

SUBMISSION TO
THE MINISTRY FOR THE ENVIRONMENT
on
Action for healthy waterways

From Deer Industry New Zealand



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1. Introduction

- 1.1 Deer Industry New Zealand (DINZ) welcomes the opportunity to make a submission to The Ministry for the Environment (MfE) in response to the consultation document “*Action for healthy waterways*” (MfE publication number: ME 1427).
- 1.2 New Zealand has the world’s largest farmed deer industry. The main products marketed are venison and deer velvet antler. Approximately 95% of products are exported. In the year ending 30 September 2018, deer products were worth \$322 m in export receipts to New Zealand.
- 1.3 DINZ is a levy funded industry-good body established by the Deer Industry New Zealand Regulations (2004) under the Primary Products Marketing Act 1953. DINZ’s functions (under regulation 5(1)) include the following:
 - to promote and assist the development of the deer industry in New Zealand;
 - to monitor, and from time to time report on, the economics and efficiency of all components of the deer industry; and
 - to report from time to time to the Minister and to the Minister of Foreign Affairs and Trade on movements of costs and prices or other factors likely to affect the economic stability of the deer industry.
- 1.4 DINZ’s levy payers are producers and processors of venison and velvet. There are roughly 1,500 deer farmers and 8 venison processing plants with approximately one million animals on farms.
- 1.5 The industry is the youngest pastoral-based industry in New Zealand (the first deer farm licence was issued in 1970) but provides diversified markets and additional revenue to and complementary land use with other pastoral farming industries. Indeed about 80% of deer farmers also farm other livestock species and/or arable crops.
- 1.6 The deer industry shares concerns with all the other pastoral-based industry bodies but has particular affinity with the drystock sector as:
 - i. Deer farms tend to be multi-species (*i.e.* deer are farmed along with sheep and/or beef cattle);
 - ii. products derived from deer farms are similar (venison alongside beef and lamb, annual velvet harvesting alongside wool),
 - iii. deer farms occupy the same land classes and run similar production systems (breeding, venison finishing/velvet) and have similar levels of inputs.
- 1.7 For this reason this submission is confined to issues that will particularly impact on deer farming, but DINZ wishes to note that it supports the submission from Beef + Lamb New Zealand (B+LNZ).
- 1.8 DINZ also fully support the New Zealand Deer Farmers Association’s (NZDFA) submission. As NZDFA representatives are all active deer farmers, DINZ acknowledges that the submission will provide more clarity of on-farm practices and

outcomes. DINZ complements the practical perspective with higher-level regional and national perspectives of deer farming responses to the policy and regulatory proposals in this submission

1.9 DINZ wishes to speak to this submission.

2. Scope of Submission

2.1 DINZ will confine the submission to the following proposals:

2.2 **Draft National Policy Statement for Freshwater Management** – endorsement of the B+LNZ submission.

2.3 **Proposed National Environmental Standards for Freshwater**

- Feedlots (Clause 27)
- Other stock holding areas (Clause 29)
- Intensive winter grazing (Clause 30)
- High-risk land use changes (Clause 35)
- Freshwater module of farm plans (Clauses 37 – 41)
- Nitrogen Cap (Clauses 42 – 48).

2.4 **Draft Sock Exclusion Section 360 Regulations**

3. Draft National Policy Statement for Freshwater Management

3.1 As stated in paragraph 1.5 most deer farmers run mixed livestock farms which may also include cropping. With respect to the draft National Policy Statement for Freshwater Management (NPS-FM), DINZ fully supports the submission from B+LNZ and considers that there are no proposals that unfairly or disproportionately target deer farming relative to sheep and beef farming.

3.2 Key messages are re-iterated that are endorsed by DINZ:

- That the macroinvertebrate community index (a recognised indicator of ecological river health) be established as a numerical attribute within the NPS-FM to be applied as freshwater objective through regional plans.
- Amend the NPS-FM to ensure that the economic wellbeing and sustainability of communities and future generations are a key consideration when setting and managing to freshwater objectives (attributes, limits, and targets), and in setting environmental bottom lines. In this respect the vision of Te Mana O Te Wai – healthy waterways from the mountains to the sea – is supported.
- Recognition and support for catchment or sub catchment integrated management of land and water resources through catchment communities. This approach is consistent with coordinated activities undertaken by DINZ,

B+LNZ and many regional councils with respect to improving water quality.

- Remove provisions (regarding new attributes for nitrogen, phosphorus, and sediment) which seek improvement in water quality irrespective of the current level of the waterbodies' ecological health and the provision of other community values such as the health and wellbeing of people, communities, and including economic wellbeing.

4. Proposed National Environmental Standards for Freshwater (NES-FW)

Feedlots (Clause 27)

