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TO

Ministry for the Environment

ON

Next Steps for Freshwater Consultation Document

BY

Beef + Lamb New Zealand Ltd

Submission

1. Introduction

Beef + Lamb New Zealand Ltd (B+LNZ) welcomes the opportunity to make a submission on the Next Steps for Freshwater Consultation Document

B+LNZ is an industry-good body funded under the Commodity Levies Act through a levy paid by producers on all cattle and sheep slaughtered in New Zealand. Its mission is to deliver innovative tools and services to support informed decision making and continuous improvement in market access, product positioning and farming systems.

B+LNZ is actively engaged in environmental issues that affect the pastoral production sector.

2. General Submission

Beef + Lamb New Zealand (B+LNZ) has been an active participant in the recent debates on water management including through membership of the Land and Water Forum (LAWF) and its various working groups, most specifically the development of the LAWF stock exclusion recommendations.

B+LNZ has also been actively involved in the Land and Water Partnership (LAWP), a joint industry group established to work collectively on resolving some of the key issues facing the primary sector.

In parallel with both the LAWF and LAWP discussions, B+LNZ has developed its own Principles for the Allocation of Nutrients to guide the organisation and sheep and beef farmers through the nutrient allocation debate nationally, regionally and locally within catchments.

They seek to ensure that nutrient allocation is fair and equitable, recognises the complexity of farming systems, is informed by the best science, and provides for continued flexibility of land use. B+LNZ supports catchment management specific solutions to nutrient management and that different allocation regimes will be established that reflect differences between communities and their catchments, and to meet water quality objectives in those catchments.

B+LNZ believes the principles should be considered carefully when forming any nutrient allocation policies or methods to achieve them. Each principle is important but should be considered as a whole to inform allocation discussions.

These are:

- Like land should be treated the same
- Those undertaking the activities that have caused water quality problems should be required to improve their management to meet water quality limits
- Flexibility of land use must be maintained
- The allocation system should be technically feasible, simple to operate and understandable
- The natural capital of soils should be the primary consideration when establishing and allocation mechanism for nutrient loss
- Allocation approaches should provide for adaptive management and new farm systems information
- Appropriate timeframes must be set to allow for transition from current state to one where allocation of nutrients applies
- Long term investment certainty is a critical feature of a viable nutrient management system

- Improvement in water quality must remain the primary objective of adopting any nutrient allocation regime
- In under-allocated catchments, where property-based nutrient allocation has not been adopted in setting water quality limits, the system for allocating nutrietns must be determined well before the limit is reached, be clear and easy to understand, and designed to avoid over-allocation
- In designing the allocation system the benefits of a nutrient transfer system within the catchment or water management unit must be considered
- Regulation, monitoring, auditing and reporting of nutrients within an allocation regime needs to relate to the degree of environmental impact and pressure
- As a minimum expectation, in all catchments, all land users should be at or moving towards (industry defined) Good Management Practice (GMP), recognising that GMP is constantly evolving and continuous improvement is inherent in GMP
- Nutrient allocation must be informed by sound science and stable and reliable catchment and farm system modelling and measurement

The full document is appended.

B+LNZ was a core participant in the development and articulation of Good Management Practice (GMP) by industry, as part of the Environment Canterbury Matrix of Good Management project. These were developed with the very clear view that they should be applicable nationally.

3. Proposals

"Maintain or Improve" overall water quality

1.1 Amend Objective A2 of the NPS-FM so that it applies within a Freshwater Management Unit, rather than across a region.

B+LNZ supports this proposal. As management of water quality is on an FMU basis, quality can only be managed within an FMU.

Experience has shown that where there was a belief that one FMU could be traded off against another and FMUs were over-allocated, there was strong pressure to assign a lower value for an FMU, and off set it against 'another' unspecified FMU to avoid having to reduce adverse impacts and to capitalise on benefits generated from lowered water quality.

There is a need to include in the clarification how FMUs that straddle two or more council boundaries should be managed. This may need specific reference to councils being expected/required to work collaboratively with each other and the community, to set values and the planning rules that will apply. it is necessary to avoid the situation that sees different bands/allocation status for the same FMU in differing regions with different rules, where FMUs straddle regional council boundaries.

Consideration will need to be given to the implications this clarification will have on FMUs that have already had decisions made on water quality, where the target level is below current water quality levels, putting it at variance with the maintain or improve requirement.

1.1 Clarify that councils have the flexibility to maintain water quality by ensuring water quality stays within an attribute band, where it is specified in the NOF, or demonstrating that the values chosen for a freshwater management unit are not worse off, where an attribute band is not specified in the NOF.

This proposal is supported.
Flexibility within bands is pragmatic and reflects that water quality can vary widely depending on factors outside human control e.g. floods, drought, and from year to year

Providing for alternatives where bands are not defined is logical provided they are backed by good science and are able to be measured empirically and quantitatively.

The challenge will be to manage expectations where the water quality band determined now may not be met for many years as lag times have the potential to bring greatly increased contaminant loads and poorer water quality in the short term. When added to the timeframe for improvements to be implemented e.g. by 2032, the water quality being experienced may continue to deteriorate for the next 30 – 100 or more years. This will see water quality levels being below the acceptable minimum for many years, especially where they are below an acceptable level now.

It could be helpful for the community if Councils include calculations that map land use at the time of current water quality i.e. the lag time, and calculate projected loads up until improvements can be expected. This would help the wider community to understand why for instance, water quality may fall below national bottom lines for a period, before improving as changes in management of contaminants to water flow through.

While there are some actions that might be able to be taken to mitigate poorer water quality, they are likely to require significant intervention and cost – e.g. managed aquifer recharge, targeted stream augmentation. However, these may be essential if water quality degrades substantially between now and the time improved water quality starts to show up in monitoring.

In this case an objective and target will be to maintain within a band, or a set of values, but some of the NOF attributes, may not be met as lag time loads are realised, even though overall, the current load and contributors to poor water quality within a catchment maybe improving. Councils should have the flexibility within this scenario to allow for these loads, in implementing a catchment or regional plan.

This might be addressed through realistic time frames and improving understanding over time, in conjunction with catchment communities, of understanding different ways of measuring and assessing progress towards meeting a longer term water quality goal.

If councils are strictly required to maintain within a band, then as a consequence of historical loads, the impacts on water users, land owners and communities will become greater and more uncertain, with little or no ability to be able to maintain within that band, irrespective of their attempts to do so.

1.2 Require the use of Macroinvertebrate Community Index as a measure of water quality in the NPS-FM by making it a mandatory method of monitoring ecosystem health.

B+LNZ supports an index or indices that allow for meeting of ecosystem health.

