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Forest & Bird

TE REO O TE TAIAO | *Giving Nature a Voice*

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Submission on Horizons Regional Council Proposed Plan Change 2

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INTRODUCTION

1. The Royal Forest and Bird Protection Society of New Zealand (Forest & Bird) is New Zealand's largest independent conservation organisation. We are independently funded by private subscription, donations, and bequests. Our mission is to protect New Zealand's unique ecological values, flora and fauna, and natural habitat through the sustainable management of indigenous biodiversity, natural landscapes, rivers, lakes, and coastal environments.
2. Forest & Bird has four branches—the Manawatū, Horowhenua, Rangitikei, and Whanganui branches—and a long history of conservation in the Horizons region. We have contributed significantly—and continue to contribute significantly—to conservation in the area as an advocate for the environment through national, regional, and local planning processes; as an educator through our Kiwi Conservation Club; and in action through on-the-ground conservation work within our communities.
3. Horizons Regional Council has been tasked with the purpose of sustainably managing the natural and physical resources in its region to meet the reasonably foreseeable needs of future generations; safeguard the life-supporting capacity of air, water, soil, and ecosystems; and avoid, remedy, or mitigate any adverse effects of activities on the environment. We implore Horizons Regional Council to re-examine this responsibility and reflect on what this means to them as protectors of the natural environment as they move through this proposed plan change process. Increasingly the needs of future generations are being made known as we are called upon by our youth to act with their interests at heart and their livelihoods at stake; we understand what needs to be done to maintain the life-supporting capacity of our ecosystems; and we have the ability and authority to limit the damage of our practices on the environment. We hope that Horizons Regional Council will act in a way that is consistent with these values and understandings when considering this plan change and our submission.
4. Forest & Bird could not gain an advantage in trade competition through this submission.
5. Our submission relates to the **entire plan change**.

6. We seek the following decision from the local authority: **Refuse the entire plan change.**
7. Forest & Bird wish to be heard in support of our submission.
8. If others make a similar submission, we will consider presenting a joint case with them at a hearing.

SUMMARY OF SUBMISSION

9. Forest & Bird are **opposed** to Horizons' Proposed Plan Change 2.
10. We consider the development of a consenting pathway that allows Table 14.2 of the One Plan to be exceeded to be contrary to national and regional policy—in particular (but not limited to) the very clear direction in the National Policy Statement for Freshwater Management (NPS-FM), the Resource Management Act (RMA), the One Plan objectives and policies (on an integrated basis), and the New Zealand Coastal Policy Statement (NZCPS).
11. Uncontrolled leaching of nitrogen into waterways is unfathomable when the adverse effects of this are extremely well understood—particularly when there is significant (and growing) public concern for freshwater values and a growing global push for urgent action to put an end to environmentally destructive practices.
12. We accept that limited changes to the One Plan through an update of Table 14.2 to reflect the latest version of Overseer may be appropriate however we note that at this stage **any such update should be limited to the target catchments in the Tararua District only.**
13. We consider that before the proposed changes to Table 14.2 are applied to other catchments in the region it is necessary for Horizons Regional Council to:
 - a. undertake an assessment of the effect that updating the allocation table for those catchments will have on water quality, and;
 - b. investigate whether alternative allocation tables are needed for those catchments.
14. We consider that resource consents should be required for intensive land use. These should require the consent-holder to meet the limits in Table 14.2 unless a thorough assessment of effects can meaningfully demonstrate how water quality will be improved and when this will occur. The use of 'Good Management Practice' (or other analogous practices) and/or the existence of a Nutrient Management Plan would not constitute a thorough assessment of effects.
15. We consider non-complying activity status should apply to activities expected to exceed the limits in Table 14.2. Determination of whether an activity might exceed limits would require a thorough assessment of effects as discussed above.
16. We propose that the middle, lower, and coastal Manawatū River and its tributaries be included as target catchments for management of nitrogen losses from intensive land use (i.e. added to Table 14.1 and subject to the associated rules). It may also be appropriate to include other catchments currently excluded from the table (e.g. the lower Whangaehu). Their current exclusion is an oversight and fails to meet Horizons Regional Council's legislative responsibilities.

SUBMISSION

CURRENT STATE OF THE ENVIRONMENT

17. Freshwater quality is severely degraded in the Manawatū-Horizons region across a wide range of water quality attributes. It is therefore extremely concerning that Horizons Regional Council has proposed a plan change that may legitimise and increase inappropriate intensive land use and nutrient leaching—particularly as the adverse effects of this are extremely well understood. Any increase in leaching and associated environmental effects will make it extremely difficult for Horizons to ‘maintain or improve’ the condition of these already degraded rivers.
18. Figure 1 illustrates the monitoring sites in One Plan river target catchments assessed as having ‘degraded’ water quality attributes against the One Plan Schedule E targets. Many are defined as degraded against more than half of the measured attributes, with the ‘Mākakahi at Hamua’ and ‘Manawatū at Hopelands’ sites degraded against 7 of the 9 water quality targets assessed, and the ‘Mangatainoka upstream of the Tiraumea confluence’ site and the ‘Rangitikei at McKelvies’ site degraded against 6 out of 9 attributes assessed.

