ENVIRONMENT BAY OF PLENTY

REGIONAL WATER & LAND PLAN
RULE 11
REVIEW OF EFFICIENCY & EFFECTIVENESS

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For

Environment Bay of Plenty Regional Council

Environmental Management Services Ltd
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1. Executive Summary

This report summarises the findings of a review of the efficiency and effectiveness of Environment Bay of Plenty Regional Council's Rule 11. Rule 11 comprises a suite of rules in the Council's *Regional Water and Land Plan* that seek to:

- Firstly, set a baseline for nutrient export from rural land in the catchments of five Rotorua lakes; and
- Then, to 'cap' nutrient export from properties at the assessed baseline levels.

A key step in implementing the rules is the 'benchmarking' of nutrient export from individual properties at levels known to have existed during the period 2001 to 2004.

This review responds to the Council's brief to determine the original policy intent of Rule 11 and to evaluate how efficient and effective it has been at achieving that intent. In particular, the brief sought evaluation of:

- How well the rule and methods are achieving the desired objective and anticipated environmental results (effectiveness); and
- How efficiently resources are being used to achieve the desired objectives and anticipated environmental results.

The original policy intent for Rule 11 derives from Objective 11 of the *Regional Water and Land Plan* which is that:

> *The water quality in the Rotorua lakes is maintained or improved to meet* [specified] *Trophic Level Indices.*

The Trophic Level Indices are derived from measurable water quality parameters. They and have been set by the Council, in consultation with the community, at levels which aspire to achieve improvements compared with current and recent historical lake water quality conditions.

The report summarises how Rule 11 works. Rule 11 is not relied on as the sole method for improving water quality. The report also sets out the wider context of other methods proposed by the *Regional Water and Land Plan* and by individual *Action Plans* for each lake to improve water quality.

The report identifies the primary policy intent for Rule 11 as a desire to 'cap' exported nitrogen and phosphorus levels within the catchments at levels estimated to exist during the period 2001 to 31st June 2004.

The report also identifies several subsidiary policy aims that Rule 11 is intended to contributed towards (improving water quality, enhancing aquatic ecosystems, reducing public health risks, enhancing the relationship of tangata whenua with the lakes and operating equitably within the catchments).

One of the inputs to the review was a series of Key Informant Interviews held with a limited number of key stakeholders identified by the Council. The interviews generated useful insights into the implementation to date of Rule 11 and into community aspirations for lake water quality. Importantly, all interviewees agreed that the quality of water in the five lakes is degraded and that it should be improved as a matter of priority. Any differences in aspirations between interviewees relate to the degree of improvement required and the time frame over which improvements should be required. All

interviewees acknowledged the limited role of Rule 11 in seeking to cap only (not reduce) nutrient exports. All interviewees agreed that more, in addition to Rule 11, is required to be done to achieve water quality improvement. Interviewees highlighted a number of common shortcomings of Rule 11 including, in particular, the incomplete progress with benchmarking, the inequities the rule creates and the long-past due date for benchmarking and lack of enforcement of the rule.

This review poses 12 questions aimed at analysing the efficiency and effectiveness of Rule 11. The first three address the effectiveness of the rule in achieving the primary policy intent (capping nutrient export). They examine:

1. Whether Rule 11 has acted to cap exported nitrogen and phosphorus;
2. How efficient and effective Rule 11 has been in capping nutrient export; and
3. How efficient Rule 11 has been in achieving the benchmarking completed to date.

The review finds, in summary, that Rule 11 has the potential to provide a strong control on nutrient export but cannot be properly implemented until benchmarking is complete. The rule also needs some fine tuning to ensure ongoing implementation and monitoring are practicable and robust. The review also finds that Rule 11 also needs to be better integrated with the District Plan rules controlling land use.

The other questions posed address issues or challenges arising for implementation and address the other subsidiary policy aims.

This report includes several suggestions for action arising from this review. These are set out in Section 15 of the report and are summarised here as:

(a) Benchmarking should be completed as an urgent priority.

(b) To assist completion of benchmarking, adequate resourcing is required (both skilled people and sufficient time). Prioritising the task should also be considered (that is targeting first-round benchmarking at larger nutrient export properties) but only in collaboration with landowners.

(c) The long-past due date for benchmarking needs review (by either a Plan Change or by granting extensions to individual properties. The report emphasises that any revised date selected must be realistically achievable, must be determined after dialogue with key stakeholders and should be consistently enforced once agreed.

(d) The known inequities created by Rule 11 need to be addressed. In particular, the aspect of Rule 11 which ties permitted land use for to recent productive use rather than land use capability or best practice land management.

(e) To facilitate the provision of benchmarking information, the mis-match between data required by Rule 11 and by the Overseer software needs to be resolved and clarified to landowners.

(f) There need to be clear parameters for benchmarking where there is nil or little historical information on a property's land use practice.

(g) To enhance the efficiency of implementing and enforcing Rule 11, a strategy should be devised to enable ongoing monitoring and verification of actual land use practices compared with recorded nutrient benchmarks – again derived in collaboration with landowners rather than resorting to RMA enforcement.

(h) To facilitate take-up of and confidence in Rule 11, the protection of the confidentiality of the benchmarking information needs to be reviewed.

(i) To facilitate material change in land use that will reduce nutrient export, consideration should be given to how the Regional Plan and District Plan rule frameworks could be better integrated. Opportunities need to be explored to provide genuine flexibility in terms of the range of land use alternatives to nutrient-exporting practices. Incentives also need to be considered – both to reward best practice land management and voluntary mitigation measures and to positively influence decisions about land use change in the shortest time possible.

(j) To address the concern that Rule 11 is not sufficient to address or reverse the trendline of water quality degradation, consideration should be given to engaging with landowners and the community about reductions in nutrient export. Any options explored should consider the economic drivers that actually influence land use change and the need for close integration with District Plan controls.

2. Background

The Rotorua Lakes lie at the heart of the mana, the environmental wellbeing and the economic prosperity of the people and environment of the Rotorua District.

There has been intensive research, spanning over 30 years, into the declining ecological health of the Rotorua Lakes as well as discussion within the community during that time about the management of the Lakes.

The Te Arawa Maori Trust Board, on behalf of Te Arawa, registered a claim (WAI 240) with the Waitangi Tribunal in 1987 in relation to grievances including longstanding concerns about discharges to the Rotorua lakes and declining lake water quality. The Te Arawa Lakes Settlement Act 2006 articulates the Crown's response to the WAI 240 claim following a long period of negotiations commencing in 1997. The Settlement Act required, amongst other matters, the establishment of the *Rotorua Lakes Strategy Group.* The *Strategy Group* is constituted as a joint committee constituted under the Local Government act 2002 comprising representatives of Te Arawa Lakes Trust, Rotorua District Council and Environment Bay of Plenty Regional Council. The statutory purpose of the *Strategy Group* is:

> *'to contribute to the promotion of the sustainable management of the Rotorua lakes and their catchments, for the use and enjoyment of present and future generations, while recognising and providing for the traditional relationship of Te Arawa with their ancestral lakes.'*

Building on that statutory purpose and the strong body of research and community interest, the *Lakes Management Strategy Working Group* was convened so as to bring together the effort of several organisations which have special governance roles or interests in the Lakes.

The *Working Group* prepared a management strategy for the Rotorua Lakes in 2000. That document is entitled *Strategy for the Lakes of the Rotorua District (Te Kaupapa mo Nga Taonga o Rotorua – Protecting the Jewels in the Crown of the Lakes of the Rotorua district).* The Strategy sets out 14 goals derived from an agreed community vision. That vision is stated as:

> *'The lakes of the Rotorua district and their catchments are preserved and protected for the use and enjoyment of present and future generations, while recognising and providing for the traditional relationship of Te Arawa with their ancestral lakes.'*

The Strategy recognises that the sustainable management of the Lakes relies on sustainable management of the catchments surrounding the Lakes. The 14 goals of the Strategy therefore address both within-lake measures and land use management within the surrounding catchments.
The Strategy Working Group has developed a *Protection and Restoration Action Programme* for the Rotorua Lakes. Under that programme, the Strategy Working Group intends to implement the goals of the Strategy through a suite of measures. Those measures include regional and district plan provisions, investment in riparian fencing and planting, pest management, diversion of wastewater discharges to land-based treatment and the development of *Action Plans* for the Lakes. It is acknowledged that no single measure will be sufficient to improve the quality of the Lakes. A mix of measures has been adopted.

3. Rationale for Rule 11

One of those measures was the introduction of a suite of rules in the Regional Water and Land Plan to quantify and control nutrient discharges from land use in the catchments of five of the Rotorua Lakes: Lakes Rotorua, Rotoiti, Rotoehu, Okaro and Okareka. That suite of rules is collectively known as 'Rule 11'.

Rule 11 became operative in October 2005. Rule 11 has built into it a 'mandatory review clause'[1] The 'mandatory review clause' specifies a date by which a review of the Rule 11 provisions must be initiated for each of the five lakes. It also specifies, for each of the five lakes, a date by which a plan change (resulting from that review) must be publicly notified. Those dates are:

Lake Catchment	Date by which Plan review must be initiated	Date by which Plan Change must be publicly notified
Lake Okareka	January 2005	01 July 2006
Lakes Okaro, Rotoehu, Rotorua and Rotoiti	January 2006	31 December 2007

The 'mandatory review clause' is not a rule in the usual sense of being an enforceable requirement. It appears as introductory text ahead of Rule 11. However, it states a clear intention to review the Rule 11 provisions by the specified dates. Method 42 of the Plan states an intention to *review the necessity and application of the Rules in section 9.4 of this regional plan to individual lake catchments.*

In August 2007 the Council publicly notified proposed Plan Changes 5 and 6 addressing the Rule 11 provisions applicable to Lakes Okareka and Okaro. Proposed Plan Changes 5 and 6 have since been placed on hold pending the outcome of this review of the overall efficiency and effectiveness of Rule 11. In September 2007 the Council agreed to postpone the Rule 11 reviews for Lakes Rotorua, Rotoiti and Rotoehu until June 2008.

All regional councils have an obligation, under section 35 (2) of the Resource Management Act 1991 (*the RMA*), to monitor the efficiency and effectiveness of the policies, rules or other methods in its plans. Section 35 (2A) of the RMA requires that a review of the results of that monitoring must be compiled and made available to the public at intervals of not more than 5 years. That review will be due in October 2010 in respect of Rule 11.

