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Nutrient trading in Lake Rotorua

Design, implementation and enforcement - legal issues

This document was authored by Vernon Rive in March 2012 and provides a summary of the following documents prepared for Motu:

Rive, Vernon and Law, Cameron. 2008. "Nutrient Trading in Lake Rotorua: Legal Mechanisms," Advice from Chapman Tripp
Rive, Vernon and Law, Cameron. 2010. "Nutrient Trading Programme - Incorporation into Environment Bay of Plenty Regional Plan," Advice from Chapman Tripp
Rive, Vernon. 2012. "Nutrient Trading Programme - Enforcement Issues," Advice from Vernon Rive, Environmental Barrister

Copies of the above documents are available on Motu's website at www.motu.org.nz/research/detail/nutrient_trading

Nutrient trading - a flexible, innovative and effective approach to improving water quality in Lake Rotorua

Water quality in Lake Rotorua has been declining for at least the last 30 years as increased levels of nutrients have entered the lake. Despite significant effort and expenditure, the level of nutrients entering the lake still exceeds sustainable levels. A nutrient trading system would help the catchment achieve this goal at least cost. Nutrient sources would bear the cost of their impact on water quality and hence take these costs into account in their decision-making.

This paper presents an overview of the legal issues arising in a project coordinated by Motu which has investigated the feasibility of implementing a nutrient trading scheme to address declining water quality in the Rotorua Lakes.

As explained below, a nutrient trading could be set up and implemented under the existing Resource Management Act 1991 (RMA). However, a scheme operating under the present statutory framework would be less than ideal, largely due to enforcement and transaction cost issues. Those difficulties would be significantly addressed if a tailor-made legislative regime could be put in place, similar in some ways to the carbon emissions trading scheme which is now operating in New Zealand under the Climate Change Response Act 2002.

How water quality is currently regulated in the Rotorua Lakes catchment

Environment Bay of Plenty, the regional council responsible for the Rotorua Lakes Catchment has introduced a series of rules in section 9.4 of its Proposed Regional Water and Land Plan known as 'Rule 11'. The rules are directly aimed at addressing water quality issues from the loss of nitrogen and phosphorous from land use activities in the catchments of Lakes Rotorua, Rotoiti, Rotoehu, Okaro and Okareka.

Under the Rule 11 regime, a nutrient cap is applied to point-source discharges. Any new discharge cannot increase the nitrogen or phosphorus level within the lake catchment. Where there is a change to an existing discharge, the change cannot increase nitrogen or phosphorus levels above levels already set in the resource consent unless the increase is offset in the catchment. It is possible to change land use activities which will result in greater nutrient discharges if measures are taken to fully offset the increased loss of nitrogen or phosphorus from the land management change, either on the property or within the same lake catchment. For example, retiring riparian areas could allow for extra stock numbers. Land owners can also enter into arrangements with other land owners in the catchment to put in place an agreement confirming that measures will be taken on one piece of land to offset increased nutrient discharges on another area. Such arrangements need to be made through a combination of resource consents and land covenants.

Rule 11 incorporates *aspects* of a nutrient trading scheme. However, the high transaction costs involved in negotiating offset agreements, and then having changes to resource consent approved on a case-by case basis means that is significantly less flexible than the model being developed by Motu.

More details on Rule 11 are available on the Environment BOP website.

Overview of a possible model nutrient trading scheme for Rotorua

A nutrient trading system controls nutrient loss by setting the total amount of allowances to discharge nutrients at an annual cap that will, in time, achieve the desired water quality. Each allowance (nutrient emission unit or NEU) permits its holder to discharge a set level of nutrients, for example 1kg of nitrogen, from their farm or property. They can be used only once. The NEU must be used on or after the date on the allowance. Landowners and occupiers included in the system monitor their activities and must surrender sufficient NEUs to cover their nutrient loss at the end of each trading year. If all sources comply, the goal is met.

If a landowner has insufficient allowances to cover their nutrient loss, they can buy additional units from the market. If another landowner has surplus allowances, they can sell the extra allowances. So people can receive direct financial benefits for reducing their nutrient loss. Trading allows those with high costs of achieving nutrient loss reduction to pay those with a low cost of achieving nutrient loss reductions to undertake the necessary reductions, ensuring that nutrient reductions take place cost effectively.

