

**BEFORE A COMMISSIONER APPOINTED
BY THE SOUTHLAND REGIONAL COUNCIL**

In the matter of an Application for resource consent by
PAHIA DAIRIES LIMITED

**BRIEF OF EVIDENCE OF NICOLE MESMAN
FOR PAHIA DAIRIES LIMITED**

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INTRODUCTION

- 1 My name is Nicole Mesman. I am a farm environmental advisor at Lumen Environmental, based in Cromwell.
- 2 My qualifications are Bachelor of Environmental Management majoring in Soil Science. I hold my certified nutrient management advisor and greenhouse gas qualifications.
- 3 I have 5 years of experience in the farm environmental space across Canterbury, Southland and Otago.
- 4 Although this is not an Environment Court hearing, I have been provided a copy of the Environment Court Practice Note Code of Conduct, which I have read and agree to comply with.
- 5 Lumen Environmental assists Pahia Dairies Limited (**PDL**) with relation to environmental compliance. My colleague Mark Everest and I worked on this consent application and it was reviewed internally. I have also reviewed all documents associated with this consent independently and am familiar with their content. has asked me to assist by providing expert evidence in support of its application for resource consent to use land for dairy grazing, intensive winter grazing, and associated nutrient discharge.

Scope of evidence

- 6 I have read following documents when preparing my evidence:
 - 6.1 the submission against the application for resource consent, made by the New Zealand Animal Law Association (**NZALA**). I refer to this as the **NZALA submission**.
 - 6.2 The response that PDL provided (prepared by myself) dated 24 April, which I refer to as the **PDL response**;
 - 6.3 The response to the PDL response from NZALA. I refer to that as the **NZALA response**; and
 - 6.4 The section 42A report prepared on behalf of Environment Southland by Jade McRae (**the s42A report**).

7 In light of the above, and with the additional background of the application document which I prepared, this evidence addresses the following key points:

- 7.1 Description of the proposed activity
- 7.2 Description of the affected environment
- 7.3 Actual and potential effects
- 7.4 Relevant policy provisions of the regional plan
- 7.5 Relevant policy provisions regional policy statement
- 7.6 Relevant policy provision of the National Policies Statements
- 7.7 Relevant provisions of the National Environmental Standards
- 7.8 Other relevant policy
- 7.9 Comments from the Overseer reviewer Irricon
- 7.10 Council recommendations
- 7.11 Proposed conditions

Description of the proposed activity

8 The application proposes to increase the existing dairy farm area (346 ha effective) to include the current Browns support block (95 ha effective). Stock numbers will not increase from what has been grazed on the property during the baseline years. The existing dairy farm area has been operated continuously as a dairy farm from the 1990s. Browns block was operated as a dairy support block during the reference period prior to purchase by the current owners in spring of 2017.

9 In 2022 Pahia applied to ES for a replacement dairy effluent discharge consent which was subsequently granted and authorises the discharge of effluent over 250 ha of the total property. The 250 hectare discharge area includes approx. 18 hectares within the Browns block comprising an area of Lignite physiographic zone, which is suitable for effluent application.

- 10 The application for an increase in dairy area is to enable the rotation of a decreased area of winter grazing over a larger part of the farm. This will allow winter grazing to take place on parts of the farm that are the best suited to winter grazing rather than this activity being restricted to Browns block due to the constraint of not being able to graze milking cows on this block. It will also create a more sustainable agronomic rotation rather than continuously cropping areas on Browns block.
- 11 There is no increase in cow numbers proposed, but there is a decrease in winter grazing area proposed from 64 ha to 55 ha. Pahia Dairies is applying for a land use consent to increase the area of dairy farm land by 95 ha (the size of the Browns Block) and a land use consent to carry out winter grazing on an area greater than 50 ha and on slopes over 10 degrees. Pahia Dairies is applying for discharge permits to accompany both of these land uses.

