

DairyNZ Submission on the Ministry for the Environment's Clean Water Discussion Paper

1 Introduction

- 1.1 DairyNZ welcomes the opportunity to provide feedback on the Clean Water Discussion Paper (published February 2017).
- 1.2 DairyNZ is the industry good organisation representing New Zealand's dairy farmers. Funded by a levy on milksolids and through government investment, our purpose is to secure and enhance the profitability, sustainability and competitiveness of New Zealand dairy farming.

Relationship with the Land and Water Forum submission

- 1.3 DairyNZ is a member of the Land and Water Forum (LaWF) which has developed a separate submission on the discussion paper. The LaWF submission reflects the consensus views of its 53 organisational members, but it does not necessarily represent the views of all members on all issues. Consequently, while DairyNZ supports many aspects of the LaWF submission, there are some points of difference as outlined below.

2 Structure of this submission

- 2.1 Introductory comments are in Section 3 below. Topics in the discussion paper are covered in Sections 4 - 6 of this submission. Section 7 provides responses on the proposed policy and drafting changes to the National Policy Statement for Freshwater Management 2014 (NPS-FM).

- 2.2 DairyNZ would like the opportunity to discuss the suggested changes with Ministry officials. Where we have suggested amendments to the text, additional text is underlined and deleted text is ~~struck through~~. Where the text is in addition to text already added, this is both **underlined and bold**.

3 General comments

- 3.1 In general, DairyNZ supports the key aspects of the clean water package; the targets for large rivers and lakes being safe to swim more often; a Freshwater Improvement Fund; the proposals for national direction on a staged approach to stock exclusion from waterbodies; and the amendments to the NPS-FM.
- 3.2 Soil disturbance, combined with grazing animals and slope are key factors that increase the likelihood of diffuse contaminants reaching waterways. The proposal to allow landowners with steeper land to have considerably longer to take action is not focused on environmental outcomes. DairyNZ notes that the stock exclusion proposals do not clearly address this. In fact there is no clear purpose for the proposals or desired outcome in the Clean Water Discussion Document (pages 25 – 29).
- 3.3 The proposals have long lead-in times for higher slopes and certain stock classes. DairyNZ would prefer to see a focus on sub-catchments with sensitive receiving waterbodies. DairyNZ understands that beneficial environmental outcomes could be rapidly achieved by excluding heavy stock on slopes and from headwaters in the near future. Therefore we believe that the proposals are not the most effective way of improving water quality and reducing human health risk by reducing bank destabilisation, and surface run-off from sediment, phosphorus and microbial contaminants in rainfall events. We acknowledge the cost implications for landowners who have not yet excluded stock from waterways on their land. For that reason, we do not oppose the stock exclusion ‘triggers’ which allow long lead-in times for landowners on steeper land with non-dairy animals.
- 3.4 DairyNZ believes the stock exclusion proposals will not achieve immediate environmental benefits because the most pressing 2017 targets are focused on the dairy industry, that have already largely been implemented by dairy farmers voluntarily under the Sustainable Dairying: Water Accord (“Water Accord”). The dairy industry would like to be involved in discussions with officials on implementation of any confirmed proposal, as we have experience in this area.
- 3.5 As another general comment, DairyNZ supports the use of national scale maps showing suitability for swimming, if they are produced with the intention of providing a simple visual ‘snapshot’ of the state of water quality, and labelled accordingly. For that reason the maps in the discussion document are a good start. However, we have two requests before these maps are used further. First, an assurance that MfE

is confident there is good alignment between the approach used in the maps and the national water quality data already provided by Regional Councils and used in national scale reporting through Land and Water Aotearoa (LAWA). Second, that further checking and labelling is done to ensure the maps in the discussion document and any future use of these maps are not inadvertently misleading to users. This point is further explained in Section 7 of this submission (paragraph 7.4).

- 3.6 DairyNZ also makes specific comment on the changes to wording in the NPS-FM related to the government's intention to require councils to identify where the quality of lakes and rivers will be improved so they are suitable for swimming more often.