1.3 Work with the Land and Water Forum on the potential benefits of a macroinvertebrate measure for potential inclusion into the NOF as an attribute

This proposal is supported.

MCI is a widely recognised and scientifically valid measure but one that doesn't currently fit the NOF structure.
A wider group incorporating technical expertise in the use of MCI might be helpful to determine how the inclusion of MCI into the NOF can be achieved.

1.4 Provide further direction on providing evidence when councils or infrastructure owners request that the Government include specific significant infrastructure in Appendix 3 of the National Policy statement for Freshwater Management

Hydro generation has undoubted benefits including environmental ones in terms of renewable energy production. Consideration is also needed of its impacts on other values and users including ecosystem services. A question arises as to the that should be placed on optimal electricity generation, where generation is primarily driven by cost/profit motives.

Use of renewables now has at least 2 viable alternatives – solar and wind, the costs of which are steadily reducing. Investment in alternatives must be balanced against the costs of hydro generation where hydro is reducing water quality below bottom lines. If flushing is an option available to meet a water quality or quantity bottom line then the presumption should be that this will be done, not that it wont be.
There are a wide range of other benefits derived from use of the water e.g. security of irrigation, production, water for flora and fauna, ecosystem services and any assessment and evidence must include these in direction on what evidence must be supplied.

It is noted that the exceptions framework has yet to be developed and this must be done before any applications can be made or considered.

Coastal Lakes and Lagoons

1.5 Amend the attribute tables in Appendix 2 of the NPS-FM so that attributes clearly apply to intermittently closing and opening lakes and lagoons, with the same band thresholds and national bottom lines as lakes.

For consistency and certainty, thresholds and bottom lines should be set for intermittent closing and opening lakes and lagoons, however consideration needs to be given to whether the lake national bottom lines are appropriate to ICOLs. Recognition will also be needed that achievement of those bottom lines may take much longer than might be expected of other water bodies because of their location at the bottom of catchments where the cumulative effects of contaminants over many years are more difficult to remedy.

B+LNZ considers that care should be taken before applying the attribute tables to ICOLS. There are very few ICOLs in the country and the key three of these Te Waihora, Waituna and Wainono all have or are in the process of developing significant plans to reduce loads to them.

It would seem more appropriate for specific measures to be developed for each one of these, amending the NPS to ensure that Councils are able to do this in a way that can apply attributes to these waterbodies but also recognises the unique challenges around them. This is similar to the discussion outlined in respect to future, as yet unrecognised impacts of historical (lag time) loads.

This is not to say that these waterbodies are not important, nor that they should not be managed in an appropriate way to improve water quality but to urge caution in how the attributes and NOF are applied to their management and the actions required to maintain or improve water quality within them.

1.6 Provide direction to councils on how to request that, after meeting evidential thresholds, a freshwater management unit be allowed to use a transitional objective under Appendix 4 of the NPS-FM.

This proposal is supported as it recognises that the physical characteristics of ICOLs mean that the pace at which improvements to water quality can be achieved can be considerably longer than other water bodies.

The distinction needs to be made here that transitional objectives and associated timeframes relate only to the lake itself, and not be used as a vehicle for those contributing most to the lakes problems being given extended timeframes to reduce their impacts.

Stock exclusion from water bodies

1.7 Create a national regulation that requires exclusion of dairy cattle (on milking platforms) from water bodies by 1 July 2017, and other stock types at later dates (see table 2).

B+LNZ supports the recommendations on stock exclusion made by LAWF in their report and requests that the LAWF recommendation is adopted. Significant changes have been made to the slope aspects which alter the likely outcomes to the point of making them unworkable.

B+LNZ disagrees most strongly with the suggestion that exclusion can only be achieved by permanent fencing. The focus must be on the objective to be achieved –keeping stock out of waterways to prevent damage to water quality.

There are many ways to prevent animals accessing waterways, including for example not grazing them in paddocks next to waterways. A farmer can manage stock exclusion by not running cattle, deer or pigs in paddocks next to a waterway, rather those paddocks can be stocked with sheep or goats, or used for cropping. Permanent fences with 8 wires or deer netting are frequently unnecessary as cattle can and often are effectively contained behind 2 electrified wires, which can be removed when cattle are no longer in the area.

By requiring a permanent fence that conforms to the perception of a 'proper' fence, advances in technology are ruled out, for example, the potential to utilise an 'invisible' fence system. Electronic RFIDs and GPS enabled ear tags are already being used overseas.

The true test of any system is whether stock can access waterways, resulting in adverse impacts to water quality. If they cant and don't access waterways, then the outcome is achieved, regardless of the system used to exclude them be it a conventional fence, management of animals or some other device or system.

Where fencing is prohibitively expensive, alternative mitigation measures may be available that address adverse impacts, such as wetlands for the removal of nutrients and sediment leaving a catchment. Again, it is the outcome that needs to be focused on, not the inputs.

Waterbodies where stock are to be excluded:

- ***permanently flowing waterways and drains greater than 1 metre wide and 30 centimetres deep (and smaller ones on the plains, but giving these landowners until 2020 to comply).***
- ***natural wetlands, but not including damp gully heads or places where water temporarily ponds, or built structures, such as effluent ponds, reservoirs or channels.***

How small *smaller waterways and drains* are needs to be defined so that there can be no confusion or debate about where stock must be excluded. Natural wetland definitions need to be consistent with RMA definitions for clarity and to reduce the potential for confusion.

B+LNZ has significant concerns around how the slope classifications are to be determined. Slopes are rarely if ever continuous, with lesser and greater slopes making up a wider area. It is not practical, efficient or in many cases likely to make any difference to the outcome of improved water quality, to require all land under 15 degrees to be fenced where it is surrounded or adjoined by land in excess of 15 degrees in slope. Taken to the letter, the current proposal would see intermittent fences along a water way for the parts that were adjacent to slopes under 15 degrees, but not where the slopes were over 15 degrees.

As noted in the consultation document, the practicality of fencing on steep country and the high costs relative to the environmental benefits needs to be recognised. This same approach should be applied on slopes that may in part be less than 15 degrees – practicality, cost and environmental benefit need to be weighed up.

Clarity will also be needed to ensure that occasional stock movements across waterways are not caught by definitions, and that a bridge or culvert is not required where impacts of stock crossings are temporary and minimal.

Riparian buffers

The need for and use of riparian buffers can be addressed through a requirement to address any adverse impacts of activities on water quality. A riparian buffer might be the most appropriate tool, or it might not. Much will depend on the issue to be addressed. For example sediment laden run-off from adjacent land use will be important whether arising from stock, cultivation or some other activity. A fence is not needed where cultivation is the issue. Long densely developed grass swards are much the most effective means of reducing overland flow of sediment. Riparian planting for biodiversity purposes may not be nearly as effective as mature plants such as flax which often has large areas of bare soil beneath, making little impact on reducing overland flow..

