

The Chairman and Members

## Rotorua Te Arawa Lakes Strategy Group

**NOTICE IS GIVEN** that the next meeting of the **Rotorua Te Arawa Lakes Strategy Group** will be held in **Council Chambers, Rotorua District Council Civic Administration Building, 1061 Haupapa Street, Rotorua** on:

**EMBARGOED**

Until 2 working days before meeting on:

**Friday, 25 March 2011**

**commencing at 10.00 a.m.**

Bill Bayfield  
**Chief Executive**

18 March 2011





# **Rotorua Te Arawa Lakes Strategy Group - Terms of Reference**

## Interpretation

In these Terms of Reference:

“Organisations” means the Te Arawa Lakes Trust, the Rotorua District Council and the Bay of Plenty Regional Council.

“Rotorua Lakes” means Lakes Rotorua, Rotoiti, Rotoehu, Rotoma, Okataina, Tikitapu, Okareka, Tarawera, Rotomahana, Rerewhakaaitu, Okaro and Rotokakahi.

“Group” means the Rotorua Te Arawa Lakes Strategy Group, formed as a Joint Committee under Clause 30 of Schedule 7 of the Local Government Act 2002.

## Purpose

The purpose of the 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.

## Membership

Six members:

- Two representatives from Te Arawa Lakes Trust
- Two representatives from the Rotorua District Council
- Two representatives from the Bay of Plenty Regional Council.

## Term of the Committee

This is a permanent joint committee under the Te Arawa Lakes Settlement Act 2006. The *Te Arawa Lakes Deed of Settlement* (December 2004) included clauses establishing the Group (Cultural Redress: Lakes Management and Relationships, clauses 9.1 to 9.3). The terms of reference for the Group come from a signed agreement between the three parties (dated 8 October 2004) and included in Part 1 of the Relationship Schedule to the Deed of Settlement.

## Specific Responsibilities and Delegated Functions

The group will have the following functions:

- 1 The provision of leadership to the Organisations and the community in relation to implementation of the Vision of the Strategy for the Lakes of the Rotorua district 2000.
- 1 The identification significant existing and emerging issues affecting the Rotorua Lakes.
- 2 The preparation, approving, monitoring, evaluation and review agreements, policies and strategies to achieve integrated outcomes for the Rotorua Lakes.
- 3 The identification, monitoring and evaluation of necessary actions by the organisations and other relevant organisations.
- 4 The receiving of reports on activities being undertaken by the organisations and other relevant organisations.
- 5 Involvement during the preparation of statutory plans in relation to significant issues. Such plans include but are not limited to iwi and hapū management plans, district and regional plans, reserve management plans and annual plans.
- 6 Involvement in applications for activities in relation to significant issues not addressed by existing policies of the co-management partners. Such activities include but are not limited to resource consents, designations, heritage orders, water conservation orders, restricting access to the lakes (during special events or in particular circumstances), and transferring and/or delegating of statutory authority.

**Note:**

The Rotorua Te Arawa Lakes Strategy Group reports directly to the Regional Council.

## Public Forum

1. A period of up to 15 minutes shall be set aside near the beginning of the meeting to enable members of the public to make statements about any matter on the agenda of that meeting which is open to the public, but excluding any matter on which comment could prejudice any specified statutory process the council is required to follow.
2. The time allowed for each speaker will normally be up to 5 minutes but will be up to the discretion of the chair. A maximum of 3 public participants will be allowed per meeting.
3. No statements by public participants to the Council shall be allowed unless a written, electronic or oral application has been received by the Chief Executive (Governance Team) by 12.00 noon of the working day prior to the meeting and the Chair's approval has subsequently been obtained. The application shall include the following:
  - name of participant;
  - organisation represented (if any);
  - meeting at which they wish to participate; and matter on the agenda to be addressed.
4. Members of the meeting may put questions to any public participants, relevant to the matter being raised through the chair. Any questions must be asked and answered within the time period given to a public participant. The chair shall determine the number of questions.



## Committee Membership

**Chairman:** K Winters (Mayor, Rotorua District Council)

**Deputy Chairman:** T Curtis (Chairman, Te Arawa Lakes Trust)

**Members:** **Bay of Plenty Regional Council**  
Chairman J Cronin, Councillor N Oppatt  
Councillor L Thurston (Alternate)

**Rotorua District Council**  
Councillor K Hunt  
Councillor G Searancke (Alternate)

**Te Arawa Lakes Trust**  
Deputy Chair W Emery

**Secretary:** S Cubbon

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Recommendations in reports are not to be construed as Council policy until adopted by Council.

## Agenda

1 **Apologies**

2 **General Business and Tabled Items**

Items not on the agenda for the meeting require a resolution under section 46A of the Local Government Official Information and Meetings Act 1987 stating the reasons why the item was not on the agenda and why it cannot be delayed until a subsequent meeting.

3 **Reports**

3.1 **Presentation on Intervention Packages for Lake Rotorua** 11

3.2 **Proposed update to Deed of Funding Agreement** 13

Draft Deed of Funding

3.3	<b>Review of the Strategy for the Lakes of the Rotorua district</b>	<b>19</b>
3.4	<b>Draft Lake Tikitapu Action Plan - Release for Public Feedback</b>	<b>29</b>
3.5	<b>Group Manager's Report</b>	<b>33</b>
4	<b>Public Excluded Section</b>	
4.1	<b>6 Month Deed Report prepared for Ministry for the Environment</b>	<b>47</b>

6 Month Deed Report

**Reason**

That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information where the withholding of the information is necessary to protect information where the making available of the information would be likely unreasonably to prejudice the commercial position of the person who supplied or who is the subject of the information.

**Grounds**

That the public conduct of the whole or the relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist.

5	<b>Consideration of General Business</b>	
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## Reports



**File Reference:** 8.00139  
**Significance of Decision:** Receives Only - No Decisions



**Report To:** Rotorua Te Arawa Lakes Strategy Group  
**Meeting Date:** 25 March 2011  
**Report From:** Kataraina Maki, Sustainable Development Manager

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## **Presentation on Intervention Packages for Lake Rotorua**

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### **Executive Summary**

Keith Frenz (Project Manager) from Beca Cater and Brian Bell (Economist) from Nimmo-Bell will give a verbal presentation updating progress on the Intervention Project. The Regional Council has contracted experts to develop at least three packages of interventions that will reduce nutrients entering Lake Rotorua. The team includes experts from Beca Carter, NIWA, Nimmo-Bell, AgResearch and GNS. The project is due to be completed in May 2011.

The key project tasks are:

Develop three fully costed options for implementing land-use change that reduces nutrients entering Lake Rotorua from rural land use

Assess the contribution regulation can make to reducing nutrients entering Lake Rotorua

Develop intervention packages, and assess the impact of their implementation over three different timeframes, to determine how the best impact and value for money can be achieved

Identify preferred package(s) and rationale using a set of assessment criteria developed by the project team in consultation with stakeholders

Collaboration with the community and workshops with Councillors and other Lake Partners

### **1 Recommendations**

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

- 1 Receives the report, 'Presentation on Intervention Packages for Lake Rotorua'.**

### **2 Financial Implications**

**Current Budget**

Receives Only-No Decisions

**Future Implications**

Receives Only-No Decisions

**Ten Year / Annual Plan Implications**

Receives Only-No Decisions

Nick Zaman  
**Senior Planner**

**for Sustainable Development Manager**

**15 March 2011**

**File Reference:** 4.00843  
**Significance of Decision:** Low



**Report To:** Rotorua Te Arawa Lakes Strategy Group  
**Meeting Date:** 25 March 2011  
**Report From:** Warwick Murray, Group Manager Land Management

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## Proposed update to Deed of Funding Agreement

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### Executive Summary

The purpose of this report is to seek approval to proceed with updating the current Deed of Funding agreement with the Crown.

Partner agencies of the Rotorua Te Arawa Lakes Strategy Group are looking to amend the Deed to support the optimal delivery of the outcomes sought to be achieved by the Funding Deed.

As acknowledged within the relationship Memorandum of Understanding between the Crown and Rotorua Te Arawa Lakes Strategy Group, adaptive management is required to ensure that the long term lakes restoration programme is able to change in response to science and research.

For this reason we are proposing to replicate funding models used for other remediation type programmes that are based on outcome delivery while at the same time looking to retain certainty for the Crown.

To support a flexible outcome focused Deed Ministry for the Environment has proposed a formal project management structure to report progress and make recommendations to this Committee. This support will be provided by the proposed Lakes Project Steering Group.

Attached to this report is a copy of the original Deed with proposed changes tracked (appendix 1). Also attached for information is an outline of the existing structure (appendix 2), the proposed structure with project management Steering Group included (appendix 3) and a draft of the Terms of Reference for the new Steering Group (appendix 4).

### 1 Recommendations

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

- 1 Receives the report, Opportunity for Deed of Funding amendments.**
- 2 Delegate's authority to the Chair of the Rotorua Te Arawa Lakes Strategy Group, Chairman John Cronin and an elected representative of Te Arawa Lakes Trust to approve and submit to the Crown a proposal to update the Deed of Funding.**
- 3 Notes the proposed critical changes to the Funding Deed.**

- 4 Approves the Terms of Reference for the Lakes Projects Steering Group.**
- 5 Confirms that the significance of the decision has been assessed as LOW, and under Section 79 of the Local Government Act 2002 (LGA) confirms that in light of the level of significance of the decision it does not require: (a) Further identification and assessment of different options under section 77 LGA; (b) Further investigation or consideration of community views under section 78 LGA; (c) Any further written record of the manner in which section 77 and section 78 matters have been addressed.**

## 2 Introduction

The Deed of Funding agreement was signed on 12 August 2008 and the first payment of \$3.9 million made in late 2008. The Deed is a significant commitment by the Crown (\$72.1 million) to the lakes restoration programme. The original Funding Deed committed funding towards a list of interventions that were based on known knowledge and understanding. Funding commitments were made on an intervention by intervention basis. The Deed was supported by a Cabinet Paper that provided an underlying approval process for the work being planned.

In 2009 it was necessary for Bay of Plenty Regional Council to rearrange the timing of certain interventions, including sediment capping, land use change, Rotoehu wetlands and Tikitere geothermal.

The rationale for the re-phasing request included council's financial position and the ability for the Rotorua community to pay, the longer than anticipated consultation required for some interventions and the need for further scientific testing. A signal was sent in the rephrasing cabinet paper that further proposals would be made to cabinet for changes in the near future. The rephrasing was approved by Cabinet's Economic and Infrastructure Committee on 21st October 2009.

It has become clear that to implement the lakes restoration programme a greater degree of flexibility would be extremely beneficial. The original Cabinet Paper creates a number of limitations on introducing new or developing interventions. Science and research is suggesting that amended or different interventions have the potential to deliver more effectively on the outcomes that all parties are seeking to secure.

As Principle 4 of the Memorandum of Understanding between the Crown and this Committee recognise, the restoration of the Lakes will require adaptive management, where actions and approaches may change as our understanding of the Lakes change. In line with this, it is proposed that the partner organisations submit a proposal to the Crown to introduce flexibility and adaptive management into the Deed so that the desired outcomes for the lakes can more effectively be delivered. At the same time it is recognised that there is a need to maintain the confidence of the Crown that the interventions will deliver the target outcomes.

We are now more than half way through our third year of delivering on interventions and we have carried out sewage reticulation; constructed phosphorus locking plants and a de-nitrification pilot plant; negotiated land use change agreements; and started the construction of a wetland. We are now in a better position to understand the level of flexibility required for a freshwater protection and restoration programme to succeed.

The Programme is due for its 3 Year Major Review in 2012, but at present protection and restoration of freshwater is enjoying significant support from government and there is no certainty that this will continue post-election or into the future.

Between all partner agencies there is a collective agreement to updating the Deed now. All agencies see that there is substantial benefit in having access to a comparative methodology that is built on a value proposition for delivering outcomes, rather than an approach that delivers a historical list of interventions.

### **3 Process**

Partner agencies and Ministry for the Environment have met to discuss and have agreed on a process to achieve a flexible updated outcomes focused Deed of Funding. The key aspect of this will be the councils and the Trust developing a formal proposal to be submitted to the Crown (Ministry for the Environment). The proposal will be in the form of a report and attached to this will be a re-drafted Deed of Funding.

Due to Central Government elections and end of financial year reporting, timeframes for submission to the Crown are tight. The following timeline is proposed:

- 4 April 2011 – circulate draft Proposal to Rotorua Te Arawa Lakes Strategy subcommittee
- 18 April 2011 – any comments from subcommittee back to staff
- 23 April 2011 – final Proposal (including re-worded Deed) presented to Ministry for the Environment by Rotorua Te Arawa Lakes Strategy Group representatives
- 2 May 2011 – agenda closes for Cabinet’s Economic, Growth and Infrastructure Committee
- 16 May 2011 – Considered by Economic, Growth and Infrastructure Committee
- 20 May 2011 – Ministry for the Environment report back on outcomes of Cabinet meeting

### **4 Proposal**

The proposal is to update the Deed of Funding. This Committee will continue to have authority to approve the Annual Plan and Three Year Work Programme and the Crown (Ministry for the Environment) will continue to sign-off on the Deed. The improvements in process will come with reduced cabinet criteria and cabinet reporting. The re-wording will make it clear that the Deed is outcome based and that adaptive management is a key component of delivering the lakes restoration programme. Staff will look to work with Crown officials to ensure that the new Cabinet Paper recognises the need for flexibility and adaptive management and that the appropriate delegations to Ministry for the Environment to sign-off work programmes are in place.

By changing the Deed document to become more outcomes focused this Committee would be able to approve more efficient and effective interventions via the Annual Plan and Three Year Plan with Crown (Ministry for the Environment) signoff. This will remove the latent risk of interventions not being able to be substituted.

There are no proposed changes to the amount of funding received, or the timing at which it is received. Likewise there is no expectation that there will be flexibility on proving interventions via robust scientific testing.

As acknowledged within the relationship Memorandum of Understanding between the parties, adaptive management is required to ensure that the long term lakes restoration process is able to change in response to science and research.

For this reason we are looking to replicate funding models used for other remediation type programmes that are based on outcome delivery while at the same time looking to retain certainty for the Crown.

The critical changes being proposed include

- Shifting the focus from delivery of projects (an output based approach) to the achievement of outcomes. The outcomes based approach will seek to deliver the nutrient reduction outcomes specified within the current Funding Deed schedules. [New Clause 3 proposed]
- In tandem with the focus on outcomes, clarifying that the interventions listed in the Funding Deed schedules are not fixed projects but are the interventions that were originally identified for the restoration programme. This allows the lakes restoration partners to identify through adaptive management processes the most effective ways of delivering lake quality improvements. The clarification is required to remove any uncertainty between the Deed's wording and in-house Central Government processes. [New Clause 3 proposed]
- Increasing the flexibility by which intervention choices can be made in terms of the processes laid down in the Deed – annual and 3-yearly work programmes. This will retain the required approvals by the Rotorua Te Arawa Lakes Strategy Group and Ministry for the Environment. [Clause 4.5]

More minor changes include updating the Bay of Plenty Regional Councils name from Environment Bay of Plenty, updating this Committee's name to include reference to Te Arawa, and pushing out the dates for financial reporting.