4 Freshwater Improvement Fund

- 4.1 DairyNZ supports the Freshwater Improvement Fund. We are involved with other agencies and regional councils in applications for a number of projects where the funding will accelerate implementation of actions that directly benefit water quality in vulnerable catchments.

5 Stock exclusion

Stock exclusion

- 5.1 DairyNZ broadly supports provisions for a staged approach to excluding stock from waterways. Dairy farmers have voluntarily implemented many of the proposed provisions through adoption of riparian management commitments in the Sustainable Dairying: Water Accord - A commitment to New Zealand by the Dairy Sector (Water Accord). Dairy cows on milking platforms have been excluded from 97% of waterways a metre or more wide, regardless of slope, already.

Staged approach based on the width of the waterway

- 5.2 DairyNZ supports a staged approach to stock exclusion. We note that the Clean Water Discussion Document proposes requirements for implementing stock exclusion based on three variables – waterway size, land slope, and stock class.
- 5.3 We support the timing for implementation of stock exclusion being determined by the size of permanent waterways. The consistency of using a waterway definition aligned with the Water Accord will assist implementation by dairy farmers (waterways are permanent and one metre or more wide).
- 5.4 In particular, we support proposals that require permanent dairy cow exclusion from waterways greater than one metre wide by July 2017, for its consistency with the Water Accord.
- 5.5 We generally support the proposal going further than the Water Accord on lowland (“plains”) permanent waterways, with a staged approach to stock exclusion.
- 5.6 Specifically, we support proposals for the permanent exclusion of all dairy cows on milking platforms from all permanent waterways on the plains by 2020 (i.e. regardless of size of the waterbody). We note that the riparian management provisions of the Water Accord (page 6) have signalled this change.
- 5.7 The Water Accord encourages dairy farmers to exclude dairy cattle from all wetlands. DairyNZ notes that many dairy farmers have already achieved stock exclusion voluntarily through adoption of good riparian management practices on their farm.

Proposals for stock exclusion on dairy support land

- 5.8 DairyNZ generally supports stock exclusion for dairy support land. The proposals go further than the Water Accord, and bring in aspects that could not be covered by the Water Accord. That is, the proposals apply to drystock farms (sheep, beef, deer).
- 5.9 DairyNZ supports a staged approach to requiring dairy cattle exclusion from waterways, regardless of whether they are on the milking platform. This is signalled in the Water Accord. An action encouraged by the riparian management provisions of the Water Accord (page 6)¹ is that farmers should apply riparian provisions to third party grazing land as if it were their own land. For instance, from 1 June 2017 under the Water Accord, if dairy support land is owned by the milking platform owner, it is subject to the same conditions as the milking platform. Water Accord provisions are more narrow in their scope than the government proposals. The Water Accord does not *require* dairy farmers to control riparian practices on farms they do not own but send animals to in a third party grazing arrangement. The reason to treat 3rd party owned grazing land differently from the dairy farm is that it is not possible for an individual to control practices on land they do not own.
- 5.10 Currently the government proposals refer to 'dairy support' without any distinction about who owns the land. This has implications for farms that graze dairy cattle for part of their operation but would categorise themselves as a drystock farm. For instance, dairy support is defined in some regional plans as any land where a large part of the business is from grazing dairy cattle such as young dairy stock being raised on a different property to the milking platform. This is sometimes on land owned by the same person who owns the milking platform, and is sometimes on a mixed farm that also has beef cattle or deer.
- 5.11 DairyNZ notes the difference between the Water Accord and the government proposals for farms that currently have third party grazing arrangements with dairy farmers. We do not oppose it, but we believe there is little justification from an environmental outcome point of view. If the proposals become requirements, the change is significant for drystock farmers who graze dairy cattle.
- 5.12 For ephemeral waterways that are dry for much of the year, environmental outcomes and weed management are best achieved by the use of temporary stock exclusion. Therefore, whilst we support provisions for permanent waterways, we would oppose requirements for permanent dairy or support cattle exclusion from ephemeral waterways. That would constitute an onerous and inefficient means of achieving equivalent environmental outcomes about attenuation of diffuse contaminants during heightened risk periods.
- 5.13 We also support permanent exclusion of all dairy support cattle from all permanent waterways on the plains by July 2022.