Nutrient trading provides a monitoring framework and financial incentive that facilitates other complementary policies. A nutrient trading system has been successfully used alongside a government-funded land buy-back and retirement scheme in Lake Taupo. Requiring best management practice for participants in a trading scheme is commonplace in international schemes. Education programmes and research and technology dissemination efforts will be more effective with a matching economic incentive. Regardless of the final policy mix chosen by regulators, many of the lessons and principles that inform the prototype presented below will be relevant.

Legal basis under the existing RMA for an NTS in Rotorua

Although nutrients such as nitrogen and phosphorous can make land more productive for activities such as agriculture and horticulture, they are technically classified as 'contaminants' under the RMA. Under the RMA, regional councils have powers to regulate both direct discharges of these sorts of substances (under section 15) as well as regulating activities on land that result in the discharges occurring (under section 30).

In theory, an NTS might be constructed which is legally based on either rules regulating discharges to land and water (section 15 RMA) or on rules regulating activities that can in turn lead to nutrient discharges (section 30).

Section 15 RMA - intuitive appeal, but some legal issues

A regime based on section 15 RMA (and in particular section 15(1)(b) RMA which provides that discharges of contaminants to land in circumstances where those contaminants may enter water) has some intuitive appeal. The idea of controlling nutrients applied to land which are then likely to end up in water (Lake Rotorua) is precisely what the NTS is designed to achieve.

However there are also some potential legal issues with a regime based on section 15(1)(b) RMA.

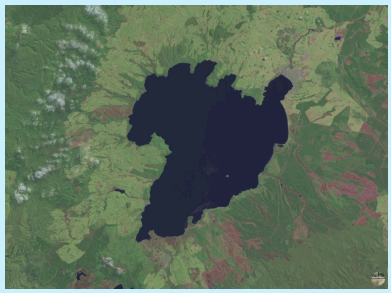
One issue relates to the question of causality. Under section 15(1)(b) RMA, a council could only require a farmer, forester or other land user to get a consent for activities involving nutrient discharges if they can prove that firstly, the person 'caused' a discharge to land, and secondly, that it was clear that the substances discharged to land would ultimately end up in water.

For some activities (such as a farmer applying nitrogen-based fertiliser to land), it might be easy to show that the farmer 'caused' the discharge to land. However because it can often take a long time for the substances to be transported through subterranean water systems to a water body (sometimes 10's of years) it may be difficult to satisfy legal requirements of proof relating to the second part of section 15(b).

Some activities that result in nutrients being transported into water bodies are even less clear cut. For example the felling of plantation or other vegetation results in nutrient discharges, however because this occurs in a less direct way than the application of fertiliser onto land, evidential issues can arise in bringing those activities under s15(1)(b) RMA.

Finally, in the past, councils looking to set up regulatory regimes aimed at maintaining and improving water quality with particular focus on nutrient discharges have faced some opposition to the proposition that conventional farming or agricultural activities should be

A nutrient trading scheme in action in the Lake Taupo catchment - Variation 5 to the Waikato Regional Plan



In 2011, the Waikato Regional Council implemented a new system for regulating nutrient discharges from land uses in the Lake Taupo catchment aimed at improving water quality in this iconic North Island water body.

Variation 5 to the Waikato Regional Plan contains policy and rules to manage land use in the catchment, with some farming practices controlled or requiring consents. It also contains tighter controls for new urban development in the Lake Taupo catchment.

New rules in the variation include:

- limits on the annual average amount of nitrogen leached from rural land use activities – dairy and drystock farming will require resource consents
- limits on the amount of nitrogen leached from new wastewater discharges (on-site or community systems)
- requiring a high standard of nitrogen removal from wastewater systems near to the lakeshore
- allowing nitrogen offsetting between properties to provide flexibility for landowners to meet the new rule requirements.

Properties within the catchment are 'benchmarked' to identify allowable levels of nutrient discharges, depending on historic land uses.

Through variations to resource consents, landowners can change land uses by purchasing or leasing nitrogen discharge allowances from other landowners in the catchment.

A number of trades have taken place since the system was introduced.

controlled by discharge rules. Some farmers have been concerned at the idea of a system which assumes that day-to-day farming activities *inevitably* cause the discharge of contaminants to land or water.