- 4.1 Both the discussion document and the Interim Regulatory Impact Analysis describe feedlots as farming systems "*where stock are held in covered and uncovered areas for an extensive period of time and fed almost exclusively on feedlots*" and estimate that there are five operating in New Zealand. It seems likely that this is intended to cover beef feedlots that have a primary aim of intensively finishing beef cattle.
- 4.2 However the wording in the proposed NES-FW makes no reference to the purpose and instead defines it in terms of two criteria: duration of confinement (80 days in a 6-month period) and feeding regime (hand- or mechanically-fed). Using this definition captures wintering barns/sheds that are successfully used by some deer farmers in the lower South Island – particularly in Southland.
- 4.3 The MPI Code of Welfare (Deer) 2018, sets out precise requirements related to facilities standards, stocking density, feed and water health and welfare needs for this practice (wintering barns) which has been running successfully since the 1980s (Sec 4.3. Minimum Standard No 6 - Holding facilities)
- 4.4 Wintering barns are used to house deer (typically mixed aged stags) over the winter (up to 90 days) where they are hand- or mechanically-fed. The purpose for using wintering barns is to ensure that deer have access to adequate feed during times when pasture growth is minimal and pasture damage is likely if animals continue to graze in the open and – more importantly, pasture growth is then compromised in the following spring/summer.
- 4.5 Adult stags also lose up to 30% of summer peak body weight during the seasonal rut, and are more vulnerable to cold wet conditions in winter as a result. In Southland, a major velvet producing area, indoor housing, or some sort of feedlotting in plantations or other sheltered area provides a strong stag welfare benefit.
- 4.6 Mixed aged stags are the heaviest stock class for deer so are likely to create more soil damage in wet conditions. Further, deer as a whole do not produce much weight gain over winter so the productivity aim for using barns is more to maintain weight and condition over winter.
- 4.7 In terms of environmental outcomes wintering barns are quite different from beef feedlots:
 - Wintering barns result in less area used for winter grazing.

- Deer effluent and dung is less than those of beef (or dairy) and are captured by bedding material in the barn. There is no leachate and the dry bedding material is applied over the paddocks when the barn is no longer needed and when weather conditions allow (once the deer return to the paddocks, the bedding can remain in the barn with no risk of leachate loss).



(Mixed-age stags in a wintering barn in Southland, August 2018. The deer have mobbed up due to the presence of visitors at the front)

4.8 DINZ wishes that the clause for defining a feedlot to:

- **Extend the confinement period to “more than 90 days”** (typically the longest period used for wintering barns in Southland).
- **Specify the primary aim for the use of a feedlot** (finishing an animal prior to slaughter).

Such that wintering barns or sheds (that are not used for finishing stock) are not included in this standard.

Other stock holding areas (Clause 29)

4.9 A stock holding area is defined as “...a permanent or semi-permanent area, covered or uncovered, that is constructed to hold livestock at a stocking density that precludes the maintenance of pasture or vegetative groundcover and:

- a) includes feedpads, winter pads, standoff pads, loafing pads; but
- b) does not include areas used for animal husbandry purposes, such as stockyards, milking sheds, or woolsheds.”

4.10 This definition would also include drought feeding in a paddock where grass has died off and the animals are hard fed (stocking rates are low but any new growth would be quickly eaten off).

4.11 DINZ notes that this definition may also capture self-feeding silage pits that are

commonly used in deer farming. Self-feeding silage pits are used for the same purpose as feedpads or winter pads, so will have similar environmental risks (with respect to siting and managing leachate). However deer social and feeding behaviour reduces some of the risks associated with this practice compared with feedpads or winter pads used by other livestock species.

4.12 Two examples of deer self-feeding silage pits are shown here:



- The pit has a concrete base and is located at the top of a hill.
- To the right is a woodlot that the deer will spread out in when not actively feeding.
- See page 44 of the The Deer Industry Environmental Management Code of Practice (2018)
- Additional good practice would be to install a sump to collect the leachate.

And here: <https://www.stuff.co.nz/business/farming/agribusiness/95913721/feed-problem-solution-means-happy-farmers-and-deer>

4.13 A key feature for self-feeding silage pits is that the deer are only confined at the feeding face, and they require unimpeded access to a paddock or other “run-off” area such as a woodlot or other sheltered area that allows the herd to spread out to rest and ruminate when not feeding. Deer browse rather than graze, so feeding is not a prolonged activity and there is a strong social hierarchy within the herd that allows timid or younger animals to have their own opportunities to feed as needed.

4.14 DINZ considers that there is sufficient guidance in industry publications “The Deer Industry Environmental Management Code of Practice (2018)”¹ and “Deer Facts: Protecting waterways from wallow and feed pad run-off”² as well as readily available industry support and advice that further minimise the risk that self-feeding silage pits pose to water bodies.

4.15 **DINZ seeks clarity that self-feeding silage pits will not require a restricted discretionary activity consent.** Currently the wording in the proposed standards is ambiguous: “ *Holding stock in a stockholding area for more than 30 days in a 12 month period, or for more than 10 consecutive days, is a restricted discretionary activity.*” (Clause 29(1), page 14).

4.16 As self-feeding silage pits are only enclosed by three sides and deer are free to come and go, DINZ contends this does not result in deer being “held” in the area. Further while access to the silage pit is likely to be more than 10 consecutive days, this is not

¹ <https://www.deernz.org/deer-hub/farm-environment/environmental-management-code-practice>

² <https://www.deernz.org/deer-facts>

continuous (*i.e.* 10 consecutive days refers to 240 consecutive hours, rather than for example, 30 hours spread out over 10 days).

Intensive winter grazing (Clause 30)

4.17 DINZ acknowledges that intensive winter grazing is an inherently challenging activity as it concentrates stock along a feeding face (thereby concentrating dung and urine deposition and increasing the risk of soil damage such as compaction, pugging or soil loss) and following grazing, bare earth is exposed for a significant period of time. Nevertheless winter grazing is an important component of deer farming, particularly in parts of the country where pasture growth over winter is not sufficient to meet the needs of the farm's own livestock (*i.e.* livestock that is not brought in from outside and owned by another business).

