

**IN THE MATTER OF**

The Resource Management Act 1991

AND

**IN THE MATTER OF**

an application by Woldwide Four Ltd and Woldwide Five Ltd for various land use, discharge and water permits associated with expansion of a dairy farm **(APP-20191140)**.

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**DECISION OF HEARING COMMISSIONERS**

**EMMA CHRISTMAS AND ROB ENRIGHT**

**27 January 2020**

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## DECISION

1. Under our delegated authority from the Southland Regional Council to hear and decide these applications we grant resource consents AUTH-20191140-01, 02, 03, 04, 05, 06, 07, 08, 09 and 10 to discharge agricultural effluent onto land, use land for effluent storage, use land for winter barns, use land for dairy farming, and take and use groundwater, to Woldwide Four Ltd and Woldwide Five Ltd, subject to the conditions outlined in this decision, with an expiry date of 13 years from date of commencement.

## THE HEARING

2. These applications were heard between 30 September and 3 October and 18 and 20 November, 2019 at the Southland Regional Council offices and the Ascot Park Hotel in Invercargill. The following appearances were recorded.

### *For the applicant:*

Mr Hans van der Wal, Legal Counsel  
Mr Abe de Wolde, Applicant  
Mrs Janita de Wolde, Applicant  
Mr Mark Crawford, Certified Nutrient Management Advisor  
Mr Cain Duncan, Certified Nutrient Management Advisor  
Mr John Scandrett, Agricultural and Engineering Consultant<sup>1</sup>  
Dr Anthony Roberts, Chief Scientific Officer, Ravensdown  
Dr Mike Freeman, Senior Scientist and Planner

### *Submitters:*

Ms Stevie-Rae Blair, Iwi Environmental Advisor, on behalf of Te Rūnanga o Ōraka Aparima  
Dean Whaanga, Manager Te Ao Marama Inc., on behalf of Te Rūnanga o Ōraka Aparima  
Ivan Lines  
Jolene Germann, Mid-Aparima Catchment Group  
Edwin Mabonga, Mid-Aparima Catchment Group  
Joanne Flett and Susan Flett  
Paul Whyte, Senior Planner, for Ministry of Education  
Morgan Fallowfield, Planner, for Ministry of Education  
Lindsay Youngman

### *Southland Regional Council:*

Mr Mike Doesburg, Legal Counsel  
Ms Aurora Grant, Team Leader Consents  
Mr Alex Erceg, Consents Officer

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<sup>1</sup> Mr Scandrett's appearance and evidence in chief related to the Woldwide One and Woldwide Two applications; however his evidence in relation to Braxton soils and management of effluent discharge onto soils generally is also applicable to these applications.

Ms Abigail Lovett, Consultant Scientist  
Ms Belinda Meares, Farm Environmental Consultant  
Ms Nicole Phillips, Environmental Consultant

3. The hearing closed on 09 December following receipt of a written reply from the applicant. On 20 December 2019, after 5pm, the Environment Court released a potentially relevant decision on the proposed Southland Water and Land Plan in *Aratiatia Livestock v Southland Regional Council*.<sup>2</sup> We issued a minute on 23 December 2019 to allow parties to make submissions, if they considered the decision was relevant to the proposals, by 14 January 2020. The applicants and s42A officers provided written replies on 13 January 2020.
4. We undertook a site visit on 19 November 2019. We visited both Woldwide Four and Woldwide Five farms, including both dairy platforms, the Cochran's and Collies support blocks, a block adjacent to the Aparima River, the WW5 dairy shed and effluent system, a feedlot and silage heap on Woldwide Four, and a paddock on Woldwide Four that had been damaged by pugging, having been used for calving, demonstrating the impact of wintering cows on paddocks in the area. We visited a winter barn on a related property, Woldwide Two. We understand the design of the proposed winter barns is similar to that on Woldwide Two. We observed various irrigation infrastructure, including a travelling irrigator and trailing shoe slurry tanker.

## BACKGROUND

5. Woldwide Four Ltd and Woldwide Five Ltd are companies owning two dairy platforms, also known as Woldwide Four (WW4) and Woldwide Five (WW5). The farms are located at Heddon Bush, Southland.
6. The farms are adjoining and are separately managed. Woldwide Four Ltd and Woldwide Five Ltd are part of a group of related companies, all of which have common directors, Mr and Mrs de Wolde. The other companies include Woldwide One Ltd, Woldwide Two Ltd and Woldwide Three Ltd, all of which own similarly named dairy farms, and Woldwide Run-Off Ltd (WRO), a commercial grazing business which owns a run-off block, Merrivale, and leases a separate run-off block, Merriburn. Both Merrivale and Merriburn are used for wintering of cows from all five dairy farms. WRO also undertakes quarrying and forestry activities. The final company is Woldwide Farm Ltd, which owns a separate block in the Heddon Bush area called the Horner Block, and (amongst other things) undertakes feed trading and logistics, farm machinery contracting and has an advisory and training role for the five dairy farms. The relationship between these companies and the various activities undertaken by each was a key matter at the hearing, as discussed later.
7. WW4 currently milks up to 775 cows on its dairy platform, with a stocking rate of 2.3 cows / ha. There is an associated support block, the Gladfield Block, located 3.3 km to the south-west. The Gladfield Block is used for intensive winter grazing of

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<sup>2</sup> [2019] NZEnvC 205 (the *Aratiatia Livestock* decision).

R2s and older cows, and to produce supplement (cut and carry), which is fed out on the dairy platform. Young stock are wintered off-farm.

8. The proposal is in two phases. Phase 1 will increase the size of the dairy platform by 63ha, through the inclusion of part of the Cochran's block to dairy platform. This block is currently used for sheep grazing. The number of cows milked will increase to up to 815<sup>3</sup>. Discharge of effluent from up to 850 cows is currently authorised under the existing effluent discharge permit. A land use permit is required for the use and maintenance of the existing effluent storage facilities. Intensive winter grazing of R2s and older stock will continue on the Gladfield Block.
9. Phase 1 will last no more than five years. Phase 2 will see an increase in the herd size to 1,000 cows, using the same dairy platform as under Phase 1. This will result in a stocking rate of 2.5 cows/ha across the platform. A new winter barn will be built, to house 1,050 cows. The barns will be used for all of June and July, and part of April, May, August and September. A new discharge permit will be required, to discharge the effluent from 1,000 cows plus the discharge of underpass effluent, silage leachate and winter barn slurry. New effluent storage facilities will be required, and consent will be sought for these separately, prior to the start of Phase 2. Intensive winter grazing will cease on the Gladfield Block, with most cows wintered in the barn. Some R1 and R2 (rising 1 and rising 2 year old) stock will be wintered on WRO.
10. Liquid dairy shed effluent, and slurry from the effluent pond will be discharged to the WW4 dairy platform and the Gladfield Block. The effluent discharge areas for the dairy shed effluent and the slurry do not overlap.
11. WW5 currently milks up to 665 cows on its dairy platform, giving a stocking rate of 2.8 cows / ha. 28ha of the platform is used for intensive winter grazing.
12. The proposal is also in two phases. Phase 1 is to increase the size of the dairy platform by inclusion of a separate part of the Cochran's block, and inclusion of a block called Collies Block. Cow numbers will increase to up to 770 cows milked. The existing effluent discharge consent authorises the discharge from this number of cows. Phase 1 will be limited to three<sup>4</sup> years. The area of intensive winter grazing will reduce to 23 ha.
13. Phase 2 is to increase the herd size to 930 cows, using the same dairy platform as Phase 1. This gives a stocking rate of 3.1 cows/hectare. A winter barn will be constructed to hold 1,050 cows. Most cows will be wintered in the barn, with some R2s wintered on the WRO blocks. A new effluent discharge permit will be required, but consent for this was not part of these applications.
14. A variety of methods are used for discharge of effluent, including travelling irrigator, low rate pod system, slurry tanker and umbilical system.

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<sup>3</sup> Application amended in evidence of Mark Crawford (18 October 2019) to reduce Phase 1 phosphorus losses

<sup>4</sup> Amended by the applicant from the five years originally indicated.

## **Existing consents**

15. In contrast to the Woldwide One and Two proposals, the consent history (as to surrender and exercise of consents) is less complex. WW4 holds consents to discharge dairy effluent from up to 775 cows and to take groundwater, issued in 2018. WW5 holds consents for discharge of dairy effluent from up to 665 cows and taking groundwater, granted in 2015. No land use consents for farming were required under planning rules at that time. Issues around existing lawful activities and appropriate baseline modelling are discussed later in this decision.

## **Woldwide One Limited and Woldwide Two Limited applications and consideration of evidence**

16. At the same time that we heard these applications, we heard applications for similar dairy farm expansions from two related companies, Woldwide One Limited and Woldwide Two Limited. Given the similarities between the applications, many issues and a significant amount of the evidence circulated were common to both hearings. The relevant submitters were largely the same, and raised similar issues.<sup>5</sup>
17. Consequently, in order to run the hearings as efficiently as possible, and with the agreement of all parties, we determined to hear evidence that applied to both hearings only once. All submitters also presented their evidence only once. As far as possible, both we, when asking questions, and experts, when giving evidence, identified whether the matters under discussion related to one hearing or both. The answers to our questions on matters relevant to both hearings have been used in preparing both decisions, regardless of which hearing the evidence was obtained from.
18. Likewise this decision, and the decision on the Woldwide One and Woldwide Two applications, contain similar descriptions of the environment and discussion of effects, where relevant. As might be expected, similar facts and issues have resulted in similar factual findings. But for clarity, we have treated each application on its merits.

## **Planning and freshwater management overview**

19. We note here, for background, that there are two relevant plans in Southland governing water and land management: the operative Regional Water Plan (RWP) and the proposed Southland Water and Land Plan (pSWLP). The pSWLP introduces controls on land use for farming, as well as managing discharges and water taking and use. Both have a clear direction of maintaining or enhancing water quality. The pSWLP must give effect to the National Policy Statement for Freshwater Management 2017 (NPSFM). This includes the wellbeings inherent in Te Mana o te Wai. Policies in the NPSFM requiring the setting of freshwater objectives and limits for freshwater management units and methods to meet those targets. These will

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<sup>5</sup> Public Health South was a submitter on the WW1 and WW2 applications, and not on the WW4 and WW5 applications.

be implemented through the Council's Progressive Implementation Programme<sup>6</sup>. We understand that policies and rules to give effect to these will gradually be included within the plan.

20. The planning framework for Southland region anticipates that resource consents are not generally granted for dairy farm expansion where existing water quality is degraded, unless the proposal can maintain **and** improve water quality.<sup>7</sup> Our overall finding is that the proposals are likely to result in a small improvement to water quality and therefore merit approval. Reasons are given below. Importantly, the applicants have provided substantial mitigations, including proposed construction and use of winter barns between April - September annually, reduced winter grazing, and a combination of other methods (that avoid, remedy, mitigate and offset relevant effects) to achieve improved water quality.

### **Consents sought**

21. The following consents are sought. Note that the consents applied for by WW4 and WW5 are separate.
  - two land use consents for farming activity;
  - two discharge permits to discharge agricultural effluent to land;
  - two water permits to abstract groundwater to abstract up to 100m<sup>3</sup> per day of groundwater for stock drinking water, dairy shed and winter barn washdown purposes (maximum rate no more than 2 l/s);
  - two land use consents to use existing effluent storage ponds;
  - two land use consents for winter barns, to house up to 1,050 cows each.
22. Given the commonality of most issues, this decision discusses both proposals in parallel. The consents, as granted, are to be exercised separately.
23. The need for consents arises from the proposal to expand existing dairy farm operations by adding dairy cows to the herds above the number authorised as at 3 June 2016 and increasing the dairy platforms onto land beyond what was used as dairy platform as at 3 June 2016. The applications seek to authorise associated activities being the take and use of water, discharge of agricultural effluent, the use of land for winter barns and the use of existing effluent storage facilities.

### **NOTIFICATION AND SUBMISSIONS**

24. The application was publicly notified on 5 April 2019 and six submissions were received. Submissions and evidence given by submitters are identified below.