Section 30 RMA - controlling activities on land more straightforward

Under sections 30 and 68 RMA, regional councils can include rules in regional plans which regulate land use activities to protect water quality. 'Land use' is interpreted widely under the Act and would cover a range of activities which have been shown to result in nutrient discharges to water bodies such as Lake Rotorua.

An advantage of relying on section 30/68 RMA to provide for an NTS is that it avoids the causality issues which may come up with a scheme based on direct regulation of discharges to land under section 15 RMA such as those described above.

To implement the NTS under sections 30/68, it would be necessary to show that controlling land use in this way would assist in improving water quality in the catchment. The research reviewed by Motu confirms that an NTS would do exactly this.

The issue of whether rules establishing a nutrient trading scheme should be based on land use provisions of the RMA (section 9 and associated sections 30/68) or discharge provisions (section 15) was a particular point of debate during the Environment Court process leading to the finalisation of the Waikato Regional Council's Variation 5. There was strong opposition from some participants to the WRC scheme relying on section 15 as the basis for its operation. Ultimately, the Court adopted a "hybrid" approach which contemplates rules being based on both sections 9/30/68 *and* 15, however opted not to make a definitive ruling on the contentious issue of whether farming per se requires discharge consents.

Section 30 preferred

In the circumstances, at least at the outset, it would appear preferable to design an NTS for the Rotorua Lakes based on land-use rules, however it is noted this is a developing area of law.

Getting the NTS into the Regional Plan

No matter how elegant a theory might appear on paper, if not able to be implemented effectively, the effort is wasted. The NTS under development by Motu and its advisers has been designed to maximise practical effectiveness by minimising uncertainty and transaction costs.

As with any set of rules regulating natural resource use under the RMA, before a regime such as the NTS could be implemented, a plan change would need to be developed, consulted upon, notified and go through the normal approval processes required under the Act.

Importantly in relation to the NTS (as with any plan change), under section 32 of the RMA the Council would need to conduct an evaluation of the Plan Change prior to notification. That evaluation would need to look at "the extent to which each objective is the most appropriate way to achieve the purpose of [the RMA]; and whether, having regard to their efficiency and effectiveness, the policies, rules or other methods are the most appropriate for achieving the objectives."

In the case of the nutrient trading programme, because it is an innovative approach to dealing with water quality issues, it is reasonable to expect that Commissioners or the Environment Court would be looking for a comprehensive and rigorous section 32 evaluation which examines and evaluates the various alternative means of regulating land

use and discharges, and explains the reasons why a nutrient trading programme is the most appropriate mechanism for achieving the objectives of the Plan Change and the RMA.

Overview and explanation

A plan change introducing the NTSG would require these things:

- A description of the decline in water quality in Lake Rotorua (the Lake) arising from nutrient discharges and the ecological, social, cultural and economic effects of this decline;
- An explanation of how the nutrient discharges result from land use activities, specifying the main causes;
- An identification of local iwi or hapu, their relationship with the Lake and the effect of the decline in water quality on the iwi or hapu and their relationship with the lake;
- A description of the discharge activities, noting the need to continue such activities to the extent consistent with sustainable management of the Lake; and
- A brief explanation that this Plan Change enables a nutrient discharge trading programme within the limits set by a cap on annual emissions from the discharge activities.

The Plan Change would also define the area which it will cover, say by attaching a map showing the general catchment boundary.

Key elements of the plan change

The 'machinery' of the plan change - in other words, the provisions which set up the key obligations for land owners and occupiers undertaking activities which result in nutrient and discharges to surrender NUEs - would include the following:

- An overall "cap" on nutrient discharges;
- Mechanism for allocating NUEs
- Process by which NUEs calculated
- Obligation to hold/surrender NUEs and timing for surrender
- Description of how compliance will be monitored
- (Potentially) description of how compliance will be enforced
- Description of how technical changes to the NTS will be investigated and made, and (potentially) what changes may occur without a formal plan change.

Cap

At the heart of any effective emissions trading scheme is the 'cap'. This represents the upper limit of emissions which have been identified as able to be discharged to the environment. Setting the cap involves a careful process requiring both input from experts, and value judgements by regulators informed by the stakeholder feedback on what it is regarded as an acceptable balance between potentially conflicting interests of environmental quality, economic development and private property rights.