In addition, section 79 of the RMA requires a full review of the Regional Water and Land Plan no later than 10 years after it became operative (ie 2015). However, the current *Resource Management (Simplifying and Streamlining) Amendment Bill* proposes to remove the 10-yearly obligation and replace that with an obligation to review if the plan no longer assists the council to carryout is functions under the RMA[2].

[1] Table 38 under Para 2 of Section 9.4.1 (page 206) of the Regional Water and Land Plan
[2] Clause 56 Resource Management (Simplifying and Streamlining) Amendment Bill

Against that background, the Council commissioned this review of the efficiency and effectiveness of Rule 11 as it applies to Lakes Rotorua, Rotoiti, Rotoehu, Okaro and Okareka.

4. The Brief

The purpose of this review is to determine the original policy intent of Rule 11 and to evaluate how efficient and effective it has been at achieving that intent. In particular, the brief directed the Study Team to evaluate:

- How well the rule and methods are achieving the desired objective and anticipated environmental results (effectiveness); and
- How efficiently resources are being used to achieve the desired objective and anticipated environmental results (ie how efficient the implementation is and how the costs and benefits compare).

The brief also sought to ensure the review of Rule 11 aligns with the requirements for review of efficiency and effectiveness under section 35 of the RMA. A copy of the brief is contained in Attachment 1.

5. Methodology

By agreement with the client, the Study Team undertook the following tasks in completing this review:

1. A preliminary review of the documents supplied by the Council to determine and articulate the Council's original policy intent for Rule 11;

2. A detailed review of the documents supplied to ascertain how Rule 11 technically operates and how it has actually been implemented;

3. Key Informant interviews with self-nominated representatives of the stakeholder organisations identified by the Council as being key stakeholders;

4. Compilation of a summary of the feedback from the Key Informant interviews (which is included in Attachment 2 to this report);

5. Evaluation, using available information, of the efficiency and effectiveness of Rule 11 against the original policy intent; and

6. Preparation of this report detailing the findings of the evaluation.

6. The Planning Framework – Rule 11 In Brief

'Rule 11' actually comprises 7 rules in section 9.4 of the operative Regional Water and Land Plan (ie Rules 11, 11A, 11B, 11C, 11D, 11E, and 11F). As noted earlier, Rules 11 to 11F apply only to land use activities in the catchments of Lakes Okareka,

Rotoehu, Okaro, Rotorua and Rotoiti. The stated intention of these rules is *'to achieve Objective 11 and Policy 21 (a)'.*[3]

Objective 11 states:

> *'The water quality in the Rotorua lakes is maintained or improved to meet the following Trophic Level Indices:*
>
> *(a) Lake Okareka - 3.0*
> *(b) Lake Okaro - 5.0*
> *(e) Lake Rotoehu - 3.9*
> *(f) Lake Rotoiti - 3.5*
> *(j) Lake Rotorua - 4.2*

The reason for the TLIs is given in Table 6[4] of the Regional Water and Land Plan. The 1994 TLI was selected for many lakes because that was the expectation expressed by the community at the time of consultation on a (previous) regional plan for the Tarawera River. A 1993 report for Rotorua District Council[5] identified that lake water quality targets should be no less than their 1993 state. The reasons for adopting the lake-specific TLI's are summarised here for each lake as:

Lake	Objective 11 TLI	Explanation Of Rationale For TLI Prescribed In Objective 11
Okareka	3.0	Tthe TLI estimated in 1994. Lake Okareka is within the Tarawera Catchment. The Regional Plan for the Tarawera River Catchment (publicly notified in 1994) stated that lake water quality would be maintained at the (then) current state). Lake water quality classifications have been updated in the Regional Plan to include TLIs but retain the community ideal of 'no degradation from' the 1994 state.
Rotoehu	3.9	Set at a level that equates to the last 'good' year for water quality in the lake (1992/1993).
Okaro	5.0	Set at a realistic level that is lower than the current actual TLI so as to improve lake water quality.
Rotorua	4.2	Estimated to be the level that should result from removal of sewage from the lake (based on documents associated with the consent granted to Rotorua District Council for land disposal of municipal wastewater).
Rotoiti	3.5	The level estimated in 1994 and relates to the year of notification of the Regional Plan for the Tarawera River Catchment and consistency with the goal for other lakes (ie maintaining water quality at 1994 levels).

Current information indicates that the TLI changes required by Objective 11 are as follows:

Lake	Current TLI[6]	Objective 11 TLI	Requires A Reduction Of (% rounded)

[3] Regional Water and Land Plan Explanation/Intent of Section 9.4 (para. 1 – page 203)
[4] BOP Regional Water and Land Plan (page 52 – Explanation to Methods)
[5] Sigma Consultants, NIWA, Bioresearches Ltd and NZFRI *Report on Rural Land Use Practices in the Rotorua District* (June 1993)

[6] 'The Rotorua Lakes 2008 Report Card'

Okareka	3.3	3.0	0.3 (10%)
Rotoehu	4.6	3.9	0.7 (15%)
Okaro	5.6 (but appears to be improving)	5.0	0.6 (11%)
Rotorua	4.9	4.2	0.7 (14%)
Rotoiti	4.4 (and worsening)	3.5	0.9 (20%)

Policy 21 (a) of the Regional Water and Land Plan is:

> *'To manage land and water resources in the Bay of Plenty within an integrated catchment management framework to:*
>
> *(a) Maintain or enhance water quality in individual lakes to meet their Trophic Level Index ('TLI') and Water Quality Classification.*

The explanation to Rules 11 to 11F states that[7] the intent of the rules is *'to prevent the net increase of the export of nitrogen or phosphorous from the cumulative effects of all activities in the catchments of degraded lakes in order to assist the recovery of lake water quality.* It is plain, from reading all available information, that the rules are intended to prevent net increases of exported nitrogen and exported phosphorous (not nitrogen or phosphorous as the explanation states). The explanation to the methods[8] confirms that the intention is to prevent a net increase in either nutrient. If nitrogen levels decrease, for example, this will not allow for an increase in phosphorus.

The explanation to Section 9.4 also states[9] that *to improve lake water quality it is necessary to adopt an integrated catchment management approach and address the effects of all activities in a catchment, including land use activities and point source discharges (eg sewage discharges, septic tanks, dairy shed effluent). It is therefore necessary to apply relevant nutrient management rules to all land use activities in the targeted catchments'.*

Rules 11 to 11F have the following effect:

[7] BOP Regional Water and Land Plan – Explanation/Intent of Section 9.4 (para. 1 – page 203)

[8] BOP Regional Water and Land Plan – Explanation to methods (para. 12 – page 55)

[9] BOP Regional Water and Land Plan – Explanation/Intent of Section 9.4 (para. 2 – page 204)

Rule 11 Urban Areas, Settlements & Small Rural Properties

Land use activities within urban areas, lakeside settlements and rural properties of less than 4,000m² that are connected to a reticulated wastewater (sewage) system are **permitted activities**.

Rule 11A Small Rural Properties With Low Nitrogen Export

Land use activities on small properties (less than 4,000m²) that are not connected to a reticulated wastewater system where the nitrogen export from the property is less than 10 kg per hectare per year are **permitted activities**.

Rule 11B Properties Where Land Use Has Changed

Land use activities other than those provided for in Rules 11 and 11A where the land use activity has changed during the period 01 July 2001 to 30 June 2004 are **permitted activities** where the change is from:

- Dry stock to dairying; or
- Pastoral grazing to horticulture; or
- Forestry to dairying; or
- Forestry to pastoral grazing; or
- Forestry to another land use.

provided the activities meet the following Permitted Activity Conditions:

1. Prescribed information is supplied to EBOP by 31.12.05 to enable calculation of the 'nutrient benchmark' for the property; and

2. The nutrient benchmark will be based on information describing land use activity that occurred during the period 01 July 2004 to 30 June 2005; but

3. Where the change in land use activity involved a change from forestry that occurred after 01 January 2003, a nutrient benchmark will be set by EBOP in conjunction with the landowner; and

4. Any modification of land use activity must either:
   (i) Decrease the annual average export of nitrogen or phosphorus from the property below the calculated nutrient benchmark; or
   (ii) Maintain the annual average export of nitrogen or phosphorus from the property at the same level as the nutrient benchmark; or
   (iii) Involve forestry harvesting where the area is replanted for forestry or is permanently retired.

Rule 11C Other Land Uses Where No Increase Occurs

Land use activities other than those provided for in Rules 11, 11A or 11B (including commercial, industrial, agricultural, pastoral, horticultural production, lifestyle blocks, production forestry, bare land, scrub or indigenous forest) where the land use has been unchanged since 2001[10] are **permitted activities** provided that:

1. Prescribed information is supplied to EBOP by 31.12.05 to enable calculation of the 'nutrient benchmark' for the property; and

[10] See Advisory Note 5 to Rule 11C on page 213 of the Regional Water & Land Plan

2. Any modification of land use activity either:
   (i) Decreases the annual average export of nitrogen or phosphorus from the property below the calculated nutrient benchmark; or
   (ii) Maintains the annual average export of nitrogen or phosphorus from the property at the same level as the nutrient benchmark; or
   (iii) Is forestry harvesting where the area is replanted for forestry or is permanently retired.

Rule 11D Increased Discharge Of Nitrogen or Phosphorus – Fully Offset

Any increase in the discharge of nitrogen or phosphorus from a land use activity other than activities permitted by Rules 11, 11A, 11B or 11C is a **controlled activity** where:

(i) The increase in exported nitrogen or phosphorus will be fully offset by the use of nutrient management measures on land within the same lake catchment; and
(ii) The nutrient management offset measures are on a different property within the same catchment; and
(iii) The nutrient management measures are not on land which has indigenous forest land cover or within urban areas or lakeside settlements; and
(iv) The nutrient benchmark for both the property where the land use activity will occur and the different property where the nutrient management measures will be used have had their nutrient benchmarks calculated in accordance with Rules 11B or 11C.

Control is reserved over a range of matters to address potential adverse effects and to alter the nutrient benchmark limit for both properties.

Rule 11E Discharge Of Nitrogen Or Phosphorus Not Otherwise Permitted

The discharge of nitrogen or phosphorus from a land use activity that is not authorised by Rules 11, 11A, 11B, 11C or 11D is a **restricted discretionary activity**. Discretion is restricted to a list of matters to address potential adverse effects on water quality, aquatic ecosystems, offset measures and monitoring.