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<sup>6</sup> Preamble to pSWLP, p5.

<sup>7</sup> Discussed in greater detail below.

25. The Mid Aparima Catchment Group, a group describing themselves as predominantly farmers but open to community representatives, supported the application. The de Woldes are members of the Catchment Group. The Group sought to encourage the use of science and technology and proven best management practices to offset the potential effects of farming practices. Ms Germann and Mr Mabonga appeared on behalf of the submitter and considered that the proposal would reduce nutrient and contaminant loss and have an overall positive effect of water quality. The Group also supported a 15 year term given the significant capital investment.
26. The Group supported the removal of intensive winter grazing from the dairy platforms through the use of winter barns, noting the high nutrient and sediment loss and soil damage that intensive winter grazing causes. It encouraged the use of good management practices, as proposed by the applicants. The applications fit the Group's vision, "to be good stewards of the environment while maintaining economic sustainability".
27. Mr Ivan Lines, a farm consultant, also supported the application. Mr Lines explained that he has provided consultancy services to the de Wolde family for a number of years and has a high level of knowledge of the relevant farm businesses. In his view, the de Woldes have an exceptional farming operation and are highly valued leaders in the farmer and wider community. They have been early adopters of technology and environmental management practices.
28. He expressed a view that the various farming operations directed by the de Woldes were standalone businesses, with their own farm management places, staff and financial management. The businesses trade separately, and on a commercial basis when trading with each other. He was often used as an independent party to set the value of a commercial transaction between the companies.
29. Mr Lines helped the de Woldes develop the plan for increasing the number of cows wintered in barns. His modelling showed that a small increase in cow numbers was necessary to justify the economic investment in the barns. He considered that the ultimate financial cost may exceed the financial benefit, but the de Wolde's should be commended for their desire to improve the environment.
30. Mr Lindsay Youngman supported the application. He is an agronomist with 26 years' experience, and has advised the Woldwide properties in relation to pasture improvements (particularly a change to denser species to avoid overgrazing), increased clover and plantain. These improvements, in his opinion, will offset the increased discharges from the proposed additional cows.
31. He also explained his long association with the Aparima River and noted that degradation that began in the 1980s was now reversing, as dairy cows were fenced out of waterways. Improvements had also been seen in the Waimatuku and Oraurea rivers.
32. Joanne and Susan Flett, owners of the Merriburn block, were neutral in respect of the application. They acknowledged the de Woldes as good stewards of their land. The Fletts were opposed to the block being considered part of the landholding for the purposes of these consents, on the grounds that it is not owned or totally

controlled by the de Woldes. It is subject to lease conditions, which they considered adequately ensure good farming practices on the block. They noted that the lease expires in 2021 and has no right of renewal.

33. Their concern around the inclusion of the Merriburn Block in the landholding derived from uncertainty about whether this would affect the property during the nutrient limit setting process to be undertaken under the NPSFM and the Freshwater Management Unit processes. This could disadvantage them, compared to owners of other blocks without similar consent conditions.
34. The Ministry for Education opposed the discharge and water applications on the grounds of the impact of the groundwater take on water levels in the bore. The Ministry later tabled a letter indicating that it was satisfied that there would be no well interference effects on the school bore.
35. Ministry representatives appeared at the reconvened hearing; however, their evidence was primarily concerned with water quality effects on the school bore from the WW1 and WW2 applications.
36. Te Rūnanga o Ōraka Aparima (Te Rūnanga) opposed the application.<sup>8</sup> Te Rūnanga holds kaitiaki responsibilities over the area that extends from Waimatuku to Tawhitiarere, which includes the application sites. The submission outlines the close relationship the Rūnanga has with the Aparima, Waimatuku and Oreti rivers. All three rivers were sources of mahinga kai and travel routes, including to the Wakatipu region. There were settlements at the mouth of the Oreti River and wāhi tapu along the river. The Aparima and Oreti rivers in particular continue to have high cultural significance and ongoing cultural use, and both are statutory acknowledgement areas.
37. Ms Blair, planner of behalf of the Rūnanga, outlined the Rūnanga's concern over the decline in water quality and quantity in the catchments and the Rūnanga's position to oppose all consent applications to intensify agriculture, particularly increases in dairy herd numbers. Water is fundamental to the health and wellbeing of Ngāi Tahu. Health, wellbeing and Mauri of water is directly linked to health and wellbeing of people. The Rūnanga do not consider that the application will reduce contaminant loss, or cause no harm to the whenua (land), wai (water) or biodiversity. The Rūnanga believe that further intensification impacts on their responsibilities as kaitiaki.
38. Mr Whaanga, Manager of Te Ao Marama Inc., explained that the Rūnanga takes its kaitiaki role seriously. It had lost the close association with the waterways in recent years due to concerns over water quality. While food sources such as tuna remain important, Rūnanga members tend not to gather them. They are keen to regain that connection.
39. Mr Whaanga confirmed there were no wāhi tapu sites on the farm blocks.

## **MATTERS ARISING**

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<sup>8</sup> The submission was lodged by Te Ao Marama Inc on behalf of Te Rūnanga.



40. Before the effects of the proposal can be considered, it is necessary to determine two matters, which affect the scope of the application and the appropriate baseline data to be used for OVERSEER modelling. These matters and our conclusions on them are outlined below.

### Interpretation of landholding

41. Rule 20 of the pSWLP permits the use of land for farming if a number of conditions are met. Several of these conditions use the term 'landholding', in particular where the landholding is less than 20 hectares, farming activity includes a dairy platform (20(a)(ii)) on the landholding or where the farming activity includes intensive winter grazing on the landholding (20(a)(iii) and 20(b)). Other parts of the rule do not refer to landholding (permitted farming under 20(a)(iv) and restricted discretionary and discretionary farming activities under 20(d) and 20(e)).
42. The purpose of the rule is to spatially identify an area of land that is a 'single operating unit'. Within that unit, relevant farming activities may be undertaken on a scale that means their effects are acceptable.<sup>9</sup> It is used within the conditions of rules (generally permitted, but also a small number of controlled and discretionary rules) to limit the extent and effects of various activities, primarily discharge of contaminants, but also abstraction and impoundment of water. Ownership and control are relevant but not determinative when deciding what is a 'landholding'; and areas of land owned by multiple entities may constitute one landholding. 'Single operating unit' is not defined, and there is no guideline policy to assist with purpose. The degree of control required, and relevant effects managed within each unit, must be assessed case by case.<sup>10</sup>
43. There was considerable evidence presented on the extent of the 'landholding' for these applications. If all the land on which the various activities are being undertaken are part of the same landholding, all parts require consent as the permitted activity rules are not met. If areas of land on which proposed activities are undertaken are separate landholdings, then this may affect permitted status for those activities. This has implications for the conditions that can be imposed. It is therefore necessary that we determine the extent of the landholding for these applications.
44. Landholding is defined in the pSWLP as:

*(a) Any area of land, including land separated by a road or river or modified watercourse, held in one or more than one ownership, **that is utilised as a single operating unit**, and may include one or more certificates of title; except*

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<sup>9</sup> Depending on activity status, and whether the activities meet the relevant planning standards.

<sup>10</sup> The planning framework, including context and purpose, is discussed in greater detail below, and in light of the principles identified in *Powell v Dunedin City Council* [2005] NZRMA 174 (CA).

*(b) For land with a residential, commercial, industrial, infrastructural or recreational zoning or designation in the relevant district plan means any area of land comprised wholly of one Certificate of Title or any Allotment as defined by Section 218 of the RMA.*

*Note: for the purposes of this definition, a “single operating unit” may include, but is not limited by, the following features:*

*(a) It has effective control by any structure of ownership of the same group of people (for example, land that is controlled by a family trust, or beneficiaries of that family trust or a related group of companies, or an estate, or partner, or individual/s or a combination of); and*

*(b) It is operated as a single business entity. [emphasis added]*

45. Clause (b) (referring to residential, commercial, industrial and other zones) is not relevant.
46. Ms Grant discussed the interpretation of landholding in some detail in the s42A report. In her view, the critical part of the definition is reference to a ‘single operating unit’. The definition provides two considerations for determining what a single operating unit is. Also relevant is whether ‘operating units can function separately without a material change to the farming system’, and whether effects generated by each operating unit are transferred between different areas.
47. Mr Doesburg’s submissions on the correct interpretation of landholding were that:
- The plain and ordinary meaning must be given to a definition, but regard may be had to its context where there is uncertainty.
  - The key issue to determine is what constitutes a single operating unit. This issue is essentially one of fact. The relevant facts include:
    - Activities on the various Woldwide farms blocks are interlinked and drive at a common purpose (producing milk solids).
    - By example, the proposal on the Horner Block involves an exchange of nutrients and feed between the dairy platforms and the Horner Block. While alternative 3<sup>rd</sup> party land could be used, in this case it is not.
    - All Woldwide companies are owned and controlled by same parties (Mr and Mrs de Wolde).
48. Mr van der Wal laid out his view on the correct interpretation of landholding in a letter to the Reporting Officer in August 2019, with further comments in opening and closing. His key points were:
- The definition needs to apply consistently to all rules and provisions that use it.
  - No policies or objectives use the term in a substantive way (or provide guidance on the term).

- The wording is not ambiguous.
- It applies to a singular area of land separated only by title boundaries, roads, rivers or modified watercourses. It does not contemplate multiple areas of land.
- Land must be utilised as a single operating unit.
- The note is not exhaustive.
- The purpose appears to be to manage a single farm that can cover more than one title and straddle a road or river etc, not multiple distantly located blocks of land
- The interpretation needs to be robust and repeatable, in terms of how it is interpreted for other uses in plan and for other applicants.

### *Analysis*

49. As pointed out by Mr van der Wal, there is no policy specifically outlining the appropriate use of the term 'landholding'. The only policy in which it appears is Policy 12A, which gives preference to site-specific information on physiographic zones or contaminant loss pathways for a landholding or site, when undertaking activities, preparing FEMP or deciding consent applications. Policy 12A does not greatly assist interpretation.
50. We agree that the single mandatory criterion is that a landholding must be utilised as a single operating unit. This is not defined and we agree with both Counsel that what constitutes a single operating unit is a question of fact. The answer may therefore be different for different applicants and proposals. A key verb in the definition is that the relevant area of land is 'utilised' for a single (sole) purpose. This suggests connection and inter-dependency between the relevant activities (in this case farming activities) occurring on any separate parts of the unit.
51. Close relationships, such as common ownership and directorship, may assist in identifying a landholding but are not determinative. The 'note' to the definition gives guidance on determining whether operators are a related group. In this case, there is common ownership and control of individual applicant companies.
52. We also find that 'an area of land' could be either singular or plural. It could comprise one or more separate parcels of land. Separate parcels of land do not need to be contiguous or separated only by roads, rivers or modified watercourse. A landholding is not restricted to one title or one owner.
53. The particular farming activities being undertaken on different sites are relevant to determine whether those sites are part of the same landholding. For example, two sites being used for interrelated activities under one proposal may comprise a single operating unit, but the same two sites being used for unrelated activities will not. For that reason, what constitutes the landholding may vary between different proposals by the same company, even if the same areas of land are involved; and one piece of land may form part of the landholding for two (or more) separate proposals.

54. For the WW4 and WW5 applications, the key area of land in dispute is the Woldwide Run-Off blocks. The WRO blocks are used for wintering stock from WW4 and WW5. The blocks are being operated in such a way that one (WRO) benefits the other (WW4 and WW5) by allowing cows to be wintered away from heavy soils, and so mitigate (in part) the effects of the increase in stock on the dairy platforms. This is also an inter-dependency between the land use activities on these blocks, as identified by Ms Grant.
55. The blocks are controlled by the same directors. Mrs de Wolde's evidence was that Merrivale Block was purchased specifically as a run-off block to take the pressure off the dairy farms at Heddon Bush. She also stated that Merriburn Block was leased specifically to enable wintering of young stock away from Heddon Bush. The directors confirmed (in Mr de Wolde's oral evidence) that they wish to retain their stock in Southland to *retain control* of their stock to ensure they have the best chance of reaching the desired weight and condition to maximise milk solids production. Wintering stock on a property they own and control allows them to do this.
56. Taken together, these facts confirm that the WRO blocks are operated as a single operating unit with both WW4 and WW5.