4.18 As with many of the areas of concern covered in the NES-FW and the stock exclusion regulations, different livestock species behaviour can influence the environmental risk and outcome. Winter grazing of deer differs from that of cattle in several aspects:

- Deer are lighter than cattle and so will cause less soil compaction or pugging under the same soil and moisture conditions.
- Because deer are browsers rather than grazers, back fencing is not always used. Current good farming practice includes the use of a run-off paddock and/or placing supplemental feed away from the feeding break. This results in deer spending less time concentrated at the feeding face so there is less soil damage or concentration of contaminants.
- Deer farmers observe that once deer have had their fill on the opening of a new break, the strongly social animals drift to the top of any paddock, or sit down in a sheltered aspect and rest and ruminate for long periods. It is deer farmers' experience that deer on crop maintain a different break grazing and a resting pattern than cattle and will sit out inclement conditions,
- Breaks tend to be shifted every 4-7 days rather than daily. This means that there is initially a generous amount of crop for the herd to spread out and feed.
- Crop type can also make a difference. Deer will preferentially browse kale leaf and return to the stem later. The plant also has a fibrous root system that remains in the ground and lowers the risk of pugging or soil loss. Kale produces less dry matter per hectare than fodder beet, but will also have a reduced risk of soil damage and resulting contaminant loss to waterways.
- Temporary electric fencing is used to break feed crops or pasture. Deer require a 4 or 5 wire system at 1.4 – 1.5 m heights. Electric fencing can also be used effectively to protect and isolate sensitive areas within a paddock such as springs, critical sources areas, or to direct stock away from exposed parts of a grazing paddock. Shifting this fencing system is more time consuming.

4.19 There are a range of good farming practices that can be employed by farmers to minimise risk and many deer farmers use these to good effect. As a general principle **DINZ supports the government's intent to define criteria that allow winter grazing to be retained as a permitted activity** albeit requiring a high level of risk and benefit

assessment mitigation judgement and remedial action as required or in anticipation of severe weather events.

- 4.20 DINZ supports the following options suggested for conditions for permitted activity status in Clause 30(1):
- a) *the grazing does not take place on land with a slope equal to or greater than **20 degrees**;*
 - b) *the grazing does not take place over more than **12 %** cumulatively or in one contiguous area of the farm;*
 - c) ...
 - d) ...
 - e) *a vegetated strip of at least **5 m** that does not include any annual forage crop species is maintained between the grazed area and any water body or drainage ditch, and all stock are excluded from this strip during the grazing;*
- 4.21 *DINZ also supports as an ideal (beyond good farming practice) having a transition zone of pasture at the top of the paddock of 5m that provides a resting area when first grazing deer on the forage crop.*
- 4.22 *Slope threshold of 20 degrees:* Given that most deer farms occur in predominantly hill and high country areas, paddock selection for winter grazing will inevitably need to balance up slope, soil type and proximity to waterways. Crop paddocks are typically part of a re-grassing rotation and are moved annually or every two years which also helps avoid long-term soil compaction. A crop paddock on a 20 degree slope but not near to a waterway is more likely to result in better water quality than a paddock next to a waterway (assuming other appropriate good farming practices are in place).
- 4.23 If a farm needs to use paddocks with a 20 degree slope for winter crop every other year or less frequently, applying for a restricted discretionary consent on a sporadic basis becomes both unnecessarily expensive and of no environmental benefit if the other permitted activity criteria are being met.
- 4.24 *Winter grazing area is up to 12 % of the farm area:* Most deer farmers will only winter their own stock (*i.e.* they do not seek to bring in other stock over this period). In Southland most deer farmers choose not to winter graze dairy cows as this practice compromises pasture production for their own stock later on. Farmers estimate that between 5 – 8 % of their farm area is sufficient to allow them to feed their own stock on winter crops, but DINZ is aware that this can extend up to 12% in some cases.
- 4.25 *Maintaining a vegetated strip of at least five metres:* It is unclear as to why 20 m is considered an option, particularly if the crop is on a low-slope paddock. DINZ supports the use of a vegetated strip that is a minimum of 5 m in width between the waterbody and the crop to be grazed – this is in addition to whatever necessary good farming practices need to be applied to the grazing of the crop (direction of grazing, excluding critical source areas, timely shifting of breaks, etc.).
- 4.26 DINZ supports the requirement for a vegetated strip as a sound, proactive good farming practice, but notes that as with the setback requirement for stock exclusion from waterways, the width of the vegetated strip may need to increase as the slope

gradient increases. As there is no definitive relationship between slope, soil type, rainfall pattern and quantity, stock class, crop species and overland flow of soil and contaminants to the waterbody, the setback width will need to be justified, documented and monitored for efficacy.

4.27 **DINZ does not support the following condition** for permitted activity status:

- pugging to a depth of more than an average of 20 cm [10 cm] does not occur over more than 50% of the paddock.

4.26 Pugging within the paddock is not in itself a poor outcome for freshwater quality. Pugging *may* lead to:

- Compromised animal welfare (if animals have no alternative place to go to when not feeding).
- Decreased long term soil productivity through compaction or loss of soil structure;
- Increased *risk* of contaminant loss through overland run off (following heavy rainfall or snow/thaw events) or leaching to groundwater.

4.27 Further, pugging will occur after winter grazing has occurred and may be related to weather patterns within the season as much as poor site selection or over-stocking. If pugging occurs in the last few days of grazing a block due to heavy snowfall and rapid melting, or a heavy rain event, is the farmer liable for a fine or prosecution?

4.28 Rather than focus on a standard that requires a negative outcome (pugging) to occur, a more logical approach would be to require the farmer to assess risks from undertaking winter grazing in a particular paddock and then put in place farming practices to reduce these risks as much as pragmatically possible. Avoidance or minimising pugging for example could be assisted in the first instance by determining the soil type, likely weather patterns over the grazing period, and the stock class that will be in the paddock.

