24. The Canterbury Regional Policy Statement (RPS) has a number of objectives and policies that address issues associated with the use and development of water resources in the upper Waitaki. While a number of other chapters are of relevance, I will focus on Chapter 8: Landscape, Ecology and Heritage; Chapter 9: Water; and Chapter 10: Beds of Rivers and Lakes and their Margins.

25. Among others, Issue 1 of Chapter 8 addresses the adverse effects associated with use and development on the health of wetlands; the natural character of wetlands, lakes, rivers and their margins; natural features and landscapes; and indigenous vegetation habitats of indigenous fauna and ecosystems.

[4] A Biodiversity Strategy for the Canterbury Region (2008), pp. 29

26. Objective 1, 2 and 3 seek the protection and enhancement of wetlands; natural features and landscapes; and indigenous biodiversity and ecosystem functioning. The supporting policies state that adverse effects to these elements of the environment should be avoided, remedied or mitigated. Where natural features and landscapes, indigenous vegetation and habitats of indigenous fauna meet the regional significance criteria[5] they should be protected from the adverse effects of use and development.

27. In the introduction to Chapter 9: Water, the RPS states 'high water quality of the upper catchments, high country lakes and braided rivers is a valuable feature of Canterbury'[6] .Chapter 9 seeks a progressive improvement in water quality and identifies that there is concern regarding the water quality in Lake Alexandrina due to nutrient inputs.

28. The issues outline the concerns of competing demands on water resources and the effects that land uses have on water quality. Objectives 1 and 2 relate to ensuring that there is sufficient water in the water bodies for present and future generations while safeguarding the natural values of those water bodies. The policies mirror the intentions of the objectives.

29. Chapter 10 addresses the beds of rivers and lakes and their margins. Generally this chapter addresses land use activities within water bodies, their beds and margins and the effect that these activities have on the functionality of those systems. This chapter puts in place a policy framework that seeks to protect, among others, the natural character, significant habitats of indigenous flora and fauna and significant natural features and landscapes.

Canterbury Transitional Regional Plan

30. The Waitaki Catchment Water Allocation Regional Plan (Waitaki Plan) and the Proposed Natural Resource Regional Plan (NRRP) create a framework for the management of water resources within the Waitaki Catchment. The Canterbury Transitional Regional Plan (TRP) remains as an operative document but has largely been superseded by the Waitaki Plan and the NRRP with respect to these proceedings.

[5] Regional Significance Criteria, Canterbury Regional Policy Statement, Chapter 20.4, pp.287-288
[6] Canterbury Regional Policy Statement (1998) pp.121

31. The TRP contains no objectives or policies but includes a General Authorisation for discharges. The discharges proposed by the applicants are not captured by this authorisation and therefore a discretionary consent in accordance with s15 of the RMA is required.

Waitaki Catchment Water Allocation Regional Plan

32. A discussion of the key objectives and policies that I consider particularly relevant when assessing the applications are provided in the following paragraphs.

33. Objective 1 provides direction on the key issues that need to be addressed to sustain the quality of the Waitaki River and surrounding environments in relation to the taking and using of water. Of the seven criteria the Society's interest is for the most part limited to the following:

    (b) safeguarding the life supporting capacity of the river and its ecosystems

    (c) managing the water bodies in a way that maintains natural landscape and amenity characteristics and qualities that people appreciate and enjoy

    (d) safeguarding the integrity, form, functioning and resilience of the braided river system

34. Of the four other criteria none of them are concerned with agricultural, horticultural or commercial activities. These matters are addressed in Objective 2. Objective 2 enables people and communities to provide for their social, economic and cultural wellbeing to the extent that they are consistent with the matters set out in Objective 1.

35. Objective 3 is specific to water allocation, and states that both beneficial and adverse effects on the environment and both national and local costs and benefits need to be recognised.

36. The structure of the objectives dictates that protection of the natural qualities of the Waitaki catchment trump the potential commercial gains of allocating the water. The relationship between Objective 1 and Objective 2 ensures that an overall broad judgment is made in relation to the effects of activities on the environment[7]. The water cannot be allocated if the effects compromise the matters set out in Objective 1(a) – (g).

[7] Waitaki Catchment Water Allocation Regional Plan Section 32 Report (September 2005), pp.9

37. Objectives 1-5 of the Waitaki Plan are to be achieved through the implementation of 46 Policies. The Policies cover both catchment-wide a locality-specific issues, and are largely effects-based. The policies discussed below are considered to be the most relevant to the resource consent applications.