*Connection between all Woldwide properties*

57. Ms Grant analysed the ownership structure of the various Woldwide companies, the role of each company in the proposal, and the linkages between them, including whether effects are transferred to various parcels of land owned by companies other than WW4 and WW5. The interrelationships between them include the fact there were overlaps between the discharge areas for WW3 farm and WW5 farm, that a block called the Horner Block is used for the discharge of effluent from WW1, WW2 and WW3, and that the WRO blocks are used for grazing by stock from all Woldwide farms. Her conclusion was that they are not independent businesses, as the various companies work together to undertake the overall farming enterprise for Mr and Mrs de Wolde, rather than providing grazing and feed to the open market. All companies add an essential component to the current and proposed farming operation, and without all the components, the application would be materially different. She therefore considered that they are operated as a single entity and are all part of the same landholding.
58. Ms Grant's position was problematic because it included land (such as the WW3 farm) which is not part of these applications, and therefore outside scope. In answer to questions, Ms Grant indicated that an intermediary position (not including WW3 as part of the landholding) may be appropriate to answer this scope difficulty.
59. The applicants were strongly opposed to the interpretation that all Woldwide properties are part of the same landholding. Mrs de Wolde outlined the relationship between the various companies, noting that all are independent companies with independent business arrangements. They are run on a strictly commercial basis and have various different management models. Both Woldwide Run off and Woldwide Farms Limited provide services (eg. grazing, logistics, farm contracting) to third parties. This was supported by Ivan Lines in his evidence.

60. Our view is that the relationships between the various farms within the Woldwide group do not create a single operating unit for these applications. Use of WRO blocks for grazing by stock from other farms is not sufficient connection and inter-dependency between those farms' activities and WW4 and WW5. The effluent disposal areas on the Horner Block are separate for the three farms that use it, and (as discussed below) no effluent from WW3 is applied to the WW5 property. Based on our reading of the definition, in context of its purpose and the (limited) guidance available from policy, we do not agree that WW1, WW2, WW4, WW5 (with or without WW3) are one 'landholding'.
61. For completeness, we have considered whether the approach we have taken makes sense in terms of other uses of the term 'landholding' in the pSWLP. As noted, it appears in only one policy – Policy 12A. Whether a landholding comprises one single piece of land or multiple related areas, this policy is likely to be interpreted in the same way.
62. Most uses of the term in the plan do not assist with interpretation. For example, an activity must be a certain distance from the boundary of a landholding. Where land areas within a landholding are separate, the distance of an activity from the nearest boundary is likely to be same.
63. Rules 20, 42, 43, 49 and 54 use the term in different ways. The interpretation of landholding has implications in particular for rules 42, 49 and 54, all of which set permitted limits on activities (the amount of cleanfill that can be discharged; the amount of water taken) that relate to the landholding. While a broader interpretation of landholding than proposed by the applicant will make these rules more restrictive, it does not result in an absurd or unworkable situation; and is more likely to manage relevant effects.
64. With the conclusion above, the implication is that the conditions of these consents can apply to activities on all parts of the landholding, including the WRO blocks. Should Merriburn no longer be used for winter grazing, following the expiry of the lease, that part of the consent and the relevant consent conditions, will no longer be relevant. The Merriburn Block would therefore no longer be subject to restrictions in relation to this consent. We have added an advice note to this effect.
65. We note that as an existing use, the nutrient loss from WW4 and WW5's winter grazing on Merriburn is likely to be relevant if a future consent is required for farming the property under Rule 20(d) (regardless of its inclusion or not as part of any landholding). As the FMU limit setting process has not commenced, it is not possible to say what the implications might be for that process.
66. If WW4 and WW5 subsequently decide to winter graze elsewhere, a decision will have to be made as to whether the new block forms part of the same landholding, in which case consent will be required (by s127 variation or separate consent).
67. Our determination of landholding does not affect land ownership and management, and concerns raised by Mrs de Wolde about the ability to help young sharemilkers into farm ownership are unfounded. If ownership or management of any block changes, and the relevant land is not being utilised as a single

landholding, then a change of conditions or new consent could be sought, if appropriate.

### **Consented / permitted baseline for OVERSEER modelling**

68. The second matter to be resolved was the lawful baseline that should be used for modelling the 'current' (baseline) scenario. The appropriate modelling for the Gladfield, Collies and Cochran's block was disputed between the applicants and s42A officers. Also at issue was the impact of WW3 effluent on WW5; and the use of riverbed paddocks in land owned and controlled by LINZ.
69. As noted, our role is to identify the lawful existing and consented environment, which forms part of our assessment under s104 RMA. This relevantly includes nutrient budgets based on lawful use of the subject properties; these allow calculation of a baseline for existing lawful use, which may be contrasted with likely future activity, if consents are approved.
70. It is common ground that there is insufficient data to understand the actual levels of contaminants created by existing dairy activity for the subject properties. The applicant's experts and the s42A experts agreed this could be addressed by a combination of modelling (for N and P discharges) and management practices (for P and other contaminants). The comparison between existing (baseline) and future modelled activity is key to deciding whether water quality will be maintained and improved by the grant of consent.
71. The existing environment, including lawfully established and consented activities, were identified in sections 3.1 and 3.2 of the application. The s42A report identified alleged unlawful activities or baseline modelling of activities that were not occurring. These included intensive winter grazing by dairy cows from both WW4 and WW5 on Cochran's Block without consent, modelling of the Gladfield block as intensive winter grazing and modelling the Collies block as dairy platform.
72. It is not part of our role to identify unlawful activity; that is an enforcement issue for Council. But we agree with the s42A officers that it is necessary to correctly identify the lawful existing environment, which must exclude unlawful activity (where relevant). Nutrient budgets must also be based on lawful activity. An applicant should not benefit from unlawful activity when modelling for nutrient budgets. Where issues were raised by the Council, we considered each matter in relation to the modelling undertaken. All concerns were addressed by the applicants, which re-modelled nutrient budgets as necessary, excluding invalid or erroneous data. While the issue of the appropriate baseline modelling occupied substantial evidence, our findings on the issues raised may be simply stated:
  - (a) For the Gladfield block, the baseline modelling assumed the land is used for intensive winter grazing. This activity can lawfully be carried out on this block, has been carried out in the past and the proposal is to continue to do so on Phase 1. We therefore consider that this modelling is acceptable.
  - (b) As to the Collies Block, Mr Crawford accepted that the land was used for sheep farming; it was wrongly modelled as part of the dairy

platform in the initial calculations. Mr Crawford corrected his calculations in supplementary evidence dated 18 November. The baseline years modelled were 2016-2018. Ms Phillips agreed with the revised calculations.

- (c) The baseline modeling of the Cochran's Block included intensive winter grazing (as an existing activity); however, from May 2019 this required consent and was therefore unauthorised. Our approach here, consistent with the approach we have taken elsewhere, is to exclude the 2018/19 modelling from the baseline calculations.
- (d) The Reporting Officers considered that discharge of effluent from WW3 onto WW5 blocks should be included in the modelling; however, it transpired in evidence that effluent from WW3 was not discharged onto WW5. Therefore the baseline modelling of effluent discharge on WW5 is correct.
- (e) Use of LINZ paddocks. The applicant uses land owned by LINZ for grazing; however this use is not currently authorised by LINZ. Approval is being sought but it cannot be assumed that it will be granted. Consequently, Mr Crawford modelled both situations – with and without the LINZ land.

73. With the adjustments discussed above, we are satisfied that we have appropriate baseline modelling from which to consider the effects of the proposals.

#### **Inclusion of LINZ land – scope of consent**

- 74. The map of the WW5 dairy farm boundary included with the application<sup>11</sup> identified that land close to the Aparima was part of the proposal. This included land owned by LINZ. However, the legal descriptions of the land in the public notice did not include these areas. This was identified as an error during the hearing and Dr Freeman requested that the scope of the application be extended to include this land.
- 75. At the hearing, it was identified that the only party likely to be prejudiced by the non-inclusion of the parcels of land in the notice would be LINZ, who themselves have a veto over the applicant's use of their property, as the consent holder requires their prior approval, as landowner. The proposals were publicly notified, including the relevant maps. LINZ did not make a submission. If LINZ agrees to lease the relevant land areas to the applicants, then we see no difficulty with consent conditions enabling this. The conditions provide for both alternatives (i.e. if LINZ does not provide landowner consent).

#### **ISSUES**

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<sup>11</sup> Figure 2, page 13

76. Apart from the landholding and consented baseline issues, the key matters identified by the s42A report, planning evidence for the applicant, submitters and legal submissions for the applicant and Council, were as follows:

- Whether the reduction in nutrient loss predicted by OVERSEER could be relied on, particularly in relation to nutrient loss through Braxton soils
- The likelihood that proffered good practice measures and additional mitigation would be undertaken 'on the ground'
- The effects of the proposal on ground and surface water quality
- The compliance history of the applicant
- The extension of WW4 dairy platform into the Aparima catchment
- Cultural effects

77. We have outlined our findings on these issues, and other potential effects, below.

#### **APPLICATION STATUS**

78. The application comprises various separate activities which are subject to rules in the proposed Water and Land Plan (pSWLP) and Regional Water Plan (RWP).

79. There was no dispute between parties as to the activity status of the various consents required. These are as follows:

- (a) The taking of groundwater is a discretionary activity under Rule 54(d) of the pSWLP and a discretionary activity under Rule 23(d)(ii) of the RWP;
- (b) The use of land for farming is a discretionary activity under Rule 20(e) of the pSWLP;
- (c) The discharge of effluent is a restricted discretionary activity under Rule 50(d) of the RWP, a discretionary activity under Rule 5.4.6 of the Regional Effluent Land Application Plan, and a discretionary activity under Rule 35(c) of the pSWLP; and
- (d) The use of land for a winter barn is a discretionary activity under Rule 35A(b) of the pSWLP.
- (e) The use of land for existing agricultural effluent storage facilities is a discretionary activity under Rule 32D of the pSLWP.

80. A bundling approach means that the activity as a whole is discretionary.

#### **THE EXISTING ENVIRONMENT**

81. The existing biophysical environment, particularly the subject site, was not generally in dispute. We briefly summarise the relevant aspects below



## Surface water

82. The applicant's water quality report<sup>12</sup> identifies WW4 as being primarily in the Waimatuku catchment. The extension of the dairy platform onto Cochran's Block is in the Aparima catchment. WW5 is located within the Aparima catchment.
83. The Woldwide run-off blocks (Merrivale and Merriburn) and are located in the Orauea catchment, which ultimately flows into the Waiau River.
84. The land use in the catchments is predominantly dairying, sheep and beef.
85. Relevant water quality data were presented from Land and Water Aotearoa and Environment Southland data. There was no dispute that the various rivers, and the estuaries and lagoons into which they flow, do not meet all relevant water quality standards and so could be considered degraded. In particular, there are high concentrations of faecal indicator micro-organisms (such as *E. coli*), raised nutrient concentrations and poor water clarity at times. The Waimatuku is the most degraded of the three catchments, with particularly elevated levels of *E. coli* and total oxidised nitrogen. The generally poor quality reflects land use impacts, including agricultural land use, which results in bacteria, sediment and phosphorus being transported to waterbodies by overland flow or sub-surface drainage.
86. Long term monitoring shows that various water quality parameters may be improving; however, for the purposes of this assessment the critical consideration is that no water body meets all the relevant water quality standards and guidelines<sup>13</sup>.