4.29 With regards to the second bullet point in paragraph 4.26, DINZ understands that this is a prime motivation for many deer farmers in wet areas to not take on dairy grazing as the heavier animals held on the grazed area for longer will create more ongoing problems.

4.30 DINZ notes that the Minister for Agriculture has established a winter grazing task force for animal welfare concerns and that they will report concerns and areas for improvement in due course. These concerns should be addressed through codes of animal welfare, not regional plans.

High-risk land use changes (Clause 35)

4.31 DINZ understands the intent to limit intensification of land use across the country but is concerned that the 10 hectare limit for land use change does not take into account the natural capital of the soil or the current status of the catchment's water quality. In effect this is a "grandparenting" approach that locks in current land use and prevents *within farm development* even if this is carried out in conjunction with retirement of land elsewhere on the farm (e.g. 10 ha of gullies and wetlands could be retired while 10 ha of a woodlot that has been felled and could be converted back to pasture).

- 4.32 In the absence of an established allocation framework for contaminants lost from the farm this proposed standard essentially rewards businesses that are already discharging high rates of contaminants while limiting the ability for less intensive drystock farms to respond to:
- Changing markets (affecting the on-farm mix of livestock species/crops/forestry opportunities/other land uses).
 - Local catchment water quality issues (that *should* dictate what area each farm should focus on over and above general good farming practice) e.g. in the Waipā catchment, hill country farms should focus on phosphorus and sediment loss rather than nitrogen loss.
 - Weather events (e.g. if a summer drought is likely, then establishing a summer crop block would be desirable)
- 4.33 This approach also sets up an artificial inequity between farms. In effect this could result in two neighbouring farms with the same soils in the same catchment being treated differently where one is an intensive farm and the other extensive. The intensive farm can continue to farm at its current level of outputs (both production and contamination) and maintain land values (at a higher level because it can generate more revenue). Conversely the extensive farm will lose land value despite both farms having the same natural resource/capital (soil) and therefore the ability to produce the same level of outputs within any environmental constraint. In effect the extensive farm is being penalised for having a low environmental impact system.
- 4.34 **Rather than a moratorium on land use intensification, DINZ would prefer to see land use tied to land use capability or natural capital.** This may mean that some land use could justifiably be intensified, while other current land use will have to change to less intensive uses (assuming that an allocation mechanism is established at a catchment level). The concept is similar to the “right tree in the right place for the right purpose” refrain for the One Billion Trees Programme and the Scion strategy to 2030.
- 4.35 At the very least DINZ wishes to see **recognition and understanding that drystock farming requires multiple uses of the land and production to remain economically viable** and that this complements diversified land use according to the inherent environmental risk or resilience of the land. In other words, complex and multiple production systems require a level of flexibility to operate optimally and in keeping within environmental constraints.

Freshwater module of farm plans (Clauses 37 – 41)

- 4.36 DINZ supports the concept of every farm having a farm environment plan and recognises the intent of the freshwater module of a farm plan (FW-FP) as fulfilling this concept. At the conceptual level this is consistent with publicly stated aims from DINZ, NZDFA and B+LNZ for every deer, sheep and beef farm to have a farm environment plan by 2021.
- 4.37 However **DINZ has strong reservations regarding i) the format/composition of the FW-FP and ii) the requirement that the FW-FP be mandatory if this is through regulation.**

- 4.38 As the NES-FW is currently worded the FW-FP could be viewed as a framework for implementing the standards rather than identifying what relevant practices should be occurring to help achieve good water quality outcomes. In particular:
- Clause 38(3)(f) and clause 38(4): Stock management and exclusion (including assessment of appropriate riparian setbacks), especially near waterbodies, drainage ditches, and riparian margins.
 - Clauses 38(3), (4) and (5): The identification and management of all potential contaminant losses from the farm (nitrogen, phosphorus, sediment, pathogens).
 - Clauses 38(4) and (5): Actions to reduce all potential contaminant losses overtime.
 - Clause 40(3)(c): Consistency with the Good Farming Principles as set out in the Good Farming Practice Action plan for Water Quality 2018.
- 4.39 Much of this is further reinforced through the auditing requirements provided in Clause 41.
- 4.40 DINZ also notes that environmental groups have also expressed similar concern³.
- 4.41 Of concern is the requirement to identify and manage nitrogen losses from typically low nitrogen input (deer) farms that would require the use of modelling software (OverseerFM) which in turn requires consultant guidance at least in initially setting up and running the model for the farm. Most deer farmers that have used Overseer or OverseerFM question the time and expense required to reinforce the conclusion that reducing already low N loss rates from these farms is not possible. That time and money could be better directed towards managing risks for other contaminant losses.
- 4.42 The requirement to provide information on potential emissions and then put in place actions and timeframes to reduce all emissions appears to be divorced from the current state of the receiving waterbody. A similar concept is proposed in the Waikato Regional Council's Plan Change 1 where hill country farms will have a nitrogen baseline (limit or cap) and be expected to address sediment levels and stock exclusion requirements. A more effective and efficient approach would be to enable the farm to concentrate on environmental work on issues relevant to that farm in its catchment context (e.g. deer farms in the Waipā catchment would focus on minimising sediment loss to waterways through managing critical source areas and animal behaviours rather than undertaking nutrient budgets and putting up kilometres of fencing).
- 4.43 **DINZ does not consider that a certified planner is required to prepare and endorse a farm environment plan/FW-FP, but that a verification process does require certified personal to undertake assessments of the efficacy of farm environment plans/ FW-FPs.** This is both a pragmatic consideration (industry organisations can assist farmers prepare farm environment plans/FW-FPs and there is a lack of capability for both advisors and verifiers), and a procedural consideration (tax returns do not require a consultant but a tax audit requires a qualified auditor).
- 4.44 DINZ would be willing to collaborate with MPI and MfE in the training of verifiers and

³ <https://farmersweekly.co.nz/section/beef/view/farm-plan-tick-boxes-scorned>

assisting farmers prepare fit for purpose farm environment plans, as it is already doing so with one regional council for auditing and across the country for completing and actioning farm environment plans.