Staged approach based on slope of land and stock class

- 5.14 In general, DairyNZ supports proposals for a staged approach to stock exclusion based on land slope and stock class. This is despite noting that the proposals allow longer time periods of 2025 and 2030 for stock exclusion for activities that have relatively high risk of contaminant loss, in comparison to more challenging timeframes proposed for dairy farmers. Also, that the proposals have been based

¹ The Water Accord defines dairy farms (page 14). From 1 June 2017, this definition includes the milking platform and land used each year for grazing dairy cattle (of any age) during the off-season.

on no supporting evidence that either the 3° or 15° slope classes, mark thresholds in disproportionately greater diffuse contaminant loading to waterways.

- 5.15 DairyNZ notes it is difficult to justify current proposals for stock exclusion on slope, simply on the basis of their effects upon receiving water quality. DairyNZ recognises the lack of robust science about slope-driven thresholds in diffuse contaminant loading or attenuation; together with NIWA, Environment Southland, Environment Canterbury, Taranaki Regional Council, Waikato Regional Council and Northland Regional Council, DairyNZ has applied to the Freshwater Improvement Fund precisely to redress this lack of scientific understanding.
- 5.16 Instead, the risks of overland loss of sediment, phosphorus and microbial contaminants to waterbodies is by principle greater on higher slopes. Given animals of the same size and at a similar grazing intensity have similar impacts on equivalent land, they pose a similar risk of contaminant loss. We would also note that proposals for beef cattle are not aligned to those of dairy support within equivalent slope classes.
- 5.17 Nonetheless, we have not suggested aligning conditions for dairy support with beef cattle. Instead, we believe the stock exclusion provisions could be simplified to focus upon and support pragmatic implementation by providing greater clarity for farmers and regional councils about expectations. By doing so and ahead of the science delivery referred to in paragraph 5.15, DairyNZ staff welcome the opportunity to work with central government and regional council staff on implementation practicality for the proposals.
- 5.18 One simplification that could be considered is that the flat and rolling categories of land are combined and the stricter provisions apply. However, we acknowledge that this is a far reaching change for landowners other than dairy farmers who have largely achieved the stock exclusion proposals for dairy support and dairy cows. For instance, a “plains” class of 0-3° is not simple to identify and implement across all pastoral systems. We note the methodology by which a slope class will be defined for a property is as yet undefined but likely to rely on modelling using the Land Resource Inventory. Regardless, any standard error about modelled slope will cause greater misclassification on land of lower slope. Integrating “plains” with “rolling” classes into a “flat-to-rolling” class of 0-15° will manage for that risk whilst simplifying the proposed policy. We therefore recommend adopting the more conservative of current provisions about stock exclusion in the new combined flat-to-rolling class (e.g., all dairy stock excluded from permanent waterways by 1 July 2020; dairy support to be excluded from all permanent waterways of one metre or more by 1 July 2022).

6 Swimming

- 6.1 Our specific comments on changes to the NPS-FM related to primary contact recreation are contained in Section 7 of this submission. Only general comment follows here.
- 6.2 DairyNZ support 80% (90%) of 4th order rivers and lakes attaining swimmable standards by 2030 (2040) and recognition that water quality degradation has occurred over generational timeframes.
- 6.2.1 DairyNZ supports the more refined, time-based approach proposed to reporting on primary contact recreation. This time-based approach is an advance on the current

National Objectives Framework *E.coli* attribute guidance, offering communities greater choice and improved clarity about the risks presented in those choices, for primary contact recreation.