Rule 11F Increased Discharge Of Nitrogen Or Phosphorus

Any increase in the discharge of nitrogen or phosphorus from a point source discharge is a **restricted discretionary activity** where it involves either:
(i) contaminants to water; or
(ii) water to water; or
(iii) contaminants to land in circumstances where the contaminant may enter surface or ground water.

Discretion is restricted to a list of matters to address potential adverse effects on water quality, aquatic ecosystems, offset measures and monitoring.

The consent status created by the rules can be summarised as:

Rule	Captures	Consent Status
11	Urban Areas, Settlements & Small Rural Properties	Permitted
11A	Small Rural Properties With Low Nitrogen Export	
11B	Properties Where Land Use Has Changed	Permitted
11C	Other Land Use Modification	Permitted
11D	Increased Discharge Of Nitrogen or Phosphorus – Fully Offset	Controlled Activity
11E	Discharge Of Nitrogen Or Phosphorus Not Otherwise Permitted	Restricted Discretionary Activity
11F	Increased Discharge Of Nitrogen Or Phosphorus	Restricted Discretionary Activity

It is important to note that land use activities on properties for which no benchmarking information has been supplied by the due date have required consent as restricted discretionary activities under Rule 11E since that due date.

Rules 11 to 11F work in tandem with Rule 10 which permits stock grazing but only where that activity complies with conditions which prescribe minimum requirements for the control of soil erosion, stock entry to riparian areas and nutrient export.

7. Wider Context Of Other Methods In Addition To Rule 11

It is important to note that Rule 11 is not the sole method of implementation for Objective 11 or for Policy 21 (a). Chapter 3 of the Regional Water and Land Plan describes the issues for lake water quality and sets out a comprehensive list of methods to address those issues:

Issue 12 *Water quality in some streams, rivers, lakes, estuaries, harbours and coastal margins in the Bay of Plenty can be adversely affected as a result of use and development activities.*

The Rotorua Lakes and their catchments are identified as areas where degraded water quality is a particular concern.

The discussion of the issue lists the major causes of water quality degradation as:

(a) Discharges of contaminants or water to water, or discharges to land where the contaminant may enter water, including spills of hazardous substances where the discharge does not meet required environmental standards.

(b) Diffuse discharges resulting from land management practices where the adverse effects are not avoided, remedied or mitigated.

(c) Increased sedimentation as a result of accelerated erosion on land, and activities in the beds of rivers that discharge contaminants or result in sedimentation (including gravel extraction, and stock access to river and lake beds).

(d) Reduced water flows due to over-abstraction of water.

(e) A lack of suitable riparian vegetation to stabilise the margins of surface water bodies and filter surface runoff.

> *(f) Natural influences and biological responses, including geothermal metals, algal blooms and foams. Natural variances in water quality are evident throughout the region as a result of underlying geology, soil types and weathering patterns. Rivers flowing through peat lands can be discoloured by organic materials leaching into surface water. Water quality can also naturally vary as a result of climate, the quality of inflows, and water levels. Wildlife, particularly aquatic birds, can affect water quality.*

The methods proposed in the Plan therefore address the broad spectrum of causes of water quality degradation and, in addition to Rule 11, include:

- The development and implementation of *Action Plans* for each lake catchment;
- Riparian retirement;
- Education on nutrient management;
- The development and implementation of best practice codes for nutrient management;
- Investment in measures such as soil conservation programmes, fencing riparian areas and the provision of alternative stock water supply or stock crossings of waterways; and
- Ongoing monitoring research.

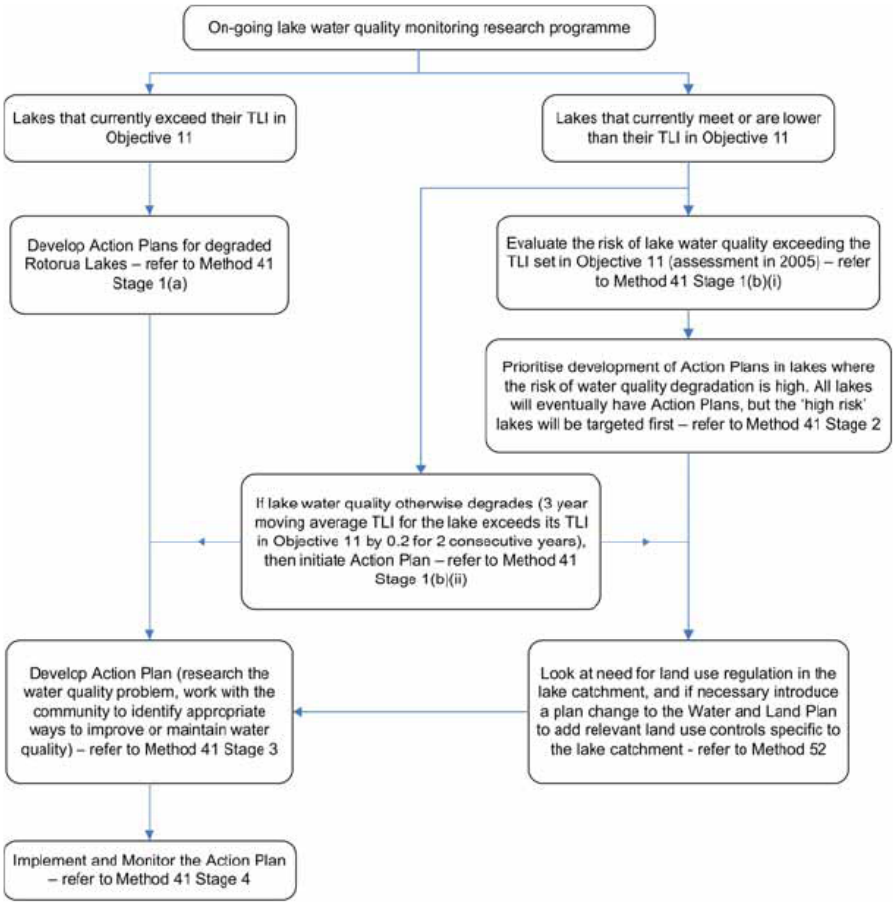
The preparation and implementation of *Action Plans* for each lake is the primary method by which specific interventions and initiatives are to be implemented for each lake.

The relevant point, for the purposes of this review, is that Rule 11 is not relied upon as the only method by which water quality in the five lakes is to be addressed. Importantly, it is not intended as a method to *improve* lake water quality. It is intended only to *prevent future increases* in nutrient exports *from land* within the catchments to the lakes.

The following diagram[11] illustrates how the Plan intends the *Action Plans* to work together with regulatory controls:

[11] BOP Regional Water and Land Plan - Figure 4 (page 61)

Lake Action Plans And Regulation



8. Policy Intent Of Rule 11

From the foregoing material, it is clear that the Plan's policy intent for Rules 11 to 11F is:

(a) To identify five lakes within which water quality is less than desirable or sustainable (as indicated by the TLI); and

(b) To prevent any net increase in the export of nitrogen and phosphorous from individual land use activities in the catchments surrounding those five lakes above nutrient benchmark levels estimated at levels that existed during the period July 2001 to end June 2004.

In addition to the above-stated overall policy intent, there are also subsidiary intentions - namely:

(i) To apply a whole catchment management approach – yet to apply the rules to individual properties within each catchment;
(ii) To apply equally to all land use activities that have known potential to contribute exported nitrogen or phosphorous from non-point sources;
(iii) To address cumulative nutrient effects within each catchment;
(iv) To integrate the management of land and water;
(v) To cap nitrogen and phosphorous export from individual land use activities at known pre-2004 levels but to allow flexibility for changes in land use on individual properties that do not increase levels of nutrient export within the whole catchment (by acknowledging off-farm mitigation or offsets and out-of-catchment export of nutrients);
(vi) To apply as an interim measure only;
(vii) To assist as but one of a broader package of measures to improve lake water quality alongside other targeted methods; and
(viii) To be reviewed within a short time frame (as to the efficacy of the rules).

It can also be inferred from the background papers supplied that the policy aim is that the rules will contribute to achieving the following environmental improvements:

(ix) Improved lake water quality measured by:
- Improved colour and clarity;
- higher dissolved oxygen levels;
- reduced levels of bacteria and nutrients;
- stable lake water temperatures
- lower levels of other contaminants in lake bed sediments

(x) Enhanced aquatic ecosystems;
(xi) Improved environmental quality generally in lake catchments and downstream areas;
(xii) Enhancements in existing and enhanced opportunities for recreational activities on and around the lakes;
(xiii) Improved public health;
(xiv) Strengthened cultural connection for tangata whenua with the lakes;
(xv) Improved visual aesthetics;
(xvi) Protection and expansion of economic activity associated with the lakes (including recreational fishing, tourism, other lake-related recreation and businesses, lake-side real estate);
(xvii) Enhanced image for attracting visitors and enhanced tourist experience of the lakes;
(xviii) Broadened range of uses able to made of lake water (including domestic, stock water supply);
(xix) More sustainable land management practices and more efficient use of nutrient inputs on agricultural properties.

The background papers and the Plan also suggest that the Council is concerned to treat all landowners within the catchments as equitably as practicable.

9. What Rule 11 Is Not Intended To Do

Importantly, the policy intent is to not rely on Rules 11 to 11F to achieve a reduction in export of nitrogen or phosphorous from land use activities. The rules expressly and only seek to cap nutrient exports from land at levels that existed during the period 2001 to 2004 – not reduce them.

Secondly, most of the rules (except Rule 11F) apply to diffuse (non-point-source) discharges of nutrient. Point-source discharges are addressed by Rule 11F and other Plan rules.

Thirdly, provision for on-site domestic effluent disposal for non-reticulated sites is provided for separately in the OSET Plan.

10. Primary Policy Aim

Based on the policy intentions described in the foregoing sections, The Study Team identified the following primary policy aim for the purposes of evaluating the efficiency and effectiveness of Rule 11:

Primary Aim of Rule 11 = To cap nitrogen and phosphorous levels exported from land within the catchments at levels estimated to exist during the period 2001 to 31st June 2004.

The Study Team also explored the extent to which Rule 11 has **contributed to** the following wider policy aims for the five lakes:

(a) Improving water quality as described by the Objective 11 TLIs;
(b) Improving lake water quality as measured by:
  - Improved colour and clarity;
  - higher dissolved oxygen levels;
  - reduced levels of bacteria and nutrients;
  - stable lake water temperatures
  - lower levels of other contaminants in lake bed sediments
(c) Enhancing aquatic ecosystems;
(d) Reducing lake-sourced risks to public health;
(e) Improving cultural connection for tangata whenua with the lakes.