38. This discussion is primarily focused on the policies that are relevant to the Society's constitution. However it is acknowledged that there are policies that are not discussed that are applicable to the consent applications.

39. Policy 1 addresses the Waitaki Catchment as one entity and acknowledges that the actions that take place in the head waters affect the entire system through to the ocean. This Policy is cross referenced to Objective 1 and it is stated in the explanation that this approach recognises the physical, ecological, cultural and social connections throughout the catchment[8]. There is no recognition of the economic or agricultural/horticultural values in this approach, and therefore, once again the Waitaki Plan has asserted ecological and physical priority over economic growth potentials.

40. Policies 2-8 address environmental flow and level regimes. Policy 2 identifies that many of the water bodies have a high natural character worthy of a high level of protection. These water bodies are either in a largely unmodified part of the catchment or they contain rare or important species and habitats or habitat assemblages. The following water bodies have been identified in Policy 2[9]:

    - tributaries of Lakes Tekapo, Pukaki and Ohau;
    - mainstems and tributaries of Fork Stream, Irishman Creek and Mary Burn, upstream of the Brarmar Road;
    - mainstem and tributaries of the Twizel River, upstream of the Pukaki Canal;
    - wetlands with a moderate or higher significance throughout the catchment;
    - Lakes Alexandrina, McGregor and Middleton and their tributaries and other lakes upstream of Lakes Tekapo, Pukaki and Ohau.

41. The explanation elaborates and states that these water bodies should be managed to retain their high natural character. Several of these water bodies are subject to this hearing process.

[8] The Waitaki Plan, pp. 25
[9] The Waitaki Plan, pp. 25

42. Policies 3-5 re-confirm the tiered framework established by Objectives 1 and 2. These policies provide for environmental flow and level regimes to be set so that the activities identified in Objective 2 can be implemented, but only where they are consistent with Objective 1. Furthermore Policies 4 and 5 identify the matters that will be taken into consideration when flows and levels are set and should be addressed when considering any application for a resource consent that is a non-complying activity in respect of the environmental flow and level regimes[10]. In accordance with Rule 19 Policies 4 and 5 are also relevant matters of assessment for discretionary activities.

43. Policies 10-14 address the allocation of water to activities. Policy 11 addresses the scale of effects that need to be considered when allocating water. The assessment needs to consider Tangata whenua, national and local scale effects. It is acknowledged that agricultural and horticultural activities play an important role in New Zealand's economy. However the high country tourism contributes substantially to the gross domestic product of New Zealand[11].

44. Policy 12 outlines the matters when allocating water to the activities listed in Objective 2. This policy is linked to Rule 6 and Table 5. The matters include, but are not limited to the following:
    - Having regard to the likely national and local effects of those activities;
    - Reference to relevant national, regional and local plans and strategies;
    - Recognising the iconic nature of Lakes Tekapo, Pukaki and Ohau;
    - Recognising the importance of irrigation for agriculture and horticulture;
    - Considering the relative environmental effects of activities including effects on landscape, water quality, mauri and the beds of lakes and rivers.

45. Policy 13 acknowledges that adverse water quality can result from land intensification, particularly from irrigation and that there are water bodies in the upper Waitaki that are relatively pristine and sensitive. This policy is linked back to the NRRP to address water quality. The relative objectives of the NRRP are addressed later in this evidence.

[10] The Waitaki Plan, pp. 27
[11] Parliamentary Commissioner for the Environment 'Change in the high country: Environmental stewardship and tenure reviews' (April 2009)

46. Policies 29-46 are locality specific. Policies 29-34 recognise the high natural character of particular water bodies and generally regulate the taking, using, damming or diversion of water from them.

47. Policies 35-37 recognise the high natural values of Lakes Tekapo, Pukaki and Ohau.

48. Policies 38 and 39 address Tekapo, Pukaki and Ohau Rivers and acknowledge that these rivers have been extensively modified. The explanations to these policies acknowledge that activities that take place in these water bodies have effects down stream on the quality of the ecosystem.

49. Policy 40 relates to "other rivers and streams in the upper catchment". This policy sets a basis for setting environmental flow regimes in these rivers and streams that do not have a high natural character. The Ahuriri catchment is mentioned at this point in the policies. The Ahuriri Water Conservation Order (WCO) sets the provisions for water allocation limits and minimum flows for taking, using, damming and diverting water from water bodies to which the Order applies and therefore there are no specific policies for this part of the catchment.