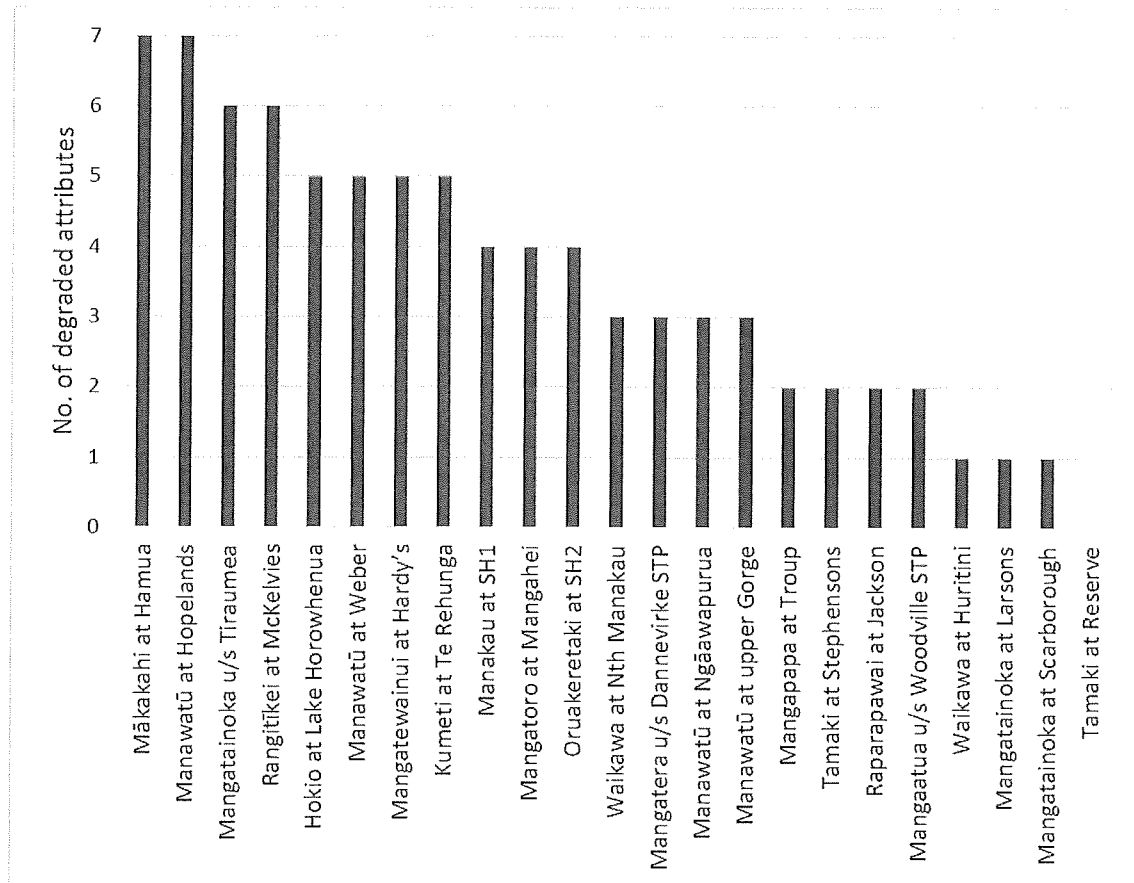


Figure 1: The number of degraded attributes for each of the monitoring sites in One Plan river target catchments as defined by the One Plan Schedule E targets. In total 9 attributes are assessed for each site.

19. Figure 2 shows the proportion of monitoring sites which are degraded against each of the water quality targets from Schedule E of the One Plan. E. coli is degraded at the greatest proportion of sites (87%), followed by Soluble Inorganic Nitrogen (SIN) (61%) and then Dissolved Reactive Phosphorus (DRP) (57%).

Macroinvertebrate Community Index (MCI) scores are degraded at almost 50% of sites and clarity, dissolved oxygen, and periphyton are degraded at roughly a quarter of all sites.

20. It is clear that the water quality of the rivers in the target catchments in the Horizons region is in a very poor state with respect to these key contaminants. This will undoubtedly be having a significant adverse effect on freshwater values including life-supporting capacity, ecosystem health, recreational, aesthetic, and cultural values.