Managing land use activities and land development opportunities equitably within the catchments. In addition, the Study Team notes that the proposed *Action Plan* for Lakes Rotorua and Rotoiti refers (at pages 104 and 105) to six criteria for evaluating proposed changes to land use or land management:

- Measurability (what will be the N and P loss reduction resulting from the change?)
- Permanence (will the change endure over the long term?)
- Funding (who will pay?)
- Efficiency (is it worth the cost?)
- Interconnectedness (how will it affect broader issues?)
- Equity (is it fair?)

The Study Team considers that these are also valid questions to apply in evaluating Rule 11.

11. Implementation Of Rule 11 To Date

Rule 11 requires that the prescribed information necessary for calculating nutrient benchmarks for individual properties be supplied by landowners to the Council by 31 December 2005.

The Council employs two Lakes Restoration Officers whose job it is to provide assistance to landowners generating the information required by Rule 11, verify that information and to undertake the calculation of nutrient benchmarks. Nutrient benchmarking is not, however, the sole duty of the Lakes Restoration Officers who also have other work demands on their time.

The calculation of nutrient benchmarks uses the software package 'Overseer' (available to the Council in October 2008). Determination of the nutrient benchmark requires:

- Mapping of the extent of the property entity;
- Identification of the internal farm management units and land use practices and non-producing areas (eg areas in trees);
- Mapping and analysis of the slope, average rainfall, altitude, latitude, soil type for each management unit;
- Inputs of data describing the actual land management within each management unit for the period described (2001 to 2004);
- Verification of data supplied by landowners with rationalisation of data against known usual practice or use of assumptions to fill gaps;
- Calculation, using Overseer, of the end loss of nitrogen and phosphorus for each management unit;
- Aggregation of the end losses of nitrogen and phosphorus for the entire property; and
- Assignment of the end loss nutrients to the specific catchments into which they are discharged.

Benchmarking is a detailed and complex task. The Lakes Restoration Officers' experience is that it can take anything from 10 to 100 hours per property of their time including 2 or 3 visits to the property plus approximately 40 hours of a landowner's time. For some farms, the expertise of a farm consultant may also be required (usually at the landowner's cost). In addition, the GIS mapping support takes about 2 days per property of Council staff time. Where good records exist, the process is less complex. Where records are incomplete, the process requires more time.

The Lakes Restoration Officers report that they have completed nutrient benchmarking for 99% of the properties in the Lake Okaro catchment. This is, however, the smallest catchment of the five lakes named in Rule 11 by a significant margin and has the fewest individual properties. Benchmarking has also been completed for 95% of the agricultural properties in the Lake Okareka catchment (excluding small lifestyle properties or properties largely in trees). Benchmarking has also been completed for Lake Rotoehu **[check this again with Anna].** There is no substantive progress for Lakes Rotoiti or Rotorua.

A significant challenge remains for the Lake Rotorua catchment where there are estimated to be approximately 2,100 properties larger than 4,000m² area. Approximately 100 of these are understood to be larger than 70 hectares (73% of the catchment to which Rule 11 applies).

Benchmarking has been achieved to date for properties where the landowners have willingly participated (rather than resisted) the Rule 11 requirements. It is reasonable to expect that benchmarking will be more difficult to achieve where landowners are resistant or less cooperative in supplying information. The success of benchmarking, in the terms required by Rule 11, relies greatly on cooperation from landowners.

The deadline of 31st December 2005 for supply of nutrient benchmarking input data has long passed. The Council has widely publicised the advent of Rule 11 and its requirements using a range of media and communication tools. The Council's website carries summary and detailed information setting out the requirements. Pamphlets setting out the purpose and requirements of Rule 11 are available from a number of sources. Notwithstanding those efforts, very few landowners have volunteered the information required (and even then, largely after the 31st December 2005 due date). No enforcement proceedings have been issued against any landowners to require compliance with Rule 11's information requirements.

As a result, there is no comprehensive understanding of the baseline nutrient exports from land in the catchments of four of the five lakes. There is a good understanding of the baseline nutrient exports to Lake Okaro only.

12. Feedback From Key Informant Interviews

Attachment 2 presents the feedback received from interviews held with a limited number of key stakeholders. The issues highlighted in the interviews can be summarised as:

12.1 All interviewees agree that the quality of water in the five lakes is degraded and that it should be improved as a matter of priority.

12.2 All interviewees confirmed their understanding that Rule 11 was intended as an interim measure only.

12.3 All interviewees also confirmed that they understood the intention of Rule 11 is to hold or 'cap' diffuse discharge of nitrogen and phosphorous from land uses in the catchments.

12. 4 No interviewee suggested, however, that the objective of 'capping' current levels of discharge is a sufficient response to the known issue of water quality degradation.

12.5 All interviewees consider more needs to be done to improve lake water quality than just Rule 11.

12.6 Interviewees considered that the primary achievement of Rule 11 has been to raise awareness within the (land user) community of the issue of lake water quality.

12.7 There is a view that the success of Rule 11 had been impaired by a lack of enforcement of its provisions. Interviewees consistently called for greater leadership from EBOP in enforcing Rule 11 and swifter progress on a

catchment management framework that will result in real reductions in nutrient discharge.

12.8 'Leadership' was described in terms of working with and assisting landowners to achieve practical change, rather than directing or controlling, landowners.

12.9 Land users, whether they are corporations or individual farmers, want confidence that any investment they make (ie cost they incur) in land management changes will result in a benefit to lake water quality.

Interviewees identified the following shortcomings or issues with Rule 11:

- Rule 11 inhibits the capital value of land in the catchments and does so in an inequitable way. That is because the benchmark it creates of allowable diffuse nutrient discharge is based on recent historic land use regardless of the land use capability of the land. This is particularly an issue for undeveloped or non-intensively farmed māori land. Some interviewees questioned the use of the TLI as the standard for describing and measuring change in lake water quality.

- Benchmarking individual properties is achievable but is a resource-hungry exercise and expensive for some landowners relative to the size of the farm.

- There is a concern about the ability of the Council to maintain the confidentiality of the information obtained for benchmarking.

- Rule 11 fails to acknowledge on-farm changes that do result in improvements in water quality. The rule framework is one of requirements (and therefore costs) without recognition of positive initiatives such as voluntary land retirement.

The rules should extend to cover other lake catchments where water quality is currently good so as to avoid long term degradation there and to achieve consistent application of the rules. Equally, the rule framework should be pragmatic about achievability of improvement in the catchment of Lake Rotoehu where water quality has historically always been poor.

- The lack of enforcement of the benchmarking information requirements of Rule 11 has created inequity between those land users who have already complied with benchmarking requirements and those who have not.

- There was some scepticism expressed about whether Rule 11 can eliminate artificially inflated nutrient benchmarks and whether it can consistently capture gradual marginal increases ('creep') that occur in on-farm land use intensity.

- There was some criticism of the lack of communication about progress in implementing Rule 11 as well as suggestions for how to improve the lines of communication between farmers and the Council.

- Many interviewees asked whether it would not be more efficient to just retire selected parcels of land.

- Interviewees consistently highlighted thelack of integration between the rule framework of the Rotorua District Plan and EBOP's Rule 11 as a constraint on ability to diversify to reduce nutrient export.

13. Evaluation

Based on the primary policy aims described in Section 10 earlier, the Study Team explored the following questions:

Question 1: Has Rule 11 achieved the Primary Aim of capping exported nitrogen and phosphorous levels within the catchments at levels estimated to exist during the period 2001 to 31st June 2004?

Question 2: How efficient and effective has Rule 11 been in achieving the primary aim of 'capping' nutrient exports?

Question 3: How efficient has Rule 11 been in achieving the benchmarking completed to date?

In addition, and pursuing the subsidiary policy intentions described earlier in Section 8 of this report, the following questions are also relevant:

The above 3 are the primary issues – deal with them separately – and even come to a separate conclusion

Question 4: Has Rule 11 contributed to improving water quality as measured by the TLIs and individual monitoring parameters?

Question 5: Has Rule 11 contributed to enhancing aquatic ecosystems?

Question 6: Has Rule 11 contributed to reducing lake-sourced risks to public health?

Question 7: Has Rule 11 contributed to improving cultural connection for tangata whenua with the lakes?

Question 8: Has Rule 11 equitably managed land use activities and land development opportunities within the catchments?

Question 9: Has Rule 11 achieved measurable change in nitrogen and phosphorus loss?

Question 10: Is Rule 11 achieving enduring or permanent restraint on the level of nitrogen and phosphorus loss from the five lake catchments?

Question 11: Does Rule 11 address the interconnectedness of the lake water quality and land use issues?

Question 12: How is the implementation of Rule 11 funded and is that assisting or impeding the success of its implementation?

The following discussion presents the Study Team's findings, highlights the issues arising for future implementation of Rule 11 and makes some suggestions for refinement or further action.

Question 1: Has Rule 11 achieved the Primary Aim of capping exported nitrogen and phosphorous levels within the catchments at levels estimated to exist during the period 2001 to 31st June 2004?

There is no evidence that Rule 11 has acted to cap exported nitrogen and phosphorus levels as intended.

What can be said is that officers have determined a reasonably robust baseline nutrient export from land in the Lake Okaro catchment. Officers have also determined, to a reasonable level of confidence, a baseline nutrient export from most of the producing agricultural farms in the Lake Okareka catchment.

The 'capping' of nutrient exports at those levels in the Lake Okaro, Okareka and Rotoehu catchments can only be assured long term if landowners maintain current or very similar land management practices. Confirmation that nutrient exports are maintained at the 'capped' level over time will require ongoing monitoring of land management practices.

Progress towards reducing nutrient exports in the other catchments cannot be made until benchmarking is achieved for those catchments. Effectiveness has in this respect been very limited over the 3½ years since Rule 11 became operative.

There is anecdotal suggestion that Rule 11 has acted as a disincentive to widespread conversion of land from low intensity productive use (eg forestry) to high intensity use (eg dairy farming). Certainly, Rule 11 creates a rule framework that would not enable land use intensification without compensatory mitigation or offsetting of nutrient exports. To that extent, the rule may have restrained the extent of land use intensification in some catchments. The Study Team is unable to say whether Rule 11 has been more or less influential in decisions about land use change than, say, forecast market conditions for agricultural produce in recent years.

This question cannot be answered until benchmarking is complete. That means that completion of benchmarking is essential to capping nutrient export, in the first instance, and to exploring reductions in nutrient export as a next step.