Buffer size will vary with a range of factors including adjoining slope class, soil type and rainfall. The steeper the slope, the greater the buffer width that may be needed to minimise overland flow of sediment or nutrients. Most effective would be a tool that assisted land managers to determine what buffer width might be needed for a particular situation, in order to meet particular water quality requirements.

2 Economic use of fresh water

Technical efficiency and good management practice standards

2.1 Require councils to apply technical efficiency standards in catchments that are at or approaching, full allocation of water.

Technical efficiency must be a requirement of all water use from the outset - rural, urban and industrial. Efficiency and waste minimisation must be the starting point for all water allocation and use. Water is a resource held by the community, and with the current and future likelihood of water being a critical pinch point for the world, anything less than a good level of technical efficiency should be the starting point, followed by an expectation of continuous improvement and minimisation of water volumes used.

Requiring technical efficiency will only free up water for new users where it is already used for irrigation of all irrigable land. The most likely scenario for a property that is not fully irrigated will be to utilise the 'freed-up' water to irrigate additional areas of the property.

Water is a limited resource and is already one that is over allocated in many catchments in New Zealand. Wasteful practices cannot be allowed to continue. In over-allocated catchments, technical improvements should be expected in the near term, and in catchments yet to reach full allocation, improvements in technical efficiency should be expected by the near to middle term.

2.2 Where councils have elected to allocate discharge allowances, require them to apply good management practice standards in catchments that are at or approaching full allocation of contaminants.

Application of Good Management Practice relating to the loss of contaminants to water should be the starting point for all land and water users, regardless of the allocation status of the catchment. It is no longer acceptable to allow poor practices to degrade water quality.

Good Management Practices for the minimisation of the loss of contaminants to water for the primary sector (Sheep and Beef, Deer, Dairy, Horticulture and Pigs) have already been prepared as part of the ECan Matrix of Good Management Project and were designed specifically by the sectors involved so they would be nationally applicable. This provides certainty and avoids the piecemeal approach that has been a significant feature of many regional or local planning processes, as well as avoiding the costs associated with re-inventing the wheel.

Focussing on the identification of risks to the environment, they allow for issues to be managed in the most effective way for the particular features of the situation, thus taking into account the huge range of circumstances that exist throughout the country, for rainfall, soils, farming systems and the myriad of features that vary from farm to farm. In this way they focus on achieving the best outcome for the environment – in this case reducing the loss of nutrients to water, rather than following a set of rules or prescribed practices which may or may not be effective in all circumstances. Not only are they adaptable without needing regular change processes, they are adaptable to changing circumstances and knowledge – environmental, economic and scientific as the world changes.

Good Management Practices are not **standards**, and cannot be used to set 'hard' limits in terms of an acceptable amount of nitrogen, phosphorus, sediment or E.coli in differing climates, soils and uses. As the MGM project from ECan has demonstrated, such an approach is useful for catchment modelling of diffuse nitrogen and whole of catchment management, but is not suitable for use at an individual property level.

For a start, the science is not good enough and nor are the tools available accurate enough to allow a determination of met or not-met for limits on diffuse nitrogen to water. Natural variations and fluctuations will make that impossible to determine and there is insufficient science to say with

certainty that the diffuse N loss from below the root zone is the same as the N loss that enters groundwater. Attenuation factors have yet to be quantified – i.e. determining how much N is lost between the root zone and the water, or at what speed.

All sectors must adopt good management practices – including urban and industrial users, not just rural land users. It is important to recognise that good management practice is, like technical efficiency for water use, only the starting point. All activities should be at GMP – which is the level that it can reasonably be expected that all users should be at, all of the time – rural, urban or industrial.

While much of the current focus is on rural water users, the same focus and level of requirement should also be applied to urban waterways.

2.3 Require councils to apply these standards at defined times, for example, at an initial limit setting, on consent expiry and/or on application to permanently transfer consent for water or discharge allowances.

GMP should apply all the time to every activity, from the earliest opportunity provided for by regulation. GMP is after all the good practices it is reasonable to expect any or all persons to be applying. If these practices or better are not already being applied, they should be as the corollary is that they are operating at poor practice, and where use of a commons held resource is concerned e.g. water takes or discharges to water, this should not be acceptable.

2.4 Investigate a package of measures to better enable transfers between users so allocated water and discharge allowances can move to higher valued uses, such as:

- **Standardising consent specifications to better enable transfer, such as separating 'take and use' components of a consent**
- **Making information available, including public registers of consents and used water and discharge allowances**
- **Model plan provisions specifying where and in what circumstances transfers are permitted**
- **Enabling water user groups and nutrient user groups to provide for low-cost transfers.**

Higher value use means a use where the economic returns are higher per unit of water used or nitrogen discharged.

The definition of higher value will need to be determined, or alternatively left entirely to the market. Returns come in other valuable forms than purely economic. Perhaps the goal might be to 'optimise' returns.

Movement to higher value uses could see all water takes being used to export water to the world. Current prices for bottled water, combined with increasing population and climate change will only increase this demand, and New Zealand already has established markets for its high quality bottled water.

A pertinent question is 'Higher value to whom'? The holder of the water allocation, so higher value determined at the farm or factory gate, higher value to the country reflected in export earnings or added valueor higher value in terms of ecosystems services, which also have economic value, compared with direct and immediate economic activity?

Use of water and discharge of contaminants to water are not the same coin. Underpinning water takes is the presumption that water is extracted only to the level that the resource can sustain. This will require that there is a 'baseline' allocation of water to meet basic human needs and ecological maintenance of ecosystem services, and potentially a 'cultural' allocation that would meet iwi rights and interests.

Given that nitrogen is a contaminant and the RMA currently provides as the default under s15 Discharge of Contaminants that discharges to the environment are prohibited unless provided for, perhaps the approach should be that least costs would go to those with least N loss and a penalty is applied for all N discharge to water over a level that the resource can sustain.

This would then focus directly on the polluters and use economics to drive N loss reduction as those who can most readily and economically reduce the N loss to water will do so. This will allow flexibility of land use and encourage innovation, and will avoid regulators telling people what they can and can't do on their land in the belief this will manage N loss to water effectively. While this latter approach is most commonly seen,, more effective alternatives can be considered to exist but these require command and control be given up in favour of market driven approaches.