Nitrogen cap (Clauses 42 – 48)

4.45 The discussion document provides three options for immediate action to reduce nitrogen loss: i) a nitrogen cap, ii) a cap on fertiliser use, and iii) reductions in nitrogen leaching through the FW-FP. **DINZ prefers the application of a nitrogen cap (option 1) over the other options, subject to amendments.**

4.46 The ability for drystock farms to reduce nitrogen losses is extremely limited and has been well documented in the Southland Economic Project Agriculture and Forestry Report⁴ (see page 184, section 2.6.1 nitrogen).

4.47 Some of the key findings (page xi, Executive Summary) were: *“Some farms had less capacity to reduce nutrient losses than others in the OVERSEER® analysis. The main reasons were:*

- *those farms had low nutrient losses to start with (so the mitigation options had little effect);*
- *the impacts of the mitigation options on profitability were high;*
- *the mitigation options were not applicable to a farm; and/or*
- *the mitigation options were not sufficient to manage the farm’s nutrient losses (given its soils and topography).*

The effectiveness of specific mitigations varied by industry and nutrient. For example, reducing stocking rates was not well suited to drystock because stocking rates were generally within the carrying capacity of the land.”

4.48 These findings are not Southland specific – the farming systems used in that study are found throughout the country. DINZ therefore considers that the ability for low nitrogen emitters to operate within a nitrogen cap will depend on how such a cap can accommodate the variability of these production systems as described in paragraph 4.35 (or more bluntly – any cap and reduction applied to already low-emitting farms will not materially affect the catchment nitrogen load but will undermine the profitability of those farms).

4.49 **DINZ supports the application of a nitrogen cap (option 1) with amendments such that:**

- Flexibility in N leaching for extensive or non-low land farming systems is retained;
- The threshold is based not only on the dairy emissions profile but the whole suite of emissions profiles across all land uses in the catchment;
- The threshold is set based on either achievement of the environmental outcome, or a percentage improvement in ecological health overtime;
- Consenting pathways for non-compliance with the threshold are deleted such as

⁴ <https://waterandland.es.govt.nz/setting-limits/research/southland-economic-project>

the best practicable option pathway currently proposed.

5. Draft Sock Exclusion Section 360 Regulations

- 5.26 DINZ notes that the draft stock exclusion regulations have their genesis in the earlier 2017 consultation for similar regulations. DINZ considers that the current draft regulations offer more easily understandable criteria for determining where stock are required to be excluded. In particular the separation between “low-slope” land and “non-low-slope” land and width of rivers give clear distinction of where exclusion is required.
- 5.27 While deer do not avoid water as is the case with sheep, deer behaviour in and around water is quite different from beef cattle or dairy cows. DINZ has submitted on this in previous consultations and would welcome ongoing discussion with government officials as to how deer farmers manage deer behaviour to reduce the risk of contaminant loss to waterways. For this submission however DINZ is of the view that effectively excluding deer from rivers, lakes and wetlands requires permanent fencing (which can include high tensile wire permanent electric fencing or some combination of both). Temporary electric fencing can be used in very limited situations (such as break feeding) but is not a widespread practice for long-term exclusion.
- 5.28 **DINZ supports the threshold for “low-slope” land being a mean slope of less than or equal to five degrees.** This is the closest threshold to the 2017 draft regulations that considered that 0 to 3 degrees slope was a reasonable proxy for high stocking rates. However it should be noted that in many high or hill country farms there will be low-slope land that is not heavily stocked.
- 5.29 Looking at the map⁵ of the “Extent of proposed low-slope land areas where stock exclusion rules would apply”, it is apparent that if the threshold was increased to seven degrees, then many deer farms that are of relatively low stocking rate (10 -14 stock units per hectare) would be required to exclude stock from waterways over 1 m wide, when alternative mitigation practices already exist.
- 5.30 **DINZ is therefore broadly supportive of the draft regulations but has a number of concerns** that reflect the realities of deer farming landscapes and deer husbandry that would contravene the currently worded draft regulations but would in all likelihood be low risk in terms of environmental impact (i.e. if deer in these situations were not excluded from waterways would there be a significant or noticeable environmental impact?). The concerns are described below:

Low-slope land that is not intensively farmed or where paddock configuration does not lend itself to stock exclusion.

- 5.31 As noted above, low-slope land occurs in high country stations and hill country farms where intensive stocking rates may not be practiced. Unimproved tussock land with waterways for example can represent a significant land area of a high country

⁵ <https://mfe.maps.arcgis.com/apps/View/index.html?appid=1ecbdd2c04e147599a519a229f327d0f>

station. Paddock configuration may also discourage stock exclusion. The low-slope zones shown in the map could be comprised of more than one paddock and some of these paddocks may well include other zones/slope classes (e.g. a paddock in the upper part of a catchment that contains a small section of river flat, so is not intensively used).