Question 2: How efficient and effective has Rule 11 been in achieving the primary aim of 'capping' nutrient exports?

As noted in commenting on Question 1, there is no evidence that Rule 11 has universally 'capped' nutrient exports because there is not yet a comprehensive baseline of nutrient exports.

Implementation Issue: **Monitoring of nutrient export compared with benchmarked levels and on-going enforcement:**

There is a potential challenge in terms of the monitoring of actual land use and actual nutrient exports compared with the benchmarked baseline. There is potential efficiency to the extent that comprehensive records will be kept of individual properties. However, it will not be efficient if monitoring of actual nutrient exports relies on multiple iterations of the nutrient export calculation being made to capture every subtle change in land use. Farming is not a static activity. Rather, it needs to be a highly dynamic activity to respond to the reality of climate and market. That requires that land use practices need to change, sometimes in only subtle ways, over time.

The Study Team doubts that all land use changes that occur on farms over time (either intensification or mitigation measures or retirement of land) will be drawn to the attention of the Council as they occur. It is more likely that the only land use changes that will come to attention will be the more significant and visible changes. Gradual intensification (and therefore increased nutrient export) will be less likely to be captured. Taken collectively across whole catchments, this could result in material erosion of the effectiveness of the nutrient benchmark.

For Rule 11 to be credible, though, there needs to be confidence that future changes in on-farm land use practices are not stretching nutrient export unreasonably beyond the benchmark level. There needs to be some system for periodically checking whether actual land use practice is generating nutrient export no greater than the benchmarked level.

That could be through re-calculation of nutrient loads for randomly-selected properties. There are resource implications for this on-going monitoring . If the Lakes Restoration Officers are going to be dedicated to undertaking first-round benchmarking for the foreseeable future, how will the monitoring of benchmarked properties be achieved?

Consistency of approach is important. Any strategy for on-going monitoring needs to ensure that monitoring is undertaken in a consistent way across catchments and that the Council's response to non-compliance is consistent. That response does not need to be RMA enforcement action in the first instance. Indeed, that approach is expected to be costly, heavily contested and slow to achieve results. It is likely to be more fruitful for the Council to work with landowners in a collaborative way, focusing on sources of greatest nutrient load, to achieve actual reductions than to embark on time-consuming litigation. The scale of the enforcement task for the Rotorua Lakes catchments is potentially huge so an approach that avoids unnecessary litigation is recommended.

However, if collaboration proves unsuccessful, it may at some point be necessary to pursue some targeted RMA enforcement action to communicate the Council's commitment to the benchmarking requirement.

Suggest: *That consideration be given to a strategy (realistically resourced) to enable on-going monitoring and verification of land use practices compared with estimated nutrient benchmarks. The Study Team expects this will be most successful where landowners have 'bought into' the nutrient management approach at the outset and least successful where the Council has to resort to RMA*

enforcement. Such a strategy therefore needs to focus on collaboration with land users.

Question 3: How efficient has Rule 11 been in achieving the benchmarking completed to date?

It has to be acknowledged that the data generation and analysis involved in benchmarking is a resource-hungry process. The Study Team would observe that it appears to have been executed as efficiently as practicable, for Lakes Okaro and Okareka, given the complexity and demands of the calculation.

However, completion of the exercise in respect of the hundreds of remaining properties in the other three catchments could take the two dedicated Lakes Restoration Officers many months if not years.

Implementation Issue: The enormity of the nutrient benchmarking task:

Determining a baseline for nutrient export is the critical first step if constructive progress is to be made on reducing nutrient exports. It must be acknowledged that the issue of water quality degradation has resulted from decades of land use practices. Reversing that degradation will take decades. Taking a long term view therefore, the time required to establish baseline nutrient exports could be seen as a relatively short time commitment.
However, any delay to establishing the baseline nutrient export levels will delay progress towards improving water quality. Therefore, to continue benchmarking at the rate achieved to date is less efficient than desirable.

Suggest: *The answer to that dilemma lies partly, but not exclusively, in ensuring there are adequate resources (people and time) to complete the benchmarking task in a timely fashion. The other part of the answer may be to explore ways that the benchmarking could be prioritised to target the larger contributors of nutrients as a first priority. Any exploration of prioritising will require engagement with landowners in the catchments and some discussion of how that might work.*

Implementation Issue: Scope of Rule 11 and prioritising effort:

Rule 11 targets all rural properties over 4,000m² area. Accepting that all farmed land will generate some level of nutrient export, the threshold of 4,000m² fails to distinguish between properties that are intensively used (which contribute more to nutrient export) and less intensively-used properties. In this way, Rule 11 is inherently inefficient because it requires resources to be applied to establishing nutrient baselines for properties regardless of how much they actually contribute to nutrient exports.

Some greater prioritising of which properties are required to be benchmarked would be more efficient.

On a strict application of the rules, most properties in the catchments are non-compliant – having failed to supply benchmarking information. Theoretically, the Council could correspond with owners of non-compliant properties and commence RMA proceedings to effect compliance. However, given the time that has passed since the benchmarking information was required to be supplied, this should not be

contemplated unless the Council has first rationalised a strategy for achieving benchmarking and has communicated to landowners the Council's current expectation for compliance. Ideally, the Council should engage with landowners about a realistic programme for achieving benchmarking.

Some Key Informants were critical of what they see as reluctance of the Council to work directly with land users in trying to achieve nutrient reductions. There is a perception that the Council's focus is on the science – rather than on working with farmers on the ground to attempt practical reductions. There was also a strong willingness expressed by land users to work with the Council –on the ground on practical farm-based initiatives rather than at a theoretical or policy level.

Suggest: *Prioritising could be achieved by identifying parameters to capture properties expected to contribute relatively larger nutrient exports. That might sensibly be related to property size, intensive land uses or land uses that rely on water abstraction or point-source discharges. A programme could then be timetabled for benchmarking the larger contributors first followed by lesser contributors. Again, such an approach would need to be mindful that success would be optimised by working collaboratively with land users rather than from a first position of regulation.*

Such a prioritised programme is not consistent with the Rule 11 approach requiring information supply by one fixed date. However, the date fixed in Rule 11 has long since passed, creating widespread non-compliance. Ideally, that should be addressed and could be resolved by changing the date fixed in Rule 11. Alternatively, extension or waiver of that impracticable deadline could probably be achieved pursuant to section 39 of the RMA.

If an alternative timetable is to be advanced to achieve prioritised benchmarking, it should be tightly related to what is practicable given the Council's available resources. The current Rule 11 deadline has long since ceased to have any credibility. Any revised timetable would need to be realistic. Some one-to-one engagement will be essential with land users to find out what is practically achievable. Once agreed, that should be implemented with commitment in order to be credible and achievable.

Implementation Issue: **Mismatch between Rule 11B & 11C data requirements and Overseer data requirements:**

The Overseer software that is the basis for calculating nutrient benchmarks was refined to suit the Council's needs in 2008. The refinement has resulted in some changes to the nature of the data required from land users compared with the list of data required by Tables 39 and 40 of Rules 11B and 11C. The Lakes Restoration Officers report that this has not caused a significant difficulty where they have been working with landowners to date. It is fair to say, however, that their experience to date has been with cooperative landowner participants. It may be that the highly prescriptive nature of the lists in Tables 39 and 40 create difficulties when dealing with less cooperative participants.

Suggest: *The Study Team is reluctant to suggest that a plan change process should be initiated to amend Tables 39 and 40 because of the resource implications of such a process. It may be that any mismatch could be overcome by standardising the information required and setting these out in a practice note able to be relied on by Lakes Restoration Officers and landowners in undertaking nutrient benchmarking.*

Implementation Issue: **Resistance to the Council inquiring into and concerns about the confidentiality of information about farm income, expenditure and other details:**

Rule 11 demands a level of detail about business operations that is greater than required in a general sense. Concerns or suspicions about how that information could be used to the detriment of farm businesses is understandable. The Study Team notes that suggestions have been made historically that an independent agent could hold the information on behalf of landowners and the Council. The Study Team has not explored that option in detail but observes that this issue remains a substantial stumbling block to benchmarking and should be discussed with landowners and resolved.

Suggest: *That the Council re-visit, with landowners, how the information supplied in the course of benchmarking is stored and how its confidentiality is protected over time.*

Implementation Issue: **Allocation of benchmark nutrient 'allocation' where no benchmarking data supplied or available:**

On a strict application of Rule 11, where no benchmarking data is available or not supplied to the Council, consent is required as a restricted discretionary activity under Rule 11E. It is not clear from the Rule what standards or nutrient coefficients will be used to calculate an appropriate 'allocation' of benchmark nutrient in such cases.

Suggest: *That the Council determine how nutrient benchmarks will be calculated and assigned in situations where benchmarking data is either not available or withheld. That should then be made known, either through a change to the Rules or a widely-publicised practice note developed with sector representatives.*

Question 4: Has Rule 11 contributed to improving water quality as measured by the TLIs and individual monitoring parameters?

Water quality has been monitored in the Rotorua Lakes by the Regional Council since 1990. The Council consolidates the monitoring findings and expresses that as the Trophic Level Indix (TLI) for each lake. The 3-yearly average TLI for each of the five lakes for the period 2004 to 2008 is given below[12]:

Lake	3-yearly Average Trophic Level Index					Objective 11 TLI
	To 2004	To 2005	To 2006	To 2007	To 2008	
Okareka	3.2	3.2	3.3	3.3	3.3	3.0
Rotoehu	4.6	4.6	4.5	4.6	4.5	3.9
Okaro	5.5	5.6	5.5	5.5	5.3	5.0
Rotorua	4.9	4.9	4.9	4.9	4.8	4.2
Rotoiti	4.3	4.5	4.3	4.1	4.0	3.5

There is a trend towards improvement in Lakes Okaro and Rotoiti but no change in most of the Lakes. The *Rotorua Lakes 2008 Report Card* describes the current state of each of the Lakes as:

[12] Source: Environment Bay of Plenty Annual Lakes Water Quality Reports and summary table of 3-yearly TLIs on website

Lake Okareka: The entire lake shore is protected from stock access and only a 100-metre section of stream draining into the lake still needs fencing. Phoslock, a clay-based phosphorus removal product, has been applied to the lake once a year during the period 2005 to 2007. It is estimated to have removed approximately 300kg of phosphorus and to have reduced phosphorus release from lake sediment. Since 2004, phosphorus levels have increased slightly despite the Phoslock applications. Nitrogen levels have stayed fairly constant. There are indications that more phosphorus is entering the lake from septic tank sources than previously thought. The lake is mesotrophic and the 3-year average TLI is not improving significantly.