## Groundwater

87. Groundwater for WW4 will be abstracted from a bore in the Waimakatu Groundwater Management Zone. The pSWLP allocation limit for the management zone is 22.27 Mm<sup>3</sup>. It is currently 7.9% allocated. The WW5 bore is located in the Upper Aparima Groundwater Management Zone. The pSLWP allocation limit is 56.9Mm<sup>3</sup>/year, and it is 7.3% allocated.
88. Sampling of groundwater in the vicinity of the WW4 and WW5 dairy platforms and down-gradient has shown high nitrate concentrations in some bores. In some cases, the nitrate concentration exceeds the NZ drinking water standard (11.3 mg/L). Dr Freeman was critical of the accuracy and therefore usefulness of the groundwater quality data, due to a number of monitoring bores being installed without adequate wellhead protection, thereby providing a conduit for contaminants to enter shallow groundwater. This introduces variability into the data, along with natural variability from factors such as the season, and the amount

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<sup>12</sup> Landpro, 2019. Water quality assessments Woldwide One Limited and Woldwide Two Limited & Woldwide Four Limited and Woldwide Five Limited.

<sup>13</sup> These being the National Objective Framework Band annual median, and the pSWLP water quality standard for Lowland hard bed rivers, and ANZECC trigger values.

of drainage to groundwater, making the data potentially unreliable or hard to interpret.

89. Despite these concerns, which we agree are real, the data presented in the Water Quality Report clearly show elevated nitrate concentrations in the vicinity of the dairy platforms, and as such, groundwater quality is degraded.
90. Data on microbial contamination of groundwater was not presented.
91. The WRO blocks are not in a named groundwater zone. Ms Lovett noted that there is little water quality data in the Merrivale area, but the available data show nitrate levels varying from pristine to ~ 6 mg/L N. *E. coli* levels are low.

### **Soils and physiographic zones**

92. The vulnerability of the land to farming and effluent discharge was described by both the applicant and Council Officers in relation to soil types, physiographic zones and Farm Dairy Effluent (FDE) risk classification.
93. Topoclimate maps on the Environment Southland website show primarily Braxton soils on WW4, with small areas of Glenelg and Tuatapere soils. On WW5, there is a mix of Tuatapere and Braxton soils with smaller areas of Upukerora soils close to the Aparima River. Soils on the WRO blocks were described as being of several types, 'a mixture of heavier wetter soils and free draining soils'. However, we understand from Mr de Wolde's evidence that these soils tend to be lighter and freer-draining than those in the Heddon Bush area (e.g. the Braxton soils) and therefore more suitable for winter grazing, in that there is less soil compaction, pugging and sediment run-off.
94. The soil type closely matches both the soil vulnerability classifications and the physiographic zones. FDE risk category A (artificial drainage or coarse soil structure) and Central plains physiographic zone correlates with the presence of Braxton soil, and FDE risk category E (other well drained but very stony flat land) and the Oxidising physiographic zone correlates with the presence of Glenelg and Tuatapere soils. The pSWLP describes the Central Plains physiographic zone as having soils rich in clay, which are often artificially drained. When soils are wet, contaminants move through the artificial drainage; when dry, the cracking nature allows for deep drainage. The Oxidising physiographic zone has generally flat land and well drained soils with low denitrification potential, resulting in high rates of nitrogen leaching.
95. The risk factors of the different soils and physiographic types were described in both the application and evidence from Mr Scandrett, Dr Roberts and Ms Meares. Braxton soils, about which there was considerable discussion, have 'swell-shrink' properties due to their clay content, and are susceptible to cracking when dry. They have a high water holding capacity and are slow to drain. This allows denitrification of nitrate in the soil water and so reduces the risk of deep drainage. They are susceptible to compaction, which prevents drainage and can cause surface ponding. This is a particular risk in the winter with heavier stock such as cattle.

96. Glenelg soils are free draining and therefore have a high risk to nutrient loss through deep drainage. There is a slight risk of compaction. Tuatapere soils are also free draining soils.

### **Significance of the area to Te Rūnanga o Ngāi Tahu**

97. The importance of the Aparima, Oreti and Waiau rivers are recognised in the Ngāi Tahu Claim Settlement Act (1998) as Statutory Acknowledgement areas. The significance of the various waterways were described in the evidence of Ms Blair (see earlier).

### **SECTION 104 ASSESSMENT**

98. Section 104(1) requires that, subject to Part II of the Act, regard must be had to:
- (a) any actual or potential effects on the environment of allowing the activity; and
  - (b) any relevant provisions of
    - (i) a national policy statement
    - (ii) a New Zealand Coastal Policy Statement;
    - (iii) a regional policy statement or proposed regional policy statement;
    - (iv) a plan or proposed plan; and
  - (c) any other matter the consent authority considers relevant or reasonably necessary to determine the application.

### **Section s104(1)(a) - Potential effects on the environment**

#### ***Effects on surface and groundwater quantity***

99. The groundwater takes are relatively modest and are well within the allocation limit of the relevant groundwater management zones.
100. There is no change to the rate and volume of take of groundwater on WW4 from the existing consent. These existing effects were considered to be acceptable by the Council officers. A well interference assessment was undertaken by Aqualinc Research Ltd in relation to the Phase 2 abstraction for WW5 (bore D45/0347). This showed that the impacts on the closest neighbouring bore used for stockwater was 0.06m over 300 days, using conservative storativity and transmissivity figures. This is within the limits set in Policy 31 of the RWP and Policy 22 and its supporting rules in the pSWLP. The Council Officers did not challenge the assessment. We therefore conclude that the effects on groundwater quantity and other water users will be negligible.
101. Bore D45/0347 is hydraulically connected to a nearby stream, however given the low rate of take, there was agreement between parties that effects were minor and minimum flow conditions were not required.

### ***Effects of the existing effluent storage facilities***

102. There was no particular discussion of the effect of these facilities. The volume required for storage of effluent on each farm was calculated and these calculations were not disputed by the Council officers. Standard conditions are proposed regarding regular monitoring to ensure the structures do not leak. With these in place, we conclude that the effects of these structures will be minor.

### ***Effects of the effluent discharge***

103. Discharge of effluent has the potential to adversely affect surface water and groundwater quality if applied inappropriately. There was no dispute that if applied appropriately, in a manner that avoided or minimised the loss of contaminants to water, the effects can be acceptable.<sup>14</sup> Primary matters discussed at the hearing relevant to management and discharge of effluent were the application methods, timing and rate of application, and the soil type and condition. The Officers' concerns focused on the overall increase in effluent to be applied to land (from the additional cows), the risk of applying effluent to Braxton soils and the inability of OVERSEER to model nutrient loss from this system.
104. Loss of nutrients from the discharge of effluent and diffuse discharges from stock are cumulatively assessed through the OVERSEER modelling. This is discussed later in this decision.

### ***Application rate and depth***

105. Effluent from the dairy shed and associated yard on each farm will be stored in either sumps, from where it is applied directly to land, or in the effluent storage facilities, along with effluent from the wintering shed. Liquid effluent is applied to a defined 78 ha (WW4) and 126 ha (WW5) of the dairy platform. Slurry is applied to areas that are not irrigated with liquid dairy shed effluent. The rates of discharge of effluent are low, between 1 and 10mm per application. There is a minimum return period of 28 days between effluent applications.
106. The Council Officers acknowledged that when applied at an appropriate rate and depth, effluent can act as fertiliser, providing nutrients for plant growth and soil health. They did not raise any concerns specifically with the method and rate of application. Ms Meares noted a report by Houlbrooke and Monaghan<sup>15</sup>, which showed that 25mm of effluent applied at a rate of <10mm/hour resulted in the effluent remaining in the top 200mm of soil. Given the rate of application is no more than 10mm/hour, with a depth of no more than 10mm, this indicates to us the risk of nutrient loss is low.

### ***Effluent discharge on Braxton soils and the need for soil moisture monitoring***

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<sup>14</sup> Cultural effects may be in a different category, discussed below.

<sup>15</sup> Houlbrooke and Monaghan, 2009. The influence of soil drainage characteristics on contaminant leakage risk associated with the land application of farm dairy effluent. Report prepared for Environment Southland.

107. The majority of WW4 and part of WW5 has Braxton soils. Two issues arise in relation to effluent application on Braxton soils: discharge of effluent onto cracked soils during summer dry periods, and discharge onto saturated soils during wet conditions.
108. Braxton soils, as discussed earlier, have 'swell-shrink' properties due to their clay content and can crack during dry periods. These cracks and fissures can provide a pathway by which drainage water can bypass the soil matrix, through water moving rapidly through the soil profile via macropores or channels (known as 'preferential' or bypass' flow). This can potentially result in contaminants being transmitted to groundwater without the natural attenuation that the soil matrix provides.
109. The degree of cracking depends on various factors, such as the soil's texture and structure. Mr Scandrett explained that the cracking was highly dependent upon pasture cover. With good pasture cover, cracks are small and diffuse. In new pasture, where roots are less established, cracking will be more severe. A report by Michael Killick attached to the WW1 and WW2 application<sup>16</sup> described the size and depth of cracking observed on Woldwide properties in the Heddon Bush area, with most cracks being 2-5mm in width, with variable cracking across the site.
110. Dr Roberts, Mr Scandrett and Ms Meares all agreed that there is a risk with effluent applied as slurry entering soil cracks during the summer and that a cautious approach should be taken to applying effluent to Braxton soils during dry weather. Ms Meares proposed a requirement for soil moisture monitoring, such that discharge must not occur when "soil moisture is at a deficit such [that] soil cracking may be likely to occur".
111. Most of the evidence in relation to good management practices associated with applying effluent to Braxton soils related to the WW1 and WW2 properties. We can find no specific mention of effluent discharge to Braxton soils within the WW4 and WW5 FEMPS and we think this should be corrected. Soils should be inspected for cracking prior to any discharge, and where possible discharge areas in the summer months should avoid Braxton soils.
112. We do, however, have concerns about the practicality of the Council's proposed condition. At the hearing it was suggested that the soil moisture at which cracking occurs would be determined by calibrating soil moisture readings against visual inspection of the soil. We question how this calibration might occur in practice, given the evidence that cracking is dependent on the amount of bare soil and root structure of the pasture. It therefore seems unlikely that cracks uniformly appear once a particular soil moisture deficit is reached. Consequently, we have not imposed this condition. However, we also consider that the condition proposed by the applicant, that effluent discharge would not occur when there is more than 500mm of cracks 5mm wide within one square metre of land, is not conservative enough. Discharge of effluent should be avoided when there is any observable cracking. This is reflected in consent conditions.

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<sup>16</sup> Killick, M. 2018. Investigation of cracking soils: Heddon Bush, January 2018.

113. The second issue is discharge of effluent onto wet soils, such that contaminants from effluent are lost via overland flow or leaching through to groundwater or tile drains. Consent conditions recommended by Council require that effluent is not discharged onto any soil at or near field capacity. While the condition applies to all soils, both Ms Lovett and Dr Scandrett cited research by Houlbrooke and Monaghan<sup>17</sup> that the risk applies particularly to soils with preferential or overland flow, such as Braxton soils. Soils that are well drained and exhibit matrix flow (we understand the Glenelg and Drummond soils to be of this type) show a very low risk of direct contaminant loss of farm dairy effluent under wet soil moisture conditions.
114. The Houlbrooke and Monaghan report states that “soils that exhibit preferential or overland flow are capable of considerable direct contamination loss of FDE when applications are made when soils are considered too wet (insufficient soil water deficit to store incoming moisture) and/or when the application rate of FDE is too high for the receiving soil’s infiltration rate. Preferential or overland flow provides little soil contact time and decreased opportunity to attenuate the applied contaminants.”
115. Ms Lovett described the recharge of groundwater from rainfall, moving contaminants into groundwater. She provided data from Environment Southland’s soil moisture monitoring site at Heddon Bush, showing that soil moisture is generally at field capacity (at or above 65% water filled pores) between May and September, indicating that effluent irrigation should not occur during this time.
116. We understand that the applicant relies on the Environment Southland soil moisture monitoring site at Heddon Bush to ensure conditions are suitable. Mr Scandrett’s evidence for WW1 and WW2 was that this is checked prior to every irrigation application; however, again we find no reference to this in the WW4 and WW5 FEMPs. We note that this moisture monitoring site is located in Glenelg soils, which are considered lower risk for nutrient loss from effluent discharge.
117. The Council Officers proposed a condition requiring that a soil moisture sensor is installed in Braxton soils in the property and used to determine when soil is at or near field capacity, and so schedule irrigation of effluent.
118. We are satisfied that the low rate application, and standard conditions (effluent is not discharged when the soil moisture content of the soil is at or above field capacity, there is any ponding of water on the soil surface or the soil is saturated) will ensure the effects of effluent discharge are minor and acceptable. However, we agree with Council’s experts that soil moisture monitoring in these soils is critical, since the evidence is that it is on these high risk soils that it is most important that there is a soil moisture deficit when effluent is applied in order to avoid nutrient loss. We do not see how this can be guaranteed unless soil moisture is monitored. Mr Scandrett stated that Braxton and Glenelg soils ‘can be expected

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<sup>17</sup> Houlbrooke and Monaghan, 2009. The influence of soil drainage characteristics on contaminant leakage risk associated with the land application of farm dairy effluent. Report prepared for Environment Southland.

to lose soil moisture at a similar rate'. However this is contrary to the Officers' advice. Appropriate application of effluent is part of the suite of best practice and mitigation measures relied on by the applicant to ensure that the predicted nutrient losses occur. We therefore consider it appropriate, given the high risk, to require a monitoring site in the Braxton soils. A monitoring site is required under the consents granted to WW1 and WW2, and the conditions of this consent provide for the applicants to use that site if they wish, or install a separate one on WW4, WW5 or both.