- 5.32 As with most hill country farms that are not intensively stocked, alternative measures to deer fencing can be used to reduce any impacts of deer accessing waterways. Principally these include the use of sediment traps and constructed wetlands at strategic points, or more extensive riparian exclusion zones downstream (that allow filtering or settling out of sediments).

West Coast low-slope land with many waterways

- 5.33 DINZ is conscious that deer farming on the West Coast will have considerable challenges in excluding stock from waterways on low-slope land. An example is shown in the following image of a deer farm taken from the map:



- 5.34 In this example, extensive re-designing of paddock layout to exclude stock from the main waterway would be required (at \$20-25/metre of fencing, depending on terrain and substrate). There are also drains more than 1 m wide. The stocking rate is lower than usual for this type of land (15 SU/ha) because higher stock levels under prolonged wet conditions would result in pasture damage. A more pragmatic approach would be to construct a wetland near the coast where the waterway exits the farm, if water quality/stream health levels indicated that the current system was resulting in poor outcomes.

Wetlands in fawning paddocks/blocks

- 5.35 The requirement for deer to be excluded from wetlands identified in regional or district plans by 1 July 2021 and for *all other wetlands* by 1 July 2023 is extremely problematical for deer farming and could result in significant reduction in deer numbers as farming may become unviable in some areas.
- 5.36 To be clear, DINZ agrees that lowland wetlands are under considerable pressure from intensive farming and require concerted efforts to stop their further decline. However wetlands occur over many land classes and farming systems and the degree to which wetlands are under pressure in hill and high country areas is not as pronounced.
- 5.37 An important component in deer farming is the fawning season, when pregnant hinds seek out secluded, non-crowded places to give birth to fawns and to enhance the strong maternal bonds established as part of the new-born fawns' natural hiding behaviour for the first ten days of life. Paddocks that are used for fawning for the vast majority of deer farms will be those that provide cover and space – typically found in hilly terrain with unimproved pasture or tussock land. Over the fawning period hinds are not active (but will require access to good quality feed after fawning when the fawn is competent to run without risk with the main herd).
- 5.38 High country tussock blocks can have wetlands and these might be numerous and of varying sizes. If deer were required to be excluded through fencing from wetlands in these areas, the more likely decision would be to not farm deer, because:
- The block would no longer be suitable for fawning (because there would be fragmented parts of the block that would impede access and movement and loss of cover for hinds to give birth and for fawns to hide, resulting in higher mortality rates)
 - Fawning survival rates would not be as high in more developed parts of the farm.
- 5.39 Regardless of the robustness of any process to identify wetlands for regional or district planning (of which DINZ has serious concerns), the requirement to exclude deer from all wetlands by 1 July 2023 is excessive and not reflective of either the practicality, nor the benefit of doing so, at least as it pertains to fawning blocks that contain wetlands.
- 5.40 Removal of deer from these farming systems would seriously undermine the viability of these farming systems as these low-feed producing areas may not support other than sheep. This in turn removes one revenue stream that means the economic risk to the farm has increased. It is doubtful if there would be any improvement in wetland health or other environmental benefit.
- 5.41 Unless there is good empirical evidence that wetlands are being degraded under deer farming practices, the use of fawning blocks should not be required to exclude deer from wetlands as:
- Stocking rates are low (under 8 SU/ha or 3.2 hinds/ha).
 - The block is used for a short time of the year (November to March) and then

shut up for the remainder.

- Following birth, hinds are provided good quality feed in adjacent paddocks so that grazing pressure on the lower quality feed fawning blocks is minimal.

5.42 In other words the stocking intensity, duration of activity and the farming practices employed result in much lower risks to wetland ecosystems compared with those in lowland areas.

5.43 DINZ is of the view that these scenarios can be described and documented in a Farm Environment Plan or FW-FP and should be **included as exemptions** under the draft regulations.

A five metre setback distance irrespective of slope, land use or in-paddock risk

4.28 While DINZ broadly supports the intent of the draft regulations **the blanket five metre setback distance is not supported**. The 5 m width is has some basis as it is derived from a range of international studies looking at setback widths, but it still remains a “default” distance with no consideration as to actual site risks and ignores other likely pathways for contaminants to enter waterways – through channels which act more like point sources and from *critical source areas* so that overland run-off or flow is concentrated rather than diffuse.

4.29 McDowell *et al.* (2017)⁶ identified that 77% of national contaminant load comes from small-order streams (unfenced). The paper notes that “other mitigations” are needed for these small streams “*particularly where fencing of larger streams has low efficacy.*” Examples provided in the paper refer to deer wallowing and fence pacing (it should be noted that these specific deer behaviours are recognised and addressed in the Deer Industry’s Environmental Management Code of Practice 2018).

4.30 McDowell clarified “other mitigations” in a subsequent Radio New Zealand interview: <https://www.rnz.co.nz/news/country/340937/unfenced-streams-major-source-of-water-contamination>. “*We do know where to target our strategies to prevent contaminant loss into the small shallow streams.*

That is done by assessing landscapes and coming up with critical soils [sic] areas, which are areas on the farm that account for a majority of contaminant loss, but only come from small areas.