It must be recognised that nutrient use efficiency (NUE) is not a measure of impact on the environment of N loss to water. NUE numbers can be high but still be associated with excessive and unsustainable loss of nutrients to water, or low while nutrient loss to water isonly marginally above background levels. Nor can it be used to compare different products or land uses e.g. crops and milk.

To enable a transfer system to operate in a way that is positive for achieving best environmental outcomes nutrient discharge must be fairly allocated in the first place – at the moment a grand parented dominant allocation system is favouring higher emitters, who are not necessarily the highest or most valuable use nor is their system suited to their set of resource circumstances and limitations – i.e. soil, climate etc.

If transfer of nutrient discharges between parcels of land or land users is to take place then the allocation system will need to take a much different approach to that taken now. While transfer or water use consents are already occurring in some instances primarily within a defined structure, with a single allocation, it is a much different discussion when it comes to nutrients

Addressing over-allocation and over-use at least cost

2.5 Developing guidance on different methods of addressing over-allocation of water quality and/or quantity, if technical efficiency standards and good management practice standards are insufficient.

Guidance is sorely needed to avoid the less than optimal use of time and resources in the re-invention of the wheel that has been associated with allocation debates to date, region by region.

The core issues are the same as are the principles that need to be applied, including consideration of local community, wider community and national priorities. Many of the issues and principles are complex, providing challenges for those with expertise in the area and not surprisingly, significant challenges for local communities to get to grips with both the concepts

and the implications of management options, especially where catchments are over allocated and reductions are required.

Government guidance could take a national view which would see a single set of principles and approaches to be used across all regions, with flexibility for regions to determine the outcomes they want either across the whole region or on an FMU by FMU basis.

A consistent approach to issues of allocation should also be provided so that sub-par approaches that will require revisiting in the future, can be avoided.

All regions and FMUs will be faced with over allocated catchments since water quality must be maintained or improved. As most water quality currently being experienced is the product of activities in the past – i.e has lag times that can vary from relatively short to 100s of years.

Given that the 'maintain or improve' decision will be at a FMU scale, this is the point at which the community should determine what water quality it wants to achieve.

The community must include iwi and the full range of community stakeholders – an aspect that has been sadly lacking in most regions and catchments involved in the process to date.

The concept of least cost will need to be examined, in terms of least cost to whom - the community, the resource, the current beneficiary of over allocation, the market? Furthermore, questions of economic efficiency need to be considered within the boundaries of equity. Above all else allocation systems must be seen to be fair and it is reasonable to expect that some efficiency ought to be sacrificed in order to achieve equity.

The risk is that in asking the local community of an FMU to determine the approach to allocation, the bigger picture is lost amongst local and personal drivers. For example, asking farmers to prioritise climate change or national development goals above their own need to sustain their current business including fighting to maximise their options where a resource is over allocated, will be fraught.

Alternative option for water quality management

1.0 Transition from current state to an initial allocation

As is the case with choosing a preferred allocation regime the issues of equity and economic disruption need to be balanced.

To achieve this balance the features of an appropriate transition process design will depend upon a number of factors.

First, the limit that is set for the catchment and whether, compared with current losses it results in the catchment being over-allocated, fully or near fully allocated or under-allocated (headroom).

Second, the initial allocation methodology and how this compares with current state, i.e. the maximum quantum of reduction required for individual enterprises and the number of enterprises overall that are required to reduce nutrient losses and the resulting impacts on individual enterprise sustainability and overall economic impact on the catchment.

Third, the economic impact of limiting enterprises that would be entitled to a higher allocation under the new allocation methodology from moving to that allocation immediately.

In principle, given any preferred allocation system that differs significantly from current state, time to adjust is the most likely mechanism by which adjustment costs are mitigated. In some certain cases (Taupō, Rotorua) there may be subsidies available to lessen the economic impact, but in general this is unlikely to be the case for most New Zealand regions.

In general, the greater the adjustment necessary, the longer the transition period, bearing in mind that a balance is required between the costs incurred by those having to reduce discharges and the opportunity cost to those who retain development opportunity under the new allocation regime.

So, in a nutshell:

Transition from one (de facto) allocation system to another should occur over a reasonable period of time.

Factors that would allow a shorter period of transition:

- The catchment in question is under-allocated, fully allocated or minimally over-allocated for the nutrient in question
- The difference in allocations at individual enterprise levels between current and future regimes are relatively small
- The economic disruption to the community involved is relatively minor

Factors that would suggest a longer transition period

- The catchment is substantially over allocated for the nutrient in question
- The period over which the catchment has become over-allocated has been significant
- The difference in allocations at individual enterprise levels between current and future regimes are significant
- The economic disruption to the community involved is significant

Significantly over-allocated catchments/maximum levels of discharge/ rates of reduction

It could be argued that under the NPS-FM the requirement to maintain or improve means that all catchments are effectively fully or overallocated. Without entering that debate, in fully or overallocated catchments the allocation of discharge rights is a zero sum or less than zero sum game, that is, continued allowance of enterprises to discharge at a rate higher than their allocated rate impacts on those who are currently discharging at a rate lower than their allocation would permit. Those enterprises that are discharging at a significantly higher rate than their allocation would permit have a proportionately higher impact. Furthermore in overallocated catchments, if the environment is to have priority, some progress will need to be made before there is any "payback" to those who are discharging at a rate below their proposed allocation. The priority order for the distribution of released allocation is an issue dealt with later in this paper.

So, in some case, a small number of very high emitters potentially have an impact on a larger group of lower emitters. To avoid or at least mitigate this situation maximum discharge rates, to be achieved within a short period have been proposed along with a variable rate of reduction whereby those emitters that are currently discharging significantly more than their proposed allocation must reduce their discharges at a faster rate than those who are nearer their allocation.

There have been two positions held on the rate of reduction during catchment discussions in which this author has been involved. One position is that a flat % rate of reduction should be applied, the rationale for this being that, at a flat % rate those that are discharging at a higher rate have to make larger reductions in absolute terms. The other position is that a flat % reduction effectively treats everybody the same and does not prioritise reductions from extreme emitters. The argument is also made that it is easier to make reductions from a very high level of discharge than at a lower levels and so the higher rates should be prioritised for reduction because the cost of mitigation is lower and because of the disproportionate impact on the opportunities for lower emitters. Finally, the point is made that extremely high discharge activities cannot be supported on any grounds and so immediate reduction to "reasonable" levels (i.e. a maximum rate of discharge) is necessary.