### ***OVERSEER modelling and effects on ground and surface water quality***

119. Effects on water quality arise from both the application of effluent and the diffuse discharge of contaminants from the cows. The primary contaminants of concern are nutrients (nitrogen and phosphorus), *E. coli* and sediment. To estimate the cumulative change in nutrient loss from the proposal as a whole, the applicant relied on OVERSEER modelling.

#### *Use of OVERSEER*

120. The applicant accepted the inherent uncertainty in the model and the fact that the actual nutrient loss figures are likely to be inaccurate. The usefulness and accuracy of OVERSEER was addressed by Dr Roberts and Dr Freeman. Both focused on the appropriateness of using the model to assess the change in nutrient loss between two farming systems.
121. Dr Freeman's evidence was that the modelling should be considered in conjunction with the specific farm systems and mitigation measures proposed, to assess the level of certainty about the predicted change in nutrient loss. While there is a high level of uncertainty about the actual nutrient loss, if there are clear, measurable and verifiable changes from one farming system to another, there will be a high level of certainty about the relative changes in long term annual average nutrient loss estimates.
122. Dr Roberts reiterated these points, noting that the modelling outputs presented were a valid way of showing the differences in N loss between the existing and proposed scenarios, as the two scenarios are modelled with the same soil and climatic inputs, and so compared 'apples with apples'. The qualitative difference between the two scenarios can be treated with confidence.
123. Dr Freeman also noted that the greater percentage reduction in nutrients, the more confidence we can have that the reduction is genuine and will occur. A reduction of 0.5% had less certainty, but one of, for example, 3% had a far greater level of certainty.
124. Both Dr Roberts and Dr Freeman are experts on the use of OVERSEER. Dr Roberts has significant research experience in soil fertility and agronomy and was involved in development of the OVERSEER model. Dr Freeman has co-authored a report on the use of OVERSEER in regulatory environments. We have given their evidence appropriate weight. Having said that, there was no dispute from Council Officers and experts that it is appropriate to use OVERSEER to compare the relative loss under different proposals. The primary differences in opinion was the additional

uncertainty resulting from nutrient loss on Braxton soils, and the certainty that the mitigation measures proposed would occur on the ground.

#### *OVERSEER modelling on Braxton soils*

125. While the Officers accepted that appropriate management methods and consent conditions can manage the effects of effluent discharge on Braxton soils, as discussed earlier, the effects of diffuse discharge from the increased number of cows on the paddocks may not be accurately assessed by OVERSEER.
126. Experts for both the applicant and Council agreed that OVERSEER is unable to accurately model nutrient loss through Braxton soils, due to the swell crack properties. OVERSEER is a long term average model and cannot consider site specific and weather dependent soil cracking. However, Dr Roberts considered that the cracking nature of the Braxton soils is of little consequence in terms of leaching from urine spots or loss of particulate phosphorus. For this to occur, the soil must be at field capacity then further water added by rainfall or irrigation. He considered this scenario to be unlikely in dry summers when soils are cracked, unless there is a high intensity rainfall event.
127. We note, however, Ms Lovett's evidence on groundwater recharge (drainage of water (and contaminants) through the root zone) and that this can occur throughout the year, including the summer. She provided an example graph of groundwater recharge in February 2018 following a significant rainfall event. The frequency of such events was not quantified and so we are not in a position to judge the likelihood of leaching occurring in the summer on Braxton soils on the property, but accept that losses during the summer due to heavy rainfall events will occur.
128. However, we also bear in mind that OVERSEER is a valid tool for comparing the change between the current and proposed scenario, and place weight on the results of that modeling.

#### *Phosphorus loss calculations outside Overseer*

129. In addition to modelling nitrogen and phosphorus (P) losses through OVERSEER, the applicant calculated the reduction in P loss resulting from mitigation measures that could not be modelled in OVERSEER. Calculated reductions in P loss were added to the modelled reduction in P loss from OVERSEER.
130. The 'P mitigations' were detailed in the Farm Environmental Management plans (for WW4 and WW5) and as a separate 'Phosphorus mitigation plan' (for WRO), prepared by Mr Crawford and Mr Cain Duncan respectively, and are aimed at reducing overland flow of contaminated run-off, including through establishing vegetated riparian margins, fencing and planting some critical source areas, modifying laneways and altering culverts to divert run-off.
131. In addition, Mr Crawford undertook a sensitivity analysis of the ability of OVERSEER to model nutrient loss under a winter barn situation. The results showed a significant increase in nitrogen loss if the model was run assuming no barn, with the cows and feed supplements on the paddock, but a very minor increase in



phosphorus loss (1.3%). He concluded that OVERSEER is limited in its ability to take account of the likely phosphorus loss that would accompany a winter barn.

132. Ms Phillips, the Council’s technical expert on OVERSEER, had no concerns in relation to this modelling or the phosphorus loss calculations outside OVERSEER. The Officers’ primary concern was whether the mitigations would be implemented. We discuss this further in relation to the conditions. Overall, we are satisfied that the modeling and phosphorus calculations are appropriate.

*Results of nutrient loss modelling*

133. The results of the modelling described above, including the additional calculation of phosphorus loss outside OVERSEER, is shown in the tables below. The ‘current’ modelling for WW4 comprises average farm inputs over the four years up to 2017/2018; and for WW5, inputs 2016/17 and 2017/18. The figures shown are those provided by Mr Crawford in his evidence dated 16 September 2019. As noted, at our request he subsequently re-modelled the nutrient losses on WW5 with the Collies Block modelled as a sheep block, not as part of the dairy platform. These new baseline figures are different from those shown below. The new baseline figures cannot be directly compared with the Phase 1 and Phase 2 loss figures in the table as the modelling also excluded the LINZ land, which is part of the proposal. They have therefore not been presented below. Mr Crawford demonstrated separately<sup>18</sup> that the proposal (excluding the LINZ land) reduced nutrient losses below the current baseline, although to a lesser extent for nitrogen than shown below. Mr Crawford commented that removing the LINZ land made very little difference to the results, as it is a small proportion of the farm area (15.4 ha of a total of 259 ha current effective dairy platform).
134. We are therefore satisfied that the proposal will result in reduction in nutrient loss, although for nitrogen on WW5 to a lesser extent than the figures below suggest.

**Nitrogen loss**

	N loss current	N loss Phase 1	N loss Phase 2	Difference (current to Phase 2)
WW4	11,978	11,674	9,727	- 18.8%
WW5	16,247	16,047	14,678	-10%
WRO	23,033	N/A	22,603	-1.9%

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<sup>18</sup> 18 November

### Phosphorus loss

	P loss current	P loss Phase 1	P loss Phase 2	Difference (current to Phase 2)
WW4	343	342	342	-0.3%
WW5	243	233	236	3%
WRO	516	N/A	454	-12%

135. Having regard to Dr Freeman’s evidence that the greater the difference in nutrient loss between the two systems, the more certain we can be that the reduction will actually occur, we note that the nitrogen loss reduction on the WRO is small. There is a proposed reduction in the number of cows grazed and a reduction in use of fertiliser from the 2016/17 year, although an increase in cows grazed over winter compared to the 2017/18 year. The modelled reduction in nutrient loss also reflects planting an additional 12ha of land on Merrivale Block in trees. While on balance we accept that the nutrient loss overall from the WRO blocks is likely to reduce under the proposal (the phosphorus loss reduction is significant at 12%), ensuring that the proposed mitigation measures are in place for these blocks is important to ensure that the modelled nitrogen loss in particular occurs.
136. The phosphorus loss reduction for WW4 is also very small. We note, however, Mr Crawford’s evidence that OVERSEER is limited in its ability to take account of the likely phosphorus loss that would accompany a winter barn. We take from this the reduction in loss is likely to be greater than modelled.

### *E. coli and sediment*

137. Dr Freeman relied on the modelled effect on phosphorus loss as a proxy for the relative loss of sediment and *E. coli*. He noted that there are no farm-scale models that can be used to directly assess the change in these parameters. The rationale for using phosphorus loss from OVERSEER is that a key component of the model is based on an assessment of soil loss, which will include *E. coli* as well as sediment. Therefore a modelled reduction in phosphorus is likely to result in similar reductions in both sediment and *E. coli*.
138. While Ms Lovett agreed with this approach<sup>19</sup>, Ms Phillips’ opinion was that modelled phosphorus loss in OVERSEER should not be used as a proxy for sediment and *E. coli* loss, although she acknowledged their loss pathways are similar. Her view was based on a lack of references to using OVERSEER in this way, the acknowledged inaccuracy in OVERSEER for modelling phosphorus loss, and a

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<sup>19</sup> Lovett, 2019. Supplementary response report for Woldwide One Ltd and Woldwide Two Ltd and Woldwide Four Ltd and Woldwide Five Ltd consent applications, para 8.1.

report<sup>20</sup> on mitigation measures to reduce sediment and freshwater contaminants, which showed that the percentage reductions of phosphorus, sediment and *E. coli* achieved from various mitigation measures are variable.

139. We understand that the main route for both sediment and *E. coli* loss is into surface water via overland flow, with some possibility of loss of *E. coli* through the soil direct to groundwater. The main mitigation measure in this proposal is to remove stock from intensive winter grazing on heavy soil that is prone to water logging and pugging, and house them in winter barns. This mitigation alone must significantly reduce the risk of sediment run off during the winter months, and loss of *E. coli*. While we accept that the loss of *E. coli* and sediment will not exactly mirror the loss of phosphorus, we accept Dr Freeman's evidence that there is an association, and find overall that given the mitigation proposed, it is likely that there will be a reduction in sediment and *E. coli* to surface water.

#### *Effects on drinking water quality*

140. Increased microbial contamination is a risk to drinking water supplies downgradient of the farms. Ms Lovett's report<sup>21</sup> noted two drinking water supplies in the vicinity of the dairy platforms: Drummond School supply and Otautau water supply. However these supplies are relatively distant (9-10km) and are not located in the direction of known groundwater flow. Effects on these water supplies are not likely to occur.
141. There may also be domestic wells downgradient of the farms. While we accept that a modelled reduction in nutrients is likely to occur, and so there is likely to be no adverse effect on the nitrate concentration of the groundwater, Dr Freeman's evidence was that it is possible that some of the proposed mitigation measures could result in a very small increase in micro-organisms entering the soil and subsequently groundwater. For example, re-contouring laneways to ensure that run-off flows onto land rather than into surface water will result in (appropriately) more effluent being discharged to land. While it was not possible to quantify any increase, his view was that the risk of an increase was 'unlikely;' any increase would likely be insignificant.
142. We consider that the risk of increased microbial contamination of the groundwater, and consequently drinking water supply, is extremely low. The removal of stock from the land during winter must significantly decrease the amount of *E. coli* applied to the land directly. The effluent collected in the barns is stored and applied at low depths when conditions allow the contaminants to be absorbed into the soil. The relatively small increase in effluent on land as a result of recontouring laneways seems unlikely to exceed the positive reduction from the winter barns.