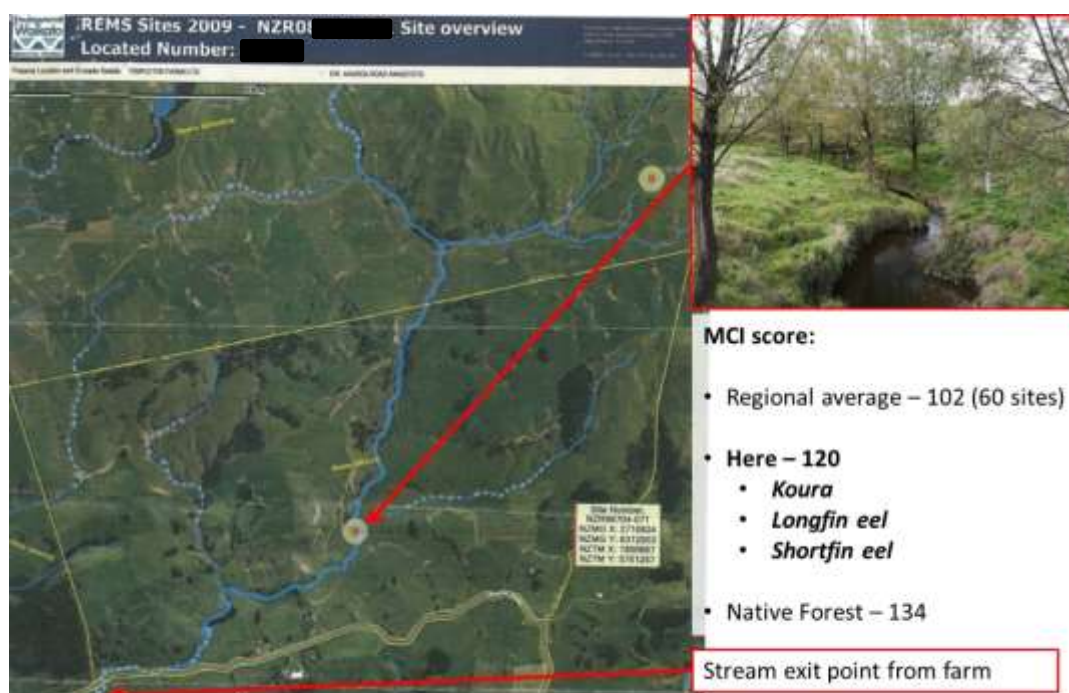
Defining those critical source areas enables us to target our mitigation strategies much more. By doing that we increase the cost effectiveness of those mitigation strategies by about six or seven times over an untargeted approach.”

5.44 DINZ would prefer that **setback distances are not prescribed by standards, but rather their need and adequacy should be determined and described through a Farm Environment Plan/FW-FP** and then assessed for efficacy through a verification process. If a minimum width is required to meet a permitted activity status DINZ suggests that 3 m would be a practical approach that does not penalize deer farmers that have already invested time and materials including deer fencing and riparian plantings.

⁶ McDowell, R. W., N. Cox, and T. H. Snelder. 2017. Assessing the Yield and Load of Contaminants with Stream Order: Would Policy Requiring Livestock to Be Fenced Out of High-Order Streams Decrease Catchment Contaminant Loads?. *J. Environ. Qual.* 46:1038-1047. doi:10.2134/jeq2017.05.0212

Exemptions – and risk assessment

- 5.45 DINZ is aware that the focus of excluding stock from waterways is aimed at i) reducing streambank erosion from stock trampling, ii) direct deposition of urine and dung (with associated nitrogen and pathogen loadings), iii) damage to stream bed and habitat for native aquatic species and iv) creating a riparian zone between the stock and the waterway that intercepts overland flow of contaminants (run off) before it enters the waterway.
- 5.46 Although there is little direct empirical evidence to demonstrate on-farm impacts on these water quality parameters, the New Zealand Deer Farmers Association recently submitted evidence to hearings for the Waikato Regional Council's Proposed Waikato Regional Plan Change 1 – Waikato and Waipā River Catchments that suggests that **stock exclusion is not always needed**.
- 5.47 By way of example, a hill country deer farm in the Waipā catchment shown in the aerial photograph below has a Waikato Regional Council monitoring site marked in the middle of the map. The waterways above this point are unfenced and the overall farm stocking rate is 12 SU/ha (waterways running through flatter parts are fenced as stocking rates per paddock are more). The underlying soil is Mairoa Ash – light and free draining, but easily eroded through high rainfall and heavy stock:



- 5.48 The stream health as expressed by the Macroinvertebrate Community Index (MCI) compares favourably with that found in native forest and is noticeably better than the average of the 60 monitoring sites across the region.
- 5.49 This farm would not be captured under the low-slope land threshold but it is provided to illustrate that *low stocked deer farms, appropriately managed* can provide good environmental outcomes (regardless of if the land is low-slope or if wetlands are present) without the need for costly and lengthy fencing to exclude deer. Further it should be noted that on the unimproved low-slope land in the high country or on hill and high paddocks with wetlands, stocking rates would be lower than the 12 SU/ha

for this farm – either because the feed produced from the land cannot support more stock or for animal performance/welfare requirements (for fawning).