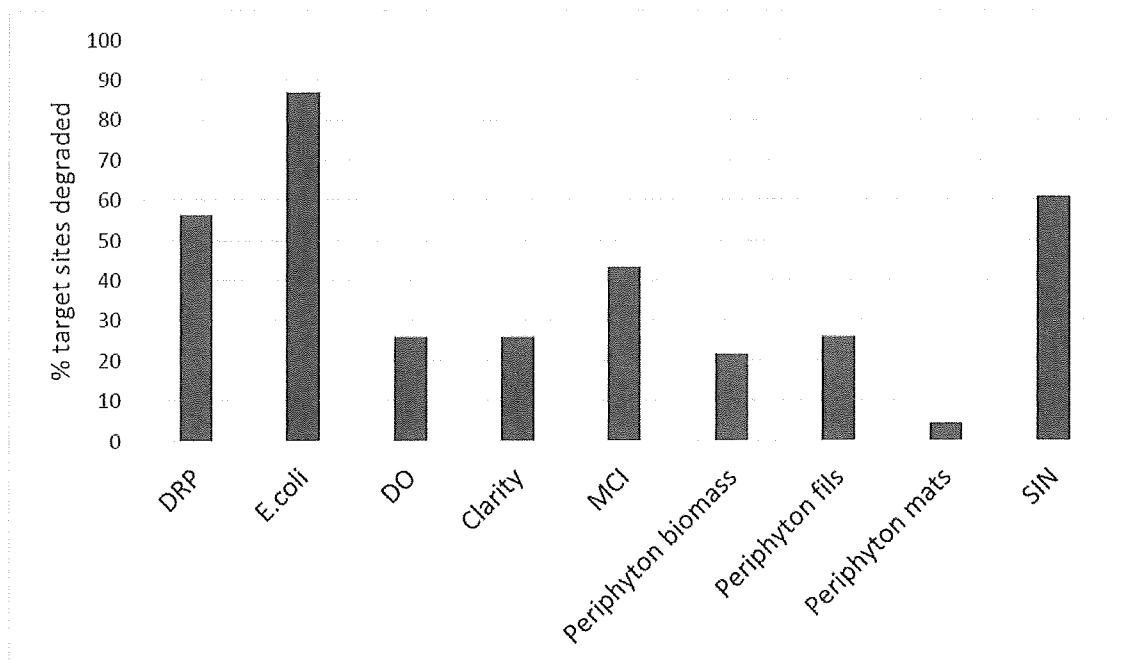


Figure 2: Proportion of monitoring sites in One Plan river target catchments assessed as degraded for each One Plan Schedule E water quality target.

21. While the scope of examining the impacts of nutrient, pathogen, and sediment pollution is often limited to rivers, we note that this by no means illustrates the extent of degradation. In regard to the fourteen coastal lakes within the target catchments, we note that of those:
- all 14 exceed (i.e. are more degraded than) the National Objectives Framework (NOF) national bottom line for median total nitrogen and the One Plan total nitrogen target for shallow lakes;
 - twelve exceed the NOF bottom line for total phosphorus and 13 exceed the OnePlan target for total phosphorus;
 - thirteen exceed the One Plan maximum and average chlorophyll a phytoplankton biomass targets for shallow lakes;
 - thirteen exceed the NOF bottom line for phytoplankton maximum, with five also exceeding the median phytoplankton bottom line;
 - five exceed the ammoniacal-nitrogen One Plan target;
 - two exceed the NOF ammoniacal-nitrogen maximum bottom line and show potential for toxic effects on sensitive aquatic species; and
 - almost all show significantly elevated nutrient levels and the consequential effects of elevated phytoplankton biomass.

22. In regard to groundwater across the Horizons region, three of the State of the Environment (SoE) bores and two additional bores show nitrate concentrations above the drinking water standard of 11.3mg/L.¹ At *least* 7 additional bores (i.e. at least 12 bores in total) show nitrate levels above the 3.87mg/L concentration confirmed in a 2018 study to substantially increase a person's risk of developing colorectal cancer.²
23. It is unfathomable that Horizons would propose a plan change that may increase the quantity of contaminants entering our rivers, lakes, and groundwater when they are already so severely degraded—and when there is a considerable threat to ecosystem and amenity values and human health. It is grossly inconsistent with their responsibility to maintain or improve the quality of water in the region.
24. We also note that there are a number of catchments in the Horizons region that are potentially degraded by intensive land use that are not captured in Table 14.1 of the One Plan (and so not reported on here in terms of their specific water quality attributes or 'managed' through Table 14.2 or the proposed plan change). In particular the lower and coastal Manawatū catchment and the Tokomaru, lower Mangaore, and Oroua tributaries; the lower Rangitīkei catchment including the Porewa and Tutaenui tributaries; and the lower Whangaehu, Makotuku, and the Turakina catchment (including Lake Waipū) require more in-depth analysis to assess their state and risk of degradation as a result of diffuse discharges from land use. The lower and coastal Manawatū catchment makes up the largest area of potential degradation.