The NTS would include a "cap" on the nutrient discharges to Lake Rotorua which will set the maximum amount of nutrients that may be discharged into the catchment.

The plan change would need to identify and explain how the total amount of nutrient discharge units (the cap amount) will be 'shared' amongst landowners (and unregulated/ permitted activities) in accordance with the number of discharge units allocated to them through the chosen allocation mechanism.

Mechanism for allocating NUEs and description of how NUEs will be calculated

The plan change will also need to identify and explain how NUEs will be allocated to the various participants in the scheme, and also how obligations to hold and surrender NUEs are calculated.

The model NTS developed by Motu envisages that:

- a proportion of NUEs would be allocated (notionally) to permitted activities - in other words, that there would be a calculation of nutrient discharges attributable to activities which, by their nature, would not be feasible or reasonable to require NUEs to be obtained and surrendered. (For example, baseline nutrient discharges at the level of plantation forestry would be allowed without the need to surrender NUEs as landowners cannot reduce discharges below this level. As a result, these would be 'permitted' activities.);

- there would be a proportion of NUEs allocated to land owner/occupiers carrying out activities resulting in nutrient discharges.

A key strategic issue for the developer and implementer of an NTS is to decide on how NUEs will be initially allocated, and also how the cap will be managed over time. As noted above there are both scientific and equitable/political components to decisions regarding allocation of emissions units and management of the emissions cap which would need to be discussed and resolved through the plan development process.

Obligation to hold/surrender NUEs and timing for surrender

A very important part of the plan change will be provisions which create the obligation to hold/surrender NUEs depending on the types of activities carried out on the land, and the intensity of those activities from a nutrient discharge perspective.

The model that has been developed by Motu envisages that the obligation to hold/ surrender NUEs under the NTS would result from a requirement under the regional plan that land owners/occupiers hold resource consents if they wish to undertake particular activities on land within the catchment.

Under the plan change, land use activities within the catchment would be given an activity status under the RMA along the following lines:

- **Permitted activities** for which consent not required such as urban-zoned properties under 10ha.

- **Controlled activities** for activities in respect of which nutrient emissions units (NUEs) required. This would include properties where the land use cover on the parcel exceeds at least 10 ha of combined dairy, horticulture and cropping land; or at least 25 ha of combined pastoral, horticultural and cropping; or they are point source dischargers.

- **Non-complying status** for other activities (not in accordance with scheme).

Activities which result in nutrient discharges above the 'permitted activity' threshold would require the land owner/occupiers to secure from the council a controlled activity consent which would authorise that activity (from an RMA perspective) and also contain conditions detailing obligations to hold and surrender NUEs, depending on factors such as the particular land-use involved and intensity of use.

These controlled activity consents are at the heart of the NTS under the RMA, and would effectively be the mechanism for implementing and enforcing the scheme.

Borrowing from another emissions trading regime - the NZ ETS

The New Zealand carbon Emissions Trading Scheme (NZ ETS) is established under Part 4, Sub-part 4 of the Climate Change Response Act 2002. Key elements of the enforcement regime for the NZ ETS include the following:

- a system of graded penalties, depending on whether a particular instance of non-compliance is a first, second or subsequent offence;
- statutory recognition that some compliance issues are inadvertent;
- specific provision in the legislation for reporting on, and maintaining detailed records of activities, emissions and the surrender of 'NZU's' (the units adopted under the ETS as 'carbon credits')
- specific statutory powers conferred on the regulator, after having given notice of non-compliance, to recover as a statutory debt any shortfall in surrendered NZU's, with set penalties and interest.

The administrators of the NZ ETS are able to determine whether key obligations of participants' concerning the surrender of discharge units have been complied with. If they have not, straightforward debt-recovery proceedings can be initiated without the need to either establish that grounds a prosecution or enforcement order had been made out under the generic provisions of the RMA, or establish what might be a complex and controversial case for particular levels of financial or other penalties under the Act.

Something similar might be considered for the NTS.

Different versions of Overseer

The Prototype model NTS which has been developed by Motu currently anticipates that participants would be required to cover discharges equal to the amount calculated under a nutrient discharge model known as Overseer. The specific version of Overseer used to monitor nutrient loss will be fixed before each compliance year so that participants can use it throughout the year when making management, compliance and trading decisions.