Submitting the proposed updates will require political support from the Mayor, Bay of Plenty Regional Council Chairman, and the Te Arawa Lakes Trust Chair.

## 5 **Support systems**

A Lakes Projects Steering Group is being proposed under the Rotorua Lakes Funding Deed. The steering group is needed to provide added confidence to the Crown that implementation is efficient and effective and that progress on delivering Funding Deed projects is on target. Having a Lakes Projects Steering Group will ensure a higher level of scrutiny on project management amongst other matters.

At present coordination between agencies has been occurring but on an ad hoc basis for the purposes of Annual Reporting and 6 monthly reporting. Meeting between Rotorua Te Arawa Lakes Strategy Group meetings will ensure early discussion of any issues and remedies.

The discussion around the formation of a Lakes Project Steering Group also identified the usefulness of meetings at a chief executive level to ensure programme momentum is maintained. These meetings will provide high-level management oversight of the lakes restoration programme and will ensure that any potential roadblocks to the programme's success are identified and removed.

## 6 **Financial Implications**

### **Current Budget**

Preparation of the Draft Proposal and re-worded funding deed are catered for within existing budgets.

### **Future Implications**

Currently inline with total annual budget allocation as set out in the Deed schedules.

### **Ten Year / Annual Plan Implications**

All Deed funding projects are provided for in Bay of Plenty Regional Council's and Rotorua District Council's Ten Year Plans. There is no proposal to change the amount of money received in any one year so there will be no implication on the total current budget.

Anna Grayling  
**Rotorua Lakes Project Manager**

**for Group Manager Land Management**

**18 March 2011**



# Appendix



**Funding Deed**  
Her Majesty the Queen  
Bay of Plenty Regional Council  
Rotorua District Council

**Updated May 2011**

## Parties

Her Majesty the Queen acting by and through the Minister for the Environment (Crown)

Bay of Plenty Regional Council (BOPRC)

Rotorua District Council (RDC)

## Background

A The Rotorua Te Arawa Lakes Strategy Group, a joint committee of BOPRC, RDC and the Te Arawa Lakes Trust, was set up by the Te Arawa Lakes Settlement Act 2006 (the Act) 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.

B The Crown, Te Arawa Lakes Trust, BOPRC and RDC entered into a Memorandum of Understanding dated 18 April 2007 for the purpose of establishing a formal working relationship between the Crown and the Rotorua Te Arawa Lakes Strategy Group, in relation to the objective of maintaining or improving the water quality of the Rotorua lakes through the Rotorua Lakes Protection and Restoration Action Programme (Programme).

C The Memorandum of Understanding for Rotorua Lakes Restoration recognises that restoring the lakes will require adaptive management, where actions and approaches may change as our understanding and knowledge of the Lakes changes. This has proved to be the case and this principle of adaptive management has driven the updating of this Funding Deed.

D The programme of interventions to undertake strategic actions to restore the Rotorua lakes provides the basis for the financial commitments of the parties to this Funding Deed.

~~The Programme has been developed to undertake strategic actions to restore the 12 Rotorua lakes.~~

~~E~~ Lakes Rotorua, Rotoiti, Rotoehu and Okareka (the four priority lakes) have been identified as the lakes most in need of action.

~~F~~ The Crown has agreed to provide up to \$72.1 million, being a 50% contribution, towards the cost of securing outcomes to improve the water quality of the four priority lakes, subject to BOPRC and RDC matching the Crown's contribution.

G The parties have agreed to enter into this Deed to define the respective obligations of the Crown, BOPRC and RDC to each other in respect of the funding of restoration of the four priority lakes.

## 1 Definitions and Interpretations

### Definitions

1.1 In this Deed the following definitions apply:

**3 Year Work Programme** means the Work Programme relating to the relevant period of

three Financial Years to be prepared by BOPRC and approved by the Crown under clause 4.

~~10 Year Work Programme means the Work Plan attached at Schedule 1.~~

**Annual Report** means the Annual Report prepared by BOPRC in accordance with clause 5.3.

**Annual Work Programme** means the Work Programme relating to the relevant Financial Year prepared by BOPRC and approved by the Crown under clause 4.

**Carry Forwards** means Interventions provided for in the Annual Work Programme for any Financial Year, but not completed (whether in whole or in part) during that Financial Year.

**Deed** means this funding deed.

**Financial Year** means the year commencing on 1 July and ending on 30 June.

**Funding** means the Crown contribution to the lakes restoration works ~~outlined in the 10 Year Work Programme as more fully~~ described in Schedule 1, Table 3 ~~clause 2.~~

**Interventions** means all works described in the ~~10 Year~~ Work Programme and any other works designed to deliver the outcomes sought by this Deed.

**Operative Date** is 1 July 2008.

**Overall Work Programme** means the work programme attached at Schedule 1.

**Six Monthly Report** means the Six Monthly Report prepared by BOPRC in accordance with clause 5.4.

**Strategy Group** means the Rotorua Te Arawa Lakes Strategy Group established under the Te Arawa Lakes Settlement Act 2006 to oversee the governance of the Programme.

**Work Programmes** means the Annual Work Programme and the 3 Year Work Programme to be prepared by BOPRC under clause 4., and the Overall Work Programme.

## Interpretation

**1.2 In the interpretation of this Deed, the following provisions apply unless the context otherwise requires:**

- 1.2.1 Headings are inserted for convenience only and do not affect the interpretation of this Deed.**
- 1.2.2 A reference in this Deed to a business day means a day other than a Saturday or Sunday on which banks are open for business generally in both Wellington and the Bay of Plenty, New Zealand.**
- 1.2.3 If the day on which any act, matter or thing is to be done under this Deed is not a business day, the act, matter or thing must be done on the next business day.**
- 1.2.4 A reference in this Deed to any law, legislation or legislative provision includes any statutory modification, amendment or re-enactment, and any subordinate legislation or regulations issued under that legislation or legislative provision.**

- 1.2.5 A reference in this Deed to any agreement or document is to that agreement or document as amended, novated, supplemented or replaced.**

- 1.2.6 A reference to a clause, part, schedule or attachment is a reference to a clause, part, schedule or attachment of or to this Deed.
- 1.2.7 An expression importing a natural person includes any company, trust, partnership, joint venture, association, body corporate or governmental agency.
- 1.2.8 Where a word or phrase is given a defined meaning, another part of speech or other grammatical form in respect of that word or phrase has a corresponding meaning.
- 1.2.9 A word which denotes the singular also denotes the plural, a word which denotes the plural also denotes the singular, and a reference to any gender also denotes the other genders.
- 1.2.10 A reference to the word 'include' or 'including' is to be construed without limitation.
- 1.2.11 A reference to this Deed includes the agreement recorded in this Deed.
- 1.2.12 Any schedules and attachments form part of this Deed.

## 2 Funding

- 2.1 The Funding comprises an aggregate maximum of \$72.1 million, being a 50% contribution, towards the cost of ~~the~~ approved lake restoration Interventions ~~outlined in the 10 Year Work Programme~~.
- 2.2 The maximum amount of Funding, on an Intervention by Intervention basis, shall be reduced by:
  - 2.2.1 Any amount received by RDC for improvements, by way of Interventions, to community wastewater schemes for the four priority lakes under the Ministry of Health's Sanitary Works Subsidy Scheme; and
  - 2.2.2 The amount of any other Crown funding received by BOPRC or RDC in respect of Interventions recorded in any Work Programme.
- 2.3 However, if the amount received by RDC under the Sanitary Works Subsidy Scheme, or any other Crown funding received by BOPRC or RDC, amounts to more than 50% of the estimated cost of the particular Intervention, the Crown:
  - 2.3.1 will not be obliged to provide Funding under this Deed for that particular Intervention; and
  - 2.3.2 the Funding payable for other Interventions will not be affected.
- 2.4 The maximum annual allocation of the Funding is set out in Schedule 1, the 10 Year Work Table 3 Programme. The amount of Funding payable in each Financial Year shall be determined through the Annual Work Programme process under clause 4 of this Deed.
- 2.5 The Crown will pay the Funding to EBOPBOPRC in each Financial Year in the manner set out in clause 6.



- 2.6 The payment of Funding to BOPRC in each Financial Year is subject to BOPRC and RDC carrying out their obligations and responsibilities as set out in this Deed to the reasonable satisfaction of the Crown.

#### Nature of contributions

- 2.7 The Crown's contributions under this Deed are payments intended to assist BOPRC and RDC achieve the outcomes by delivering ~~to undertake~~ the Interventions ~~outlined in the 10 Year Work Programme, and described in more detail~~ within the relevant 3 Year Work Programme and Annual Work Programme.

#### Subject to appropriation

- 2.8 Payment of the Funding in any Financial Year is subject to appropriation.
- 2.9 If there is no appropriation for the Programme included in the Estimates of Appropriations tabled in Parliament for the relevant Financial Year, or the appropriation is for an amount less than that set out in ~~the 10 Year Work Plan~~ Schedule 1, Table 3, the Crown shall give written notice to ~~EBOP~~ BOPRC as soon as practicable.

#### No Crown Liability

- 2.10 The Crown has no liability for, and does not approve, any of the works and activities undertaken in delivering any Work Programme.

#### Use of Funding

### ~~3~~ Use of Funding

- 2.11 BOPRC will ensure that the Funding is used to implement the lakes restoration 10 Year Work Programme (as described further refined in each 3 Year Work Programme and Annual Work Programme), for the purposes of maintaining and improving the water quality of the four priority lakes.

### 3 Outcome Delivery

- 3.1 The outcomes to be achieved under this Deed are the nutrient reduction targets for each of the four priority lakes (as specified in Schedule 1, Table 4).
- 3.2 Funding can be allocated between and within the four priority lakes, and to currently identified or new interventions, provided it is approved through the relevant Annual and 3 Year Work programmes and provided the allocation maximises the delivery of the required outcomes.
- 3.3 The outcomes must be achieved for each individual lake.
- 3.4 Annual and 3 Year Work programmes shall identify interventions that most effectively and efficiently deliver on the outcomes.

### 4 Work Programmes

- 4.1 The ~~10 Overall Year~~ Work Programme is a high level overview of the aspects of the Programme which relate to the four priority lakes, and sets out the Interventions. ~~to~~

~~which the Funding shall be applied.~~

- 4.2 For each Financial Year during the term of this Deed, BOPRC shall prepare an Annual Work Programme in accordance with clause 4.7.
- 4.3 For each period of three Financial Years commencing on 1 July 2009, 1 July 2012, ~~and 1 July 2016 and 2017~~, respectively, BOPRC shall prepare a 3 Year Work Programme in accordance with clauses 4.4 to 4.6.

### 3 Year Work Programmes

- 4.4 Each 3 Year Work Programme shall cover the first Financial Year to which it relates, together with projections for the following two Financial Years. The first 3 Year Work Programme will be prepared for the period commencing 1 July 2009.
- 4.5 Each 3 Year Work Programme must include:
- 4.5.1 An outline of the Interventions planned to be undertaken each Financial Year during the 3 year period;
- 4.5.2 An explanation of ~~which planned the~~ Interventions ~~as specified in Table 2 of Schedule 1~~ (if any) ~~that~~ are subject to further testing to verify that they will be effective, and in respect of any such Intervention:
- (a) A description of the process for research, testing and independent verification of the suitability and effectiveness of the planned Intervention; and
- (b) When it is expected that the independent verification will be available.
- 4.5.3 ~~A statement of t~~ The contribution that each intervention will make towards achieving the expected outcomes for the relevant lake of the Interventions outlined;
- 4.5.4 In relation to the cost of the Interventions to be undertaken in the 3 year period:
- (a) The total estimated cost;
- (b) The budgeted contribution from each of BOPRC and RDC; and
- (c) The amount of Funding required from the Crown.
- 4.5.5 ~~The rationale supporting A description of any new I~~ Interventions or Interventions that are materially different from the Interventions specified in the ~~10 Year Overall Work Programme but still within the overall scope of the 10 Year Work Programme~~, including new Interventions that will result in more effective outcome ~~delivery of the outcome, but at no greater cost than previously budgeted and approved by the Crown.~~
- 4.5.6 A description of the actions to be taken to address any lack of progress identified by the Crown following a review under clause 8.
- ~~4.6 If the 3 Year Work Programme differs in any material way from the 10 Year Work Programme:~~
- 4.6 ~~T~~he Crown may require BOPRC to arrange for an independent assessment by a consultant approved by the Crown of whether the outcomes in the 3 Year Work

Programme are realistic and achievable; ~~and within the overall scope of the 10 Year Work Programme; and~~

- 4.6.1 The Crown shall give BOPRC written notice of such a requirement; and
- 4.6.2 BOPRC shall arrange for the independent assessment at the cost of BOPRC or RDC depending on the Intervention requiring assessment, and shall provide the assessment to the Crown as soon as practicable.

#### Annual Work Programmes

- 4.7 Each Annual Work Programme must include:
  - 4.7.1 A description of Interventions to be undertaken in the relevant Financial Year, including any Carry Forwards;

- 4.7.2 In respect of any Intervention ~~identified in Schedule 1 as subject to that~~ **requires** further testing, a report that complies with the process specified in the relevant 3 Year Work Programme and provides independent verification of the suitability and effectiveness of the Intervention;
- 4.7.3 **A statement of t**~~The expected outcomes~~ **to be delivered by of the specified Interventions;**
- 4.7.4 In relation to the cost of the Interventions to be undertaken in the relevant Financial Year:
- (a) The total estimated cost of the planned Interventions, excluding any Carry Forwards;
  - (b) Details of the contributions to be made by each of BOPRC and RDC to match the amount of Funding required from the Crown, including how and when those contributions will be made; and
  - (c) Details of any other Crown funding received for any Interventions programmed for that Financial Year;
  - (d) The amount of Funding required from the Crown (less any Funding received in the previous Financial Year but not spent and not committed for Carry Forwards).
- 4.7.5 A description of any Interventions that are materially different from those contemplated by the 3 Year Work Plan.
- 4.7.6 A description of the actions to be taken to address any lack of progress identified by the Crown following a review under clause 8.