EFFECTS OF THE PROPOSED PLAN CHANGE ON THE ENVIRONMENT

25. Degradation of water quality associated with pathogens, nutrients, and sediment is commonly the result of diffuse discharges of contaminants from land, with intensive land uses such as dairying contributing disproportionately greater contaminant loads by area than more extensive land uses (such as sheep and beef farming or plantation forestry).
26. It is unclear what the degree of adverse impact of the proposed Plan Change 2 would be on nutrient (and other contaminant) loads to freshwater, estuarine, and coastal/marine environments and their associated values. This is because the number of consents for intensive land use which will exceed the updated Table 14.2 and the magnitude of that exceedance are both unknown and uncontrolled by the plan change proposal. It is also unclear what the impacts of changing Table 14.2 would be on target catchments outside the upper Manawatū and Mangatainoka catchments.
27. It is extremely unlikely, given the current state of water quality in the target catchments' rivers and lakes, that water quality would improve as a result of proposed Plan Change 2 with respect to nitrogen and its effects on ecosystem health, life-supporting capacity, and other freshwater values. This would particularly be the case if numerous consents for intensive land use were granted to exceed Table 14.2 on a discretionary basis in the target catchments.
28. It is not clear from the work of Patterson et al.³ whether the updating of Table 14.2 to be consistent with the latest version of Overseer would have a significant impact on nitrogen loads to water in the target catchments. This is because (1) the 'original' leaching information and the 'new' leaching information are

¹ <http://www.horizons.govt.nz/HRC/media/Media/Publication/2019-State-of-the-Environment.pdf?ext=.pdf>

² <https://www.ncbi.nlm.nih.gov/pubmed/29435982>

³ Patterson, M., Boyte, S., Collins, S., Procter, K. (2018). Assessment of the environment outcomes from proposed Plan Change 2 –Table 14.2 update. Horizons Regional Council Memo. File no. EWQ0306. Palmerston North: Horizons Regional Council.

not directly comparable using their methods, (2) their assessment was limited to the upper Manawātū catchment, and (3) the full impact of the plan change package was not assessed. We cannot assess the potential effect of changes to Table 14.2 on the target catchments outside of the upper Manawātū and Mangatainoka catchments as the current and predicted loads of nitrogen are not known (with the exception of the lower Rangitikei).

29. It is clear (as mentioned above in paragraphs 12-19) that water quality in the Horizons region is in a poor ecological state and that Plan Change 2 would likely exacerbate these water quality issues.
30. Plan Change 2 puts many already-degraded lakes at risk of further ecological decline and ‘flipping’ as a result of any increase in nitrogen concentrations from surrounding intensive land use and the effects of eutrophication. Once lakes ‘flip’ it is extremely difficult and expensive to restore ecological condition (as evidenced by Lake Tūtira in Hawkes Bay and many of the lakes around Rotorua) and may take a very long time (potentially hundreds of years) to achieve. Maintaining their ecological condition to prevent this occurring is a priority for these systems to prevent irreversible damage to their ecosystem health.
31. Lakes, lagoons, and their margins are threatened habitats (under Schedule F (indigenous biodiversity) of the One Plan) and provide for other threatened habitat types and species—including associated wetlands, indigenous fish, and indigenous aquatic and terrestrial plants. They comprise high biodiversity values, are ecologically important regionally, and are under significant threat from eutrophication. Proposed Plan Change 2 puts these threatened systems at further risk.
32. The key impact of the proposed Plan Change on rivers in the target catchments would be the continued degradation of water quality with respect to nitrogen, which is already the second most pervasive water quality attribute to fail One Plan targets in target catchments after *E. coli* (see Figure 2) (an attribute also likely to degrade as a result of the plan change).
33. Life-supporting capacity in many rivers is likely to be impacted with adverse ecological effects extending to the health of indigenous fish communities. Many of the rivers in the target catchments are also aquatic ‘Sites of Significance’—identified because they contain known remnant habitats of regionally rare and threatened fish—and would be threatened by the impacts of the proposed plan change. Recreational and cultural values which rely on contact with freshwater, including fishing and mahinga kai practices would also be adversely affected—while non-contact activities that rely on ‘amenity values’ could also be at risk.
34. The impacts on groundwater, and estuarine, coastal, and marine systems, which have high biodiversity values and are often the ultimate receiving environment for contaminants exported from river systems, remain unknown.

POTENTIAL FOR COMPLIANCE WITH EXISTING TARGETS

35. While Forest & Bird consider Proposed Plan Change 2 inappropriate given its potential effect on water quality and associated values, we also consider it largely unnecessary given the evident potential for ‘problematic’ land use activities (particularly intensive agriculture) to comply with existing rules and targets.
36. In 2012 Horizons commissioned AgResearch to assess five intensive farms to test the feasibility of compliance with Table 14.2 of the One Plan. The exercise illustrated the farms could either comply with

limits immediately or would be able to comply by improving farm practices and/or applying nitrogen leaching mitigation actions.⁴ Another 18 farms were then tested across a wider geographical and Land Use Capability (LUC) range, targeting farms thought to be the most challenged in complying (e.g. those with a high proportion of high LUC classes and which experience high rainfall).