- 6.2.2 DairyNZ supports accurate information being presented on water quality for primary contact recreation, including maps of swimmability. The modelling underpinning the “swimming” maps employs a long-term, static (e.g., landscape) prediction that is appropriate for national-scale reporting of long-term swimming risks (e.g., decadal). We acknowledge that New Zealanders will want to see information on the rivers and lakes in their area, and therefore will want the maps to be at a finer scale than limitations of the modelling to date. Also, that communities will want to see up-to-date primary contact risk assessments, rather than the long-term modelling underpinning the “swimming” maps to date.
- 6.2.3 Hence, we believe the swimmability maps produced with the Clean Water discussion document need further thought before they are adopted for community uses. For instance, the regional scale maps in Annex 2 of the Clean Water discussion document are resolved to particular streams or reaches of streams and are presented as reflecting the current state for human health. In fact, they show one indicator of human health only (*E.coli*), and appear to report only one of four proposed measures. For regional scale and/or current swimmability maps, we recommend information being used based on the current monitoring available via the Land and Water Aotearoa service (www.lawa.org.nz), across the four proposed *E.coli* measures of human health.
- 6.3 DairyNZ request amendments to visual tools that show a snapshot of water quality for swimming to state the link between the visual information and the broad values in Appendix 1. Specifically, the map key note that *E.coli* is only one indicator of quality for swimming, including which measure has been reported (see map on page 15 Section 2 and regional maps in Annex 2 of the Clean Water discussion document). This ensures that people who want a simple snapshot of water quality for swimming are better informed of the limits of those maps and know where to go for current information within their region.

7 Proposed amendments to the NPS-FM

Preamble and amended compulsory value Human Health for Recreation

- 7.1 DairyNZ generally supports the additional text to the preamble. The additional text will assist users in their interpretation of the NPS-FM. The expanded preamble does not however replace the need for guidance material on the NPS-FM that is produced by Ministry for the Environment in discussion with end users such as councils and organisations including DairyNZ.
- 7.2 Specific additional changes to preamble text are needed to highlight and clarify the significant changes made to the compulsory value in Appendix 1 – Human Health for Recreation (that was previously ‘The health and mauri of the people’). In general, DairyNZ supports the expansion of the scope of the value. We are concerned that there is a mis-match between a broadly defined value and the maps that purport to show where it is safest to swim.

- 7.3 The re-worded compulsory value in Appendix 1 includes reference to ‘the ability to connect with water’. This value describes activities on, in, and around waterbodies. In addition, the value includes ‘matters to take into account’ that are not covered by numeric attributes in the remainder of Appendix 1. While cyanobacteria and *E.coli* are still listed as attributes in the NPS-FM, other potential attributes such as visual clarity, sediment and other toxicants are not included. Regional Councils may choose to list these matters as attributes in their plans.
- 7.4 DairyNZ is concerned that the maps considerably simplify this compulsory value ‘human health for recreation’. The maps show data that we understand is a snapshot of modelled *E.coli* levels. We acknowledge the difficulty of modelling all the broad matters described in the compulsory value. We also acknowledge the desire to show a simple visual snapshot of ‘swimmability’. For those reasons, we suggest that the preamble is clarified and the maps are better explained, labelled and connected back to the compulsory value in Appendix 1.
- 7.5 DairyNZ requested amendments to the preamble are:
Amend the fifth to last paragraph on page 5 to read:
The Government wants New Zealand’s rivers and lakes to be safe for swimming as often as possible. Specifically, it has set a target of 90% of rivers and lakes (as defined) to be swimmable by 2040. The expectation is that more of these rivers and lakes will be swimmable more of the time. The risks to human health from contact with fresh water must be reduced. **The national policy statement broadly describes the value of human health for recreation, which councils must include in their plans. This risk is visually presented and simplified in the associated national-level maps that use modelled E.coli levels.** There is an interim goal of 80% of these rivers and lakes to be swimmable by 2030.
- 7.6 In our general comments above, DairyNZ requested amendments to visual tools that show a snapshot of water quality for swimming, so we do not repeat them here.