#### Approval of Annual and 3 Year Work Programmes

- 4.8 For the Financial Year 2008/09, BOPRC shall prepare an Annual Work Programme in accordance with clause 4.7 and submit the Programme to the Crown for approval by 1 September 2008, subject to BOPRC and RPC having their respective funding contributions to such Programme approved by their respective Annual Plans.
- 4.9 For the Financial Year 2009/10 and every Financial Year thereafter during the term of this Deed, BOPRC shall submit an Annual Work Programme to the Crown for approval by 31 July 2008, subject to BOPRC and RDC having their respective funding contributions to such Programme approved by their respective Annual Plans.
- 4.10 BOPRC shall submit each 3 Year Work Programme to the Crown for approval by 31 July of the relevant Financial Year, subject to BOPRC and RDC having their respective funding contributions to such Programme approved by their respective Long Term ~~Council Community~~ Plans.
- 4.11 ~~Annual and If the 3 Yearly Work Programmes~~ **must be approved** ~~contains interventions that are materially different to the Interventions specified in the 10 Year Work Programme, EBOP must obtain approval of by~~ the Strategy Group **before being submitted** ~~to the new or modified interventions before submitting the 3 Year Work Programme~~ to the Crown for approval.

- 4.12 The Crown will consider the Annual Work Programme and the 3 Year Work Programme (where required) and within six weeks of receipt from BOPRC, either approve the relevant Work Programme or request such modifications as maybe reasonable, or reject it on reasonable grounds. The Crown shall advise BOPRC in writing the result of its consideration of the relevant Work Programme. Where the Crown either requests modification of, or rejects, the Work Programme the Crown shall advise its reasons for doing so in writing.
- 4.13 If the Crown requires BOPRC to obtain an independent assessment under clause 4.6.1, the Crown will not be required to make a decision about whether to approve the 3 Year Work Programme until two months after receipt of the independent assessment.
- 4.14 In each Financial Year, BOPRC will manage and deliver the Interventions **outlined described** in the **310** Year Work Programme in accordance with the Annual Work Programme approved by the Crown. BOPRC will not expend monies or incur liabilities outside the terms of the Annual Work Programme that have implications for Crown funding to any material extent without the prior written approval of the Crown.

## 5 Reports

- 5.1 By 31 July 2009, BOPRC shall submit to the Crown an Annual Report that relates to the 2008/09 Financial Year.
- 5.2 By 31 July of each subsequent year during the term of this Deed, BOPRC will submit to the Crown an Annual Report that relates to the previous Financial Year.

### Annual Report

#### 5.3 Each Annual Report must:

- 5.3.1 Include a comparison of Interventions undertaken for the Financial Year to which the Annual Report relates against those set out in the relevant Annual Work Programme;
- 5.3.2 In relation to expenditure, set out:
- (a) The amount spent on the Interventions set out in the Annual Work Programme and a breakdown of the expenditure;
  - (b) Confirmation and details of contributions made by BOPRC and RDC;
  - (c) The amount of Funding received from the Crown under this Deed, the Interventions to which it was applied, and any amount not spent;
  - (d) The amount and details of contributions from any other source to the Interventions set out in the Annual Work Programme.
- 5.3.3 Include an assessment as to progress against the relevant 3 Year Work Programme and the **Overall10** Year Work Programme (including monitoring data, progress against the performance indicators referred to in Schedule 1 and progress with the community wastewater upgrade);

- 5.3.4 Address any issues raised and include any additional information requested by the Crown.
- 5.3.5 Be prepared by BOPRC and approved by the Strategy Group prior to submission to the Crown, at the cost of BOPRC and RDC to be shared in proportion to the respective amounts spent on the Interventions made by each of them during the period to which the Report relates.

#### **Six Monthly Report**

- 5.4 Each Six Monthly Report shall be prepared as at 31 December and shall:
  - 5.4.1 Summarise progress to date in the Financial Year against the Annual Work Programme, in respect of both Interventions and expenditure;
  - 5.4.2 Address any issues raised and include any information requested by the Crown; and
  - 5.4.3 Be prepared by BOPRC and approved by the Strategy Group prior to submission to the Crown.
- 5.5 BOPRC shall submit a Six Monthly Report to the Crown by 15 February in each year during the term of this Deed.
- 5.6 During the Financial Year 2009/10 and every Financial Year thereafter during the term of this Deed, BOPRC shall submit to the Crown by 15 February separate audit reports on behalf of both itself and RDC in respect of the Funding received by them for the previous Financial Year.

#### **Approval of Reports**

- 5.7 The Crown will consider any report submitted to it under clauses 5.1, 5.5 and 5.6 and notify BOPRC in writing, within one month of receipt whether the Crown:
  - 5.7.1 accepts the report, or
  - 5.7.2 requests reasonable modifications to the report, or
  - 5.7.3 rejects the report on reasonable grounds.

### **6 Payment of Funding**

- 6.1 Subject to clauses 6.3 and 6.4, in each Financial Year the Funding is the amount set out in the Annual Work Programme as the amount required from the Crown.
- 6.2 In each Financial Year, the Crown shall pay to BOPRC on account of the Funding the amount, set out in the Annual Work Programme. Payment shall be made as follows:
  - 6.2.1 In the 2008/09 Financial Year:
    - (a) 50% within 10 business days of approval of the Annual Work Programme under clause 4.12; and
    - (b) 50% within 10 business days of acceptance of the Six Monthly Report under clause 5.7

**6.2.2 In the 2009/10 Financial Year and every Financial Year thereafter during the term of this Deed:**

- (a) 50% within 10 business days of approval of the Annual Work Programme and any 3 Year Work Programme under clause 4.12, and acceptance of the Annual Report under clause 5.7 and
- (b) 50% within 10 business days of acceptance under clause 5.7 of the Six Monthly Report and the audit reports submitted in accordance with clauses 5.5 and 5.6.

**6.3 The Crown is under no obligation to pay any Funding to BOPRC in the 2008/09 Financial Year:**

**6.3.1 In relation to payments due under clause 6.2.1 (a), unless the Crown has approved the Annual Work Programme for the 2008/09 Financial Year under clause 4.12,**

**6.3.2 In relation to payments due under clause 6.2.1(b), unless the Crown has accepted the Six Monthly Report under clause 5.7.**

**6.4 The Crown is under no obligation to pay any Funding to BOPRC in each subsequent Financial Year unless:**

**6.4.1 In relation to payments due under clause 6.2.2(a), the Crown has approved the Annual Work Programme for that Financial Year and any 3 Yearly Work Programme (if required) under clause 4.12 and the Crown has accepted the Annual Report for the previous Financial Year under clause 5.7**

**6.4.2 In relation to payments due under clause 6.2.2(b), the Crown has accepted the Six Monthly Report for the current Financial Year and separate audit reports for the previous Financial Year under clause 5.7.**

**6.5 The Crown may withhold funding if it is not reasonably satisfied with BOPRC and RDC's progress towards the outcomes.**

## **7 Administration of Funding**

**7.1 BOPRC shall receipt the Funding received from the Crown and within 5 business days transfer to RDC that portion of the Funding to which RDC is entitled.**

**7.2 Both BOPRC and RDC shall receipt the Funding received by them in accordance with generally accepted accounting practices, with appropriate internal controls to ensure that the Funding is applied for the purposes of this Deed.**

- 7.3 Where any Interventions are undertaken by a third party, BOPRC shall ensure that:
- 7.3.1 BOPRC or RDC (depending on responsibility for the task) enters into a contract with the third party provider, who has been selected through an appropriate procurement process so as to ensure best value for money over the life of the Work Programmes and open and effective competition is achieved;
- 7.3.2 Prior to execution of any third party contracts, BOPRC or RDC have approved (depending on responsibility for the task) the following aspects of the contract:
- (a) Scope;
  - (b) Price; and
  - (c) Payment for any aspects outside the scope of the relevant Annual Work Programme.

## 8 3 yearly major review

- 8.1 BOPRC shall arrange for a review of the progress towards the outcomes and Interventions undertaken at 3 yearly intervals in the 6 months prior to each of 1 July 2012, 1 July 2015 and 1 July 2018, at the cost of BOPRC and RDC to be shared in proportion to the respective amounts spent on the Interventions made by each of them during the period to which the review relates.
- 8.2 The review shall be an independent review by a consultant approved jointly by the Crown, BOPRC and RDC of all Interventions undertaken to check progress against the 10 Year Work Programme outcomes and relevant 3 Year Work Programme.
- 8.3 The results of the review shall be submitted to the Crown as soon as practicable following completion of the review.
- 8.4 Following a review under clause 8.1, if the Crown on reasonable grounds considers that BOPRC and/or RDC have failed to carry out their obligations and responsibilities under this Deed or that there has not been satisfactory progress in delivering the 10 Year Work Programme outcomes or the relevant 3 Year Work Programme, the Crown:
- 8.4.1 shall advise BOPRC and RDC in writing; and
  - 8.4.2 shall have the right to withhold all or part of the Funding on a temporary or permanent basis; and
  - 8.4.3 may direct that actions to address the lack of progress are included in the next 3 Year Work Programme or Annual Work Programme.

## 9 Communication

- 9.1 Each party's appointed representative is set out in Schedule 2.
- 9.2 The appointed representatives shall:
- 9.2.1 Be the first point of contact for all communication in respect of the Programme, the Funding, and this Deed;

- 9.2.2 Attend any meetings arranged by the Crown to review the progress of the Programme and application of the Funding.

## 10 BOPRC's obligations

### 10.1 BOPRC shall:

- 10.1.1 In each Financial Year, pay its contribution towards matching the Crown's contribution to the costs of the Interventions described in the Annual Work Programme;
- 10.1.2 Submit Work Programmes and reports to the Crown in accordance with the provisions of this Deed;
- 10.1.3 Progress the Interventions diligently in accordance with the approved Work Programmes;
- 10.1.4 Notify the Crown of any matters that are likely to affect the progress of the Work Programmes' outcomes;
- 10.1.5 Ensure that BOPRC, RDC and the Strategy Group are involved in all relevant meetings, preparation of reports and Work Programmes, and any other matters necessary for BOPRC and RDC to carry out their functions in relation to the Programmes and for BOPRC and RDC to meet the requirements of this Deed;
- 10.1.6 Act at all times in accordance with this Deed.

## 11 RDC's obligations

### 11.1 RDC shall:

- 11.1.1 In each Financial Year, pay its contribution towards matching the Crown's contribution to the costs of the Interventions described in the Annual Work Programme;
- 11.1.2 Progress the Interventions for which it is responsible diligently in accordance with the approved Work Programmes;
- 11.1.3 Engage with BOPRC in the preparation and review of Work Programmes and reports;
- 11.1.4 Provide BOPRC with information requested by BOPRC to enable BOPRC to meet its obligations under this Deed;
- 11.1.5 Act at all times in accordance with this Deed.

## 12 **Crown's Obligations**

### 12.1 **The Crown shall:**

12.1.1 **Subject to all other provisions of this Deed, in each Financial Year pay its contribution towards matching BOPRC and RDC contributions to the costs of the Interventions described in the Annual Work Programme and in accordance with Clause 6.2.**

12.1.2 **Make decisions in an expeditious manner.**

12.1.3 **Act at all times in accordance with this Deed.**

## 13 **Term and termination**

13.1 **The term of this Deed shall commence on the Operative Date and, subject to earlier termination under clause 13.2 shall terminate following the Crown's acceptance of the final Annual Report.**

13.2 **This Deed shall terminate prior to the date in clause 13.1 if following the completion of a review under clause 8.1, the Crown determines under clause 8.4, that the Crown's contribution to funding the Programme should be terminated.**

13.3 **The Crown may terminate this Deed prior to the date in clause 13.1 if:**

- (a) BOPRC fails to deliver or is late delivering Work Programmes and/or reports on two or more consecutive occasions and is unable to provide a satisfactory explanation for each such failure or late delivery; or
- (b) BOPRC or RDC commit a breach of their obligations under this Deed; or
- (c) There is no longer an appropriation for Crown Funding to the Programme.

13.4 **The date of termination of this Deed under clause 13.2 or 13.3 shall be the date determined by the Crown following consideration of the circumstances, at least 3 months' written notice of which must be given to BOPRC and RDC.**

## 14 **Default**

14.1 **In the event of termination of this Deed under clauses 13.2 or 13.3, the Crown shall have the right to require repayment of prior advances that are unspent.**

## 15 **GST**

15.1 **Amounts specified in this Deed are exclusive of GST (if any).**

## 16 Regulatory position

- 16.1** Each party's ability to act under this Deed shall in all things be subject to any and all statutory and regulatory requirements establishing or recording powers or functions or delimiting the same and/or the exercise thereof by that party. Nothing in this Deed shall be read or construed as abrogating, delimiting or otherwise affecting the proper or valid undertaking or exercise of any such power or function by any party.

## 17 Disputes resolution

- 17.1** If any difference or dispute arises as to the interpretation of this Deed or as to any matter arising out of or in connection with this Deed then any party may by notice in writing served on the other parties inform the other parties of the details of the difference or dispute.

- 17.2** Each party undertakes to use their best endeavours to resolve any differences or disputes between them as follows:

- (a) First by discussion between the representatives identified in Schedule 2.
- (b) Secondly, if these discussions do not resolve the dispute or difference, by discussions between the parties' respective Chief Executives.
- (c) Thirdly, if discussions between the respective Chief Executives do not resolve the difference or dispute within two months of notice having been served pursuant to clause 17.1, by mediation. If the parties cannot agree upon the appointment of the mediator, the appointment shall be made by the then President of LEADR or his or her nominee.

- 17.3** Pending resolution of the dispute, the parties shall continue to perform all their obligations under this Deed except where it is impractical to continue performing any obligations being the subject of the dispute, and such obligations shall be suspended during the dispute.

## 18 Confidential Information

### Permitted use and disclosure

- 18.1** The parties must not disclose any of the other parties' confidential information unless one of the following circumstances applies:

- 18.1.1** The parties have consented in writing to the disclosure. The consent may be subject to the condition that the person to whom the disclosure is to be made enter into a separate confidentiality document with the parties.
- 18.1.2** The disclosure is specifically contemplated and permitted by this Deed.
- 18.1.3** The disclosure is to personnel of one of the parties to the extent the personnel need to know the confidential information in order to perform a function in connection with this document. The party must ensure that its personnel comply with the terms of this clause.

18.1.4 The disclosure is to a representative in order for it to provide advice in relation to matters arising under or in connection with this Deed.

18.1.5 The disclosure is required by a court, a binding directive of a governmental or administrative authority or to comply with any applicable law, provided that the parties will use reasonable endeavours to consult with each other prior to making any such disclosure.

18.2 Confidential Information shall be clearly identified as such by the party providing the information.

18.3 All obligations of confidence set out in this Deed continue in full force and effect after this Deed ends.

## 19 Communications and announcements

19.1 **No party will make any material public announcement or public communication in connection with this Deed, without previously agreeing its contents with the other parties, except where:**

19.1.1 a disclosure is required by a court; or

19.1.2 a disclosure is required to be made by applicable law or regulation.