37. Results showed cropping and irrigated sheep and beef land uses could meet the limits in Table 14.2. In regard to the 18 dairy farms assessed, results showed:

‘Of these 18 farms it was estimated that 28% and 22% were able to meet the Year 1 and Year 20 Cumulative Nitrogen Leaching Maximums (CNLM) respectively without applying additional (more than those practiced at the time of assessment) N reducing mitigation practices. If high to medium cost effective N reducing mitigation options were implemented (the low to medium hanging fruit) about 78% and 61% of farms could meet Year 1 and Year 20 respectively.’

38. More recent work by Barrie Ridler of E2M Diagnostics (previously GSL Diagnostics) modelling five dairy farms for Horizons in 2016 illustrates the potential of dairy farms to significantly reduce nitrogen leaching while maintaining—and in many cases improving—their profitability⁵.
39. An example of Ridler’s findings is presented in Table 1 below, which clearly illustrates the potential of case study ‘Farm 1’ (a real dairy farm in the Horizons region) to substantially reduce its nitrogen leaching and increase its profitability—critically, N leaching is reduced by 44% and economic surplus (\$ surplus) is up 24% compared to the ‘Base’ (i.e. ‘current’ at the time) scenario in this example.
40. Farm optimisation with E2M (the ‘Environmental-Economic Model’) presents enormous and largely untapped potential to reduce the environmental impact of agriculture in the Horizons region (and across New Zealand) through reductions in leaching; more efficient use of land, fertiliser, and irrigation; reductions in herd size and soil compaction rates; and reductions in greenhouse gas emissions. While there may be some very intensive land uses in inappropriate places for which farm optimisation be a solution, optimisation should be viewed as a ‘best practice’ tool for making immediate progress in regions and catchments suitable for agricultural activity.
41. The E2M model is able to achieve such exceptional results as it utilises two techniques that no other farm system model in New Zealand (e.g. FARMAX, UDDER) uses—linear programming and marginal analysis. Essentially, this means the E2M model is able identify the optimum combination of management options on a farm to maximise economic performance and minimise environmental impacts. Other models cannot do this as they rely on the user to try and identify these ‘optimum’ combinations based on educated guesses, using poorly suited accounting (rather than economic) principles. This approach was explained and supported in evidence in chief of David Graeme McCall for Fonterra and Dairy NZ in the proceedings for the Proposed Hurunui and Waiau River Regional Plan:

The GSL [E2M] model was chosen over Farmax... This was because GSL [E2M] is more efficient at finding optimal resource use allocations due to it being an optimising, rather than a simulation model. With simulation models (such as Farmax) the definition of optimal resource use requires

⁴ Taylor, P. (2012). Section 42A report to the Environment Court on behalf of Horizons Regional Council.

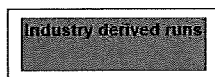
⁵ Ridler, B. (June 30th 2016). The feasibility of nutrient leaching reductions (N leaching) within the constraints of minimum impact on the profitability and production of five dairy farms in the Horizons Region. Report for Horizons Regional Council. GSL Diagnostic.

the user to iterate their way to an optimum solution. This iteration is time consuming, not always full-proof and optima may be missed.⁶

Table 1: "Farm 1 Economic and N leach outcomes to resource allocation protocols". 'Base' indicates the outcomes under the 'current' farm management scenario, while each 'run' indicates the potential outcomes under different management scenarios. Run 7 illustrates both an increase in profitability and significant reduction in N leaching against the base scenario.

Run no.	1. Base	Run 2	Run 3	Run 4	Run 5	Run 6	Run 7
No. Cows	215	215	215	195	215	170	154
kgMS/cow	430	430	430	430	430	430	398
kgN/ha ^{total}	112	45	0	16	112	33	33
Supplmade	0	0	0	0	0	0	0
discard							
Total BIF	275,000	328,000	360,000	228,850	165,000	78,000	0
MSprodn	92,162	92,162	92,162	83,585	92,162	72,871	61,233
\$Income	439,944	439,944	439,944	399,020	440,470	348,278	293,952-33
\$costs	318,835	330,214	348,226	281,363	288,232	192,729	144,240
\$Surplus	121,109	109,730	91,718	117,656	152,236	155,548	149,713
CO2 tonne	906	887	874	820	854	760	714
N excreted	32,935	31,966	29,476	28,288	31,148	27,340	24,993
Total kgDM use	1,032,660	1,042,360	1,051,100	939,290	939,600	801,073	719,300
N leached kg/Ha [~]	5,201 66 ^a	4,379 55 ^b	3,297 42 ^c	3,159 40	4,632 59 ^d	3,197 40 ^e	2,950 37 ^f
Change in \$/kgNleach	Compare To Base	-\$1,085 / kgNleach	-\$1,225 / kgN	-\$132 / kgN	+\$4,450 / kgN	+\$4,060 / kgN	+\$990 / kgN