Proposed Natural Resource Regional Plan

50. When considering resource consent applications for the allocation of water for agricultural and horticultural activities the consent authority shall have regard to the water quality objectives as set out in the NRRP. Chapter 4: Water Quality was notified in 2004 and is not operative.

51. Chapter 4 comprises of three issues and for the purposes of this hearing I will only refer to two of those, surface and ground water quality.

52. Following on from Issue WQL1 (surface water quality) are objectives WQL1.1 (rivers) and WQL1.2 (natural and artificial lakes). These objectives set the water quality outcomes for rivers and lakes. It is important to note that these objectives promote the maintenance of natural state water bodies and where water bodies have been degraded the water quality is to be maintained or improved.

53. Generally these objectives create a bottom line for measuring the effects that human activities are having on water quality. These objectives create an obligation to maintain (as a minimum) or improve on water quality levels where water bodies have been degraded. Furthermore the objectives do not anticipate or promote the degradation of water quality in any water body.

54. Objective WQL2 addresses water quality outcomes for groundwater and contaminated land. The explanation to this objective acknowledges that where intensification occurs there is a risk that the aquifers will become contaminated if sound management practices are not implemented and this will occur due to non-point pollution.

Further Consenting Requirements

55. In July of this year I wrote to ECan requesting clarification about:
    - Why ECan had not required land use consents to be applied for; and
    - Why a joint hearing was not being held with the Mackenzie and Waitaki District Councils.

56. In response to the first request ECan stated:

    the applicants have advised ECan on two occasions (as part of the applications when initially submitted and also in response to a request for information on additional resource consents that may be required from District Councils sent to applicants in December 2008) that no additional resource consents are required from either the Waitaki or Mackenzie District Councils.

57. The Waitaki District Plan general indigenous vegetation clearance rules provide that on any site, over a five year continuous period, there shall be no clearance of more than 5000m^2 of indigenous vegetation except for the purposes of maintaining an area of improved pasture[12]. Improved pasture is defined by the plan as being:

    an area of pasture where species composition and growth has clearly been modified and enhanced for livestock grazing by cultivation, or by topdressing and over-sowing, or by direct drilling, and where exotic improved species dominate (i.e. where either

[12] Waitaki District Plan, Site Development Standard 4.4.8 (2)(a)

the coverage of indigenous species or the number of species present, as estimated on a per hectare basis, does not exceed 30%).

58. I have had personal communication with the Department of Conservation (the Department) to discuss the definition for improved pasture. The Department confirmed that some of the land within the Waitaki District that is subject to this hearing process would not meet the improved pasture definition and therefore requires a discretionary consent for indigenous vegetation clearance.

59. The Waitaki District Plan rules will also rules require for earthworks where the volume exceeds 100m^3 or the area of land disturbed exceeds 50m^2. The activity status is controlled, however the Council reserves control over several matters including vegetation clearance and rehabilitation of disturbed ground.

60. Similarly further discretionary consenting requirements could be required from the Mackenzie District Council Plan with regard to vegetation clearance[13] and earthworks[14].

61. The introductory s42A officers report discusses the requirement of the applicants to obtain further consents than those being sought at this hearing process. The reporting officer has indicated that the following further resource consents may be required:
    - District Council resource consents for land use activities associated with irrigation infrastructure and developments in landscape/significant natural areas;
    - Regional Council consents for
        - damming of water;
        - disturbing the bed or banks of a river or lake to install an intake structure;
        - the discharge of contaminants; and
        - using land in a manner which may result in contaminants entering surface or ground water[15].

62. Mr Gimblett has also commented on further consenting requirements in accordance with the NRRP and considers that there could be a number of other applicable rules relating to

[13] Mackenzie District Plan: Rule 12.2.1
[14] Mackenzie District Plan: Rule 4.3.1
[15] s42A – Report 1: Introductory Report

the discharge of contaminants, fertiliser or agrichemicals, vegetation clearance and works in riparian zones[16].

63. ECan chose to continue with this hearing regardless of any other consenting requirements of the applicants. ECan chose not to defer the consideration of the subject consents in accordance with s91 of the RMA. I derive from this that ECan considers that the consents can be determined without all the consenting requirements on the table. I disagree with this analysis. It is apparent that an extensive number of consents are required that have not been applied for. Furthermore these consents concern a range of activities and therefore I do not believe it is possible to accurately or fully consider the applications that are being heard.

FARM ENVIRONMENTAL MANAGEMENT PLANS

64. A substantial amount of weight is being placed on the Farm Environmental Management Plans (FEMP) to mitigate, remedy or avoid any adverse effects on the environment, and more notably the effects on water quality.