19.2 **The parties will promptly notify each other of material communication issues and co-operate in taking appropriate steps to address and mitigate communication risks.**

## 20 Information to Parliament

20.1 **BOPRC and RDC acknowledge that the Crown will be required to provide information from time to time to Ministers of the Crown and to Parliament. Clauses 18 and 19 do not apply to the provision of information to, and between, Ministers of the Crown and government departments or to Parliament.**

## 21 Approvals and consents

21.1 **Unless this Deed expressly provides otherwise, a party may give or withhold an approval or consent in that party's absolute discretion and subject to any conditions determined by the party. Unless this Deed expressly provides otherwise, a party is not obliged to give its reasons for giving or withholding a consent or approval or for giving a consent or approval subject to conditions.**

21.2 **Unless this Deed expressly provides otherwise, where this Deed refers to a matter being to the 'satisfaction' of a party, this means to the satisfaction of that party in its absolute discretion.**

## 22 Force majeure

### No liability

- 22.1 A party is not liable for failure to perform, or delay in performing, an obligation (except an obligation to pay money) if each of the following is satisfied:
- 22.1.1 The failure or delay arose from a cause beyond the reasonable control of that party. A cause beyond the reasonable control of a party includes an act of God, strike, lockout, other industrial disturbance or labour difficulty, war, act of public enemy, blockade, revolution, riot, insurrection, civil commotion, lightning, storm, flood, fire, earthquake, explosion, embargo, unavailability of any essential equipment or materials, unavoidable accident, lack of transportation, or anything done or not done by or to a person, except the party relying on force majeure.
  - 22.1.2 The party took all reasonable precautions against that cause and did its best to mitigate its consequences. This does not require the party to settle a labour dispute if, in the party's opinion, that is not in its best interests.
  - 22.1.3 The party gave each other party notice of the cause as soon as practicable after becoming aware of it.

### Notice

- 22.2 From the date notice is served in accordance with clause 22.1.3, no party is required to perform its obligations under this Deed that are dependent on the delayed or failed obligations until the party that gave notice is able to resume fully performance of its obligations.

### Termination

- 22.3 If the cause and the resulting failure or delay lasts for more than 40 business days from the date that notice was given, then either of the parties that receive that notice may terminate this Deed immediately by giving the other parties written notice.

## 23 Notices

### Giving notices

- 23.1 Any notice or communication given to a party under this Deed is only given if it is in writing and sent in one of the following ways:
- 23.1.1 Delivered or posted to that party at its address and marked for the attention of the relevant department or officer (if any) set out in Schedule 2.
  - 23.1.2 Faxed to that party at its fax number and marked for the attention of the relevant department or officer (if any) set out Schedule 2.

**Change of address or fax number**

- 23.2 If a party gives the other parties three business days' notice of a change of its address or fax number, any notice or communication is only given by that other party if it is delivered, posted or faxed to the latest address or fax number.

**Time notice is given**

- 23.3 Any notice or communication is to be treated as given at the following time:

23.3.1 If it is delivered, when it is left at the relevant address.

23.3.2 If it is sent by post, two business days after it is posted.

23.3.3 If it is sent by fax, as soon as the sender receives from the sender's fax machine a report of an error free transmission to the correct fax number.

- 23.4 However, if any notice or communication is given, on a day that is not a business day or after 5pm on a business day, in the place of the party to whom it is sent it is to be treated as having been given at the beginning of the next business day.

24 **No assignment**

- 24.1 None of the parties may assign, charge or sublicense any of the rights granted in this Deed, without the prior consent in writing of the others (which shall not be unreasonably withheld).

25 **Variation**

- 25.1 No variation of this Deed will be of any force or effect unless it is in writing and signed by each party to this Deed.

26 **Waivers**

- 26.1 A waiver of any right, power or remedy under this Deed must be in writing signed by the party granting it. A waiver is only effective in relation to the particular obligation or breach in respect of which it is given. It is not to be taken as an implied waiver of any other obligation or breach or as an implied waiver of that obligation or breach in relation to any other occasion.
- 26.2 The fact that a party fails to do, or delays in doing, something the party is entitled to do under this Deed does not amount to a waiver.

Schedule 1:

Amend title of Schedule 1 to “Schedule 1 Overall Work Programme”

Add numbering “1. Overview of Actions” and to other sections in Schedule.

Add new column (to the right of “2006 TLI”) to Table 1 with most recent TLI measurements

Re-draft introductory wording to 2 Lake by Lake Detail:

- Change “10 year period covered by the funding deed” to “Overall Work Programme covered by the Funding Deed.”
- For example, delete last sentence for Lake Rotorua and Lake Rotoiti

Update tables 2.1 to 2.4 to reflect re-phasing

Update Table 3 to reflect re-phasing

Insert new Table 4:

Table 4: Lake Restoration Outcomes

<u>Priority Lake</u>	<u>Outcome: Nutrient Reduction Targets for Nitrogen</u>	<u>Outcome: Nutrient Reduction Targets for Phosphorous</u>
<u>Rotorua</u>	<u>250 tonnes</u>	<u>35 tonnes</u>
<u>Rotoiti</u>	<u>130 tonnes</u>	<u>19 tonnes</u>
<u>Okareka</u>	<u>2.5 tonnes</u>	<u>0.08 tonnes</u>
<u>Rotoehu</u>	<u>8.9 tonnes</u>	<u>0.7 tonnes</u>

# Appendix

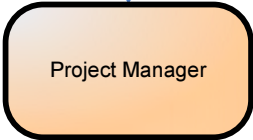


Rotorua Lakes Programme  
Current Governance Structure

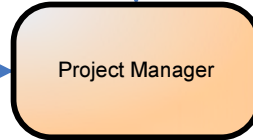
Programme  
Governance



Programme  
Coordination and  
Delivery



← Approximately 50 projects →



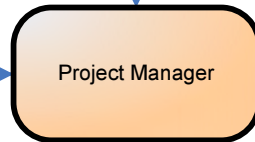
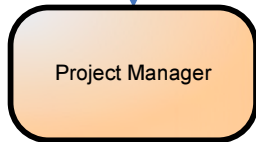
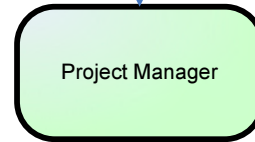
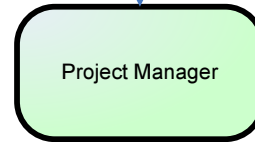
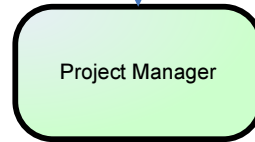
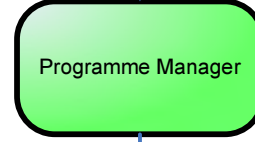
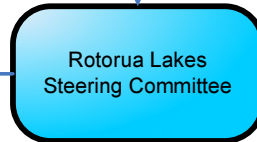


# Appendix



# Rotorua Lakes Programme Proposed Governance Structure

Programme  
Governance



← Approximately 50 projects →

Programme  
Coordination and  
Delivery



# Appendix



# Lakes Project Steering Group

## Terms of Reference

### Establishment

The Lakes Project Steering Group (“the Group”) is established to help give effect to the Deed of Funding between the Crown and Te Arawa (2006). The Group is a joint Group of:

- Bay of Plenty Regional Council;
- Rotorua District Council;
- Ministry for the Environment; and
- Te Arawa Lakes Trust.

This Group will assist with the relationship Memorandum of Understanding between the Crown and the Rotorua Te Arawa Lakes Strategy Group and assist with the delivery of the Lakes Protection and Restoration Programme (“the Programme”).

### Group Role and Funding

The Group’s role is to provide operational co-ordination between responsible agencies as part of the Deed of Funding between the Crown and partner agencies.

The broader strategy and co-ordination role of the Rotorua Lakes Programme (“the Programme”) is performed by the Rotorua Lakes Strategy group (“the Strategy Group”), which has its own separate terms of reference. The Strategy Group was formally established under the Te Arawa Lakes Settlement Act (2006). The governance relationship is outlined in Figure 1 attached.

The Programme is funded in part by way of a Deed signed on the 12<sup>th</sup> August 2008 by Bay of Plenty Regional Council, Rotorua District Council and the Ministry for the Environment.

### Purpose and Scope

The primary purpose of the Group is to facilitate the successful completion of the Deed of Funding Work Programme by ensuring that all constituent operational activities are managed in a coordinated manner.

### Functions

The functions of the Group are:

1. Providing leadership to the managers of all relevant Deed of Funding work programmes operated by stakeholder agencies for the purpose of implementing the Programme;
2. Providing support to the Strategy Group with respect to the identification and resolution of operational matters that have significant implications for the successful completion of the Programme;
3. Ensuring the development and maintenance of a cross-organisational programme management plan which includes, but is not limited to: programme scope, programme schedule, programme budget and programme quality management<sup>1</sup>; and
4. Developing and implementing procedures for identifying, considering and deciding upon matters of an operational nature that pertain to management of the Programme including new interventions or changes to individual projects where such interventions/changes are likely to

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<sup>1</sup> (NB The basis for this programme management plan would be provided by individual project plans, any coordinating work programmes prepared and maintained by the individual stakeholder agencies and any relevant policies and procedures maintained by individual stakeholder agencies as appropriate and necessary.)

impact significantly and materially upon the successful completion of the Programme (these procedures should accommodate escalation of matters to the Strategy Group as appropriate and necessary).

5. Monitor progress in the implementation of the Programme and advise the Strategy Group accordingly.

### **Limitation of Powers**

The Group shall not have the authority to commit Te Arawa Lakes Trust, Ministry for the Environment, Bay of Plenty Regional Council or Rotorua District Council to any path or expenditure.

The Group shall operate on a “best endeavours” basis to give effect to the Deed of Funding agreement between the Crown and partner agencies.

The Group shall not have the authority to submit on regional plans or resource consent matters in its own right.

### **Group Membership**

The Group shall comprise one representative each from:

- Bay of Plenty Regional Council;
- Rotorua District Council;
- Ministry for the Environment; and
- Te Arawa Lakes Trust.

### **Quorum**

At least half plus one of the membership of the Group shall be present to form a quorum.

### **Officers**

1. The Group shall appoint the Chair and Deputy Chair from the membership.
2. Each representative shall be a senior manager with either sponsorship or executive officer responsibilities in relation to the delivery of components of the Programme. The Group members would therefore collectively represent the primary stakeholder organisations and also have some decision making authority.
3. Other individuals from any organisation may be invited to provide information to or observe Group meetings upon invitation from the Group.

### **Term of Appointment**

1. Members of the Group are appointed for a term of three years and may be re-appointed.
2. Each responsible agency shall confirm its membership of the Group.

## **Operating Philosophy**

The Group will at all times operate in accordance with the following:

1. Giving effect to the cultural redress provisions of the Te Arawa Lakes Settlement (2006).
2. Be culturally sensitive observing tikanga Maori.
3. Give consideration to and balance the interests of all water stakeholders in the region in debate and decision-making.
4. Work in a collaborative and co-operative manner using best endeavours.
5. Meeting of the Group shall be called and operate in accordance with the requirements of the Local Government Official Information and Meetings Act.

## **Guidelines**

1. The Group is formed on a three-yearly basis.
2. Remuneration for members shall not be paid.
3. The Group will meet at least four times per annum with workshops and additional ad hoc meetings additionally occurring as deemed appropriate and necessary.
4. Proxies or alternates are permitted.
5. The Group may co-opt such other expert knowledge or advisory as it deems necessary to ensure it is able to achieve its purpose. Any such co-option will be on a non-voting basis.
6. A meeting agenda shall be distributed to members of the Group one week prior to each meeting and that a formal record of all meetings be kept and distributed to: (a) each member of the Group; and (b) each member of the Strategy Group (for information only).

## **Group Support**

The Group shall be supported as appropriate by staff from the Te Arawa Lakes Trust, Ministry for the Environment, Rotorua District Council, and Bay of Plenty Regional Council.



**File Reference:** 7.00232  
**Significance of Decision:** Low



**Report To:** Rotorua Te Arawa Lakes Strategy Group  
**Meeting Date:** 25 March 2011  
**Report From:** Kataraina Maki, Sustainable Development Manager

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## Review of the Strategy for the Lakes of the Rotorua district

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### Executive Summary

At its meeting on 16 April 2010, the Group directed staff from partner organisations to present a paper analysing whether the *Strategy for the Lakes of the Rotorua district* needs updating and what the costs and benefits of this would be. In response to this request, staff commissioned an independent review of the Strategy. The review, based largely on interviews with key stakeholders, was undertaken by MartinJenkins and Associates Ltd.

A key recommendation in the review is that the Strategy be updated and rewritten to provide a relevant overall strategic direction for the Rotorua Te Arawa Lakes.

Staff have identified three options to respond to the review findings, and these are presented for your decision:

Option 1: Status Quo with improved implementation

Option 2: Update the Strategy

Option 3: Develop a new Strategy including Option 3A: Retain the current vision and overriding intent of co-management (Goal 13) of the Strategy and develop a new strategic direction to achieve the vision and Option 3B: Review the current vision in the development of the new Strategy.

Staff from partner organisations Te Arawa and the Bay of Plenty Regional Council recommend Option 3A as the preferred option. This option provides the best opportunity to deliver a visible strategy that reflects current approaches to integrated water quality management and the most up to date innovations and research. Staff from Rotorua District Council will be providing advice on their preferred option at the meeting.

### 1 Recommendations

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

- 1 Receives the report, 'Review of the Strategy for the Lakes of the Rotorua district'.**
- 2 Notes that the independent review of the Strategy for the Lakes of the Rotorua district has been completed by MartinJenkins and Associates Ltd.**

- 3 Notes that staff from partner organisations Te Arawa and the Bay of Plenty Regional Council prefer Option 3A.
- 4 Notes that Rotorua District Council staff will be advising the Group of its preferred option at the meeting
- 5 Agrees to recommend to partner organisations:  
**EITHER**  
**Option 1: Status Quo - Leave the *Strategy for the Lakes of the Rotorua district* as is and focus on improving its communication and implementation.**  
**OR**  
**Option 2: Update the *Strategy for the Lakes of the Rotorua district***  
**OR**  
**Develop a new *Strategy for the Lakes of the Rotorua district* that either:**  
**Option 3A: Retains the current vision and overriding intent of co-management (Goal 13) of the Strategy and develops a new strategic direction to achieve the vision**  
**OR**  
**Option 3B: Reviews the current vision in the development of the new Strategy.**
- 6 Confirms that the significance of the decision has been assessed as LOW, and does not require further identification and assessment of different options, community views and written records.

## 2 Purpose

To seek a decision on whether to update the '*Strategy for the Lakes of the Rotorua district*'.

## 3 Background

The *Strategy for the Lakes of the Rotorua District* provides an overall management strategy for the Rotorua Lakes. It is an overarching policy document that gives a vision for the future, with some practical steps to achieve that vision. It covers issues and goals relating to the protection, use, enjoyment and management of the Rotorua Lakes.

The Rotorua Te Arawa Lakes Strategy Group (the Group) is charged with overseeing the Strategy and providing policy guidance for its implementation.

On 16 April 2010, the Group received an independent review of its constitutional decision making. The independent review confirmed that the Group is a high level strategy committee that oversees and provides policy guidance for the implementation of the *Strategy for the Lakes of the Rotorua District*.