Colour code



42. We note that the E2M model has also been endorsed by Dairy NZ and Fonterra in recent case studies in Marlborough⁷ and Takaka⁸ by the Landcare Trust, by Dairy NZ in information for farmers,⁹ by Pāmu's Environmental Advisor, Alison Dewes,¹⁰ and by individual farmers who have utilised the model. We note that government have also commissioned work using the E2M model through (a.) MAF circa 2007 to

⁶ In the footnote on page 6 of: <https://api.ecan.govt.nz/TrimPublicAPI/documents/download/1760006>

⁷ <https://www.landcare.org.nz/file/farm-systems-marlborough-case-study/open>

⁸ <https://www.landcare.org.nz/file/farm-systems-takaka-case-study-1/open>

⁹ <https://www.dairynz.co.nz/publications/environment/reducing-nitrogen-loss/>

¹⁰ <http://pnrp.gw.govt.nz/assets/Uploads/HS4-S308-Fish-and-Game-Alison-Dewes-Expert-evidence-26-January-2018.pdf>

examine the potential of E2M to model agricultural emissions for the Emissions Trading Scheme (ETS)¹¹ and (b.) regional councils who have used the model to analyse the potential for profitable reductions in irrigation and nutrient leaching across their catchment (including Horizons and Hawkes Bay Regional Councils).

43. Reductions in leaching and emissions resulting from the use of the E2M model have been validated in the results of the Lincoln University Dairy Farm¹², which, through a reduction in external inputs and the size of its herd (from 630 to 560 cows), increased its production (from 400kgMS to over 500kgMS per cow) and profitability, while decreasing its nitrogen leaching (by 30%).¹³ Such reductions in intensity and associated changes in farm management would result in reductions in leaching in line with current targets in the One Plan (not to mention reductions in greenhouse gas emissions and other benefits)—all achieved without any adverse impact on farm operations or profitability, and all without expensive mitigation technology.
44. Unfortunately, in considering the need for and developing Proposed Plan Change 2, Horizons have disregarded the potential of approaches such as E2M to reduce nitrogen leaching and meet existing limits. Instead Horizons has placed undue attention on ‘shifting the goalposts’ and testing the feasibility of industry-based ‘Good Management Practices’—avoiding any approaches that might suggest a reduction in herd size or intensity of land use as a solution—and falsely justified a need for a ‘pathway’ to resource consent and a plan change.
45. Forest & Bird’s research into why the findings of Ridler’s (2016)¹⁴ report have not informed the development of Plan Change 2—or resulted in any further region-wide action with E2M—has revealed some concerning evidence. In particular, that evidence points to vested interests, entrenched cultures, and a comfort with the status quo. Vested interests are clearly a substantial—and potentially an orchestrated—barrier, given that:
 - a) Fertiliser companies have no economic interest in promoting changes to farm management that may suggest farmers should de-intensify (and apply less fertiliser) to increase their profits
 - b) Dairy NZ and Fonterra’s funding is acquired per kilogram of milk solids produced, incentivising them to promote farm management practices and models that support increased milk production rather than increased profitability or reduced environmental impacts (note however that in many cases farm optimisation can result in gains in all respects)
 - c) Regional Councils—including Horizons—appear to struggle (or are unwilling) to promote approaches to farm management that contradict industry sentiment or the opinions/vested interests of their voters (no matter how promising or necessary those approaches may be).

¹¹ Riden & Ridler, (2007), ‘Report for MAF Policy, Resource Allocation Optimisation, New Zealand Dairy Farms’; and ‘Report on the NZ ETS’s Impacts on Farms and Viable Response Strategies Using GSL’s Model’ MAF POL 0910-11911

¹² Lincoln University Dairy Farm Focus Day, 2012 - <http://www.siddc.org.nz/assets/LUDF-Focus-Days/10-May-2012-.pdf>

¹³ <https://www.stuff.co.nz/business/farming/97071476/demonstration-dairy-farm-cuts-nitrate-leaching-30-per-cent-and-stays-profitable>

¹⁴ Ridler, B. (June 30th 2016). The feasibility of nutrient leaching reductions (N leaching) within the constraints of minimum impact on the profitability and production of five dairy farms in the Horizons Region. Report for Horizons Regional Council. GSL Diagnostic.