As a general principle of resource management law, rules included in resource management plans such as a regional plan are required to contain sufficient clarity and certainty that affected parties are able to determine their obligations and rights to use natural resources without the exercise of discretion by council officers. This raises an issue in terms of a model which envisages the potential change or updating of an essential element of the methodology under which an owner/occupiers

would calculate their obligations under the NTS.

In likely recognition of this issue, the Operative version of Variation 5 which provides for the Lake Taupo nitrogen trading scheme includes within its provisions rules which clearly identify the version of Overseer which will be used to establish benchmarking (and thus discharge entitlements/obligations). An inevitable consequence of specification of the version of the model within regional plan provisions is that any change to the version would likely require a plan change which would need to go through a notified process.

The administrative inconvenience of having to go through a plan change on an annual basis to update Overseer suggests that as with a number of the other elements of the NTS referred to above, having some legislative provision for an update to the version of Overseer (possibly with specified limits, and certainly on a specified period of notice) would be desirable.

Explaining how compliance will be enforced in the plan change

Although it is not a requirement of the RMA that methods of compliance and enforcement be described in plan changes, for a novel regime such as the NTS, it would be helpful for all parties to know how they Council plans to enforce the scheme. So, the plan change would also be expected to include details on compliance and enforcement. That topic - an interesting and potentially challenging one - is discussed in more detail below.

How would the NTS be enforced?

As noted above, the NTS has been designed to maximise certainty and minimise transaction costs. Creating an enforcement/penalty regime which creates the greatest incentive to comply without the need for regulator intervention is seen as critical to the success of the scheme.

Any set of rules regulating the use of natural resources needs to be able to be enforced in a practical and efficient way. The NTS is no exception. In fact, because a trading scheme for nutrient discharge allowances is a relatively novel way of working towards improved water quality, the need for effective compliance mechanisms is even greater.

The expected compliance 'pressure points' for a scheme such as the NTS include the following:

- making sure that everyone who is required to, participates in the scheme (in other words, having an effective way of dealing with people who, deliberately or through oversight, fail, delay or refuse to apply for and obtain consents for activities which result in nutrient discharges)
- ensuring that accurate information about activities occurring on the relevant land is provided so that compliance monitoring can occur
- ensuring that if council officers need to inspect properties to check that obligations are being met, they can do so without unreasonable restrictions
- dealing with any situations where, even though a landowner/occupier has "joined" the NTS, they have not surrendered the required units to cover assessed emissions;

Many of these compliance scenarios are familiar to councils who deal with similar situations on a day-to-day basis in other environmental or planning contexts.

So, for example, there are powers under the RMA giving enforcement officers powers to inspect properties on reasonable notice.

If land users are required to obtain consents for activities and don't do so after having been reminded of their obligations, councils can issue infringement offence and abatement

notices, or in more serious cases apply to the Environment Court for enforcement orders and initiate prosecutions.

However, ensuring widespread (and ready) compliance with a scheme such as the NTS using the existing tools available under standard RMA provisions could be challenging, to a point which might impact on its viability.

One of the main issues is that (apart from infringement offences where the penalties are relatively low), prosecutions under generic RMA provisions for failing to comply with regional rules require cases to be brought, argued and dealt with on an individual 'merits' basis. So, it is not possible for the administrators of a scheme relying on the existing RMA to let everyone know in advance *exactly* what the consequences would be of not obtaining consents or surrendering, on time, NEUs for the year's activities as envisaged under the Motu model.

This inability to publicise in advance the precise consequences of non-compliance makes it difficult to effectively enforce the system. People may be more willing to take their chances on a prosecution, delaying putting their own systems in place to monitor and account for their emissions-relevant activities, knowing that the council will have to go through an expensive and time consuming process to enforce the scheme, and at the end of it, even if successful, may only secure a 'token' penalty from the Court.

Because of these issues, Motu's view is that tailor-made legislative provision for enforcement (as well as other technical and process-related) aspects of the NTS would be desirable. A good model for the types of powers and obligations that would work well for the NTS can be seen in Part 4 of the Climate Change Response Act 2002 which regulates the operation of the existing carbon emissions trading scheme.

Interested in finding out more?

More details on the NTS including a number of working papers prepared by and on behalf of Motu can be found at http://www.motu.org.nz/research/detail/nutrient_trading.