Lake Rotoehu: Most of the lake-edge protection works have been completed. A commercial operator harvested hornwort in autumn 2008 and 600 tonnes of week was taken out of the catchment for disposal. Planned actions on farm nutrient reductions have yet to start. The lake is eutrophic and the 3-year average TLI is not improving.

Lake Okaro: Development of a 2.3-hectare wetland was completed in February 2006. Testing is underway to evaluate how much nitrogen and phosphorus is being removed. Stock-proof fencing is underway. More riparian vegetation is being planted. A modified zeolite compound was applied onto the lake by barge in September 2007 to create a phosphorus-absorbing cap or mineral layer on the lakebed to limit the release of phosphorus from lake sediment. Nutrient benchmarking has been completed for 99% of landholdings in the catchment. The lake is supertrophic and there is discernible improvement in the 3-year average TLI.

Lake Rotorua: The municipal wastewater treatment and disposal system has been diverted to treatment and land disposal in Whakarewarewa Forest. Further improvements are planned to maintain low nutrient levels in the irrigated effluent to counter increased wastewater volumes. Brunswick Park, Rotokawa and Hamurana still rely on septic tanks but funding is available to reticulate those communities. Upgrades of the urban stormwater system are funded to occur progressively to remove nutrients from stormwater draining into the lake. An alum-dosing plant has been established in Utuhina Stream and removes an estimated 2 tonnes of phosphorus a year. The lake is eutrophic and the 3-year average TLI is not changing significantly.

Lake Rotoiti: The wall which diverts the flow of water from Lake Rotorua to the Kaituna River (away from Lake Rotoiti) was completed in 2008. Reticulation of the Mourea and Okawa communities is complete. The northern margins of the lake are now fully stock-fenced and have riparian buffers of vegetation. The lake is eutrophic however there has been a modest improvement in the 3-year average TLI.

From the above, it can be seen that (with the exception of Lake Rotoiti) there has been no profound improvement in the water quality in any of the lakes as measured by the TLIs. Certainly, there is a long way to go to get close to the TLIs. The trend lines shown for the TLI levels since 1993[13] indicate gradual increase in TLI at a very slow rate for all lakes except Lake Rotoiti. Given the long history of nutrient input into the lakes, however, it is early days yet in the life of the measures that are proposed for their recovery (including Rule 11).

[13] Rotorua Lakes Water Quality Report (Environment Bay of Plenty)

Implementation Issue: **Monitoring the relationship between nutrient export and water quality in flows from catchments:**

It will be difficult to discern the difference made by Rule 11, even when all nutrient benchmarking is complete, unless there is a comprehensive network or monitoring sites gathering data on nutrient flows at the downstream end of the streams and groundwater flows that feed the lakes. The cost of that is expected to be excessive compared to the value of the information gleaned. Monitoring data of this type would not necessarily identify property-by-property sources of nutrients.

Some form of monitoring of instream water quality close to the point of discharge to one or more of the lakes could, however, contribute useful information about change in nutrient loading over time. It would only have value if property-by-property benchmarking were complete for the upstream catchment. Its value would be in providing a comparable benchmark water quality to relate to estimated cumulative property nutrient exports. It would be interesting to track change in water quality over time particularly where land use changes result in nutrient exports less than the cumulative benchmark.

Suggest: *Monitoring of water quality in streams feeding into lakes in the catchments that have been benchmarked.*

Implementation Issue: **Rule 11 only seeks to cap nutrient export – not reduce it:**

Implementation of Rule 11, even with benchmarking 100% complete and full compliance by all land users, cannot by itself achieve improvement in lake water quality. All it could achieve is to hold nutrient export at recent historical levels. In other words it will enable continued nutrient contamination of the lakes at historical levels. While it is reasonable to expect that Rule 11 would not result in radical increases in nutrient export, it will not itself reduce nutrient export. Most key informants interviewed highlighted this as a shortcoming of Rule 11.

Suggest: *The Council engage with landowners and the community on the question of whether it is time to require reductions in nutrient export from land uses in the lakes' catchments; and explore a regulatory framework that could include incentives or land use flexibility for land users who do achieve reduced nutrient export. The Study Team detects that, as long as there is dispute or uncertainty over the long term reductions expected in nutrient exports (both within whole catchments and on individual farms), there will be resistance to achieving benchmarking.*

Implementation Issue: **The need for flexibility and integration between the District Plan and Regional Plan rules controlling land use in the catchments:**

Discussion with key informants highlighted a widespread understanding of the issue in this respect being the challenge of deciding between different uses of land and the economic implications of those decisions. The Study Team observes some incongruity between the land use rules in the Rotorua District Plan and the Rule 11 rules which constrain land use. Put simply, the District Plan permits agricultural production activities (which Rule 11 would constrain) yet requires resource consents for other activities that could achieve reduced nutrient export (eg some forms of residential development).

The Study Team appreciates that Rotorua District Council is exploring techniques such as structure planning for parts of some catchments. Whatever techniques are considered, there needs to be closer integration of the land use controls between District Plan and Regional Plan if the environment is to allow land users to make choices that result in reduced nutrient exports.

The issue of lake water quality is understood to be high priority for both the District Council and the Regional Council. Whilst there is a high degree of collaboration reflected in the Rotorua Lakes Strategy and Land Use Futures Board, there probably needs to be greater exploration of ways in which plan rules can be better aligned. It may be that there is a case for preparation of a joint District-Regional plan for some catchments with rules that realistically address the economic drivers for land use change.

Suggest: *That Environment Bay of Plenty Regional Council and Rotorua District Council examine ways in which the Regional Plan and District Plan rule frameworks can be better aligned or integrated to enable land use change with resultant reduction in nutrient export.*

The Councils should continue to explore other measures in addition to Rule 11 to actively reduce nutrient export from land use. Those measures could include additional regulation and nutrient trading but should particularly examine incentives for land use changes that seek to reduce nutrient export. They should also explore greater flexibility to enable land use change from agriculture to alternative (lower nutrient export) activities.

Implementation Issue: How lake water quality is measured and expressed:

The TLI expression of water quality was criticised by a few key informants as being an imprecise expression of lake water quality. Their preference was, instead, to express lake water quality targets in terms of the component factors that make up TLI. The criticism seemed to stem from a concern that the TLI does not provide a clear indication of whether nitrogen or phosphorus is the controlling factor in determining lake water quality.

It is noted that TLI is not explicitly referred to in Rule 11 but it is acknowledged that Rule 11 is a method intended to assist achieving the TLIs specified in Objective 11 of the Plan.

The current position is that large reductions in both phosphorus and nitrogen are estimated to be required in all lakes at this time in order to make progress on restoring water quality. That means that any reductions to either nitrogen or phosphorus are achieved in the immediately foreseeable future have benefits. The Study Team does not see this question as necessitating any delay in the implementation of Rule 11. All interviewees agreed, however, that some statement of nutrient reduction targets is vital to making progress.

It will certainly be helpful to have available to land users an agreed set of advice about what mitigation measures or land use changes are effective in reducing either nitrogen or phosphorus. Work is continuing, in a variety of industry and research contexts throughout New Zealand, to advance that knowledge. The Council is participating in research and forums on the subject. That work is expected to enhance land management practice over time. It may be that communication of the

findings of research and pilot studies would benefit from greater collaboration between the Council and the primary production sector in the Rotorua Lakes catchments.

Suggest: *That the Council engage with the primary production industry representatives to agree on practice notes or other forms of guidance which can be relied on by land users in informing their decisions about land use changes that reduce nutrient export. Also, that the Councilengage with primary production industry representatives to agree short and long term nutrient reduction targets and measurement indices.*

Question 5: Has Rule 11 contributed to enhancing aquatic ecosystems?

There is no specific evidence confirming that Rule 11 has, to date, contributed to enhancing aquatic ecosystems. The difficulties associated with the partial completion of nutrient benchmarking and with discerning a direct relationship between Rule 11 and lake quality discussed earlier apply equally to understanding Rule 11's impact on aquatic ecosystems. However, Rule 11 is acknowledged to be directed at restraining nutrient impacts over a long time frame so no material differences were expected to result from Rule 11 in the short time period since it became operative.

Question 6: Has Rule 11 contributed to reducing lake-sourced risks to public health?

There is no specific evidence confirming that Rule 11 has, to date, contributed to reducing lake-sourced risks to public health. The difficulties associated with the partial completion of nutrient benchmarking and with discerning a direct relationship between Rule 11 and lake quality discussed earlier apply equally to understanding Rule 11's impact on public health risks. However, Rule 11 is acknowledged to be directed at restraining nutrient impacts over a long time frame so no material differences were expected to result from Rule 11 in the short time period since it became operative.

Question 7: Has Rule 11 contributed to improving cultural connection for tangata whenua with the lakes?

Rule 11 represents a commitment to take the problem of nutrient export seriously and to try and arrest it. To that extent, the Study Team discerned from discussion with the key informants who represent tangata whenua that the policy framework of Rule 11 has been well-received as a starting point.

To the extent that Rule 11 has brought the problem of nutrient export to the attention of (at least some) land users, it is seen as a positive initiative.

It is fair to say, however, that tangata whenua share the view of many that Rule 11 does not go far enough in addressing the scale of the problem for the Rotorua lakes. Implementation of the full range of measures foreshadowed by the *Action Plans* is seen as necessary in addition to Rule 11.

Question 8: Has Rule 11 equitably managed land use activities and land development opportunities within the catchments?

The short answer is 'no'. Rule 11 seeks to cap nutrient export from individual properties at recent historical levels. That creates immediate inequity in the development potential available to land that is undeveloped or under-developed for primary production compared with highly intensively farmed properties. This was highlighted by all key informants as a negative feature of Rule 11.

Implementation Issue: Ongoing inequity inherent in Rule 11 framework:

The potential for inequity in the degree to which Rule 11 constrains future property development was acknowledged in the cost benefit assessment undertaken in developing Rule 11[14]. It was clearly not seen at the time as being of sufficient moment to warrant amending or delaying Rule 11.

The Study Team's conclusion is that the differences in land development restrictions that are created by the benchmarking requirement of Rule 11 are potentially significant and will be obstacles to achieving benchmarking and implementation of Rule 11. The Study Team has not been commissioned to quantify the number of properties detrimentally affected in this way. Regardless of the number of properties affected, the constraints create economic restrictions that potentially affect different sectors or socio-economic groups differently (or disproportionately).