The review also recommended that the Group considered refreshing and updating the *Strategy for the Lakes of the Rotorua District* as the document is ten years old.

The Group directed staff from partner organisations to present a paper analysing whether the *Strategy for the Lakes of the Rotorua District* needs updating and what the costs and benefits of this would be.

In response to this request staff commissioned an independent review of the Strategy.

## 4 **Review of the Strategy for the Lakes of the Rotorua district**

The independent review was undertaken by MartinJenkins and Associates Ltd and is attached [refer Appendix One]. The purpose of the review was to:

- Provide a broad evaluation of the progress against the Strategy's vision and goals
- Provide an analysis and conclusions regarding the performance of the Strategy
- Provide recommendations for change to improve the effectiveness and efficiency of the Strategy and what the cost and benefits of this are
- Establish key priorities for the Strategy to focus future activity.

The review findings came largely from interviews with key staff and stakeholders and a brief analysis of relevant literature and the legislative context.

### 4.1 **Review Findings**

The review recommends that the Strategy be updated. The substantive reasons for this include:

- Changes in strategic thinking approaches (including iwi settlements, funding decisions and scientific advances) have been made since the promulgation of the Strategy
- The Strategy is not driving activities undertaken by partner organisations
- Visibility of the Strategy is low
- There has been no monitoring or evaluation of progress against the vision and goals of the Strategy.

The independent review identifies the following improvements along with the costs and benefits for each. This report incorporates these costs and benefits into its options analysis.

### 4.2 **Review Recommendations**

#### 4.2.1 **Revise and update the Strategy**

The review recommends the Strategy should be revised and updated as a matter of priority. The review lists particular issues that need to be addressed. These are summarised below:

- Advances in scientific understanding have significantly improved knowledge of water degradation. The goals need to be changed to reflect this
- The land use element which is crucial to improving water quality is absent from the current goals
- The goals are not sufficiently targeted at integration between work programmes of partners
- Revisited goals need to clarify the role of the Te Arawa Lakes Settlement Act.

The review also recommends that partner organisations seize and create opportunities to connect, partner and communicate the Strategy and its achievements to key stakeholders. The review identifies essential elements for a stronger implementation framework. These are summarised below:

- Ensure that the Strategy becomes and remains highly visible
- Develop strong links between goals, actions, results monitoring and communication
- Develop a strong monitoring and review framework to ensure the Strategy is constantly kept up to date
- Recognise that land use change has major financial implications, and there is reportedly a need for stronger capacity for economic analysis to sit alongside other lenses (environmental, social and cultural)
- Involving other parties explicitly as part of Strategy implementation, including other agencies (e.g. Fish & Game, the Department of Conservation and interest / advocacy groups. This should include greater support for action plans
- Ensuring more regular evaluation of the Strategy occurs, with clear feedback mechanisms to allow adaptive management.

## 5 Options to consider

The *Strategy for the Lakes of the Rotorua district* is the primary direction-setting document for the 12 Rotorua Te Arawa lakes.

While the independent review recommends that the Strategy needs to be updated, staff have considered the review findings and identified three options that achieve this to varying degrees.

Option 1: Status Quo with improved implementation.

Option 2: Update the Strategy.

Option 3: Develop a new Strategy.

### 5.1 Option 1: Status Quo with improved implementation

This option proposes no change to the Strategy itself. The Strategy remains in its current form as the primary direction setting document for the 12 Rotorua Te Arawa Lakes. Under the status quo, partner organisations can improve the way the Strategy is implemented and communicated. Emphasis can be placed on improving communications about the Strategy framework and the connections between the vision, goals and actions.

Key improvements partner organisations could undertake include:

- Develop a process for partners and stakeholders to reconfirm shared ownership and commitment to the vision of the Strategy
- Refocus initiatives to deliver the vision contained in the Strategy and improve communication of the Strategy outcomes, vision and goals - not just communicating actions
- Stocktake completed actions; identify priorities and actions still to be considered so the community views the Strategy as a live document. They should know which parts are completed, which parts are in progress and those yet to be started

- Set a process and timeframe to review the Strategy
- Improve reporting, monitoring or evaluation of progress against the vision and goals of the Strategy.

The benefits of Option 1 are:

- No resources above the current budget are needed – it is about working smarter and reprioritising staff focus
- Opportunity to rectify some shortfalls identified in the review
- Potential to improve understanding of the purpose of the Strategy and how it operates
- Continuity of the overall vision and purpose of the Strategy
- Maintain existing buy-in from key stakeholders and the public.

The disadvantages of Option 1 are:

- The Strategy continues to lose effectiveness as it becomes more outdated
- It will not reflect an adaptive management approach and will not reflect achievements and progress since it was written in 2000. New activities for lakes are not driven or visible in the Strategy
- Approach is limited to the Strategy's current management framework and does not reflect new styles of Strategy development and thinking.

## **5.2 Option 2: Update the Strategy**

For the purpose of this options analysis, an 'update' would not change the underlying approach of the Strategy.

Updating the Strategy would:

- Stocktake achievements
- Remove out of date content
- Assess existing goals and evaluate what is retained and what is removed
- Renew the Strategy context, i.e. Te Arawa Lakes Settlement Act has been completed and update relevant parties with authority and responsibility for lake management
- Strengthen implementation links and communication between the vision, goals and actions
- Include an implementation, monitoring and review framework including public reporting.

Staff consider that targeted workshops will be required for this option.

The benefits of Option 2:

- Requires limited additional resourcing to achieve
- Opportunity to update the Strategy goals
- Ability to reflect developments made since the Strategy was written

- Improved cohesion of activities towards the vision
- Retains the overall structure, vision and “feel” of the original Strategy.

The disadvantages of Option 2:

- Managing the scope of the update. It is difficult to manage the limited amount of change being undertaken in this option. Communicating to the community that it is an update not a rewrite will be difficult
- May not improve visibility and take-up of the strategy.

Estimated costs for Option 2 are outlined in the table below:

Cost Description	Cost
Development Process (re-writing, project management, peer review)	160 Hours (lead agency) and 80 hours (partner organisations) staff time
Engagement (target workshops)	\$ 5000
Development and Production	\$ 10,000
Total Estimated Cost	240 staff hours and \$15,000

### 5.3 Option 3: Develop a new Strategy

This option would involve the development of a new strategic direction for the Rotorua Te Arawa Lakes.

Whilst some of the existing parts of the Strategy may remain such as the co-management framework which is embedded in the Settlement Act, the new Strategy could end up being substantially different in approach and direction than the existing Strategy. The development of a new Strategy would involve an extensive community engagement phase.

Staff consider that that the Strategy would not have to be a long document. Many modern strategies only set the high level strategic direction through, vision, outcomes, objectives, principles, strategies and implementation methods. A timeframe is often for a 30-50 year period. Priority actions and initiatives can be contained in documents lower down the hierarchy as these are subject to the most change over time.

There are two approaches to develop a new Strategy:

Option 3A: Retain the current vision and overriding intent of co-management (Goal 13) of the Strategy and develop a new strategic direction to achieve the vision.

Option 3B: Review the current vision in the development of the new Strategy.

Both of these options are substantially the same and the costs and benefit analysis is relevant to either option. Option 3A however will allow the current vision to anchor the connection from the original Strategy to the new one.

The benefits of Option 3:

- Refocus on what the big tractable issue are now for all of the 12 Rotorua Te Arawa Lakes

- Identify new objectives that guide action to achieve the vision
- Target priorities for significant change towards the vision
- Potential to address any shortfalls identified by partner organisations and the community
- Stronger ownership and partnership of the strategic direction
- Ability to better coordinate processes and activities
- Chance to re-engage extensively with key stakeholders and the public
- Take on board the current political context. For example Te Ture Whaimana and the Waikato River scoping Study model, National Policy Statement for Freshwater Management, National Environmental Standards on Ecological Flows and Water Levels, Land and Water Forum recommendations, the Canterbury Freshwater Strategy
- Higher visibility and take up of Strategy
- The opportunity to incorporate maatauranga Māori and science.

The disadvantages of Option 3 are:

- The essence of the current Strategy could be lost which could affect the buy-in of partners
- The resourcing required for engagement and the Strategy development phases will exceed planned work allocations, particularly staff time
- Additional resources will be required and funding agreed between partner organisations
- Communities struggle with Strategy development preferring to focus on actions
- A high degree of engagement required - public may feel “over consulted”
- Risk of partner organisations not reaching agreement on new provisions and priorities leading to delays and increased costs.

Estimated costs for Option 3 are outlined in the table below:

Cost Description	Cost
Development Process (writing, project management, peer review)	320 Hours (lead agency ) and 100 Hours (partner organisations) staff time
Engagement (workshop, communication etc)	\$ 15,000
Development and production	\$ 25,000
Total Estimated Cost	420 staff hours and \$40,000

## 5.4 Evaluating the options

### Option 1:

The existing Strategy is out of date as a document and will not change under this Option. Improved implementation and communication will make considerable steps towards improving the visibility and commitment to the Strategy. It can also improve the connection between the Strategy and restoration activities. Staff do not consider

that continuing to implement an outdated strategy is optimal given the changes needed to achieve its vision for the 12 Rotorua Te Arawa Lakes.

**Option 2:** This option presents an opportunity to revitalise commitment to the vision. The document will be updated in terms of what has been achieved and what it still progressing. Clear links between what is to be achieved, why it's important and how activities will contribute can occur. It achieves this with a limited amount of additional resource. This option is limited in its ability to look at a new underlying framework based on new and emerging approaches to Strategy development.

**Option 3:** This option would deliver a visible Strategy that reflects current approaches to integrated water quality management. It would be the most up to date approach and set a strong strategic direction. However quite significant additional resources would need to be allocated.

There are merits in all three options. Which option is preferred depends on how it meets the intended outcome.

The intended outcome of the Strategy is to achieve its overall vision:

*The lakes of the Rotorua district and their catchment 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*

To guide decision making on whether to update the Strategy, staff have used the review findings (see Section 4.1 of this report) to develop criteria to evaluate the options. Appendix Two includes a table that checks the identified options against these criteria.

Option 3 would meet the criteria to the greatest extent.

## 5.5 Partner Organisation Staff Views

Staff from Te Arawa Lakes Trust and the Bay of Plenty Regional Council recommend Option 3A as it provides a strong connection from the original Strategy to the new one.

In particular, Te Arawa Lakes Trust staff support

- Retaining the current vision / essence of the Strategy
- Recognising what has been achieved to date
- That the goal of co-management remains at the forefront of both Option Two or Three.

Rotorua District Council staff have asked the Group to note they will provide their preferred option and reasons why at the meeting.

## 6 Next Steps

If the Group selects Option 1, staff will continue working on actions already agreed by this Group and report back on improving implementation of the existing Strategy.

If the Group selects Option 2, staff will identify all provisions in the Strategy that are either out of date or in need of strengthening. They will propose changes that will form the basis of consultation.

If Option 3 is chosen as the preferred option, staff will prepare a project plan including an engagement strategy, timeframes, and a more detailed estimation of costs. This information will be reported back to the Group at its next meeting.

## **7 Financial Implications**

### **Current Budget**

There no budget implications for Option 1.

The Regional Council advises that it has a responsive policy work programme which has an allocation of staff time and funding for work such as this. The Regional Council could start Option 2 within this financial year if the scope of the work is tight.

Option 3 would require additional resources of 420 staff hours and \$40,000 over the course of the project. Some of these resources may be accessed from the current budget. The Regional Council would be able to fund a lead or support role for Option 3 in the 2011/2012 financial year from the responsive policy work programme. If this option is selected, a timeline for the project will be developed and current budget implications assessed. Partner organisations would need to come to an agreement on resourcing Option 3.

### **Future Implications**

There are no future implications for Options 1 and 2.

Option 3 would require additional resources of 420 staff hours and \$40,000. Some of this budget may be accessed from what is already allocated. Additional budget will be required.

### **Ten Year / Annual Plan Implications**

There are no financial implications for the Ten Year/Annual Plan as a result of the Options 1 and Option 2.

There are Ten Year/Annual Plan implications for Option 3. This cost would be to the Sustainable Water Management Activity including the Strategy development process (writing, project management, peer review), engagement and the launch of a new Strategy with advertising.

Lisa Power  
**Planner**

**for Sustainable Development Manager**

**14 March 2011**



# Appendix



**Appendix One**

# **Review of the Rotorua Lakes Strategy**

August 2010

**Final Report**

**MARTIN<sup>I</sup>JENKINS**



## Executive Summary

This review provides an independent assessment of the *Strategy for the Lakes of the Rotorua District* (the strategy), including progress against the vision and goals, overall performance of the strategy, and suggestions for future priorities. The review has found that:

- The vision and goals of the strategy have little impact on the activities undertaken by any of the partner agencies. This does not imply that progress in improving water quality in the Rotorua Lakes is lacking; there is a great deal of progress being made, and clear commitment exists for continuing this.
- Improvement has not been caused by the strategy or its implementation; but by an increase in scientific understanding of cause and effect, and both Environment Bay of Plenty and Rotorua District Councils undertaking their statutory functions. Scientific understanding of the Rotorua Lakes has improved a great deal over the past decade. There is common understanding that the major issues to be dealt with relate to land use, and the need for a range of tools to manage and in some cases change land use in the catchments surrounding the lakes.
- Visibility of the strategy is low, both inside partner agencies and with external stakeholders. Relationships between partner agencies and stakeholders are generally positive, with progress toward water quality improvement goals not being impeded by negative relationships.
- There has been no monitoring or evaluation of progress against the vision and goals of the strategy, and it is therefore very difficult to identify whether performance of the strategy has been as intended.

We recommend that:

- The strategy be updated and rewritten to provide an up to date and relevant overall strategic direction for the Rotorua Te Arawa Lakes. A key question to be answered in this context relates to the purpose of the strategy – what outcome is it trying to achieve?, what problems it is trying to overcome? and over what time period?.
- The implementation framework of the strategy be strengthened and include monitoring and evaluation functions, feedback loops to allow adaptive management, greater involvement of stakeholders in implementation, and the use of policy tools to assist with achieving the goals.



## Preface

This report has been prepared for Environment Bay of Plenty by Nigel Bradly from MartinJenkins (Martin, Jenkins & Associates Limited).

MartinJenkins is a New Zealand-based consulting firm providing strategic management support to clients in the public, private and not-for-profit sectors.

Our over-riding goal is to build the effectiveness of the organisations we work with. We do this by providing strategic advice and practical support for implementation in the areas of:

- organisational performance
- public policy and economic analysis
- evaluation and research

MartinJenkins was established in 1993, and is privately owned and directed by Doug Martin, Kevin Jenkins, Michael Mills and Nick Davis.