46. Our conclusion in this regard is reinforced by a comment made by a Rural Advisor at Horizons Regional Council in an OIA-obtained document. When commenting on the potential to start trials with local farmers and Dairy NZ based on the findings of Ridler's E2M report (that farmers could reduce their environmental impact while increasing their profits), the Advisor said of a similar, earlier project "It should be noted that [the project]... was prematurely discontinued due to DairyNZ not wishing to fund further work. Motivation for stopping this research appears to have something to do with the belief that promoting lower milk production was not good for the industry".
47. Finally in regard to existing targets, it should be noted that the values for the Year 5, 10, and 20 leaching limits in Table 14.2 were established as a policy decision based on the extent to which most farms could feasibly reduce their nitrogen leaching over time—i.e. not solely as the most appropriate limit from an ecological perspective. It was acknowledged that even if fully implemented (i.e. every dairy farm meeting Table 14.2 at Year 20) the in-stream nitrogen water quality target, for at least the Manawatū and Mangatainoka rivers, would still not be achieved. That is to say **the existing targets for leaching are already higher than what the river can probably handle** and were developed as something of a compromise when established in the One Plan.
48. Forest & Bird consider the evidence supporting the potential for profitable or low-cost compliance with Table 14.2 to be compelling. Unfortunately the barriers discussed above appear to have disrupted and delayed progress that could have been made to date.
49. With that in mind, the targets and rules in the One Plan relating to intensive land use are absolutely appropriate (noting that an update to Table 14.2 in line with the latest version of Overseer for the catchments in the Tararua district may be justified), and—if anything—should be extended to at-risk catchments such as the lower Manawatū.

TE AO MĀORI VALUES

50. Issue 2-1(b) of Chapter 2 of the One Plan (Te Ao Māori) identifies hazardous substances and nitrate run-off need to be better managed to avoid contaminants entering water. Issues 2-1(c) and 2-1(d) are also important but are not considered in the s32 evaluation. Issue 2-1(c) states "Lakes and streams (for example, Punahau/Waipunahau (Lake Horowhenua) and Hokio Stream) have suffered degradation which continues and are considered culturally unclean." Issue 2-1(d) states "Access to and availability of clean water to exercise cultural activities such as food gathering and baptismal rituals have diminished." All of Issue 2-2 (land management) is relevant to the proposed Plan Change 2 and its potential effects on tangata whenua values for freshwater. Table 2.1 of the One Plan cross references the relevant Objectives, Policies and Rules in the Plan which address the issues identified in Chapter 2 and directly links them to the objectives of Chapter 5 (which remain unchanged) and to Policy 5-8 in the RPS and policies 14-3, 14-5 and 14-6 and rules 14-1, 14-2, 14-A (new) and the associated methods in the regional plan to address these issues (some of which are proposed to be altered by the Plan Change 2).
51. The s32 report notes at page 48:

'The cultural costs of the status quo are anticipated to be addressed at least in part by the proposed provisions because the mauri of freshwater in targeted water management sub-zones will improve as contaminants from the remaining existing intensive farming land users are controlled through consent conditions. Although consent being granted for activities that do not meet the nitrogen leaching maximums was anticipated in the operative One Plan (as a restricted discretionary activity), the new discretionary pathway in the proposed provisions could be seen as compromising water

quality improvements. However, although reductions in nitrogen may be lower or delayed, the provisions require a higher level of good management practice controls in terms of other key contaminants such as phosphorus, pathogens and sediment. It is expected therefore that there will be an overall improvement from the status quo.'

52. Currently there is no evidence to support this statement and it is difficult to see how regulation in itself will improve mauri without clear evidence of water quality benefit and firm controls on other contaminants above and beyond the proposed definition of Good Management Practices (GMP) and application of the Best Practicable Option (BPO), which are both open to wide interpretation and lacking in minimum performance standards. Water quality is undeniably degraded in the target water management zones and there is no evidence that the proposed approach will improve degraded water quality. Where waterbodies are degraded across multiple water quality attributes, including those indicating faecal pathogens and the health of aquatic life (such as MCI and nuisance periphyton growth) it is anticipated that mauri and other cultural values such as wai tohi (baptismal waters) and mahinga kai are also likely to be degraded or diminished.
53. For example, in the Mangaatua catchment, cultural health indices indicated degraded tangata whenua values upstream of the Woodville sewage discharge likely as a result of the surrounding land use. Cultural health has also been assessed by Kahungunu ki Tamaki nui a rua as degraded at sites in the Mākakahi and Mangatainoka and in the Manawatū Awa at Ngā awa pūrua.
54. The approach proposed in Plan Change 2 is not consistent with Te Mana o te Wai, where the needs of the waterbody and the hauora and mauri of that water come first as a matter of national significance under the NPS-FM (Objective AA).