Flexibility caps

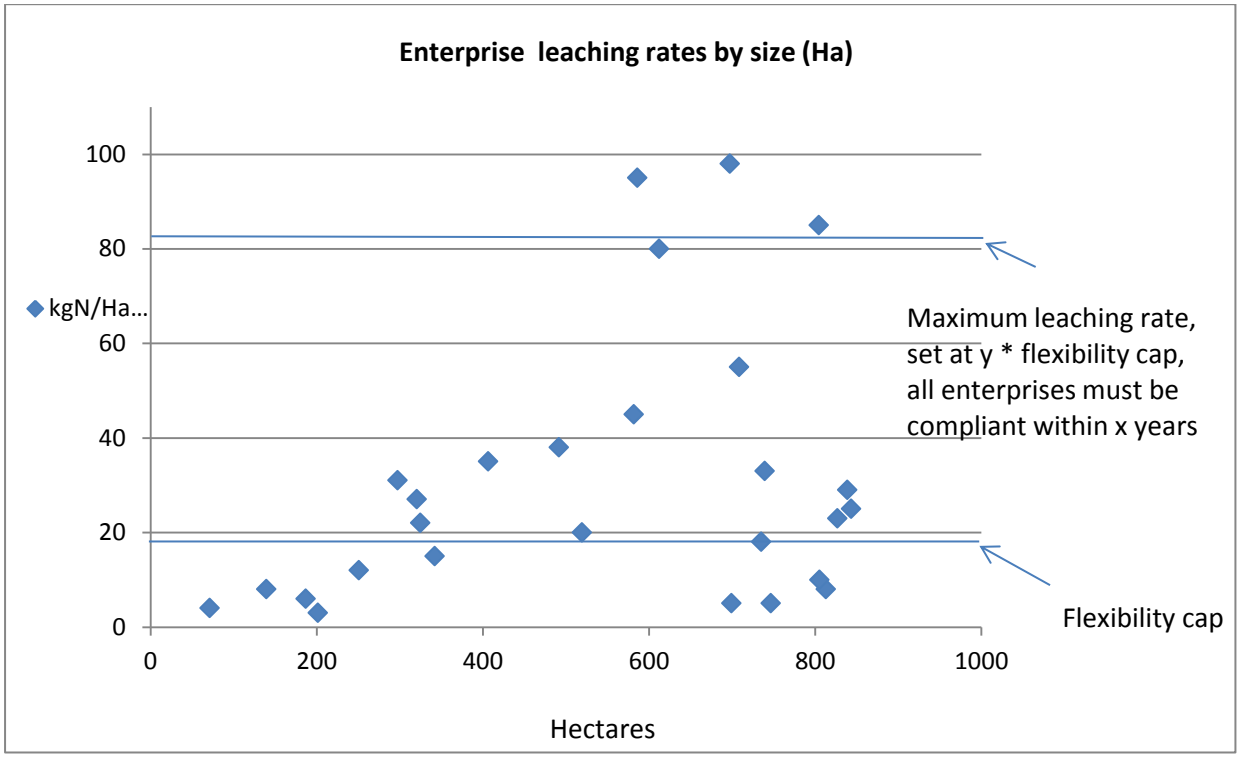
One feature of catchment discussions, and decisions, has been the notion of a flexibility cap. In brief, a flexibility cap is a permitted level of discharge, available to all. The principle behind this approach is that lower dischargers should not be disadvantaged by the setting of limits because their activities are sustainable and not contributing to the over-allocation issue. It is sometimes argued that all dischargers are contributing to the problem but this ignores the fact that catchments have a certain ability to assimilate nutrient loss and it is only when discharges become too high that the "problem" occurs. There is a level (assimilable level) at or below which, if all participants were discharging, there would not be a problem needing to be addressed.

In practice flexibility caps are set below the assimilable level because while they are a means of providing flexibility to low leachers, they need to compensate for the higher leaching activities which have not yet begun to be reduced.

It has also been suggested that the maximum allowable discharge be set at some multiple of the flexibility cap (See Fig. 2). This intuitively makes some sense, as the flexibility cap is in effect setting a limit for lower leachers and for higher leachers to continue to be permitted to discharge at the lower leachers expense would be unfair. Proposed ratios have been in the order of 4-6:1

While this approach goes some way to protecting lower leachers, it is somewhat inefficient in that Regional Councils, in their rule setting and accounting, must assume that all lower leachers are leaching up to the flexibility cap even though this is very unlikely to be the case. A more efficient approach, in that it would more fully utilise allocation, would be to estimate a level of utilisation of the flexibility cap, which may then be adjusted according to progress in reaching the catchment limit.

Figure 2. An example of a maximum limit and a flexibility cap. Note these data are entirely made up and are for illustrative purposes only.



What is a new user?

Inherent in the assumption that allocation needs to be provided for new users is that allocation is based in some way on existing use. This need not be the case. In fact it is a deficiency of a grandparented allocation regime that special provisions need to be made for new entrants. Equal allocation, or natural capital allocation regimes do not need new entrant provisions because there is no relationship to any particular land use at any particular time. The implication within a grandparented allocation regime is that current use should have some priority over future use and that current users have rights over allocation that cannot be withdrawn in favour of other participants without special provisions being included in the rules regime.

In a catchment which is substantially agricultural, the land will have some current use, whether that be for production, provision of ecosystem services, infrastructure, industry or domestic use. Depending on the specific rules for inclusion within the nutrient allocation framework each piece of land will have a nutrient allocation. The notion of a "new user" is perhaps best described as a new (higher nutrient loss) use and may apply to a situation where water becomes available where it was previously a limiting factor, or the land is suited to a higher value use but does not have sufficient nutrient discharge allocation.

The question is, who decides that there is merit in the "new use" and where does the new allocation come from?

It is only a grandparented scheme that gives rise to these questions, because it is only unused land or land currently used for low leaching activities under such an allocation regime that would reasonably have a legitimate claim to increased allocation. As for who should decide the legitimacy of the claim for more allocation, then presumably this would also be on a first come first served basis, otherwise sophisticated judgement calls are going to be required to sort amongst the contenders for an increased allocation. Of course, a FCFS system will tend to favour those already participating who will no doubt make pre-emptive claims to nutrient allocation in

order to mop up any entitlement as it becomes available from headroom. This all assumes that allocation would be liberated. It is likely that this will be the case only in a catchment where headroom has been developed through an increase in the limit due to new information, otherwise, if headroom is created through a reduction in nutrient loss then the paper allocations will still exist and allocation might be transferred but not returned to the pool.

As for where the allocation comes from, there can only be two sources. First, is from other participants, either through surrender or transfer and second, from headroom created in the catchment.