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<sup>20</sup> Matheson, L., Djanibekov, U., Greehalgh, S., 2018. Recommended mitigation bundles for cost analysis of mitigation of sediment and other freshwater contaminants in the Rangitaiki and Kaituna-Pongakawa-Waitahanui water management areas. Final report for Bay of Plenty Regional Council.

<sup>21</sup> Lovett, A. Review of Resource Consent Application by Woldwide Four Ltd and Woldwide Five Ltd. Earth & Environmental Science Report 2019/03. July 2019.

### *Effects on the downstream surface and groundwater catchments*

143. It was agreed by the applicant and Council officers that surface waterways and groundwater in the various catchments are degraded. Considering the proposal as a whole, there will be a small decrease in modelled nitrogen and phosphorus loss from the dairy platforms and WRO blocks.
144. We note, however, that the part of the Cochran's Block that is to be incorporated into WW4 is in the Aparima catchment and Oxidising physiographic zone. The remainder of WW4 is located in the Waimatuku catchment and Central Plains physiographic zone. The Cochran's Block is currently a sheep farm. Policy 10 of the pSLWP is that consents for additional dairy farming will generally not be granted where contaminant losses in the zone will increase.
145. In response to this issue, Mr Crawford presented additional modelling<sup>22</sup> which showed that when WW4 and WW5 are considered together, nitrogen losses within the physiographic zone decrease. The phosphorus loss increases by 17 kg/year before additional phosphorus mitigation is taken into account. Mr Crawford noted that "the additional mitigations will be able to cater for this increase, given that the barn mitigations would include portions of this sheep block in prior calculations".
146. We are satisfied that the reduction in losses from WW5 will offset the small increase in losses in the Aparima catchment and Oxidising physiographic zone. However, to ensure this reduction in losses occurs, it is necessary to manage the use of that part of the Cochran's block until the winter barn and other mitigation are in place on WW5. The applicant offered on a condition on an Augier basis that milking cows would not be located on the Cochran's Block until the WW5 barn was operational. We consider that this restriction need only apply to the part of the Cochran's Block within the Oxidising physiographic zone and have included it on that basis.
147. In terms of effects on surface water, Dr Freeman did not attempt to estimate the potential consequences on downstream water quality, as this would involve significant assumptions and the resulting estimates would have considerable uncertainty. Rather, he concluded that there would be an extremely small improvement in ground and surface water quality. However, these improvements, in the context of large receiving water catchments and in the absence of similar improvements elsewhere in the catchment, would not be measurable.
148. Ms Lovett raised particular concerns about what she considered was a lack of assessment of the impact of the proposal in the Orauea catchment, in light of an increase in intensive winter grazing on WRO from 52 ha to 78 ha. We note that while there was 52 ha of intensive winter grazing (IWG) on the WRO blocks in 2017/18, Mr Duncan's evidence indicates that the area used for IWG was greater in 2016/17, and in general the Merriburn Block was used more intensively prior to WRO taking over its operation. The proposal therefore appears to represent a decrease in the area of intensive winter grazing. While Dr Freeman did not

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<sup>22</sup> Dated 18 October 2019.

specifically address the downstream impacts in his written evidence, he clarified that the same approach was used as for the Waimatuku and Aparima catchments – a modelled reduction in nutrient loss was likely to lead to a small improvement in water quality downstream / downgradient.

149. As stressed by the Council Officers and experts, the predicted reductions in contaminant loss, and consequently, any downstream improvement in water quality, will only eventuate if the proposed mitigations are undertaken as described and modelled, and good management practices are in place. The mitigations include the broad farming changes (such as removal of intensive winter grazing) and localised measures such as fencing and planting of critical source areas. We agree with the Officers. It is critical that the conditions and associated documents (farm management plan and effluent management plan) are sufficiently clear and enforceable to ensure that the predicted improvements occur. We discuss this further in the section on conditions.
150. Our overall conclusion is that, on the balance of evidence, assuming the proposed changes, mitigations and good management practices occur, contaminant loss will reduce and there is consequently likely to be a small positive effect on surface water quality and on groundwater quality. However, we agree with Dr Freeman that unless there is a corresponding decrease in nutrient loss on other properties, the effect is unlikely to be measurable. Proposed conditions require nutrient loss to be assessed, with a commensurate ability for Council to review conditions (including stock numbers) if effects are not as modelled by the applicant.
151. In relation to the proposed phasing of development, Phase 1 includes both an increase in stock numbers and in dairy platform; and while changes are made that indicate nutrient losses will decrease, these changes are generally very small (< 2%). We find that the winter barns are an essential part of the proposed mitigation for both proposals in terms managing effluent during the winter season in order to maintain and improve water quality. A collateral benefit is that the barns improve animal welfare during the wet season by reducing intensive winter grazing. Consequently, we do not agree with the proposed phased approach. We have therefore applied consent conditions that require construction of the winter barns prior to any increase in stock numbers or expansion of the dairy platforms. It is unlikely that consent would be granted without the winter barns.

### ***Cultural effects***

152. The Rūnanga identified potential adverse cultural effects if the proposal is granted. The application spans three catchments and Ms Blair's evidence outlined the values and uses of each river and its significance to iwi. Wai is fundamental to health and wellbeing of Māori and they take their kaitiaki role seriously.
153. The Rūnanga identified relevant Ngā Kaupapa/Policy in the relevant iwi management plans (Te Tangi a Taurira and the Ngāi Tahu Freshwater Policy Statement). These are discussed elsewhere. The Rūnanga have taken a strong position on dairy intensification, in which it opposes all applications for increases in herd numbers until such activities no longer cause harmful effects on whenua, wai and biodiversity, and the cultural health of the takiwa is restored so that it does not impact on the Rūnanga's kaitiaki responsibilities.

154. On behalf of the Rūnanga, Ms Blair sought that consent be declined; she did not identify any consent conditions that could be imposed to recognise the relationship of Ngāi Tahu ki Murihiku with ancestral waters if consent was granted.
155. The effects of most concern are those that impact water quality, mauri, and the Rūnanga's kaitiaki role and relationship with their ancestral waters and taonga. As identified by the recent Environment Court decision on the pSWLP (*Aratiatia Livestock*)<sup>23</sup>, these factors are all relevant to Te Mana o te Wai, which has a central importance to the NPSFW (2017) and the pSWLP.
156. We have must particular regard to the exercise of kaitiakitanga; this merits careful consideration as part of the assessment of impacts of the proposal on Te Mana o te Wai values. While acknowledging its expertise in tikanga, and its relationships with ancestral waters, lands and taonga, Te Rūnanga did not call any technical expert evidence in support of its position, choosing to rely on the s42A assessment. Counsel for the applicant noted that:
- “[3] The latter [Te Rūnanga] oppose out of a principled opposition to increase in cow numbers. From their evidence and answers to questions it does appear that their most critical concerns arise from possible effects on water quality. If the Panel can be satisfied that the mitigation proffered is likely to result in reduced adverse effects on water quality when compared to past practices with the existing number of cows, then it is submitted that those water quality concerns will have been addressed as well.”
157. While the evidence, which we accept, is that there will be an improvement in water quality, we acknowledge that the increase in dairy cow numbers is of concern to Te Rūnanga and may adversely affect the relationship between Te Rūnanga and their ancestral waters and taonga. A s128 RMA review condition is included to enable review of conditions should any adverse cultural effects arise, identified by future monitoring. This provides for Ngāi Tahu ki Murihiku's ability to exercise kaitiakitanga, and maintain their relationship with ancestral lands, waters and taonga.

### ***Positive effects***

158. We heard evidence from Mr and Mrs de Wolde on the positive impacts winter barns have on stock health, production and farm worker satisfaction, due to the removal of the cows from cold, wet and muddy winter conditions. We acknowledge the recent public focus on intensive winter grazing of cattle both in terms of environmental effects and animal welfare. While animal welfare is managed by other legislation, we consider that positive effects on the health and wellbeing of the stock and consequently the farmers who work with them, is consistent with the purpose of the Act, in enabling people to provide for their social wellbeing. This factor does not merit undue weight (in light of policy imperatives relating to, in particular, water quality) but is recognised as a positive effect of granting consent. Other positive effects include the social and economic benefits to the applicant companies from proposed consents. These merit consideration, but not significant weight, given the policy imperatives identified below.

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<sup>23</sup> [2019] NZEnvC 205

## Section 104(1)(b) - Policy Statements and Plans

159. Relevant planning instruments are identified in the s42A report, and appear to be common ground. These include:

- National Policy Statement for Freshwater Management 2014 (NPSFM)
- Regional Policy Statement
- Operative Regional Water Plan
- Proposed Southland Water and Land Plan
- Iwi Management Plans

### ***National Policy Statement for Freshwater Management***

160. The NPSFM promotes improved freshwater management by directing councils to manage water in a sustainable and integrated way, while providing for growth within set water quantity and quality limits. Freshwater quality within a freshwater management unit must be maintained, where community values are currently supported, and improved where they are not. Councils must establish objectives and set limits for freshwater management units in their plans to avoid over-allocation.

161. The pSWLP explains that freshwater management units have been identified, but the necessary freshwater objectives and limits have not yet been set. Until this process is completed, Policy A4 of the NPSFM applies. This requires that when considering applications for discharges (including diffuse discharges from stock), regard must be had to the extent to which the discharge avoids contamination that will have an adverse effect on the life-supporting capacity of fresh water and the health of people and communities.

162. The application and Dr Freeman’s evidence did not discuss the NPSFM in detail, and the s42A report concludes that the NPSFM is given effect to in the pSWLP. This opinion must be viewed in light of the interim Environment Court decision (*Aratiatia Livestock*). The Court places substantial emphasis on Te Mana o te Wai as a matter of national significance that must be given effect in the pSWLP. Te Mana o te Wai means the integrated and holistic wellbeing of a freshwater body. Upholding Te Mana o te Wai acknowledges and protects the mauri of water. While that decision is for the most part interim, and a number of changes to objectives, policies and methods are still pending or to be decided by the Court, to ensure that the pSWLP gives effect to the NPSFM (2017), the Court confirms changes to several provisions<sup>24</sup> and identifies potential changes to a number of others. We do not

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<sup>24</sup> Including Objectives 2 and 3; Objective 14 is confirmed; Policy 3 is amended; a range of other relevant objectives and policies are “proposed to be amended” but these findings are interim, may be subject to change, and (except where noted) we must rely on the appeals version pending final resolution by the Court.

consider this affects our overall assessment. We are obliged to provide our decision on the planning instruments as worded on the date of our decision.

163. The pSWLP includes NPSFM Policy A4, as required until policies A1 and A2 are given effect to. This requires that we have regard to the extent to which an application would avoid contamination that will have an adverse effect on the life-supporting capacity of fresh water and the health of people and communities. Given our conclusion that nutrient and contaminant loss will reduce under the proposal, we are satisfied that the application is consistent with this policy. The proposal, with the substantial body of mitigation measures in place, will not adversely affect the physical health of the environment, the waterbodies or the people. To that extent, the proposal is able to recognise and provide for Te Mana o te Wai.

### ***Southland Regional Policy Statement (RPS)***

164. As with the NPSFM, the pSWLP is required to give effect to the RPS. The overall direction of the RPS is to maintain or improve water quality in the region to meet the needs of the community, Māori cultural health and wellbeing, and safeguard life supporting capacity and ecosystem health. The RPS recognises that development of rural land provides for the community's social, economic and cultural wellbeing, but requires that rural land is sustainably managed.
165. Overall, we consider that the proposal, in allowing ongoing use and development of the land while reducing impacts on water and its associated values, is consistent with the RPS.