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# Introduction and Context

## Introduction

- 1 The purpose of this report is to provide an independent assessment of the *Strategy for the Lakes of the Rotorua District* (the strategy), including progress against the vision and goals, overall performance of the strategy, and suggestions for future priorities.
- 2 The report was commissioned by Environment Bay of Plenty (EBoP) at the request of the Rotorua Te Arawa Lakes Strategy Group.

## Context

- 3 A strategy allows us to think through what we want and how it will be achieved. The main purpose of a strategy is to bring issues together in a single coherent strategic direction and provide a framework for action.
- 4 The *Strategy for the Lakes of the Rotorua District* was jointly prepared by EBoP, Te Arawa Maori Trust Board (now Te Arawa Lakes Trust) and Rotorua District Council (RDC). It provides an overall management strategy for the lakes of the Rotorua district, gives a vision and goals for the future, with some practical steps to achieve that vision. The scope of the strategy is holistic. The intent of this strategy is to achieve a balance between lake protection, use and enjoyment of the Rotorua Te Arawa Lakes.
- 5 The strategy is now 10 years old. It was developed as a means of coordinating and focusing efforts of the organisations with statutory responsibilities (especially EBoP, RDC and Te Arawa Maori Trust Board) in the catchments of the Rotorua Lakes and the lakes themselves, as well as other interested parties. As such it requires a work programme that is supported by all agencies and is adopted in a consistent and complementary manner, with appropriate funding to ensure it is implemented as intended and that the vision and goals are achieved.
- 6 Since the promulgation of the strategy, the following developments have occurred that are particularly important in the context of this review:
  - Through the December 2004 Deed of Settlement, and ratified in the Te Arawa Lakes Settlement Act 2006, the government transferred ownership of the lake beds to Te Arawa, and required the establishment of a Rotorua Lakes Strategy Group, comprising membership of Environment Bay of Plenty, Rotorua District Council and the Trustees of the Te Arawa Lakes Trust and operating as a joint committee under the Local Government Act 2002. The purpose of the 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 (section 49). Clearly, co-governance was a fundamental expectation of the Settlement Act.*

- In March 2008, central government committed \$72.1 million over ten years to implement the Rotorua Lakes Protection and Restoration Programme. This amounts to 50% of the total estimated cost, with the Rotorua District Council and Environment Bay of Plenty contributing the remaining 50%. The Rotorua Lakes Protection and Restoration Programme aims to restore four priority lakes: Rotorua, Rotoiti, Okareka, and Rotoehu. The programme includes measures to address the different sources of nutrients entering those four priority lakes. Key components include sewerage works, treatment or diversion of nutrient-rich streams, capping lake sediments to lock up nutrients, construction of wetlands, and land management changes. The Ministry for the Environment administers central government's role in the funding commitment.
- There have been significant improvements in scientific understanding of the cause and effect of pollution in the Rotorua Lakes, and the means by which water quality can be improved.

## Objectives of the Review

- 7 At its last meeting (April 2010), the Rotorua Te Arawa Lakes Strategy Group, which oversees implementation of the strategy agreed that staff from partner organisations present a paper analysing whether the strategy for the Lakes of the Rotorua District needs updating and what the costs and benefits of doing this would be.
- 8 To provide this advice to the Rotorua Te Arawa Lakes Strategy Group, Environment Bay of Plenty has engaged MartinJenkins to undertake work as follows:
  - provide a broad evaluation of the progress against the strategy's vision and goals
  - provide an analysis and conclusions regarding the performance of the strategy
  - provide recommendations for change to improve the effectiveness and efficiency of the strategy and what the cost and benefits of this are
  - establish key priorities for the strategy to focus future activity.

## Scope of the Report

- 9 The scope of this work included the following:
  - assessment of performance of the strategy and the perspectives of various stakeholder organisations

- consideration of whether the strategy should be revisited and updated
- identification and discussion of future priorities for the strategy including vision and goals

10 The following areas are out of scope of the report:

- assessment of governance, including the governance function of the strategy itself or any of the organisations responsible for its implementation (this was the subject of a separate review in April 2010)
- assessment of either councils' statutory functions or planning and policy frameworks, including general implementation of statutory functions except as they pertain to the strategy itself
- redrafting the strategy
- detailed cost / benefit analysis.

## Approach

### Interviews

- 11 Interviews were conducted with internal staff from each of the agencies responsible for the strategy and a range of external stakeholders identified by EBoP. The stakeholders were considered by EBoP to be broadly representative of a range of perspectives. A list of interviewees is provided in Appendix One.
- 12 A semi-structured approach to interviews and analysis was used, following broad themes and questions sent to respondents in advance of the interviews (Appendix Two). The semi-structured approach meant that interviews were free flowing and discussion-based, rather than following a specific agenda. This allowed respondents to focus on those areas of particular interest or relevance to them.
- 13 Analysis of the interviews identified clear and consistent results, regardless of the perspective of those being interviewed. All interviews were confidential, although non-attributed quotes from the interviews undertaken are included in Appendix 2 of this report for illustrative purposes.

### Analysis of Written Documentation

- 14 In addition to the interviews, EBoP provided written documents that were analysed and provided input to the findings of this Report. Some stakeholders also provided additional material that was included in the overall analysis.
- 15 A brief analysis of relevant literature was undertaken. Whilst it is beyond the scope or intent of this review to undertake an exhaustive literature review and analysis, we believe there is value in identifying some of the areas in which the strategy and its implementation are clearly strong, or challenged when compared with other examples.

## Evaluation of Progress against the Strategy's Vision and Goals

### Vision

- 16 The intent of the vision is well understood but the language style could be modernised, and changed to reflect the specific outcomes being sought (to bring out more of an achievement focus). Given the recommendations of this review to revisit the strategy and change the focus of the goals, the vision would also need to change to reflect this.
- 17 It is expected that this would include consideration of the relationship between land use and lake water quality, the importance of the Treaty Settlement to the strategy and the role of Central Government in supporting the strategy.

### Goals

- 18 In general, the goals are well linked to the vision, and have identified clear priorities. Also the attempt to link it to an activity-based programme is positive. The goals are generally perceived by interviewees as having been appropriate when written ten years ago, but are universally considered in need of updating.

### Protection goals

*Goal 1: Address the causes of lake water pollution.*

*Goal 2: Deal with pollution from septic tanks.*

*Goal 3: Determine the extent of pollution from stormwater run-off.*

*Goal 4: Define and refine lake water quality standards.*

*Goal 5: Examine the status and future of the catchment bank protection scheme.*

*Goal 6: Address plant and animal pest problems.*

*Goal 7: Determine present and future reserve areas.*

- 19 The first four goals have clearly dominated attention from all partner agencies and are regarded as having been well executed. EBoP and RDC have attracted \$72.1M in central government funding over a 10 year period, for some of the highest priority lakes. Several interviewees commented that goals 1-3 largely restate the statutory functions of local government, and that the role of the strategy in achieving the environmental change, and attracting central government funding is debatable. Comment was also received that the protection goals 2-4 are subordinate to the first, but that the drafting does not reflect this. Goal 4 has been largely achieved, with lake models in place for most lakes.

- 20 Scientific understanding now is much better than it was when the strategy was developed – and the water quality (protection) goals should now reflect this. In particular, the role of land use and a whole-of-catchment approach needs to be codified in the goals. Land use goals need to balance land use needs of the community (including urban and rural landowners) with environmental concerns; ultimately leading to protection of water quality but starting out more broadly.
- 21 The drafting of the protection goals is inconsistent, and would hinder any attempt to develop a monitoring programme. Some relate to *addressing* problems (Goal 1: Address the causes of lake water pollution, Goal 6: Address plant and animal pest problems), others are focused on *determining* the current state (Goal 3: Determine the extent of pollution from stormwater run-off, Goal 7: Determine present and future reserve areas), one relates to *dealing* with an identified problems (Goal 2: Deal with pollution from septic tanks), and finally some relate to *defining* a desired future state (Goal 4: Define and refine lake water quality standards, Goal 5: Examine the status and future of the catchment bank protection scheme). Consistency of drafting is generally considered one area that should be improved in a future strategy, but is particularly noticeable with the protection goals.
- 22 There was very little awareness or comment regarding goals 5-7.

## Use Goals

*Goal 8: Establish an urban development policy.*

*Goal 9: Establish a rural development policy.*

- 23 There was virtually no awareness of these goals, but comment was consistently made that the drafting is overly passive and should be revisited to reflect specific activities rather than just the establishment of a policy. These goals are both relevant to the recommendation to better incorporate land use in future goals.
- 24 It was suggested that these goals are largely a restatement of existing statutory functions and that it is not possible to attribute achievement of goals to the strategy.

## Enjoyment Goals

*Goal 10: Develop a recreation strategy.*

*Goal 11: Monitor and report on recreation activities.*

*Goal 12: Define esplanade reserve areas to ensure public access to each lake.*

- 25 There is slightly greater awareness of enjoyment goals than some others, and a recognition that for some lakes there has been quite a bit of recreation focus in past years. Comment was received that the enjoyment goals are relatively meaningless as they are not action-oriented. "Having a recreation strategy in place doesn't require anything be done about it."
- 26 Again, it was suggested that these goals are largely a restatement of existing statutory functions and that it is not possible to attribute achievement of goals to the strategy. One respondent noted that the recreation strategy (goal 10) has had some good results, in particular with multi-party coordination of an advisory role that reports back to EBoP and RDC.

## Management Goals

*Goal 13: Establish in partnership with Te Arawa a co-management framework that achieves the best integrated management.*

*Goal 14: Establish meaningful and binding working relationships with the iwi/hapu and their ancestral lakes.*

- 27 There is general recognition amongst interviewees that the management goals have not been achieved as intended. Some principles of co-management that would guide decision-makers are reportedly missing.
- 28 The Treaty settlement has clarified the ownership of the lake beds and created the legislative requirement for a governance function including Te Arawa to oversee the strategy. There are discrepancies between the lakes that are included in the Treaty settlement and those in the strategy, with some in the settlement being located in the Waikato Region, and therefore are not included in the strategy. There is also a discrepancy between the reference to 'co-governance' in the settlement, and 'co-management' in the strategy. The terms are not interchangeable and should be reconciled.
- 29 Relationships between partner agencies are positive at present but this is considered to be due to personalities and regular communication. There are no terms of engagement that outlines how agencies should interact. If personnel were not working well together, achievement of positive outcomes regarding the lakes programme would be at risk in the absence of clear terms of engagement. We note that this is covered by recommendations in the recent paper by North South Law which suggests partner organisations should put relevant systems in place.

## Performance of the Strategy

### Implementation Challenges

- 30 It is worth noting that strategies are not based on the internal and often changing structures of organisations. Instead, they are based on what is to be achieved. Their very purpose is to bring issues together in a single coherent strategic direction and as a framework for action. The way individual functions are organised should have little relevance. However the following institutional challenges were identified:
- there was the feeling that the strategy and its implementation lacked coherent 'ownership' across the partner organisations
  - multiple interviewees noted the importance of having a 'champion' of the strategy. It was noted that the 'champion role can ensure the strategy had significantly greater visibility, momentum and stakeholder engagement.

### Stakeholder Engagement and Monitoring

- 31 Overall, there is virtually no awareness (either within or outside the partner organisations) of the strategy; its vision, goals, or the intent that the partner organisations use the strategy to coordinate and focus their activities. This does not reflect a lack of progress or effort on the part of partner organisations but is a clear indication that the strategy is not the specific driver for activities regarding the lakes and their catchments.
- 32 There is little evidence (monitoring) collected to determine what has been implemented in the strategy.
- 33 One area of significant, but variable stakeholder engagement at the specific policy level, is in the preparation of action plans for specific lakes. Examples were provided where engagement has worked well and not worked well during action plan development.

### Science and Knowledge

- 34 There have been significant advances in scientific knowledge about the Rotorua Lakes and their catchments over the past ten years. The partnership with the University of Waikato as well as considerable advances from other research providers and the farming sector have substantively 'changed the game' in terms of understanding of both the cause of water quality degradation and the range of responses that can be adopted.

## Governance

- 35 The strategy and intended institutional and governance arrangements were New Zealand-leading in 2000, but are now out of date in terms of approach (focusing on the lakes rather than broader catchments) as well as institutional and governance arrangements. Other strategic initiatives, including the Canterbury Water Management Strategy, Lake Taupo Protection Trust, and the soon to be created Waikato River Authority are examples of more contemporary approaches to cooperative water management in New Zealand.
- 36 An assessment of governance-related performance is out of scope for this review and was the subject of a separate piece of work earlier this year.

## Comparison with Good Practice

- 37 Many of the elements of what could be considered best practice in modern water quality (catchment) management were present in the formation of the original strategy and its intended implementation. As an indicator of how the Rotorua Lakes Strategy might compare with best practice, a recent article by Landcare Research<sup>1</sup> identified key attributes of New Zealand catchment management, based on feedback from multiple initiatives around New Zealand. We recognise that these attributes are more focused on water quality than the breadth of the Rotorua Lakes Strategy, which includes protection, use and enjoyment but believe the comparison is still useful.
- 38 We have briefly compared these 'key attributes' to the Rotorua Lakes Strategy and its implementation. The number of 'partial' or 'absent' responses in table one below to the various best practice attributes are useful in highlighting some of the ways in which catchment management has advanced in recent years.

**Table 1: Key Attributes of Water Management (Compared with Rotorua Lakes Strategy)**

Attribute	Present / Partial / Absent	Comment
Determine the actual carrying capacity of water bodies and the desired carrying capacity to meet the present and future needs of the community	Present	Very strong scientific understanding, particularly of most at-risk lakes. This is well understood and communicated. Lakes models exist for most lakes.

<sup>1</sup> <http://www.landcareresearch.co.nz/publications/newsletters/mfe/issue1.asp>

Attribute	Present / Partial / Absent	Comment
Have good and timely communication between the full range of stakeholders and the council[s] at the early stages of planning	Partial	Unclear re. quality of communication, and with regard to current strategy, communication is nearly non-existent.
Attune to the whole instead of segment of the whole in catchment management decision making	Partial	The need for catchment-wide decision making is understood but current strategy inadequate in providing for land use aspects of this.
Have clearly connected and defined objectives, policies and methods/rules	Partial	The strategy has a vision and goals. Each council has policies and rules in place via their respective statutory documents. Comment from stakeholders that EBoP / RDC not necessarily well aligned.
Avoid political bias in environmental decision making	unknown	Unable to judge as have seen no evidence to support / refute this.
Consult regularly and have continuous two-way communication with stakeholders during strategy process and implementation phases	Absent	Communications and consultation re. strategy is non-existent.
Peer review science and share intellectual knowledge	Present	Recognised as a major strength in Rotorua Lakes and catchments.
Use up-to-date science and monitoring in decision making	Present	Recognised as a major strength in Rotorua Lakes and catchments.
Plan for and incorporate transition between strategy process phase and implementation phase	Partial	Implementation has been statutory functions rather than of the strategy per se.
Facilitate buy-in to strategy from anyone administering or implementing it	Present	Exists through significant resourcing identified in local authority Ten Year Plans.
Foster team approach to water planning and management within councils	Partial	Exists to a degree but could be improved.
Produce over-arching resource management vision, including generic priorities on sustainable water management	Present	Vision exists.