Description of the affected environment

- 12 The existing dairy farm and Browns block are located approximately 45 km west of Invercargill along the coast.
- 13 The soils and physiographic zones present at Pahia across the dairy platform and Browns Block are summarised in Table 2 of the consent application.
- 13.1 I support the comments that were made in the s42A report around the location and characterisation of the physiographic zones on the farm and the movement of contaminants to surface and groundwater.
- 13.2 The proposal to extend the existing dairy area over Browns block better aligns land use with the physiographic zones and location of subsurface drains across the farm. Essentially the location of winter grazing could rotate around a bigger area ensuring the most suitable paddocks are used for winter grazing and mean that back-to-back winter cropping is not required and instead pasture be resown as soon as practical after grazing.
- 14 Due to the close proximity of the property to the coast there are no surface water or recently monitored groundwater sites within the vicinity or downstream of the property.

Actual and potential effects

- 15 Table 5 in the s42A report summarises N loss in Overseer FM from the YE2020 nutrient budgets and compares this to the proposed farm system. In Overseer v 6.4.3 the proposed scenario results in an 8.5% decrease in the kg N/ha/yr lost and a 16.7% kg P/ha/yr lost.
- 15.1 The independent council commissioned Overseer reviewer has confirmed that the figures used in the nutrient budgets are appropriate and that the Overseer Best Practice Data Input Standards have been followed.
- 15.2 A key reason for the reduction in nutrient loss is the reduction in winter grazing area from 64 ha to 55 ha which is included in the draft consent conditions.
- 15.3 E.coli and sediment loss can be estimated from modelling of phosphorus loss as phosphorus readily bonds to soil particles and is lost from the environment via overland flow, as are microbial contaminants. Therefore E.coli and sediment loss are also predicted to decrease.
- 15.4 Soil health will be improved through granting of this application as a result of the intensive winter grazing (IWG) exclusion map included in Appendix 2 of the proposed consent conditions which identifies 8 of the 17 paddocks at the Browns block as not suitable for IWG. In addition, a per paddock winter grazing plan and wet weather management plan will be prepared annually to ensure damage to soil health is minimised. The proposed consent conditions also include a requirement to take all practicable steps to avoid pugging.
- 16 Table 6 in the s42A report states all the good management practices and additional mitigation methods which either occur or are proposed to be undertaken. The report notes that Overseer assumes some of the GMPs are being used already however there are additional GMPs not accounted for in Overseer and therefore are additional and considered a mitigation. The key mitigations are:
- 16.1 Decreasing the intensive winter grazing (IWG) crop area by 14%;
- 16.2 Riparian planting five waterways, the southern boundary of the farm and a wetland area on Browns Block as per the riparian planting plan included in Appendix 2 of the consent application.

- 16.3 Increasing the buffer of 10 m minimum between surface waterways and IWG on slopes over 10°; and
- 16.4 Implementing an IWG exclusion zone map to avoid paddocks which are unsuitable during winter as included in the Appendix 2 map of the proposed consent conditions.
- 17 As indicated by the consenting officer in the s42A report the implementation of the proposed mitigations and consent conditions will avoid remedy or mitigate any potential or actual adverse effects arising from the proposed activity.
- 18 The consenting officer also notes that a consent condition relating to pugging of soil and the Animal Welfare Act address the concerns raised in the submission.

Relevant policy provisions of the regional plan

- 19 I consider the application to be consistent with the relevant objectives and policies in the Regional Water Plan 2010. I appear to be in accord with the s42A report, which concludes that the application is “not inconsistent with” those objectives and policies.
- 20 As noted in the s42A report the application is not inconsistent with the relevant objectives in the Proposed Southland Water and Land Plan (2018).
- 21 Engagement was undertaken with Te Ao Marama prior to submitting the application to ES and no submission was received by Te Ao Marama upon notification of the consent.

Relevant policy provisions regional policy statement

- 22 As noted in the s42A report the application is consistent with the relevant policies in the Regional Policy Statement (2017).
- 23 The initial application included mitigation measures proposed by the applicant, which have been carried in to the proposed consent conditions. As part of the development of those conditions, the Council included additional conditions to ensure modelled nutrient losses are achieved. Together, the suite of consent conditions included in the s42A report and endorsed by the applicant will ensure there is no reduction in water quality and that modelled nutrient losses are achieved, which should improve water quality.

Relevant policy provision of the National Policies Statements

- 24 As noted in the s42A report the application is consistent with the relevant policies in the National Policy Statement for Freshwater Management (2020). I agree with the reasoning and conclusions of the s42A report author.