Interpretation related to amended compulsory value ‘Human Health for Recreation’

- 7.7 ‘Suitable for Immersion more often’ is a new definition in the interpretation section of the NPS-FM. DairyNZ requests the definition is clarified so that it reads:
“Suitable for immersion more often” means **reducing human health risk by reducing the frequency and magnitude of E. coli exceedances over time, according to the monitoring methodology included in Appendix 5.**

Interpretation of large rivers and Lakes

- 7.8 In line with LaWF, DairyNZ requests further clarification on coverage of “swimmability” – we support the human health primary contact guidance being applied to 4th order rivers and lakes of ≥1.5km perimeter. We do not have a view on the assumption made that these larger waterways are those that people use for swimming. However, we note that if the downstream, larger waterways are managed for full immersion, this will drive change in the upstream reaches of the same rivers and streams.
- 7.9 While we agree with LaWF that there is uncertainty as to what minimum provisions remain on those upstream or smaller lake systems with the omission of the prior national bottom-line median of 1000 MPN *E.coli*/100 ml, we have confidence that regional councils can determine appropriate standards as part of their limit-setting work with their local communities and iwi partners. To this end, regional councils could be directed to identify all rivers and lakes suitable for immersion in Policy A5a) and act appropriately for all such, in A5b) (i.e. rather than only large rivers and lakes).

Appendix 2: Attribute table for value ‘Human Health for Recreation’

- 7.10 We note proposals have resulted in changes to swimmability that adopt a more refined risk framework or time-based approach, whereby the period of time in excess of a 1 in 1000 risk of infection for no more than half of monitored observations is determined as part of the objective-setting exercise.
- 7.11 DairyNZ supports the time-based approach the changes create. We believe the changes allow regional communities to choose how to set regional plan objectives related to risks to human health that can better accommodate catchment differences in natural or anthropogenic risk factors, mitigation cost-effectiveness, and prioritisation of human health.

Water Quality Objective – ‘Maintain or Improve’ within each Freshwater Management Unit

- 7.12 DairyNZ supports the clarification provided by amendments to Objective A2. We support the proposal to limit the 'maintain or improve' requirement to within Freshwater management units (FMUs) because this is the scale at which freshwater objectives are set under Policy CA2. Consequently, it becomes even more important there is good discussion about how councils set the boundaries of FMUs. We understand that regional councils have contributed to, and are using, guidance material about the implications of setting FMUs at different scales.

Economic wellbeing

- 7.13 DairyNZ supports the NPS-FM attempt to clarify how councils should provide for economic well-being including productive economic opportunities, in a limit-setting process. The amendments noted are in Objective A2, Objective B1, and Policy CA2(f).
- 7.14 DairyNZ believes that the amendments to Objective A2 are problematic, because of the phrasing, which implies economic well-being is addressed after everything else. DairyNZ understands this is not how a regional council would interpret both Resource Management Act Part II matters, particularly the purpose of the Act in

Section 5. An example here of where the proposed wording could lead to inappropriate outcomes is where a council might set a challenging water quality objective and justify it based on the fact that it was more important to improve water quality than maintain a rural community where the receiving water body had municipal sewage with very high E.coli attribute levels currently at a 'red' state, and require those levels to be reduced so the FMU achieved a green state within the life of the plan. This could have significant impact on the economic ratepayer considerations of the local community.