RELEVANT LEGISLATION

55. Forest & Bird consider Proposed Plan Change 2 to be contrary to direction of the relevant guiding legislation, including the National Policy Statement - Freshwater Management, the Resource Management Act, the One Plan, and the New Zealand Coastal Policy Statement.
56. In particular, the plan change does not give effect to (note this list is not exhaustive):
- a) Objective AA1, Objective A1, Objective A2 and Objective D1 of the National Policy Statement for Freshwater Management 2014 (amended 2017)
 - b) the purpose of the RMA, by failing to safeguard the life-supporting capacity of water, soil, and ecosystems and failing to sustain the potential of natural and physical resources to meet the reasonably foreseeable needs of future generations
 - c) the Regional Council's function to enhance degraded water quality under s30(1)(c) of the RMA
 - d) Objectives 5-1, 5-2, and 14-1 of the One Plan;
 - e) Policies 5-3, 5-4, 5-5, 5-6, 5-7, 5-8, and 14-9 of the One Plan.
57. We also note the draft NPS-FM and NES for Freshwater Management recently released by the Ministry for the Environment contain a number of provisions to better protect the health of our water, including requiring Farm Environment Plans as mandatory and restricting nitrogen losses in at-risk catchments.

However, the draft proposal specifically excludes the Manawatū Catchment from nitrogen restrictions as it is assumed these are already occurring as a result of the One Plan provisions. This assumption, and the subsequent exclusion, is undermined by the Plan Change 2 proposal. There is a clear national direction towards greater regulation of intensive land use and better identification of minimum standards for farming practices.

58. We anticipate that the NPS-FM 2019 and associated NES directions will be disruptive to both Plan Change 2 and Horizons' proposed Plan Change 3 (not yet advanced beyond the discussion stage). We note that Horizons' approach to these plan changes is inconsistent with not only the direction of the current NPS-FM (amended 2017) but also that of the Proposed NPS-FM (2019).

COMMENTS ON S32 ASSESSMENT

59. Chapter 5 of the RPS identifies water quality degradation as a key issue in the Manawatū-Whanganui Region. Run-off and leaching from agricultural land are identified as the principal causes of this issue. In broad terms, the direction of the water quality objectives and policies in Chapter 5 is to maintain water quality where it is currently good, and to enhance water quality where it is currently poor. The s32 evaluation identifies that this issue remains relevant.

60. The s32 report at page 30 considers that:

By ensuring that the RPS, and in turn Chapter 14, contains a workable framework to provide oversight, management and regulation of these activities [managing the diffuse discharges from intensive land use], the water quality outcome sought by the One Plan, and the RMA, will be better achieved. The 'purpose' of Plan Change 2 will better provide for:

- Sustaining the potential of the waterways in the Region to meet the reasonably foreseeable needs of future generations (s 5(2)(a));
- Safeguarding the life supporting capacity of the waters of rivers, streams and lakes (s 5(2)(b));
- Remedying and mitigating adverse effects from surrounding land use (s 5(2)(c)).

61. However, the s32 report provides no evidence that these issues will be provided for by Plan Change 2. Currently the potential of the region's waterways to meet the reasonably foreseeable needs of future generations and the life-supporting capacity of water are compromised and the effects from surrounding land use are not avoided, remedied or mitigated, water quality remains degraded in the target catchments.
62. The s32 report notes that increases of diffuse nitrogen may occur under the proposed Plan Change as a result of granting a number of consents for intensive land use which exceed the Table 14.2 nitrogen losses, but that other contaminants will be better managed through the proposed GMP and BPO approach. Currently, there are no provisions within the proposed GMP or BPO approaches that will firmly control diffuse contaminant losses to at least a minimum standard.
63. The s32 evaluation has not assessed any alternative approaches to GMP that are currently operative or proposed in other regions with similar water quality issues as a result of intensive land use.
64. The environmental benefits (for the natural environment) associated with the proposed Plan Change, provided in the table on page 40 of the s32 report, are identified as:

Existing intensive farming land users (including commercial vegetable growers) that cannot achieve cumulative nitrogen leaching maximums will be provided with a best practicable option-based discretionary pathway under which they can apply for consent.

All intensive farming land users that get a consent will need to be undertaking good management practice or best practicable option (if a discretionary activity) measures to mitigate nutrients, pathogens and sediment which will result in greater water quality improvements than if they have no consent.

Finally, and as addressed above, the environmental effects of operations that comply with the recalibrated Table 14.2 will be no greater than what was anticipated from complying with the operative Table 14.2 under the earlier version of Overseer.

65. However, the s32 report fails to identify the environmental effects associated with those intensive land uses that cannot comply with the recalibrated Table 14.2. Furthermore, the mitigation of nutrients, pathogens, and sediment associated with GMP or BPO are not defined to any minimum standard in the Plan Change and there is no technical or scientific assessment of the potential outcomes of these aspects of the proposal. Thus, the environmental benefit, if any, cannot be evaluated in any way.
66. Therefore, Forest & Bird consider the S32 report provides insufficient justification for the proposed plan change.

SUBMISSION ENDS