Attribute	Present / Partial / Absent	Comment
Devolve monitoring to stakeholders within a defined management framework to achieve shared goals	Absent	Monitoring of strategy is non-existent, and councils do their own monitoring of statutory functions.
Build in flexibility to the strategy and processes to respond to new pressures and achieve defined objectives	Absent	Strategy unchanged in 10 years despite new science and knowledge and new institutions elsewhere in NZ leading the way.
Help achieve goals through adaptive management	Absent	Not within strategy but to a degree within EBoP statutory roles.
Monitor effectiveness and efficiency of strategy by measuring them against identified values	Absent	No monitoring.
Ensure water quality targets influence land-based planning	Partial	Land use absent in strategy, but planning documents of both EBoP and RDC, and relevant work programmes clearly recognise the relationship between land use and water quality.
Spread the burden of water management costs among users	Partial	Costs are spread among statutory agencies, including central government.

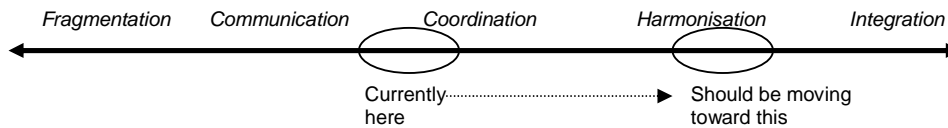
Adapted from <http://www.landcareresearch.co.nz/publications/newsletters/mfe/issue1.asp>

## Recommendations

### Revise and Update Strategy

- 39 The strategy should be totally revised and updated as a matter of priority. In undertaking the revision, it is important to recognise that effective integrated management is a continuous process and that the attributes of effective catchment management described in Table One should be considered. The strategy and its implementation should be explicitly seeking to move along the continuum shown in Figure One toward integrated management. Dimensions to focus on include greater cross-sectoral integration, between land and water uses, among all 3 levels of government and Te Arawa, fully utilising available scientific knowledge, being adaptive with management responses, and better monitoring and evaluation over time.

**Figure 1: Continuum from Fragmented to Integrated Management**



- 40 As discussed previously, the goals as currently written are inadequate and need to be redrafted. The main priority is to incorporate land use, and the need for a mix of new land uses as they relate to improving water quality. Establish key priorities for the strategy to focus future activity, land use and how to best use a mix of tools to achieve land use change. The goals also need to be drafted in such a manner that ensures they use active rather than passive language, and progress is able to be monitored against them. Particular issues that need to be addressed in reviewing the goals include:
- advances in scientific understanding have significantly improved knowledge of the cause and effect of water quality degradation, and the means by which improvements can occur. The goals should be changed to reflect the greater scientific understanding
  - the land use element that is now recognised as crucial to improving water quality is absent from the current goals. This is widely recognised by all interviewees and should be addressed as a matter of priority. It will have significant financial implications
  - the goals are not sufficiently targeted at integration between work programmes of partners, especially EBoP and RDC. As such, they have not sufficiently created a 'fit for purpose' work programme. Rather, it has been more focused on stating existing statutory work priorities of EBoP and RDC

- revisited goals need to clarify the role of the Te Arawa Lakes Settlement Act. New goals should be added for protection of Te Arawa's relationship with the lakes, incorporating cultural, historical, spiritual values.

41 It is important that the in renewing the strategy lessons are learned from other initiatives, both around New Zealand and overseas. We recommend that a detailed assessment of best practice and its applicability to the Rotorua Lakes context be undertaken as part of the early stage of analysis. This will assist in developing the strategy, its implementation framework and institutional arrangements required to support it.

### Costs and Benefits associated with review of the Strategy

42 Costs: The costs of review of the strategy will be influenced by whether internal staff or consultants are used. Assuming most of the work is undertaken by staff from EBoP, RDC and Te Arawa, the cost will be the impact of reassigning staff from existing roles. There will also be a financial requirement to support Te Arawa given its current resourcing constraints.

43 Benefits: The benefits of review and redrafting the strategy are multiple. It is not working as intended today – and it is universally recognised that the strategy needs revisiting. It will have the benefit of redefining the roles of the various partner agencies, and will focus implementation on those goals that are most relevant today, rather than those of a decade or more ago.

44 A further benefit is that it will assist with focusing future central government funding and associated work programmes on land use change, and development of the appropriate tools required.

### Strengthen the Implementation Framework

45 It is recommended that partner organisations seize and create opportunities to connect, partner and communicate the strategy and its achievements to key stakeholders.

46 It is important that implementation is administered, organised and reported in a cohesive way to achieve the vision and outcomes of the strategy and that this is clearly and regularly communicated.

47 Over the long term it is recommended that steps be undertaken in the development of the next strategy to identify ways of building and sustaining leadership of the strategy. In the short term every effort should be made to demonstrate visible leadership of the strategy through increased external promotion by Senior Management in partner organisations and via local networks

- 48 As part of reviewing and renewing the strategy, a much stronger implementation framework is required. Essential elements include:
- ensuring the strategy becomes and remains highly visible
  - developing strong links between goals, actions, results monitoring and communication
  - developing a strong monitoring and review framework to ensure the strategy is constantly kept up to date. This should include monitoring and adaptive management approaches and well as formal evaluation such as formative evaluation (improving the formation and implementation of the strategy), process evaluation (documents what actually happened in the course of the strategy), and impact or outcome evaluation (determining the longer-term impacts and outcomes of the strategy programme)
  - ensuring there are champions at very senior levels from within each of the partner agencies. It is essential that a renewed strategy represent jointly held vision and goals across all partner agencies.
  - recognising that land use change has major financial implications, and there is reportedly a need for stronger capacity for economic analysis to sit alongside other lenses (environmental, social and cultural)
  - involving other parties explicitly as part of strategy implementation, including other agencies (e.g. Fish & Game, the Department of Conservation (DoC)) and interest / advocacy groups. This should include greater support for action plans
  - ensuring more regular evaluation of the strategy occurs, with clear feedback mechanisms to allow adaptive management.

### Costs and Benefits associated with implementation

- 49 Costs: There will be additional costs associated with monitoring and evaluation, depending on the nature of what the respective agencies currently monitor. There will also be costs associated with more in depth economic analysis of the impact of land use change – assuming the partner agencies do not currently have relevant economic capability and capacity.
- 50 Benefits: Linking goals to actions and ensuring monitoring of progress will provide the certainty that the strategy is achieving as intended, and will allow adaptive management. Greater involvement of stakeholders will ensure high visibility and buy-in.

## Appendix One: List of Interviewees

Te Arawa Lakes Trust: Hera Smith, Roku Mihinui

Environment Bay of Plenty Executive Leadership Team: Mary-Anne Macleod, Eddie Grogan, Warwick Murray

Rotorua District Council: Nigel Wharton, Tracey May

Environment Bay of Plenty operational staff: Andy Bruere, Anna Grayling

Ministry for the Environment: Mike Wignall

Office of Treaty Settlements: Ben White

Department of Conservation: Nicky Douglas

Lakes Water Quality Society: Don Atkinson, Ian McLean

Fish & Game: Rob Pitkethley

Federated Farmers: Neil Heather

Lake Tarawera Landowner, David Packman

Lake Rotoma Landowner: Graeme Shirley

Consultant who has worked with Rerewhakaitu farmers: Bob Parker

## Appendix Two: Quotes from Interviews

The following are a series of quotes taken from the interviews undertaken:

- the governance model is cumbersome - the Strategy Group just sit and listen, no decisions are able to be made.
- co-management is very weak. There is no real framework and principles are lacking. It relies on cooperation, which makes it very individual focused. If any individual left, there is no framework or basis to guide co-management. Going forward this all needs to be codified.
- there is lots of monitoring done by councils, universities, CRIs etc but nothing that ties back to the strategy specifically. Makes it impossible to know exactly what influence the strategy has had.
- the goals are outdated, less relevant than before.
- we all know it is land use change [not covered in the strategy] that causes the remaining problems.
- we have new science, and we've had the Treaty settlement - all since the strategy was created.
- a joint vision and joint goals are essential.
- the scientific understanding is much better 10 years on, and the goals and strategy should be rewritten to reflect that.
- the governance role needs to be redefined, including reviewing and monitoring progress against the strategy; looking at activities being carried out by statutory authorities and making sure they are delivering; and coordinating interaction with central government.
- action plans are single purpose and can struggle in the broader statutory context. They seem to have been politicised in recent years and as a result some of the local areas are pretty frustrated that they put in so much work to the action plans and little seems to have happened.
- visibility of the strategy within any of the agencies as well as the wider stakeholder community is non-existent. That means it is not guiding work programmes, although in saying that it is obvious that water quality improvements have occurred.
- the guts of what is needed now is land use change - everyone knows it, and pretty much know what needs to be done. It's just a case of political willingness and money.
- the Strategy should have an overriding goal with subsidiary goals beneath it.

- there needs to be a place for interest groups and other stakeholders to be involved in implementation and monitoring of the strategy. Not necessarily decision-making but at least being heard and involved.
- some parts of the strategy such as recreation goals - have had some great work done but there is no reporting on achievements.
- the research base now is excellent and has made parts of the strategy obsolete, especially the parts that are prescriptive.
- the strategy is inadequate for rural land, including a lack of economic analysis of impacts of land use change, vision, and clarity on users pays if there is land use change.
- the key point from my point of view is that at the core of the strategy is much more coordinated management.- has this happened? If it has, is it because of the strategy? Impossible to know - it isn't reported or monitored.
- action plans are too narrow - focus on water quality only but should be expanded to include recreation, use etc.

## Appendix Three: Information Provided to Stakeholders

### Internal Parties (ie people who work for the three signatory organisations)

#### Context for the Review

The *Strategy for the Lakes of the Rotorua* district is a document jointly prepared by Environment Bay of Plenty, Te Arawa Maori Trust Board and Rotorua District Council. It provides an overall management strategy for the lakes of the Rotorua district gives a vision and goals for the future, with some practical steps to achieve that vision. It covers issues and goals relating to the protection, use, enjoyment and management of the Rotorua Lakes. It can be read at <http://www.envbop.govt.nz/Strategies/Lakes-220822-LakesStrategyRotoruaDistrict2000.pdf>

The strategy is now 10 years old. It was developed as a means of coordinating and focusing efforts of the organisations with statutory responsibilities (especially EBoP, RDC and Te Arawa Maori Trust Board) in the catchments of the Rotorua Lakes and the lakes themselves, as well as other interested parties. As such it requires a work programme that is supported by all agencies and is adopted in a consistent and complimentary manner, with appropriate funding to ensure it is implemented as intended and that the vision and goals are achieved. In March 2008, central government committed \$72.1 million over ten years to see the Rotorua Lakes Protection and Restoration Programme implemented.

#### Vision and Goals

The vision of the strategy is:

*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.*

Three basic issues feature in the vision – protection, use and enjoyment, all in the light of Te Arawa’s traditional relationship with their ancestral lakes.

There are 14 broad goals contained in the strategy:

#### Protection Goals

1. Address the causes of lake water pollution.
2. Deal with pollution from septic tanks.
3. Determine the extent of pollution from stormwater runoff.

4. Define and refine lake water quality standards.
5. Examine the status and future of the catchment bank protection scheme.
6. Address plant and animal pest problems.
7. Determine present and future reserve areas.

#### **Use Goals**

8. Establish an urban development policy.
9. Establish a rural development policy.

#### **Enjoyment Goals**

10. Develop a recreation strategy.
11. Monitor and report on recreation activities.
12. Define esplanade reserve areas to ensure public access to each lake.

#### **Management Goals**

13. Establish in partnership with Te Arawa a co-management framework that achieves the best integrated management.
14. Establish meaningful and binding working relationships with the iwi/hapu and their ancestral lakes.

#### **Purpose of this Review**

At its last meeting (April 2010), the Rotorua Te Arawa Lakes Strategy Group, which oversees implementation of the strategy agreed that staff from partner organisations present a paper analysing whether the strategy for the Lakes of the Rotorua District needs updating and what the costs and benefits of doing this would be.

To provide this advice to the Rotorua Te Arawa Lakes Strategy Group, Environment bay of Plenty has asked MartinJenkins to undertake work as follows:

- Provide a broad evaluation of the progress against the strategy's vision and goals
- Provide an analysis and conclusions regarding the performance of the strategy
- Provide recommendations for change to improve the effectiveness and efficiency of the strategy and what the cost and benefits of this are
- Establish key priorities for the strategy to focus future activity.

#### **Areas of focus for the Interviews**

The questions below cover the broad themes to discuss during interviews. We will focus on those matters within your areas of interest.

### **Looking Back: Progress against the Strategy's vision and goals, and overall performance**

In 2000 when the strategy was created, a multi-party, cooperative approach to implementation was envisaged. How effective do you feel this has been at enabling progress toward the vision and goals and the work programmes of relevant organisations.

This includes:

- How visible the strategy is 10 years on
- Do you believe it is still guiding work programmes of the relevant organisations and leading to the sort of changes that were envisaged?
- The impact of having multiple organisations responsible for different elements of the strategy including
  - how consistent and coordinated the various responsible organisations are
  - how well funded activities have been
  - ongoing monitoring and evaluation, and dissemination of information
  - linkages between statutory RMA documents, LTCCPs and annual plans, and the strategy.

How well have other interested parties been included and informed in the implementation of the strategy?

Co-management was a key goal in seeking integrated management. What are some of the elements of a co-management framework that you believe are in place and how are they contributing to the goal of integrated management? What could be improved from a co-management perspective?

### **Looking Forward: Possible areas for change and future priorities**

Regarding some of the challenges to date we have discussed, do you believe it is the strategy itself that presents problems, or its implementation (or both)?

What are the main barriers to improving implementation, and what causes these?

Do you believe the strategy has roughly the right approach in terms of the broad vision and the mix of goals? If not, how do you think it could be improved, and how would this result in change 'on the ground' to the implementation of the strategy?

Is the concept of several organisations working cooperatively and consistently a good one? Do you have any specific ideas for how this could be improved?

Where has / can central government make the greatest contribution towards realising the goals of the strategy? What should be the role of central government in the strategy, given it has contributed \$72.1 million over 10 years?

## Context for the Review – External Parties

The *Strategy for the Lakes of the Rotorua* district is a document jointly prepared by Environment Bay of Plenty, Te Arawa Maori Trust Board and Rotorua District Council. It provides an overall management strategy for the lakes of the Rotorua district gives a vision and goals for the future, with some practical steps to achieve that vision. It covers issues and goals relating to the protection, use, enjoyment and management of the Rotorua Lakes. It can be read at <http://www.envbop.govt.nz/Strategies/Lakes-220822-LakesStrategyRotoruaDistrict2000.pdf>

The strategy is now 10 years old. It was developed as a means of coordinating and focusing efforts of the organisations with statutory responsibilities (especially EBoP, RDC and Te Arawa Maori Trust Board) in the catchments of the Rotorua Lakes and the lakes themselves, as well as other interested parties. As such it requires a work programme that is supported by all agencies and is adopted in a consistent and complimentary manner, with appropriate funding to ensure it is implemented as intended and that the vision and goals are achieved. In March 2008, central government committed \$72.1 million over ten years to see the Rotorua Lakes Protection and Restoration Programme implemented.