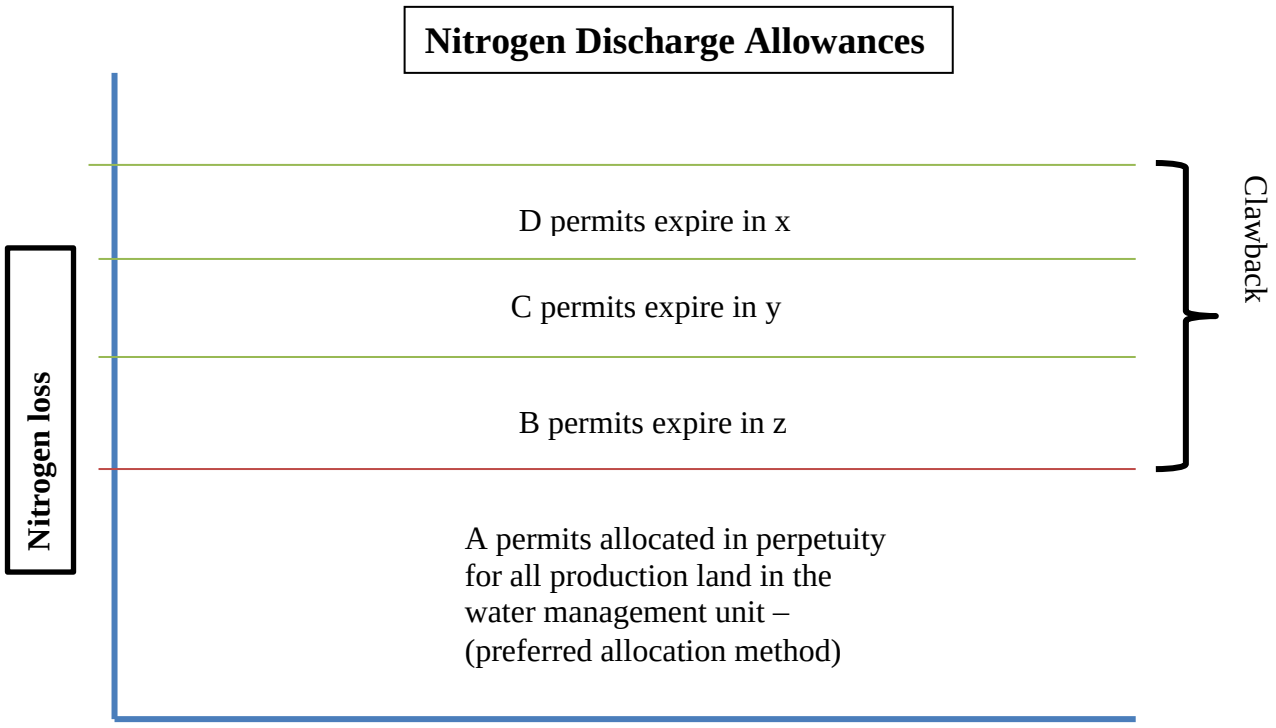
If transfer is permitted, then in effect there will be no headroom made available for general use and new participants will be required to purchase allocation from current "owners".

A regime that applies an allocation over all land (on a per Ha basis) and in some equitable fashion has less need for provisions for new entrants. For example, if a natural capital approach were taken whereby permitted nutrient losses are determined by the productive capacity of the land rather than current use, then undeveloped land (whether this be due to family circumstances, access to capital, settlement issues) which still has the capacity to be productive would have an allocation that permitted future development without a new use/entrant process.

A transition framework

The approach to limit setting is dealt with above. If a single limit is set for the future, without any other requirements, then the likely outcome is that participants will reduce their nutrient discharges just in time to meet the limit. If, however, a staged approach is taken to setting limits then this could be managed as shown below:

Fig. 3 Progressive expiration of nutrient discharge permits approaching a limit.



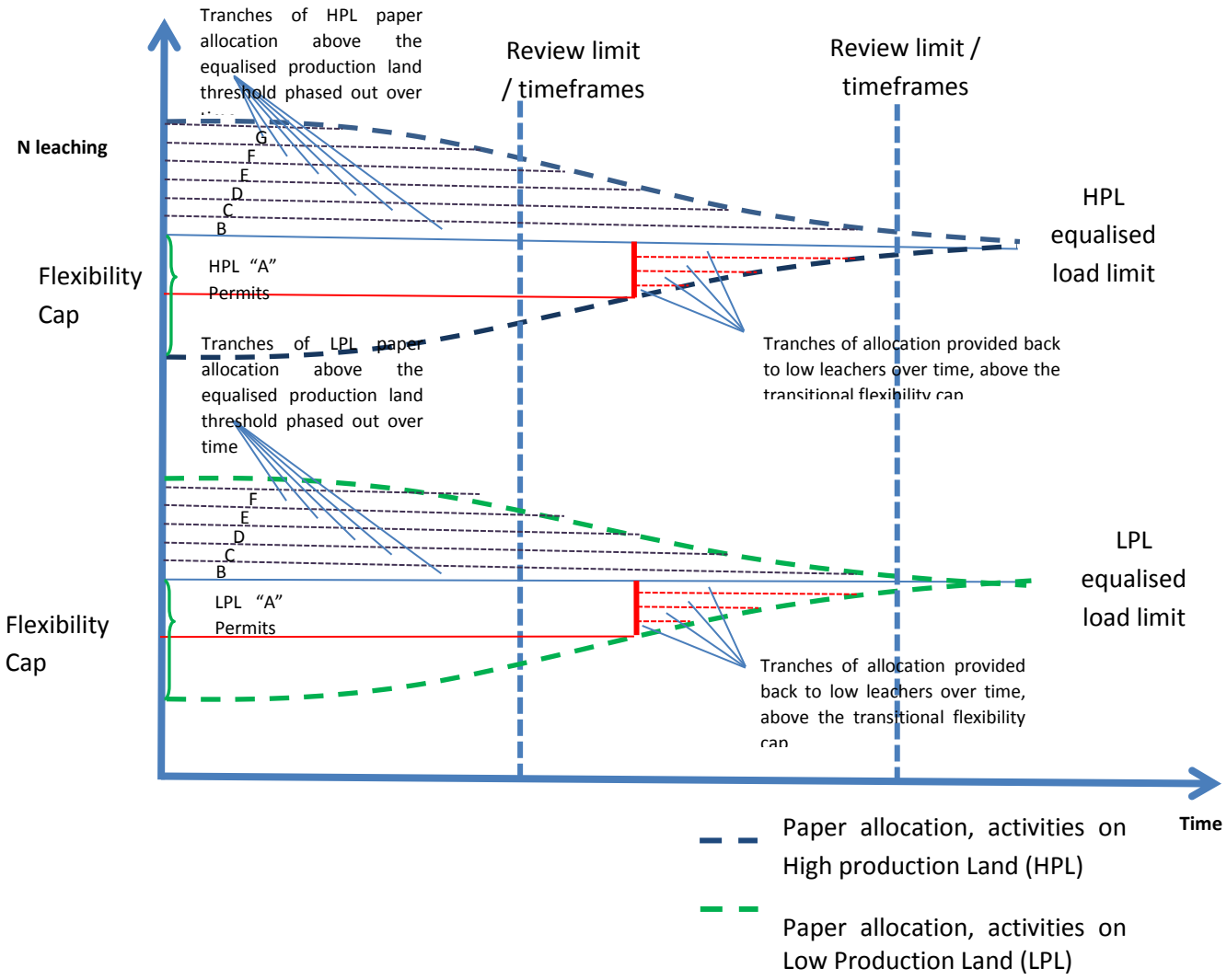
Under this regime, there is a staged reduction in nutrient losses over time, providing participants some flexibility in how they might reduce discharges, but also providing some certainty of outcome for the community. As permits expire the resultant reduction in nutrient loss can either be