It is notable that large areas of land in the Rotorua Lakes catchments are owned by multiple maori owners or held in trust and leased under long-term lease arrangements. For these parcels of land, the drivers for economic return and therefore development have often been quite different from the drivers that influence the development of individually-owned private land. The result is commonly a pattern of traditional pastoral grazing or investment in forestry or retention of indigenous forest. There are also large areas of land in exotic and indigenous forest.

Potential inequity arises for these landholdings in two ways: Firstly, where land has not been developed intensively and has had a low nutrient export relative to more intensive land use practices, Rule 11 gives no 'credit' for the extent to which the property has not contributed to nutrient export historically. Secondly, Rule 11 prevents intensification of the land to the same level as other land in the catchment and thereby constrains future economic opportunities. In other words, properties that have had the advantage of economic development (with consequent effects of nutrient export) are able to continue to enjoy that advantage but those that have not are denied it.

Where Rule 11 constrains multiply-owned maori ancestral land in this way, and to the extent that it prevents reasonable use and development of land, there is a question as to whether the rule framework properly recognises and provides for the relationship of maori with their ancestral lands and properly applies the principles of the Treaty of Waitangi as required by sections 6 and 8 of the RMA.

[14] *Cost Benefit Assessment – Regional Water and Land Plan Rule 11* (Craig Welsh – Resource and Environmental Management Limited) December 2001 – Section 4.2 page 17
An economic evaluation of land use change options – Section A: Cost-benefit and opportunity cost analysis – Lake Okareka (a case study) and *Section B: Economic impact on Rotorua District and Bay of Plenty Region of water quality induced changes to land use and tourism in Rotorua Lakes catchments* (Nimmo Bell & Company Ltd – October 2003) Conclusion page 4

It is troublesome that Rule 11 creates these potential differences in development opportunity yet the specific contribution of Rule 11 to improving lake water quality outcomes is unclear. In other words, it is not at all certain that the costs of the development restrictions (in lost opportunities) for undeveloped or under-developed land warrant the benefits to lake water quality. Where The Study Team considers that this feature of Rule 11 requires urgent review.

In this regard, it is noted that other regional councils have in place or are working on rule frameworks to address similar diffuse nutrient discharge issues. Environment Waikato's rule framework for Lake Taupo and Horizons Regional Council's proposed One Plan rules are two examples. The rules for the Lake Taupo catchment are operative. Horizons Regional Council's proposed rules are still being considered through the hearing of submissions and are by no means settled.

Suggest: *That the Council re-visit the aspect of Rule 11 which ties permitted land use for to recent productive use. The Council could consider identifying and recognising in the rule framework the benefit that derives from low nutrient export from areas of land that are undeveloped or are in indigenous or exotic forest or are developed to low intensity compared with the land's capability; and consider how nutrient export allocations might be assigned to such land to enable development on a more equitable basis with other developed land in the catchment. Any adjustment to account for this inequity should ensure that the management of nutrient loss from land seeks to reduce it where it is high and set it at levels commensurate with best productive practice compared with other good practice within the catchment.*

Question 9: Has Rule 11 achieved measurable change in nitrogen and phosphorus loss?

Rule 11 was only ever intended to 'hold' nutrient export. Without comprehensive catchment benchmarking, it is not possible to measure any change – either improvement or worsening.

Question 10: Is Rule 11 achieving enduring or permanent restraint on the level of nitrogen and phosphorus loss from the five lake catchments?

It is acknowledged that the effectiveness of Rule 11 will only be experienced long term. For example, for Lakes Rotorua and Rotoiti it is acknowledged that there are no 'quick fixes': a package of actions is required over a long time period. These include measures to address lakebed sediment in the shorter term as well as reducing the inflow of nutrients from land use in the catchment over the much longer (50-year plus) term[15]. The slow progress to date in achieving benchmarking therefore delays the long term restraint of nutrients. Long term sustainability depends on making a start by completing benchmarking.

Question 11: Does Rule 11 address the interconnectedness of the lake water quality and land use issues?

[15] Proposed *Lakes Rotorua & Rotoiti Action Plan* 2007 page 55.

Rule 11 alone, as a regulatory intervention, does not address the true economic drivers that influence decisions made by landowners about how they use their land. Neither is intended to do so alone. It is clear that the Action Plans are intended to address the full breadth of issues and responses needed to improve lake water quality and that Rule 11 is only one of many measures. It is also clear that Rule 11 is intended to supplement the other measures that are proposed to have more immediate effect by assisting to reduce nutrient inflows into the lakes in the very long term.

Whilst addressing such a long term issue, Rule 11 imposes costs of change in the immediate short term for the reasons discussed earlier in this report. In particular, inequities in the way benchmarking is tied to historical land use and the absence of 'credit' for volunteered past nutrient mitigation measures are experienced by the current generation of land users. This has, potentially, cost consequences both for landowners and for the economy their farm businesses support. Whereas, the benefits of Rule 11 will be experienced by the future generations of the whole community in the long term future. Rule 11 does not address the inter-generational inequity that arises in this way. It is accepted that no rule framework should endorse or legitimise poor land management practices that result in pollution of waterways. However, where land use practices are demonstrably adopting best known practice and actively seeking to minimise nutrient losses, the rule framework should acknowledge and provide for that.

There is extensive research into the factors that will influence land management change in New Zealand. The factors have much to do with individual farmers' wish to maintain long term economic prosperity of their farm businesses and a desire for certainty. The Study Team observes that what will be required to take Rule 11 to the next step is consideration of those economic drivers together with a long horizon in which to consider the costs and cost-sharing of land use change.

In the long term, incentives (on-farm assistance including subsidy) may prove a fruitful investment where it avoids radical loss of agricultural production with knock-on economic effects resulting from reduced prosperity incentives they are able to secure reduced nutrient losses in a shorter time frame. The longer nutrient losses are experienced at historical levels into the lakes, the larger the load of nutrient to be reduced long term. That will be experienced as a real (and potentially larger) cost in the future.

Suggest: *For this reason, the Study Team recommends that the following aspects of Rule 11 be re-visited:*

- *Its relationship with District Plan land use rules with a view to building in greater real flexibility in terms of freedoms to 'switch' between economic land uses in the lakes catchments;*
- *Whether there is a case for creating some incentives to reward and encourage the maintenance of best practice land management;*
- *The need for benchmark calculations to relate to known best practice in land management, land capability rather than simply past practices which may not all have been best practice;*
- *The inequity inherent in the benchmarking being tied to recent historical land use practice which differs markedly within the catchment;*
- *The lack of acknowledgement or 'credit' for historical land retirement or other on-farm measures which have reduced net nutrient loss;*

- *The need for a shared response – partly regulation and partly voluntary reduction.*

Question 12: How is the implementation of Rule 11 funded and is that assisting or impeding the success of its implementation?

The comments made in respect of Question 11 apply equally to the question of who bears the cost of nutrient export reduction and who benefits.

14. Summary Of Conclusions

Earlier in this report, the primary policy intent of Rule 11 was identified as being the prevention of any net increase in the export of nitrogen and phosphorus from individual land use activities in the catchments surrounding the five lakes of concern above nutrient benchmark levels estimated for the period 2001 to 2004. This report addresses 12 questions in analysing the efficiency and effectiveness of Rule 11. The first three of those questions address the extent to which Rule 11 has achieved that primary aim. They examine:

1. Whether Rule 11 has acted to cap exported nitrogen and phosphorus;
2. How efficient and effective Rule 11 has been in capping nutrient export; and
3. How efficient Rule 11 has been in achieving the benchmarking completed to date.

The conclusions in respect of the primary aim are, in summary, that:

Rule 11 has the potential to provide a strong control on nutrient export but cannot be properly implemented until benchmarking is complete. The rule also needs some fine tuning to ensure ongoing monitoring is practicable and robust. It also needs to be better integrated with the District Plan rules controlling land use. However:

Rule 11 has been operative only a short time - since October 2005. There is no evidence that Rule 11 has, during the 5-year period that has elapsed, acted to cap nutrient exports from land surrounding the 5 lakes of concern. It must be remembered that Rule 11 is directed at long-term land use change and this question cannot be fairly answered until Rule 11 has had a longer period in effect. In addition, there is no comprehensive system in place for monitoring that the on-paper reductions achieved on individual properties are actually combining to achieve reductions in nutrient export to the lakes. The question cannot be answered at all until nutrient benchmarking is complete. It is complete only for the two smallest catchments. Completion of benchmarking is essential to capping or reducing nutrient exports and should be a resourcing priority if Rule 11 is to be effective.

Rule 11 has not been a 'silver bullet' and has not yet been effective. It is therefore difficult to evaluate its efficiency. However, some potential issues have been identified for ongoing efficiency of implementation:

Benchmarking is a resource-hungry exercise but is essential if Rule 11 is to be effective. Some prioritising of the benchmarking effort may be necessary to enable the capping of nutrient export from more substantial nutrient contributors in the short term.

Monitoring actual nutrient export against benchmarked levels will be a challenge. The challenge lies both in adequately resourcing the task and in working collaboratively (primarily) with the farming sector to ensure that benchmarked levels are locked in and achieved long term.

There is also a mis-match between the data requirements specified in Rule 11 and those required by the software programme used to undertake benchmarking. That mis-match does not create impossible difficulties but it would assist implementation if information requirements could be rationalised and clarified. This does not necessitate a plan change but could be achieved using information such as a clear practice note.

There are concerns from land users about the confidentiality of benchmark data held by the Council. The data potentially reveals commercially sensitive information about individual farm businesses and individual incomes. Concern about how that information is held and used is understandable. Some further attention should be given to security of files and protocols about use.

In addition to the primary policy intent, this report identifies several subsidiary aims for Rule 11. The conclusions in respect of those matters are summarised below:

Has Rule 11 contributed to improving water quality, enhancing aquatic ecosystems or reducing lake-sourced public health risks?

With the exception of Lake Rotoiti, there has been no profound measurable improvement in the water quality in any of the lakes as measured by the target TLIs specified in Objective 11 of the Regional Water and Land Plan. There is, in fact, much to be done to even get close to the target TLIs. There is no specific evidence that Rule 11 has, to date, contributed to enhancing aquatic ecosystems or to reducing lake-sourced public health risks.

However, it must be reiterated that the source of nutrients within the lakes are from longstanding historical land use practices. Therefore, reversing the trendline of degradation will also take a long time. The 5-year period of implementation of Rule 11 to date is not a sufficient time frame within which to judge the impact of the rule on long term water quality.