### ***Proposed Southland Water and Land Plan***

166. As noted, the Environment Court decision in *Aratiatia Livestock* is relevant, and merits weight, in relation to our discussion of the pSWLP. The decision confirms the importance of Te Mana o te Wai, meaning that changes to the pSWLP may follow (via the ongoing Environment Court process) to give effect to the NPSFM (2017). Parties were invited to comment, and both the applicants and s42A officer lodged submissions. No other submitters provided comment. Our decision has regard to those submissions, and changes to relevant provisions that the *Aratiatia Livestock* decision has confirmed as appropriate.
167. For reasons of timing, a range of potential changes to objectives and policies signaled by the Court are not confirmed, and are interim only; and we have therefore relied on the decisions version for those objectives and policies. We agree with Counsel for the Applicants that Part 2 RMA remains relevant, pending final resolution of the pSWLP. We must apply the pSWLP as it stands, at the date of our decision. This includes the clear directive in Policy 16 to not generally grant consents in the physiographic zones, where Policy 16(b)(i), (b)(ii) or (b)(iii) are triggered. Weight, in light of the appeals process, is addressed below.
168. The primary concern of the pSWLP as it relates to these applications is to maintain water quality (where it is not degraded) or enhance water quality (where it is degraded). A number of interrelated objectives touch on this issue, including that land, water and associated ecosystems are sustainably managed as integrated natural resources (Objective 1), the mauri of water will be acknowledged and



protected so that it provides for the health and mauri of the environment, waterbody and people (Objective 3), there is no reduction in the overall quality of fresh and coastal water (Objective 6), any further over-allocation of freshwater (quality and quantity) is avoided and over-allocation is phased out (Objective 7), the quality of groundwater is maintained or enhanced (Objective 8), discharges of contaminants with significant or cumulative adverse effects on human health are avoided (Objective 13B), the range and diversity of ecosystem types and habitats within water bodies (including margins and their life-supporting capacity) are maintained or enhanced (Objective 14), and activities use good management practices to, amongst other things, maintain or improve water quality (Objective 18).

169. The objectives also recognise the productive and economic potential of the land. Objective 2 is that water and land are recognised as enablers of the economic, social and cultural wellbeing of the region.<sup>25</sup> Objective 13 is to enable the use and development of land and soils to support these wellbeings.
170. The most relevant policies in terms of the effects of these applications are the physiographic zone policies 5, 6, 10 and 11, and policies 15B and 16. The *Aratiatia Livestock* decision identifies potentially material changes to these policies, but these are not confirmed at the time of our decision. Of importance, our factual finding is that contaminant losses will not increase as a result of the proposed activity, subject to the extensive mitigations which include intensive use of winter barns.
171. Policies 5, 6, 10 and 11 require implementation of good management practices, and having particular regard to adverse effects, caused by contaminant loss from drainage and overland flow, and that, for the Central Plains, Oxidising and Peat Wetlands physiographic zones:
- 3. decision makers will generally not grant consents for additional dairy farming of cows or additional intensive winter grazing where contaminant losses will increase as a result of the proposed activity.'*
172. The applications are for additional dairy cows, however (as noted) the evidence is that contaminant losses will not increase in any physiographic zone.
173. The Consent Officers also highlighted clause 1 of these policies:
- 1. requiring implementation of good management practices to manage adverse effects on water quality from contaminants transported via [variously - artificial drainage, deep drainage and overland flow].*
174. Their view was that good management practices are required as a 'minimum operating standard', for example as permitted standards under Rule 20, and the applicant, in their view, was not fully implementing good management practices.

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<sup>25</sup> The *Aratiatia Livestock* decision removed reference to "primary production" in Objective 2, but not the emphasis on enabling wellbeing.

175. They noted the pSWLP definition of good management practices as: *“Include, but are not limited to, the practices set out in the various Good Management Practices factsheets available on the Southland Regional Council’s webpage”*. The factsheets<sup>26</sup> set out an extensive list of practices, including some that we consider to be best practice – for example wintering stock off paddock. Many of these activities are included in the FEMP.
176. The Officers also considered that the mitigation measures proffered were often simply good management practices that should be in place anyway, even for a permitted activity, and no credit should be gained for them. The Officers assessed each mitigation measure and gave their view on whether it was a true mitigation. In general, they only considered the winter barns as true mitigation, with other mitigations actually being ‘offsets’ – that is, an increase in nutrient loss in one area was offset by a reduction in another area.
177. Some of the Officer’s criticism of the mitigation measures proposed arise from a different view to the one we have taken on the appropriate consented baseline, and we have given those comments little weight. In terms of ‘offsetting’, we do not consider this to be unacceptable within a defined area, provided that nutrient loss in any area is not excessive (good management practices are used) and there is no transfer of effects from one catchment or physiographic zone to another. It is not reasonable to expect nutrient losses to stay the same at a paddock level, when in a proposal such as this, a significant mitigation measure will reduce losses from the dairy platform as a whole. This finding is specific to the facts of this proposal.
178. Overall, we consider that the mitigations identified as being the most effective at reducing nutrient loss – extension of the winter barns, removal of intensive winter grazing, fencing and planting critical source areas and low depth of effluent application - are over and above what is generally accepted as good management practice and (in combination) are genuine mitigations.
179. Policy 15B is:

*Where existing water quality does not meet the Appendix E Water Quality Standards or bed sediments do not meet the Appendix C ANZECC sediment guidelines, improve water quality including by:*

- a. Avoiding where practicable and otherwise remedying or mitigating any adverse effects of new discharges on water quality or sediment quality that would exacerbate the exceedance of those standards or sediment guidelines beyond the zone of reasonable mixing; and*
- b. Requiring any application for replacement of an expiring discharge permit to demonstrate how and by when adverse effects will be avoided where practicable and otherwise remedied or mitigated, so that beyond the zone of*

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<sup>26</sup><https://www.es.govt.nz/environment/land-and-soil/land-management/good-management-practices>. Accessed 9 Dec 2019.

*reasonable mixing water quality will be improved to assist with meeting those standards or sediment guidelines.*

180. Although this policy refers specifically to 'discharges', Policy 13(2) is to "manage land use activities and discharges (point source and non-point source) to enable the achievement of ... Policy 15B". We therefore read 'discharges' in Policy 15B to include diffuse discharges from dairy farming. This application includes both a 'new discharge' aspect, as there is an increase in the land area farmed and therefore there will be new diffuse discharges from this area, and a 'replacement' component, as the existing discharge permits are being replaced.
181. We are satisfied that there will be a reduction in contaminant loss from the sites, and hence there is likely to be a small, although not necessarily measurable, improvement in downstream water quality.
182. The relevant part of Policy 16 for the purposes of this application is 1(b):
1. *Minimising 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....
    - 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, to 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 over-allocated; 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; and ...*
183. The policy identifies a number of situations where consent should generally not be granted. Given our finding that the adverse effects of the proposal are less than the current and consented land use, clause (b)(i) is not relevant. Allocation limits for water quality have not yet been set, so it is unclear how over-allocation in clause

(ii) can be determined<sup>27</sup>. However, it is common ground that water quality in the catchment is degraded. Water quality standards are not fully met, meaning clause (iii) is relevant.

184. The use of 'generally' in the policy provides for exceptions, which are likely to be narrow. Mr Erceg's view was that in determining when it might be acceptable to grant consent (that is, what 'generally not grant' means in practice), if an application is consistent with Policy 15B and the physiographic zone policies, it is more likely to be acceptable. If contaminant losses increase, consent should not be granted.
185. This advice is helpful. We cannot see how refusing consent that will result in a reduction in nutrient discharge, on the grounds that water quality standards in the catchment are not met, will achieve the aim of the pSWLP and higher planning instruments to maintain or improve water quality. The proposal is consistent with Policy 15B and the physiographic zone policies. So, while it is inconsistent with Policy 16(1)(b)(iii), it is (on its particular circumstances) within the exception provided for.
186. Policy 13 recognises that use and development of the region's land and water resources enables communities to provide for their wellbeing. The application is consistent with this policy.
187. Other relevant policies listed in the s42A report include management of effects on water quantity and effects of agricultural effluent systems. The application is generally consistent with these policies.
188. As to cultural effects, the proposal is not supported by Te Rūnanga o Ōraka Aparima for reasons identified in evidence. In light of our factual findings, the proposal results in a small, but positive, improvement in water quality. But we accept that adverse cultural effects include both tangible and intangible impacts. Opposition by Te Rūnanga is an adverse cultural effect of the proposal; it is an intangible effect (based on cultural beliefs). We therefore find that the proposal is partly inconsistent with pSWLP Policies 1 and 2. This adverse cultural effect merits weight, but is not determinative for the subject proposal, which (as a discretionary activity) must be viewed in light of the policy framework as a whole.
189. Considering the suite of objectives and water quality policies together, we consider that the application is generally consistent with the planning framework and direction of the pSWLP. It is inconsistent with Policy 16(1)(b)(iii), but qualifies as an exception to the policy intent (to generally avoid intensification). This finding is made on the merits, and cannot be extrapolated to other applications. As noted, the proposal is partly inconsistent with pSWLP policies relating to kaitiakitanga and

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<sup>27</sup> Some guidance as to whether it is over-allocated can be gained by reference to the thresholds in the NPSFM. We note that the *Aratiatia Livestock* decision at [143] suggests "over-allocation" in proposed Objective 7 refers to both pre and post FMU processes; meaning that the objective does not apply the definition of "over-allocation" used in the NPSFM (2017). Similar logic applies to Policy 16(b)(ii). But the interpretive issue does not need to be resolved because (b)(iii) is triggered by the proposal.

cultural values, given the intangible adverse cultural effect. Because the proposal is able to demonstrate a small improvement in water quality, we consider the pSWLP supports the grant of approval.

### ***Operative Regional Water Plan***

190. The Regional Water Plan contains a similar suite of provisions to the pSWLP, with the aim of maintaining or enhancing water quality, although with somewhat less directive policies. The plan does not directly implement the NPSFM, except to the extent that it includes the NPSFM Policy A4. Nor does it explicitly manage farming activities.
191. As the proposal will have a small, but positive impact on water quality, it is generally consistent with the relevant provisions of this plan.

### ***Weight given to the regional plans***

192. As the proposal is generally consistent with both plans, the question of weight is not at issue. For completeness, we record that planning witnesses for both Council and the applicant agreed the operative RWP merited lesser weight because it pre-dates, and therefore does not give effect to, the NPSFM 2014 and the RPS. In contrast, while it is still at the appeals stage, additional weight is given to the pSWLP as it better reflects Part 2 RMA imperatives and relevant provisions in the NPSFM 2014 that relate to Te Mana o te Wai, tangata whenua and water quality.

### ***Section 104 (1)(c) - any other matters***

193. There are two relevant iwi management plans, Te Tangi a Taurira and the Ngāi Tahu Freshwater Policy Statement.
194. Ms Blair identified the relevant issues and policies in Te Tangi a Taurira. These focus on providing for Ngāi Tahu ki Murihiki's kaitiaki role, consideration of the cultural values of water, avoiding the discharge of contaminants to water, striving for the highest appropriate water quality, protection of the life supporting capacity of land and water, restoration of habitat and monitoring of resource consents.
195. The Ngāi Tahu Freshwater Policy Statement focuses on restoring and protecting the mauri of freshwater resources, maintaining healthy mahinga kai populations and habitats and enabling kaitiakitanga.
196. The proposal is consistent with many of these policies, as it avoids discharge to water and will have an overall positive effect on water quality. As discussed earlier, Ms Blair did not seek cultural monitoring for this application.
197. We have had regard to the Rūnanga's stated opposition to increases in dairy farming; in light of that position, the grant of consent results in a potential adverse cultural effect to those belief systems<sup>28</sup>. We acknowledge that this application is contrary to that view, but consider that there is an overall benefit to the

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<sup>28</sup> Intangible cultural effects are recognised by the RMA and the planning instruments.

catchment, that will assist in improving water quality, one of the main reasons for the position taken.

### **Section 105 Matters relevant to certain applications**

198. Section 105 requires that for an application for a discharge permit, in addition to the matters in s104(1), we must have regard to:
- (a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
  - (b) the applicant's reasons for the proposed choice; and
  - (c) any possible alternative methods of discharge, including discharge into any other receiving environment.
199. The nature of the discharge and sensitivity of the environment is described above. The existing environment is degraded and it is appropriate that water quality is not further degraded. The application will result in a modelled reduction in nutrient loss and therefore a likely small improvement in water quality.
200. The applicant's reasons for the changes to the farming operation are valid, particularly the desire to improve animal welfare and reduce the environmental impact of the farming operation.
201. There are no reasonable alternatives to the dairy effluent discharge. The proposed application rates are low and there is adequate land to discharge the effluent.