credited to the environment or to participants whose losses are being restricted during the clawback period.

Likewise a permits system can be applied to individual allocations, with those participants that are above their allocations progressively surrendering permits while those who have been constrained by the flexibility cap receive the surrendered allocation to bring them up to their paper allocations.

See Fig. 4 below

Figure 4. Progressive restoration of paper entitlements to lower leachers constrained by a flexibility cap as higher leachers reduce nutrient losses



In this illustration it has been decided that there will be two allocations, one for higher producing land (flat, fertile, etc.) and one for lower producing land (steep, poor spoils etc.). Current state losses are distributed around these two levels. For each of the allocations those who are above their allocation must surrender permits over time. For some part of the transition period lower leachers are constrained by the flexibility cap, however once an agreed proportion of nutrient discharges have been reduced (perhaps at the point the limit is reached) then the returned allocation can be credited to those who are constrained by the flexibility cap until they reach their full entitlement. Over time everybody is at their full entitlement. As new science/information

comes to hand limits may be changed in which case either allocation is freed up or constraints are applied.

The approach could therefore be one that sets an acceptable water quality level, manages the necessary reductions of contaminant to water and allows for trading within the acceptable levels of contaminant discharge.

This would encourage flexible and innovative approaches to contaminant reduction or elimination and provides for the wide variety of circumstances that exist in terms of land use and underlying biophysical characteristics. What is an optimal contaminant reduction approach for one land use in one location, will not be the same of a different land use in a different location, on different soils, rainfall, prevailing wind and with different production e.g. agriculture, horticulture. What is optimal financially one year, may not be optimal the following year.

There are a number of options on how the 'baseline' contaminant load can be allocated, however the fundamental principles of polluter pays must underpin these. Grand-parenting is not an acceptable option as it rewards those who have contributed most to the problem. In some significantly over allocated FMUs, the extent of this over allocation has yet to become clear owing to extensive lag times.

Perhaps once lag times are calculated, then allocations should be grand-parented on the basis of the land use at that time. e.g lag time of 50 years – allocation based on land use on a particular land parcel 50 years ago.

Council funding for freshwater management

2.6 Increase the ability of councils to recover costs from water users for monitoring, enforcement, research and management.

Councils must have the ability to recover costs associated with the management of resources, however there must be a balance between the costs specific to the use of the resource for a private good and the use of the resource for a public good, which is a line that is not always very clear.

Similarly, the imposition of controls or monitoring required of private users by others in the community where these are above and beyond what might reasonably be expected for good resource management, must also be considered. In particular interest groups requiring onerous reporting of some resource users, but not taking a similar approach to reporting requirements of their own use.

Sound science, knowledge and understanding of a resource is fundamental to being able to manage it sustainably. A balance must be found between the costs that that rightly should be borne by users and those that relate to the commons, so that costs are not conveniently loaded onto particular users so that the commons can avoid bearing the costs that are rightly associated with science, research. Exacerbator / beneficiary principles which apply to other services provided by government should apply.

In terms of funding improvements to water quality, a charge per unit of contaminant over the level that will meet water quality outcomes would provide a pool of funding that should be used only for water quality management related to the additional contaminant levels, and water quality improvement. Priority would go to the application of the charges back into the FMU that they were generated in.

However this should not be the only source of funding for water quality improvements as there are huge legacy issues for the country to address and which will require whole of community i.e. national funding and support.

Freshwater Improvement Fund
It is pleasing to see that the focus of this fund is broadened, given that purchasing land adjacent to important waterways was unlikely to be particularly effective in achieving the improvements needed. In particular, it failed to address the issue of leached nutrients which are one of the biggest threats to water quality in the most degraded catchments.

Nor did the approach capitalise on opportunities to partner with other organisations to leverage the value that can be obtained – e.g. covenanting options such as those offered by the Queen Elizabeth II National Trust.

3 Iwi rights and interests in fresh water

3.6 The Government will amend the Resource Management Act to:

- **Require water conservation order (WCO) applications to provide evidence of consultation with relevant iwi and have one person nominated by the relevant iwi represented on the Special Tribunal convened to hear the application**
- **Require the Special Tribunal for a WCO (and where relevant, the Environment Court) to consider the needs of iwi/tangata whenua**
- **Require WCO applications to consider any planning processes already underway**
- **Allow the Minister for the Environment to delay an application if there will be a conflict with a regional planning process**
- **Allow councils to recommend to the Minister for the Environment that a WCO be created over an outstanding water body that has been identified through regional planning, and allow the Minister to consider recommendations under a streamlined procedure.**

B+LNZ supports the inclusion of iwi in WCO processes.

A definition of a 'planning process already underway' is required.

Some planning processes have been underway in some form for years and there is the potential for planning processes to preclude WCO applications from being considered for a considerable time. For example, the NPS-FM processes show a likelihood of extending for years e.g. out to 2035. This would seem unreasonable and jeopardises conservation of outstanding water bodies, given that the WCO process includes a public process.

At least one regional council has indicated that regular planning reviews will be needed – as regular as every 2 to 3 years.

Freshwater Improvement Fund

The Freshwater Improvement Fund proposals are generally supported.

4. Conclusion

B+LNZ thanks the Ministry for the opportunity to comment on the consultation document.

B+LNZ would welcome the opportunity to discuss any part of its submission in more detail, if this would be beneficial.