- 5.50 This farm was included in a Federated Farmers report⁷ on Farm Environment Plans with the estimated costs for undertaking actions identified in a FEP as follows:

9,000 metres of deer fencing flat paddocks along waterways	\$180,000
Reticulate water of remaining 15% of farm	\$12,000
Contouring and subsurface drainage of flat paddocks	\$70,000
Install whisper wires on all deer fences	\$10,000
Metal sites in every paddock for supplementary feed trailer	\$10,000
Crown hill race and install cut out drains	\$25,000
Fill in existing deer wallows connected to waterways and provide artificial wallows	\$12,000
Fence off and plant erosion or erosion prone areas	\$35,000
Riparian plant stream bank erosion	\$1,500
Total	\$355,500

- 5.51 Of these, the first three activities (fencing, reticulation and contouring and draining) would be as a direct result of ensuring deer are excluded from waterways and total \$262,000. This is an exorbitant and unnecessary cost that would do little to improve on the current water quality in and exiting from the farm.
- 5.52 The remainder of the costs could conceivably be incorporated into a programme of environmental works alongside the other good farming practices that are in current use (e.g. space planting poplars, placing hinds in paddocks away from waterways following weaning). Not only would this approach be more affordable, it would also allow targeting resources to the areas of highest priority/environmental risk.
- 5.53 **DINZ considers that the concerns outlined above** (*low-slope land that is not intensively farmed or where paddock configuration does not lend itself to stock exclusion; West Coast low-slope land with many waterways; wetlands in fawning paddocks/blocks*) **should all be considered as exemptions to the regulations.**
- 5.54 Additionally DINZ submits that the arbitrary 5 m setback distance should be revised to specify **a minimum of 3 m setback distance** (on average across the property), with greater distances dependent upon paddock-scale assessment of risks (steepness of slope, flow paths or channels and identification of critical source areas).
- 5.55 It should be noted that any **alternative approaches to stock exclusion (or exemptions) are best described, justified and documented through a Farm Environment Plan** (a.k.a. freshwater module of a farm plan or FW-FP). If the FW-FP is required under the proposed National Environmental Standards for freshwater, then exemptions are best assessed and verified through processes for developing and monitoring the FW-FP. No further compliance requirements or costs should be imposed on landowners.
- 5.56 DINZ notes that this is similar in intent to the 2017 draft stock exclusion regulations that proposed an exceptions option: “*Where a land owner is unable to meet the requirements set out above (e.g. due to significant practical constraints), they may apply to the relevant regional council for permission to instead develop a ‘stock*

⁷ Journeaux, P. 2016. Report to Waikato Federated Farmers Farm Environment Plan Project. AgFirst Report, 53 pp.

exclusion plan'. This must set out where and when stock will be excluded from water bodies on their land, and where complete stock exclusion is not feasible, what alternative mitigations will be undertaken to manage the environmental impacts of stock access to water bodies. This could be standalone or form part of a wider farm environment plan or land environment plan and must be approved in writing by the regional council."

- 5.57 As noted for the FW-FP, DINZ supports a format that requires assessment of environmental risks, identification of appropriate good farming practices to reduce or mitigate the risk, and prioritising of the practices based on level of environmental impact and affordability. Such risk-based plans where verified/audited require a more expert assessment, rather than compliance with a simple standard or metric (*i.e.* what evidence is there that reducing soil loss from paddocks has/should result in less sediment in-stream, as opposed to how many metres of waterways have 5 m setbacks?). The expert assessment therefore needs to consider narrative or qualitative descriptions within the FW-FP as much as any metric (*e.g.* two kilometres of fencing have been established on the finishing paddock compared with four kilometres of fencing in the fawning block).

6. Summary

- 6.26 DINZ thanks the Ministry for the Environment for the opportunity to submit on the Essential Freshwater proposals, and notes previous and ongoing positive engagement on deer farming and environmental stewardship. DINZ wishes to speak to this submission.

- 6.27 DINZ submission points are summarised as follows:

6.28 **Draft National Policy Statement for Freshwater Management**

- DINZ fully supports the submission from B+LNZ.

6.29 **Proposed National Environmental Standards for Freshwater**

- That the definition of a feedlot (clause 27) does not inadvertently capture wintering barns or sheds.
- Clarity that self-feeding silage pits are not considered as stock holding areas that require a restricted discretionary activity consent (clause 29).
- Intensive winter grazing (clause 30) is a permitted activity if grazing does not take place on slopes equal to or greater than 20 degrees, over 12 % of the total farm area and a vegetated strip of at least 5 m is maintained between the grazed area and any water body.
- Pugging depth is not a criterion for permitted activity status for winter grazing.
- Rather than a moratorium on land use intensification under high-risk land use changes (clause 35), land use should be linked to land use capability or natural capital. This recognises that drystock farming requires multiple uses of the land and to generate multiple products to remain economically viable.

- DINZ supports the concept of every farm having a farm environment plan but has strong reservations regarding i) the format/composition of the FW-FP and ii) the requirement that the FW-FP be mandatory if this is through regulation (clauses 37 – 41).
- A certified planner should not be required to prepare and endorse a farm environment plan/FW-FP, but any verification process does require certified personal to undertake assessments of the efficacy of farm environment plans/ FW-FPs (clauses 40, 41).
- DINZ supports the application of a nitrogen cap (option 1) with amendments (clauses 42 – 48).

6.30 **Draft Sock Exclusion Section 360 Regulations**

- The threshold for “low-slope” land has a mean slope of less than or equal to five degrees.
- Low-slope land that is not intensively farmed or where paddock configuration does not lend itself to stock exclusion; West Coast low-slope land with many waterways; wetlands in fawning paddocks/blocks should all be considered as exemptions to the regulations.
- Setback distances are not prescribed by standards, but rather their need and adequacy should be determined and described through a Farm Environment Plan. If a minimum width is required to meet a permitted activity status DINZ suggests that 3 m would be a practical approach.
- Any alternative approaches to stock exclusion (or exemptions) are best described, justified and documented through a Farm Environment Plan.

6.31 DINZ wishes to continue constructive dialogue with MfE and MPI as the proposed suite of regulations are refined.