### **Section 107**

202. Section 107 restricts the granting of discharge permits to discharge contaminants to water or to land where it may enter water, if after reasonable mixing, the contaminant may give rise a range of effects in the receiving waters.
203. Loss of contaminants from the site will be diffuse, and the effects of concern are unlikely to occur. We are satisfied that nothing in s107 prevents the granting of these consents.

## **PART II OF THE RESOURCE MANAGEMENT ACT 1991**

204. Consideration of an application under s104 is "subject to Part 2" RMA. The senior Courts have revisited the meaning of "subject to Part 2" in the context of resource consent applications, in light of *King Salmon*.<sup>29</sup>
205. In *Davidson*<sup>30</sup> the Court of Appeal determined that:

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<sup>29</sup> Environmental Defence Society Inc v The New Zealand King Salmon Company Ltd [2014] NZSC 38

<sup>30</sup> RJ Davidson Family Trust v Marlborough District Council [2018] NZCA 316

- (a) In contrast to plan change processes, RMA decision-makers should usually consider Part 2 when making decisions on resource consents (that is the implication of the words “subject to Part 2” in s 104);
  - (b) where the relevant plan provisions have clearly given effect to Part 2, there may be no need to do so as it “would not add anything to the evaluative exercise”. It would be inconsistent with the scheme of the RMA to override those plan provisions through recourse to Part 2. In other words, “genuine consideration and application of relevant plan considerations may leave little room for Part 2 to influence the outcome”;
  - (c) use of conditional language (“may”) suggests a residual discretion to consider Part 2 RMA, but the point does not need to be resolved for this proposal.
206. No party contested that Part 2 RMA was generally relevant. There has been a change in planning framework and the pSWLP is subject to appeal, and not yet operative, with a range of appeal points relating to the policy and rule framework. Accordingly, Part 2 RMA is relevant to the proposal.

### **Section 6, 7 and 8**

207. Sections 6 and 7 identify matters that must be recognised and provided for, and matters to which particular regard should be had. Section 8 requires that the principles of the Treaty of Waitangi are taken into account. Of relevance are Section 6(e) - the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu and other taonga, Section 7(a) kaitiakitanga, 7(b) the efficient use and development of natural and physical resources, 7(d) the intrinsic values of ecosystems, 7(f) maintenance and enhancement of the quality of the environment, and Section 8.
208. The effect on water quality, which affects the values of ecosystems, the quality of the environment and the relationship of Ngāi Tahu with its ancestral lands, waters and taonga within the catchment, has been discussed earlier. As noted, there is an intangible adverse cultural effect; but there is a small positive effect on water quality. The proposal provides for the efficient use of the land resource.
209. The purpose of the Act is to promote the sustainable management of natural and physical resources. Sustainable management involves managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic and cultural well-being and for their health and safety.
210. However, the Act promotes the use and development of natural resources only while (s5):
- (a) sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and
  - (b) safeguarding the life-supporting capacity of air, water, soil and ecosystems; and

(c) avoiding, remedying or mitigating any adverse effects of activities on the environment.

211. In light of our findings on effects, we consider that the activity (subject to the proposed conditions) meets the purpose of the Act. In our view, it is too simplistic to focus on whether the proposal involves “more dairy cows”. Instead it is appropriate to assess the comprehensive suite of conditions, and the relevant mitigations.<sup>31</sup> On the facts of this proposal, extensive use of winter barns and other mitigations ensure that modelled outcomes modestly improve water quality outcomes for the environment.

## **CONDITIONS**

212. Both the applicant and Council Officers provided proposed conditions. While there was (eventually) significant agreement on many draft conditions, there was disagreement on a number of matters. Some of these have been discussed earlier; the others are discussed below.

### ***Conditions requiring that consents are exercised ‘in conjunction with’ others and surrender of previous consents***

213. The intent of these conditions is to ensure that the consents are exercised as a package, and that the previous suite of consents are not exercised at the same time to avoid ‘double dipping’ of resources (such as water abstraction) and ‘mixing and matching’ between the various consents (for example to choose the consent with the most favorable conditions at the time). For this reason, we think it necessary to retain the ‘surrender or expire’ conditions, to avoid parallel consents authorising the same activity being relied on at the same time.

214. Integrated management is an important part of the NPSFM (2017) and planning framework, and should be reflected in resource consents intended to address all relevant effects of a proposed expansion in dairy farming within a landholding.

215. Counsel for the applicant considered that the ‘in conjunction’ conditions were problematic, as they could be read to require that the consents must be exercised at the same time. He made an alternative suggestion, that the discharge and water permits only authorise the relevant activities that occur as part of the farming land use authorised by the new land use consent. We disagree and have adopted the Council’s proposed wording.

### ***Limiting the consent to the specific activities applied for***

216. The applicant favoured an approach that provided more flexibility for their farming operations, by relying on the consent conditions specifying nutrient limits to manage effects, rather than listing the relevant activities. This would provide for farming activities that were not specifically included in the application, or modelled as alternatives, provided the nutrient loss did not exceed the limits imposed. The

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<sup>31</sup> Including avoidance, remediation, offsetting and mitigation measures.



examples of other activities given were the need to graze sheep if disease reduced the dairy herd, and wishing to have the ability to discharge effluent under other discharge permits.

217. In general, we have retained the conditions limiting the use of the land. We do not consider it appropriate to rely solely on a nutrient limit to ensure the effects of the proposal are acceptable. There has been detailed evidence about the types of activities being proposed and the effects they have, and we consider it important that the consent reflects this. While alternative farming options (such as replacing some cows with sheep) may have similar or fewer effects, we do not have this information in front of us. If the applicant seeks additional flexibility, it should present the information on effects to the Council and seek a change of conditions. It is not appropriate to over-rely on OVERSEER modelling when setting enforceable consent conditions.

#### ***Exclusion of activities not authorised***

218. The applicant opposed conditions excluding particular activities that are not authorised by the consent on the grounds of being unnecessary. We have generally retained these conditions, as they provide certainty for both the applicant and Council monitoring staff, unless it is very clear from the consent what is authorised.

#### ***3 or 4 year rolling average for OVERSEER modelling***

219. The conditions require that the OVERSEER modeling is repeated every year, with the average nutrient loss over a number of years being compared to the 'baseline' nutrient loss (that is, the loss authorised by this consent). Council Officers preferred that the average of the three previous years was used. This was based on Ms Phillips' view that due to the number of changes made to the nutrient budgets during the application, the complexities of the farmholding and the number of farms that the application relates to, there was an increased risk (presumably of additional nutrient loss) associated with the applications. A three year rolling average would allow a property to exceed the nutrient limit on one year in three, but a four year rolling average would potentially allow an exceedance in two years out of four.
220. An alternative view was expressed by Dr Roberts, who considered a four-year rolling average to be appropriate. He focused on the need to average out fluctuations in nutrient discharge due to management responses to weather conditions, which could not be controlled.
221. We prefer Ms Phillip's' recommendation for a three-year rolling average, which adopts a more precautionary approach.

#### ***Breaches of the OVERSEER target***

222. Breaches of the nutrient loss limits require that the Consent Holder prepare a report outlining the measures to be taken to reduce the loss. The applicant proposed that this requirement only apply when the nutrient loss exceeded the limit by less than 10%, and that consequently, no other enforcement action would

be taken. A greater exceedance of the limit would be subject to standard enforcement and monitoring.

223. We note that the predicted reduction in nutrient loss for the proposal is generally less than 10% of the nutrient loss of the current scenario (i.e. the baseline nutrient loss). A 10% exceedance above the baseline could therefore result in nutrient loss that exceeds the current situation. This would not be acceptable. We therefore do not accept the applicant's proposed amendments.

### ***Use of the winter barns***

224. We have applied the conditions requiring that the winter barns are used for a minimum period each month during winter to the land use for farming consent, rather than the winter barn consent (as proposed), as this is a mitigation for the farming activity. We accept the applicant's use of 'cow hours' as a way of ensuring that the minimum barn use is achieved, while providing some flexibility about precisely how this occurs.

### ***Phosphorus mitigation plan and other mitigation measures***

225. Both the applicant and Council Officers agreed that the phosphorus mitigation actions identified in the FEMP did not need to be detailed in the consent conditions; rather, the conditions could require that the various phosphorus mitigation actions identified in a separate phosphorus mitigation plan must be implemented.
226. In contrast to the WW1 and WW2 proposals, the applicants did not provide a comprehensive phosphorus mitigation plan for WW4 and WW5. Instead, relevant measures were identified in the FEMP dated March 2019.
227. Given the reliance on these mitigations in the calculations to determine nutrient loss, it is critical that the specific actions for phosphorus mitigation are identified in a clear and certain fashion for the WW4 and WW5 consents. We agree with the s42A officers that this is important for enforcement and monitoring purposes. We have therefore attached a consent condition that requires preparation of separate phosphorus mitigation plans for WW4 and WW5. The actions in this plan will then be enforceable as a consent condition. A certifier role is reserved to the Council to ensure that the plan is direct, certain, enforceable and reflects all the phosphorus mitigations modelled as part of the application. The plan must be provided within four weeks of first exercise of consent, to ensure phosphorus mitigations are implemented immediately.
228. The Council recommended a further list of mitigation measures to be adhered to, which we understand are good practice measures. Where these actions are clearly identified in the FEMP or Phosphorus Mitigation Plan, we have removed them from the conditions. The others generally remain.

### **DURATION**

229. The applicant requested a duration of 15 years. The winter barns are capital intensive, and time is needed for construction; the consents replace existing

consents for a well-established activity that involves a significant degree of capital investment; and to the extent relevant, the applicants assert a good compliance history.

230. The Council Officers initially recommended a duration of 5 years, considering 15 years to be inconsistent with Policy 40 of the pSWLP, the applicant's history of non-compliance with previous resource consents, and the timing of the Freshwater Management Unit (FMU) target setting process. This is due to be completed by 2025 and the Officers considered it inappropriate that the consent duration significantly exceed the development of those targets.
231. Policy 40 outlines a number of criteria to consider, including any uncertainty over effects, the economic life of any capital investment, the desirability of a common expiry date, the applicant's compliance history and adoption of good management practices, and the FMU process.
232. The duration of any consent reflects a balance between risks such as changes to the environment or policy that means the assessed effects are no longer acceptable, and recognition of the investment in the activity, particularly, as in this case, where the activity is established. We note the significant investment made in the winter barns.
233. Considering the other matters in Policy 40, we note that a review clause allows changes made under the FMU process to be incorporated into the consent conditions. There is no common expiry date in this catchment.
234. The s42A report provided the compliance monitoring records for the various consents, described as "mixed level of compliance". As to WW4, water take records have been provided late, and water takes have exceeded consent limits, in some cases by over 200%. Other breaches include failure to supply reports for discharge permit, historic issue of infringement notices, and an abatement notice issued in April 2018 relating to discharge of effluent. As to WW5, the compliance history for discharge permit was excellent, but compliance for water permits was poor.
235. The monitoring record does not seem to record regular and serious breaches, such that a significantly shorter duration than requested is justified.
236. We are confident that if mitigation measures are undertaken as required, the effects of the activity will be acceptable. It is of course open to us to provide a different term for WW4 and WW5. Our starting point is 10 years, consistent with our decision on WW1 and WW2; however, we consider that 13 years is an appropriate timeframe for these proposals, which allows additional time for the establishment of the winter barns. We note that any adverse effects that become apparent in the future beyond those we have considered can be addressed by way of review of conditions.

## **DECISION**

237. For the reasons given, we grant separate consents to use land for dairy farming, discharge of dairy effluent onto land, use land for winter barns, use land for

effluent storage facilities and the taking of groundwater, with an expiry date of 13 years, subject to the conditions in Attachment A (WW5) and Attachment B (WW4).

**DATED** 27 January 2020

Signed: 

E Christmas, Chair

Signed: 

R Enright, Commissioner