Contact: Victoria Lamb
Senior Environmental Policy Advisor
Beef + Lamb New Zealand Ltd
P O Box 121
Wellington
New Zealand
DDI: (04) 474 0806
Email: victoria.lamb@beeflambnz.com

Appendix 1

Beef + Lamb New Zealand Principles for the Allocation of Nutrients

These principles have been developed to guide decisions on nutrient allocation. They seek to ensure that nutrient allocation is fair, equitable, recognises the complexity of farming systems, and provides for continued flexibility of land use. Beef + Lamb New Zealand supports catchment specific solutions to nutrient management and that different allocation regimes will be established that reflect differences between communities and their catchments, and to meet water quality objectives in those catchments. These principles should be considered carefully when forming any nutrient allocation policies or methods to achieve them. Each principle is important but they should be considered as a whole to inform allocation discussions.

Principle 1 Like land should be treated the same

Allocation should be based on the intrinsic qualities of the land. Two pieces of land with the same qualities should receive the same allocation. This principle recognises that allocation regimes should not be overly influenced by existing land use.

Principle 2 Those undertaking activities that have caused water quality problems should be required to improve their management to meet water quality limits.

All New Zealanders have a responsibility to manage their activities to maintain or improve water quality. This principle reflects the need for those who have caused water quality problems or who are contributing a greater amount to them to take a greater responsibility for meeting the costs of reducing nutrient loss to water. It also reinforces that those who have managed responsibly should not be required to have their land use constrained as a result of others' activity.

Principle 3 Flexibility of land use must be maintained

Land owners need to have the ability to respond to changes in climate, input costs, markets and technological innovation in order to maintain a profitable and sustainable farming enterprise. Allocating nutrients in such a way that unnecessarily limits land use change constrains the ability of land users to respond to those changes and optimally utilise the land resource.

Principle 4 The allocation system should be technically feasible, simple to operate and understandable

A high level of technical feasibility is fundamental to a successful allocation approach. The simpler the system, the more likely it is to be able to operate effectively. The approach must also be understandable by land users and the wider community. It must be able to be administered fairly and at minimum transaction costs to users and the regulator.

Principle 5 The natural capital of soils should be the primary consideration when establishing an allocation mechanism for nutrient loss

A natural capital approach allows for an economically efficient allocation of nutrients. Those soils with the greatest ability to retain nutrients and optimise nutrient use give land users the greatest flexibility to optimise production, respond to markets and technology while managing potential effects on water quality. Allocation systems should reflect the ability of these soil types to optimise production and land use flexibility.

Principle 6 Allocation approaches should provide for adaptive management and new information

Allocation decisions are primarily made on the information we know now and modelled future scenarios. Our understanding and the availability of both catchment and farm systems will change over the life of an allocation system as will possible management techniques. Allocation systems should provide sufficient flexibility to provide for adaptive management and be reviewed regularly to incorporate new information. Adequate transition times should be provided to incorporate new information where allocation changes as a result.

Principle 7 Appropriate timeframes must be set to allow for transition from current state to one where allocation of nutrients applies

Timeframes should take account of the degree to which any waterway is over-allocated (if that is the case), the period over which this state has come about and the costs for businesses and the current ability to manage to that allocation.

It should be recognised that current water quality issues are sometimes the result of many years of land use within catchments and may have developed over generations. Consideration needs to be taken of the legitimate expectations of people and natural justice. Accordingly time should be provided for them to adjust. There needs to be a balanced approach and recognition of the uncertainty associated with water science versus the likely economic impact on businesses and the region. The primary objective should be to set an appropriate direction of travel that will see a steady improvement in water quality.

Principle 8 Long term investment certainty is a critical feature of a viable nutrient management system

Changes to nutrient allocation regimes must be signalled as far out as possible. Refinements to those systems must be managed to minimise their impacts on business viability, land value and the flexibility of land use. The aim must be to reflect the underlying elements of sustainable management in achieving improved water quality outcomes including reducing those adverse impacts on social and economic outcomes.

Principle 9 Improvement in water quality must remain the primary objective of adopting any nutrient allocation regime

When exploring the adoption of methods to achieve water quality improvements and manage to limits, the focus of community debates, modelling and discussion of allocation of nutrients can distract from the primary goal – maintaining and improving water quality. This principle emphasises that allocating nutrients to a property level doesn't in itself result in improved in water quality; it is the actions of land users that ultimately result in improved nutrient management.

Principle 10 In under-allocated catchments, where property based nutrient allocation has not been adopted in setting water quality limits, the system for allocating nutrients must be determined well before the limit is reached, be clear and easy to understand, and designed to avoid over-allocation

The mechanism for allocating nutrients, even if it does not have immediate effect, should be clear from the time when water quality limits are set. Allocation mechanisms should reflect the level of risk that the catchment will become over allocated. This may include the adoption of a pre-agreed catchment-specific environmental threshold (e.g. 75%-90% of a limit) to determine when an allocation regime should be adopted.

Principle 11 In designing the allocation system the benefits of a nutrient transfer system within the catchment or water management unit should be considered

Maximum economic efficiency of land use could be assisted by a mechanism for transferring nutrient discharge allowances within the same catchment.

Principle 12 Regulation, monitoring, auditing and reporting of nutrients within an allocation regime needs to relate to the degree of environmental impact and pressure

If there is limited environmental pressure and if an activity has a low impact then regulation – and the financial cost of complying with that regulation – should be commensurate with the degree to which the activities are causing an adverse effect on water quality

Principle 13 As a minimum expectation, in all catchments, all land users should be at or moving towards (industry defined) Good Management Practice (GMP), recognising that GMP is constantly evolving and continuous improvement is inherent in GMP

In many catchments, lifting everyone to GMP is likely to go a long way towards achieving community objectives for managing to water quality limits. In catchments where nutrients are not over allocated, requiring good management practice is a sound alternative method to allocating nutrients to a farm (property based) level.

Principle 14 Nutrient allocation must be informed by sound science and stable and reliable catchment and farm system modelling and measurement

Modelling nutrient loss is important to inform nutrient allocation, but all models have limitations. Overseer is a key tool for understanding and managing nutrients on farms and to inform nutrient allocation decisions. In the short term there are significant limitations that need to be catered for in determining any regulatory or nutrient allocation regime (e.g. assumptions in Overseer regarding GMP, modelling of cropping regimes, ability of Overseer to estimate nutrient loss from the adoption of certain mitigations and the validation of Overseer estimates). Other measures may need to be included in the approach to managing nutrient loss to ensure innovative change is incentivised and that the focus remains on promoting good practice. Over time modelling designed to estimate nutrient loss will improve. Modelled estimates will change, so allocation regimes should account for modelling uncertainty and provide for appropriate transition periods.

Estimates of nutrient loss are a necessary input to decisions on nutrient management but broader catchment-scale modelling is critical if these decisions are to be robust. There is an urgent need to increase the emphasis placed on catchment-scale modelling.