65. As outlined in GHD's Water Quality Summary Report[17] farm management planning and the use of best management practices are methods commonly used to reduce farming related pollution. It is proposed that the purpose of the FEMPs will serve two purposes, to ensure the farm units can meet the nutrient mitigation requirements set out by the water quality study, and to identify and mitigate other farm specific environmental risks.

66. The Water Quality Summary Report identifies that non-point pollution or diffuse pollution is not traceable to a single source and that this type of pollution is a threat to the water quality of the water bodies in the Waitaki Catchment. To prevent diffuse pollution the applicants are proposing to manage the inputs and this will be achieved through the FEMPs.

67. The base assumptions of the OVERSEER model and the model itself are used in the development of the FEMPs. As stated by Ms Robson the OVERSEER model has been

[16] Evidence of Mr Gimblett (16 September 2009), pp11-15
[17] Cumulative Water Quality Effects of Nutrients from Agricultural Intensification in the Upper Waitaki Catchment Summary report (August 2009)

fundamental in deriving nutrient losses in the catchment[18]. Considering that this level of reliance is being placed on the model it is imperative that the model is accurate and a true representation of the existing environment. Mr Heller concluded with these comments:

> *I am not convinced that the applicants' consultant's Cumulative Effects Assessment has demonstrated that the additional irrigation development in the upper Waitaki catchment can be undertaken without causing significant adverse water quality effects upon waterbodies within the catchment[19].*

68. Given Mr Heller's comments regarding the cumulative effects assessment and the questions he raises regarding the insufficient model parameters, calibration and verification information[20], the reliance on the FEMPs is questionable because the data that is being used to develop these plans is inadequate and insufficient to correctly model the effects on water quality.

69. Ms Robson discusses the mandatory good agricultural practices adopted for this study. These practices include activities such as fertiliser application, accounting for all sources of nutrients and calibration of irrigators. A base assumption of the OVERSEER model is that the inputs into the farming system are made using good practice. Ms Robson goes on and states that as a consequence of implementing good agricultural practices the farm modelling can be viewed with more confidence[21].

70. Given the reliance on the FEMPs to mitigate, remedy or avoid adverse effects on the water quality of the upper Waitaki it is important to consider good agricultural practice against standard (or status quo) agricultural practice. In 2008 ECan prepared a report looking at the compliance status of diary shed effluent discharges[22]. This report found that 54.2% of the properties that were reviewed were non-compliant with their resource consent conditions. The number of farms with significant or major issues of non-compliance had increased from 17.7% in 2006/07 to 20.0% in 2007/08. I acknowledge that this report solely looked at diary effluent discharge consent conditions. However this reporting has been occurring since the 2001/02 season and the level of non-compliance is increasing. Therefore this raises

[18] Evidence of Ms Robson, para. 15
[19] S42A Report 4A: Cumulative Water quality Effects, Mr Heller, pp. 23
[20] S42A Report 4A: Cumulative Water quality Effects, Mr Heller, para. 117
[21] Evidence of Ms Robson, para 21
[22] Environment Canterbury 'The compliance status of diary shed effluent discharges to land in the Canterbury region for the 2007/08 season' (November 2008) Report No. R08/81

questions as to whether the individuals that are charged with the task of implementing the good agricultural practices will fulfil this requirement in accordance with the FEMPs and consent conditions or will they revert to standard agricultural practice.

71. It is stated in the Water Quality Report and also referred to by Mr Kyle that:

> *the efficacy of all management plans is to a great extent, dependent on their implementation. The principal risk of management plans is that, once written, they are not used/implemented.*

72. The report goes on to state that the plans need to be competent, monitored and audited. Mr Kyle also considers that conditions will need to be effective in requiring adherence to the plans. Given the statistics gathered by ECan on consent condition compliance, the potential complexity of the consent condition framework that could be applied to these resource consents and the reliance on the implementation of the FEMPs I do not consider that this form of management will deliver adequate environmental protection.

73. The applicants have identified that higher than predicted levels of diffuse pollution could be an outcome if the FEMPs are not implemented correctly or the environment does not respond in the same manner as what was predicted by the model. I have concerns that the FEMPs will not be able to adapt and to respond to diffuse pollution adequately when the pollution level is non-compliant. For example the Ahuriri sub-catchment consists of four applicants and there is only one water quality monitoring node for this sub-catchment. If one, two, three or all of these applicants were polluting I do not have confidence that the proposed FEMPs would be able to adapt and respond to this type of pollution and non-compliance. Furthermore this likely situation introduces questions in terms of monitoring the consent conditions by ECan and how adaptive management can be applied in these circumstances.