Relevant provisions of the National Environmental Standard for Freshwater (NES-F)

- 25 The application is subject to regulation 18 because the grazing of dairy cows on Browns block will result in an increase in dairy farm land of more than 10 ha from the 2nd September 2020. Therefore, the activity is a discretionary activity under regulation 19. Under regulation 24 there must be no increase in contaminant load or concentration when compared to the load or concentration at the 2 September 2020.
- 26 The modelling associated with this application demonstrates that the nitrogen and phosphorus loss from the proposed activity will be less than the losses from the current activity. From the science information available I believe the mitigations proposed by the applicant will ensure that the contaminant load and concentrations will not increase and should decrease. This is entirely consistent with the aims of the NES-F.
- 27 The proposed area of intensive winter grazing at Pahia is 55 ha, with some of that taking place on specified slopes over 10 degrees. This triggers regulation 26 of the NES-F 2020 and requires consent as a restricted discretionary activity. The mitigations proposed and draft consent conditions agreed on to manage this activity are: cultivation and intensive winter grazing not occurring on slopes over 20 degrees, specific paddocks being excluded from winter grazing as per Appendix 2 of the draft consent conditions, resowing occurring as soon as is practicable and a winter grazing plan being prepared for each paddock along with wet weather management strategies.

Other relevant policy

- 28 I support the s42A conclusions in relation to Part 2 of the RMA. I consider that the Commissioner is unlikely to need to refer back to Part 2 as there are no “gaps” in the objectives and policies, and the pSLWP and the NPS-FM and NES-F give effect to Part 2.

- 29 The application sought to give effect to the iwi management plan for Murihiku, Te Tangi a Taurira, through inclusion of buffer distances and riparian planting plan for native species to ensure consistency with the policies in the plan. This was a matter of discussion with Te Ao Marama prior to submitting the application.

Comments from the Overseer reviewer Irricon

- 30 The Overseer reviewer suggested a medium level of confidence in the nutrient budgets supplied with the consent application. This was due to an error in the modelling of the soils between the current and proposed models. This was corrected and resubmitted to the reviewer with no other concerns raised.
- 31 The figures used in the nutrient budgets were confirmed as appropriate and that the Overseer Best Practice Data Input Standards had been followed.

Council recommendations

- 32 As per Section 4 of the s42A report the council has recommended that the consent be granted.
- 33 The council notes that the concerns of the submitter were taken into account when formulating the s42A report and recommendation to grant. I note that the evidence provided for the applicant, particularly from Mr Anderson and Ms Wouda, provide additional assurance on the matters raised by the submitter.
- 34 The proposed mitigation measures of riparian planting, increasing width of buffers between surface waterways and intensive winter grazing on slopes over 10 degrees, implementing an IWG exclusion zone (Appendix 2 of proposed consent conditions) and decreasing the property's crop area below baseline are all appropriate. In addition, the inclusion of pugging restrictions, a soil testing regime, modelling nutrient losses and maintaining a FEMP as part of the recommended consent conditions ensure water quality outcomes will be maintained or improved.

Proposed conditions

- 35 When the applicant met with the council as part of the prehearing meeting (which the submitter was invited to but ultimately did not attend), the proposed consent conditions prepared by the council were discussed.

- 36 The applicant agreed to all proposed consent conditions, including reviewing (and adding to) the suggested paddocks to be included in the IWG exclusion map (appendix 2). The addition of paddocks into the exclusion map was due to the applicants in depth understanding of their property and knowledge that exclusion of these paddocks would improve environmental outcomes. The applicant also supplied the riparian management plan (appendix 1) to council from the consent application to be included in the proposed consent conditions.

Conclusions

- 37 The consent application has addressed all relevant policy and is consistent with the objectives. In particular, the National Environmental Standards under which consent is required have been satisfied, with the proposed activity (including mitigations) resulting in no increase in the contaminant load or concentration (and in fact a likely reduction in nutrient loss from the property). The proposed mitigations and consent conditions serve to avoid, remedy or mitigate any adverse environmental outcomes as assessed by the consenting officer in the s42A report.
- 38 In my opinion the granting of this application will improve environmental outcomes as land use will be better suited to the physical characteristics of the property. In addition, the applicant has agreed to mitigation measure which they see as practical and can implement on farm and in my opinion these will result in improved water quality outcomes.

Nicole Mesman

21 September 2023