- 7.15 DairyNZ believes that in a limit-setting process with iwi and communities, regional councils will consider economic well-being in conjunction with water quality, environmental and human health considerations. Hence there is no need for the word "then" in front of the new phrase 'providing for economic wellbeing..' DairyNZ requests further clarification of how considerations of economic wellbeing differ between water quantity and quality. We prefer the wording used in the water quantity Objective B1. DairyNZ requests Objective A2 re-worded so that it reads:

Objective A2

The overall quality of fresh water within a region is freshwater management unit is maintained or improved while:

- a) protecting the significant values of outstanding freshwater bodies;
- b) protecting the significant values of wetlands; and
- c) improving the quality of fresh water in water bodies that have been degraded by human activities to the point of being over-allocated; **and**
- d) ~~Then providing for economic well-being, including productive economic opportunities, within environmental limits.~~

Riverine Bioavailable Nitrogen and Phosphorus

- 7.16 DairyNZ generally supports the revised footnote to the Appendix 2 Periphyton attribute requiring instream DIN and DRP concentrations be set at the FMU scale for any periphyton objective, whilst accounting for downstream receiving environments.
- 7.17 DairyNZ recognises and supports a need to control bioavailable nutrient where periphyton biomass is limited by nutrient availability, specifically when other drivers of algal growth are not limiting (e.g., hydrology, light availability, temperature).
- 7.18 DairyNZ supports the current wording permitting Regional Councils to determine which of DIN and/or DRP to set at limiting concentrations, given that decision should be addressed on an FMU basis in light of other periphyton-limiting factors operating within an FMU. However, to account for periodic exceedances in nutrient availability when other factors might be limiting periphyton, we recommend the wording be revised to permit a percentile rather than maximum criterion (e.g., median, 95th%). This recognises that the limiting factor controlling periphyton abundance can vary seasonally and nutrient maxima may not occur during periods of the year when periphyton abundance is nutrient-limited.

Coastal lakes and lagoons

- 7.19 DairyNZ supports the proposal to manage intermittently closed and open lakes or lagoons and coastal lakes in a different manner to their freshwater counterparts. This reflects their fundamental difference in being more sensitive to hydrological change (e.g., opening/breaching, closing).

National significance of Te Mana o te Wai

- 7.20 DairyNZ recognises that the proposed changes to the wording of the NPS-FM are intended to better reflect Te Mana o te Wai. This includes re-ordering and changing the wording of several subheadings in Appendix 1 which outlines national values and uses for freshwater.
- 7.21 We share LaWF's concern that the inclusion of the heading "extractive uses" when read together with its placement in Appendix 1 implies the existence of a values hierarchy. In the case of "extractive uses", this value appears to be subordinate to all other values. We would welcome clarification from MfE as to whether this is the policy intent.
- 7.22 We also note that some of the items that are currently listed as "extractive uses" are not extractive in nature. Consequently, we recommend that this definition requires further review.

Policy CB 1 Macroinvertebrates

- 7.23 DairyNZ supports monitoring of macroinvertebrate and other indigenous flora/fauna, as direct measures of ecosystem health available and linked to indirect

physicochemical attributes already established in the National Objectives Framework (“NOF”). DairyNZ supports the wording of Policy CB1ii) and inclusion of macroinvertebrate community monitoring for assessing achievement towards freshwater objectives related to ecosystem health.

- 7.24 DairyNZ recommends that the NPS-FM should refer to monitoring of MCI but stop short of using it as an attribute for ecosystem health. We believe that MCI can be used as a valuable tool for informing councils of actions taken for ecosystem health. However, as there is no robust or simple cause and effect relationship between land use, diffuse discharges and MCI score, we cannot recommend that the NPS-FM require councils to use MCI in the National Objectives Framework as an attribute. DairyNZ is aware of recent research demonstrating only complex relationships that make isolating the role of specific land use effects difficult (Clapcott and Goodwin 2014, Moore 2014, Scarsbrook, 2015). In summary DairyNZ believes it is appropriate to utilise the MCI as an indicator rather than “attribute” of ecosystem health.
- 7.25 Until robust, simpler relationships are established between MCI to land use, DairyNZ believes its use as an indicator and the requirement to monitor and report on changes therein, will determine if management is maintaining or improving ecosystem health, but otherwise should not drive inappropriate regulation of actions with little demonstrable effect on the MCI.

8 Key Contact

- 8.1 Thank you for reviewing our submission. Please direct any questions to:

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