Even over a longer time frame, it will be difficult to discern the impact attributable to Rule 11 from the impact of other measures. It is the combined effect of Rule 11 with other Action Plan measures that is expected to reverse the trendline of degradation.

Importantly, Rule 11 seeks only to cap nutrient export – not to reduce it. Therefore, the impact that Rule 11 could have in actively improving water quality is limited. The key informant interviews confirmed that key stakeholders consider more needs to be done than simply capping nutrient export. There is support for considering reductions in nutrient export from the catchments of the 5 lakes of concern.

Rule 11 is part only of the rule framework controlling land use. The provisions of the Rotorua District Council's District Plan are also important controls on land use and on the freedoms available in terms of land use change. There is poor alignment between the two rule frameworks. Greater integration of planning frameworks is essential to effecting land use change to control nutrient export.

Has Rule 11 contributed to improving cultural connection for tangata whenua with the lakes?

The Key Informant Interviews suggest that Rule 11 has been well-received by tangata whenua as a starting point for arresting nutrient export. Its limitations, in terms of capping rather than reducing nutrient export, are acknowledged. The long term goal for tangata whenua remains reduction in nutrient-based degradation and improvement of water quality. In this respect, Rule 11 does not itself go far enough.

Has Rule 11 equitably managed land use activities and land development opportunities within the catchments?

The short answer is 'no'. Rule 11 creates inequity in the primary production development potential that is available for undeveloped or under-developed land compared with established intensively farmed properties. This was highlighted by all Key Informants as a negative feature of Rule 11 and needs to be addressed.

Does Rule 11 address the interconnectedness of the lake water quality and land use issues?

Rule 11 is not able to address the interconnection between land use practices and lake water quality. That is because Rule 11 does not, and cannot on its own, address the true economic drivers that influence decisions made by landowners about how they use their land. Other Action Plan measures are also required.

More importantly, however, the Study Team observes that what is needed to achieve the Objective 11 water quality aim is some closer exploration of how to achieve targeted change in land use practices that will yield significant enduring reductions in nutrient export from the catchments of concern. That requires working closely with land users – and particularly the farming sector – to identify opportunities for land use change that will achieve substantive reductions in nutrient export. That may require radical change to other (District Plan) planning controls or other interventions to facilitate material change.

The Study Team observes that there is a 'disconnect' between the implementation of Rule 11 and the economic drivers that actually influence landowner decisions about how land should be used and managed. There is a need for greater integration of the Rule 11 framework with the District Plan rule framework.

It will also be necessary to address the inequities created by Rule 11 so that its implementation is accepted by land users and so that it can be built on to achieve useful reductions in nutrient export. Addressing the inequities requires looking again at how the costs and benefits of land use controls are shared between the community and individual landowners. That includes consideration of how costs are shared inter-generationally over the long time horizon over which land use change must occur to achieve benefits of lake water quality improvement.

It is also clear to the Study Team that the way forward depends on collaboration and shared responsibility between individual land users and the Council to achieve an outcome that all sectors of this community appear to want – that is long term improvement in lake water quality.

15. Suggested Next Steps

To assist the efficient implementation and efficacy of Rule 11 the following actions are suggested for consideration:

(a) To enable Rule 11 to provide a reliable baseline for capping nutrient exports: Benchmarking should be completed as an urgent priority. This may require additional resources and review of procedures associated with benchmarking.

(b) To assist completion of benchmarking: The answer lies partly, but not exclusively, in adequately resourcing the task with both skilled people and sufficient time. Prioritising the task should also be considered – that is, targeting first-round benchmarking at properties expected to be larger contributors of nutrients. Again, such an approach will likely be successful if undertaken in collaboration with landowners rather than imposed without dialogue.

(c) To assist the credibility of Rule 11 and facilitate acceptance of its implementation: Review and amend the long-past due date by which benchmarking information is required to be submitted. This could be achieved by either a Plan Change to alter the date or by granting extensions to individual properties (perhaps even creating an incentive to facilitate take-up of benchmarking). The changed date must be realistically achievable, must be determined after dialogue with key stakeholders and should be consistently enforced once agreed.

(d) To address the inequities created by Rule 11: Re-visit the aspect of Rule 11 which ties permitted land use for to recent productive use. Any review should focus not just on actual historical practice but on best practice with respect to minimising nutrient export. The rule framework could acknowledge in some way the benefit that derives from low nutrient export from areas of land that are undeveloped or are in indigenous or exotic forest or are developed to low intensity compared with the land's capability. Nutrient export allocations might be assigned to such land to enable development on a more equitable basis with other developed land in the catchment. Any adjustment to account for this inequity should ensure that the management of nutrient loss from land seeks to reduce it where it is high and set it at levels commensurate with best productive practice compared with other good practice within the catchment.

(e) To facilitate the provision of benchmarking information: The mis-match between data required by Rule 11 and by the Overseer software needs to be resolved and communicated to landowners. An agreed data set should be settled on and the items and format requirements should be articulated in a practice note or other guideline that can be readily shared with landowners so that it is clear what information is required.

(f) To enhance benchmarking where there is nil or little historical information on a property's land use practice: Review and determine how nutrient benchmarks will be calculated and assigned to properties for which there is nil or limited historical information about land use or where such information is withheld. The decision about what parameters to be used

should be linked with the review of the deadline for benchmarking information (because the question of how benchmarking is to be achieved where information is light or withheld is material to the time frame within which benchmarking can be achieved).

(g) To enhance the efficiency of implementing and enforcing Rule 11: A strategy should be devised to enable ongoing monitoring and verification of actual land use practices compared with recorded nutrient benchmarks. It is suggested that this will likely have greatest success if it involves collaboration with landowners rather than resorting to RMA enforcement. That will therefore require working alongside landowners – primarily in the farming sector.

(h) To facilitate take-up of and confidence in Rule 11: Review the manner in which benchmarking information is held by Council and how it is able to be accessed and used. The system must assure the confidentiality of the information and the manner in which that is to be assured needs to be communicated to landowners.

(i) To facilitate material change in land use that will reduce nutrient export: Consider how the Regional Plan and District Plan rule frameworks could be better integrated to provide genuine flexibility in terms of the range of land use alternatives to nutrient-exporting practices. Consider also how to build incentives into both rule frameworks to reward best practice land management and voluntary mitigation measures and to positively influence decisions about land use change in the shortest time possible.

(j) To address the concern that Rule 11 is not sufficient to address or reverse the trendline of water quality degradation: Engage with landowners and the community about the extent to which the rule framework could or should require reductions in nutrient export. The options explored should consider the economic drivers that actually influence land use change and the need for close integration with District Plan controls.

ATTACHMENT 1

The Brief

DRAFT: Brief for engagement of consultant

Date: March 20th 2009
Prepared by: Anna Heap

1. Aim

To provide an objective assessment of the efficiency and effectiveness of Rule 11 at achieving its policy intent.

2. The reason for this study

A review of Rule 11 is set out in the Operative Regional Water Land Plan (the Plan). The Strategic Policy Committee of Environment Bay of Plenty has approved the process and scope of this review.

3. Background

Section 9.4.1 ("Rule 11") of the Plan regulates nutrient discharges from land in the catchments of five lakes: Okaro, Okareka, Rotoehu, Rotorua and Rotoiti and has been operative since October 2005.

Although not legally obliged to undertake reviews, Environment Bay of Plenty has initiated reviews in accordance with the review clause for Lake Okaro and Okareka[16]. The community has a high expectation that the review of the application of Rule 11 to the outstanding lakes will be undertaken.

Environment Bay of Plenty is of the opinion that a report on how efficient and effective Rule 11 is should be undertaken.

4. Scope

The purpose of the study is to determine the original policy intent of Rule 11 and how efficient and effect it has been at achieving the intent.

The review will encompass all components of Rule 11 including permitted, controlled and discretionary (restricted) requirements, as well as, associated advice notes and the interaction between Rule 11 and Method 41 and 42 (previously Method 35 and 35A) of the Plan.

To determine efficiency and effectiveness of Rule 11 in achieving its policy intent you will evaluate:

[16] Reviews have been initiated for Lake Okaro and Lake Okareka resulting in notification of Variations 5 and 6 to Rule 11 in the Plan. The variations are currently on hold pending completion of benchmarking.

- How well the rule and methods are achieving the desired objective and anticipated environmental results (effectiveness)

- How efficiently resources are being used to achieve the desired objectives and anticipated environmental results (i.e. how efficient our implementation is and how the costs and benefits compare)

This scope ensures that the undertaking to the community to review Rule 11 is fulfilled and aligns with future RMA requirements for review under section 35.

5. Environment Bay of Plenty will provide the following:

Access to currently held reports and publications on the following:

- Rule 11

Staff will also be available to answer questions as required, and to assist with organising informant interview.

6. The consultant will:

1. Review the information made available (as above) by Environment Bay of Plenty to the extent necessary to inform the study.

2. Undertake further independent research. This will include conducting key informant interviews to gauge what people's perception is of the original policy intent and how well they think this has been achieved. Key informants are individuals and organisations involved with Rotorua Lakes, such as Te Arawa Lakes Trust (see Appendix 1 for indicative list). This contact may be supported by phone conversations but it is expected that face-to-face meetings will occur.

3. Provide brief weekly e-mail updates to the contract manager on project progress.

4. Provide a draft report of the efficiency and effectiveness of Rule 11 at achieving its policy.

5. Provide a final report of the efficiency and effectiveness of Rule 11 at achieving its policy intent (both hardcopy and electronic)

6. Provide a separate report as to why any specific comments, if any, have not been incorporated in the report.

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7. Make them self available to present the report findings to the Strategic Policy Committee, Environment Bay of Plenty. If required, presentations to Council will be invoiced separately.

Time lines for key deliverables:

1. Review of information completed and list of key informants and questions shall be submitted to contract manager for approval by April24th 2009;

2. Draft report completed and provided to Environment Bay of Plenty for review by May 22th 2009;

3. Final report incorporating appropriate amendments from the review process to be provided no later than May 30th 2009.

4. Provide a separate report as to why any specific comments, if any, have not been incorporated in the report to Environment Bay of Plenty no later than May 30th 2009.

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Appendix 1: Indicative list of key individuals and organisations

- Rotorua District Council
- Te Arawa Lakes Trust
- Lakes Water Quality Society
- Federated Farmers
- Dairy NZ
- Fish and Game
- Ngati Whakaue Tribal Lands

ATTACHMENT 2

Summary Of Feedback From Key Informant Interviews

References