74. It is noted that Mr. Whata in the opening submission on behalf of the Mackenzie Water Research Limited discussed adaptive management and provided an extensive list of case law supporting this management concept. Given the concerns of Mr Heller regarding the Water Quality Study and the questions raised regarding the reliability of the OVERSEER model, adaptive management may not be an appropriate management technique for these proposed water consents. Given the large number of potential consent holders adopting the

OVERSEER model and the adaptive management concept, and using farm specific FEMPs it is unclear how the concept of adaptive management can work in reality with this many independent factors operating.

CONSIDERATION UNDER THE RESOURCE MANAGEMENT ACT

75. The proposed intensification of the upper Waitaki needs to be considered in context of the purpose and principles of the RMA. The purpose of the Act is to promote sustainable management of natural and physical resources.

76. In accordance with s6 of the Act, the Panel is required to recognise and provide for the following matters of national importance:

    (a) the preservation of the natural character of the …wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use and development:

    (b) the protection of outstanding natural features and landscapes from inappropriate subdivision use, and development:

    (c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:

77. The Panel is required to have regard to the matters that are set in s7. These include the following:

    (b) the efficient use and development of natural and physical resources:

    (c) the maintenance and enhancement of amenity values:

    (d) intrinsic values of ecosystems:

    (f) the maintenance and enhancement of the quality of the environment:

    (g) any finite characteristics of natural and physical resources:

78. If there are any questions over the likely or actual affects that the proposed intensification of the upper Waitaki will have on the natural character of the waterbodies, significant features or landscapes, or indigenous vegetation and habitats of indigenous fauna the proposals will be inconsistent with the s6 and inconsistent with the purpose of the Act.

79. The evidence presented to date by the applicants suggests that there are still matters that need to be resolved. There are questions concerning the accuracy of the modelling of the potential effects on water quality in the catchment. This coupled with a largely complete reliance on the FEMP to mitigate and adapt to any potential adverse effects suggests that the applications are inconsistent with the matters of national importance. Furthermore as stated previously there are additional consenting requirements that may identify further adverse environmental effects than those being considered at this hearing.

80. The proposed intensification has the potential to adversely affect many aspects of the environment in the upper Waitaki, terrestrial and aquatic. Due to the uncertainty concerning the potential affects on water quality and instream ecosystems it is unclear how a decision can be reached concluding that the proposed intensification is consistent with the sections of the Act outlined above.

81. As stipulated in s104 the consent authority must have regard to Part II of the Act, any actual or potential affects on the environment, any relevant provision of a plan or policy statement and any other matter the consent authority considers relevant.

82. In determining the applications, Objective 1 of the Waitaki Plan and the water quality objectives of the NRRP are the key considerations. The Panel needs to be confident that these applications are consistent with the intent of these provisions, and the wider provisions in the Waitaki Plan. The biodiversity strategies have set bench marks and have identified issues, and many of these are specific to the upper Waitaki. For this reason I consider that these documents are also core documents for consideration when determining these applications.

83. A number of the applications are for non-complying activities, and for these applications consideration needs to be given to the test that is set out in s104D of the Act. To satisfy this test the Panel needs to be certain that either the adverse effects on the environment will be minor or the applications are not contrary to the objectives and policies of the relevant plans.

CONCLUSION

84. The New Zealand and Canterbury Biodiversity Strategies have established goals and visions for the future health of New Zealand's biodiversity. The granting of the subject consents will contribute further to the degradation and loss of biodiversity within the upper Waitaki catchment and therefore will be in conflict with these strategies.

85. The framework established by the objectives of the NRRP does not tolerate any level of water quality degradation. Therefore even minor effects resulting from the intensification of the upper Waitaki would be inconsistent with these objectives.

86. The Waitaki Plan was devised after extensive public consultation and participation. At the time that submissions were being called for these applications the Waitaki Plan had been operative for little more than one year.

87. The Waitaki Plan "provides for the allocation of water in the Waitaki catchment on a basis that is consistent with the purpose and principles of the Resource Management Act 1991. … The purpose of the … (RMA) is to promote sustainable management of natural and physical resources"[23]. The allocation of water on a basis that is not provided for in the Waitaki Plan would be directly inconsistent with the purposes and principles of the RMA and would potentially discredit the integrity of the Waitaki Plan.

[23] Waitaki Catchment Water Allocation Regional Plan, pp .1-2