### Vision and Goals

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### **Purpose of this Review**

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To provide this advice to the Rotorua Te Arawa Lakes Strategy Group, Environment bay of Plenty has asked MartinJenkins to undertake work as follows:

- Provide a broad evaluation of the progress against the strategy's vision and goals
- Provide an analysis and conclusions regarding the performance of the strategy
- Provide recommendations for change to improve the effectiveness and efficiency of the strategy and what the cost and benefits of this are
- Establish key priorities for the strategy to focus future activity.

### **Areas of focus for the Interviews**

The questions below cover the broad themes to discuss during interviews. We will focus on those matters within your areas of interest.

### **Looking Back: Progress against the Strategy's vision and goals, and overall performance**

In 2000 when the strategy was created, a multi-party, cooperative approach to implementation was envisaged. As an external party affected by the strategy, how effective do you feel this approach has been at enabling / inhibiting progress toward the vision and goals?

This includes:

- How visible the strategy is 10 years on
- Do you believe it is still guiding work programmes of the relevant organisations and leading to the sort of changes that were envisaged?
- Your perceptions of the linkage between the vision, broad goals and specific actions that have occurred in the past decade.
- What are some of the things you think have changed in the Rotorua Lakes catchment, and the lakes themselves as a result of the strategy and its implementation?
- Is there evidence of change that is collected and provided to interested parties?

How well have interested external parties been included and informed regarding the implementation of the strategy?

Co-management was a key goal in seeking integrated management. What are some of the elements of a co-management framework that you believe are in place and are they contributing to the goal of integrated management? What could be improved from a co-management perspective?

Common elements of these sorts of strategies are that there is a very strong 'bottom up' awareness and drive for the strategy to be created and implemented. Comment on how the broader community, affected stakeholders and landowners feel about the strategy, and how involved people outside of EBoP, RDC and Te Arawa Maori Trust Board are with its implementation.

### **Looking Forward: Possible areas for change and future priorities**

Regarding some of the challenges to date we have discussed, do you believe it is the strategy itself that presents problems, or its implementation (or both)?

Do you believe the strategy has roughly the right approach in terms of the broad vision and the mix of goals? If not, how do you think it could be improved, and how would this result in change 'on the ground' to the implementation of the strategy?

Is the concept of several organisations working cooperatively and consistently a good one? Do you have any specific ideas for how this could be improved?

For the goals listed in the strategy (Protection, Use, Enjoyment, Management Goals), please comment on:

- What works well currently and should not be changed
- Any issues and areas for improvements you see with regard to priorities and future work programmes.



# Appendix



Appendix Two

**Table One: Summary of Evaluation of Options 1, 2 and 3**

<b>Criteria</b>	<b>Option 1</b> Status quo and improved implementation	<b>Option 2</b> Update Strategy	<b>Option 3</b> Develop a new Strategy
Greater direction /Strategy that drives activities		✓✓	✓✓✓
Better visibility and take-up of Strategy	✓✓	✓✓	✓✓✓
Certainty and clarity of the purpose of the Strategy and how it operates	✓✓	✓✓✓	✓✓✓
Improved monitoring and evaluation of Strategy	✓	✓✓	✓✓✓
Recognition of developments that have been achieved	✓	✓✓✓	✓✓✓
Reflects current water quality management thinking		✓	✓✓✓
<b>Key for Table One: Level to which option meets criteria</b>			
No Tick	✓	✓✓	✓✓✓
Does not meet	Low	Fair	High



**File Reference:** 4.00911  
**Significance of Decision:** Low



**Report To:** Rotorua Te Arawa Lakes Strategy Group  
**Meeting Date:** 25 March 2011  
**Report From:** Kataraina Maki, Sustainable Development Manager

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## **Draft Lake Tikitapu Action Plan - Release for Public Feedback**

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### **Executive Summary**

This report seeks approval to release the draft Lake Tikitapu Action Plan for public feedback.

Lakes water quality is measured by the Tropic Level Index (TLI) as set for the 12 Rotorua Te Arawa Lakes in Objective 11 of the Operative Regional Water and Land Plan. The current TLI of 3.1 at Lake Tikitapu has triggered the need to develop an action plan. The purpose of the draft Lake Tikitapu Action Plan is to reduce nutrients, improve water quality and reach its target TLI of 2.7.

The draft Action Plan was developed in accordance with the requirements for lake action plan development described in Method 41 of the Water and Land Plan. In accordance with this procedure, the draft Action Plan describes the water quality problem and identifies nutrient reduction targets. Stakeholders were also consulted to assist develop the draft Action Plan.

The draft Action Plan identifies one main cause of deteriorating water quality at this lake: old septic tank facilities. The key action of sewerage reticulation of the septic tank facilities was completed in October 2010 and should achieve the required nutrient reduction.

The stakeholder group identified some outstanding issues and further actions that support the main action - reticulation of the septic tanks.

Regional Council staff seek the Rotorua Te Arawa Lakes Strategy Group's (RTALSG) approval to release the draft Lake Tikitapu Action Plan to the public for feedback over a four week period during April – May 2011.

### **1 Recommendations**

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

- 1 Receives the report, 'Draft Lake Tikitapu Action Plan – Release for Public Feedback'.**
- 2 Notes that the Strategy Policy and Planning Committee of the Regional Council recommend that the Lake Tikitapu Action Plan goes to public consultation.**
- 3 Approves the draft Lake Tikitapu Action Plan for release to the public for feedback over a four week period during April-May 2011.**

- 4 **Confirms that the significance of the decision has been assessed as LOW, and does not require further identification and assessment of different options community views or written record.**

## 2 Purpose of the Report

To seek approval for the public release of the draft Lake Tikitapu Action Plan.

## 3 Background

A key water quality indicator for the 12 Rotorua Te Arawa Lakes is the Tropic Level Index (TLI). The TLI is a number used to indicate the health of lakes in New Zealand. As a general rule of thumb the higher the number, the worse the water quality in the lake. The number is calculated using four separate water quality measurements - total nitrogen, total phosphorus, water clarity, and chlorophyll-a. Objective 11 of the Regional Water and Land Plan sets a TLI for Lake Tikitapu of 2.7. The current TLI for Lake Tikitapu is 3.1.

The water quality of Lake Tikitapu as measured triggers the Water and Land Plan requirement to develop a lake action plan. Method 41 of the Plan describes a process to be undertaken when developing a lake action plan. The Regional Council must identify the causes and scale of the water quality issue. Action Plan development must also consider community views and identify actions to improve water quality.

On 8 February 2011 the Strategy, Policy and Planning Committee of the Regional Council received the draft Lake Tikitapu Action Plan and agreed to send it to the Rotorua Te Arawa Lakes Strategy Group for its consideration. It also recommended that it be released for public consultation.

## 4 Comment

### 4.1 Draft Action Plan

The draft Lake Tikitapu Action Plan identifies the water quality problem for Lake Tikitapu, the nutrient reduction required and the key action to achieve the nutrient reduction.

To meet the required TLI for Lake Tikitapu nitrogen and phosphorous must be reduced. A nutrient budget for Lake Tikitapu was developed to establish the sources and scale of nutrients going into the lake. Nutrients from septic tanks are currently the major contributor to the water quality problem. The nutrient budget is summarised in Table 1.

Table 1- Nutrient budget for Lake Tikitapu

	Phosphorous Load kilograms/yr	Nitrogen Load kilograms/yr
Bare Ground	0.3	5.7
Exotic Forest	6.0	204.0
Indigenous Forest and Scrub	34.5	1174.5
Grassland (pasture)	7.7	71.1
Grassland (recreation)	2.3	24.7
Urban Stormwater	4.0	310.0
Septic Tanks	70.0	700
Rainfall on Lake	0.2	12.0
<b>Total</b>	<b>125</b>	<b>2502</b>

Nutrient reduction targets were developed for Lake Tikitapu. These targets tell us how much nitrogen and phosphorous we need to remove from the lake to reduce nutrient, improve water quality and meet the required TLI. This is shown in Table 2.

Table 2- Nutrient reduction targets for Lake Tikitapu

	Nitrogen (kilograms per year)	Phosphorous (kilograms per year)
Current Lake Nutrient	2502	125
Required Nutrient Reduction	<b>701 – 822</b>	<b>21 – 31</b>

The most significant source of nitrogen and phosphorous to Lake Tikitapu is from septic tanks. Septic tanks in this lake catchment were limited to the campground and the Rotorua District Council ablution blocks near Swimming Beach on the northern shore of the lake.

Rotorua District Council reticulated all of these ablution blocks at Lake Tikitapu to the sewage treatment plant in Rotorua. Work was completed in October 2010.

Reticulation of the septic tanks is estimated to reduce nitrogen by 700 kilograms per year and phosphorous by 70 kilograms per year. This should meet the nutrient reduction required to improve water quality to the TLI of 2.7.

The community identified actions in addition to reticulation of the septic tanks. These actions are included in the draft Action Plan as follows:

- Propose a policy direction in the Regional Policy Statement that requires nutrient discharge limits to be set in the Water and Land Plan for all of the Rotorua Te Arawa Lakes including Lake Tikitapu
- Bay of Plenty Regional Council, Rotorua District Council and Te Arawa Lakes Trust to engage the local community in any update of the Strategy for the Lakes of the Rotorua District (to ensure a vision for the lake is developed and a more co-ordinated approach to lakes water quality management is achieved)
- Ongoing water quality monitoring by the Regional Council to assess the effects of septic tank reticulation
- Public annual reporting on the Action Plan.

#### 4.2 Community Input

On 4 November 2010 a group of key community stakeholders met at Apumoana Marae in Rotorua to workshop water quality issues at Lake Tikitapu. Workshop outcomes were used to develop a draft Action Plan for Lake Tikitapu.

Although it was recognised that reticulation of the septic tanks was likely to return the TLI to 2.7 other potential issues were discussed. The group also identified why it values the lake and how it wants the lake to look in the future.

Rotorua District Council and Te Arawa Lakes Trust have received copies of the draft Action Plan and provided feedback to regional council staff. On 28 January 2011 the key community stakeholders met again in Rotorua. Regional Council staff delivered a presentation on the draft Action Plan, and provided time for questions, comments and answers.

## 5 **Next Steps**

The main action in the draft Action Plan is completed; key stakeholders have been consulted and there are no other options to significantly improve water quality at Lake Tikitapu.

For these reasons staff recommend a small scale four week public feedback period including:

- Making the draft Action Plan available to the public on the Bay of Plenty Regional Council website
- A public advertisement in a local Rotorua newspaper to inform the general public
- An email to key stakeholders describing the public feedback period.

The period for receiving public feedback (if approved) will go over the April – May 2011 period.

## 6 **Financial Implications**

### **Current Budget**

The only actions to be implemented by partner organisations within the current budget are those identified and budgeted within and across activities and programmes in the Ten Year Plans: 2009-2019. These areas fund the provision of strategic policy advice to complete the Action Plan and the ongoing water quality monitoring and reporting.

The budget for reticulation of the septic tanks at Lake Tikitapu was met as part of the Lake Okareka reticulation project.

### **Future Implications**

The Action Plan has the potential for future financial implications. It is expected that the Bay of Plenty Regional Council and partner organisations will consider any further costs related to the adaptive management approach described in the Action Plan through future Ten Year Plans.

### **Ten Year / Annual Plan Implications**

Actions to be implemented within the current Ten Year Plan: 2009-2019 have already been identified during its development. Future actions can be considered in future Ten Year and Annual Plans.

Jason Pilkington

**Planner**

**for Sustainable Development Manager**

**15 March 2011**

# Appendix



# Lake Tikitapu (the Blue Lake) Draft Action Plan

January 2011



Bay of Plenty Regional Council

*Working with our communities for a better environment  
E mahi ngatahi e pai ake ai te taiao*



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# Summary

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## 1.1 Pressures on water quality at Lake Tikitapu

- Lake Tikitapu (the Blue Lake) has a steep catchment comprised of ninety two percent native and exotic forest; seven percent pasture and one percent urban area.
- Since Regional Council monitoring began in 1992 water quality at Lake Tikitapu has shown a decline. The Trophic Level Index at Lake Tikitapu is 3.1<sup>1</sup> and needs to come down to 2.7.
- There are more people visiting Lake Tikitapu every year, and this is placing stress on the old septic tank facilities (both campground and public facilities) which causes nutrients to leach into the lake.

## 1.2 Why water quality is important to people at this lake

- Lake Tikitapu is a popular lake for recreation. Good lake water quality is important to this community of users.
- Good water quality contributes to the sense of “pride, place, mana, status and culture involved in achieving excellence in managing the lakes.” for Te Arawa people<sup>2</sup>.
- People enjoy lakes less if the water quality is poor. Rotorua Lakes are a tourist attraction to the area and poor lake water quality can affect the Rotorua economy.



## 1.3 Improving water quality at Lake Tikitapu

- Nutrients going into the lake from old sewage systems have been identified as the main problem and fixing this is the most important action.
- Rotorua District Council reticulated the existing toilet blocks at Lake Tikitapu, and in the campground, in October 2010. This is likely to reduce the lake water nutrients by the amount required to return the TLI to 2.7.
- The next Regional Policy Statement is proposing a policy direction that requires nutrient discharge limits to be set in the Water and Land Plan for all of the Rotorua Te Arawa lakes. This will include Lake Tikitapu.
- The Bay of Plenty Regional Council, Rotorua District Council and Te Arawa Lakes Trust will ensure that a vision for Lake Tikitapu; strategic direction and co-ordinated planning for the lake is achieved<sup>3</sup>.
- An adaptive management approach to manage water quality at this lake is required. The Bay of Plenty Regional Council will continue to monitor water quality at Lake Tikitapu.

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<sup>1</sup> Bay of Plenty Regional Council (2009/2010) Rotorua Lakes TLI Update

<sup>2</sup> Bay of Plenty Regional Council, Rotorua District Council & Te Arawa Lakes Trust Board (2000) Strategy for the Lakes of the Rotorua District

<sup>3</sup> Bay of Plenty Regional Council, Te Arawa Lakes Trust, Rotorua District Council & key lake stakeholders (2010) Lake Tikitapu Water Quality Workshop, Session 3



# Purpose

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This document describes the current state of water quality at Lake Tikitapu; where water quality should be; how it will get there and by when; and future risks to water quality in this lake catchment.



## Why have we created an action plan?

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We need to improve water quality at Lake Tikitapu. Current knowledge tells us that there is one action that will improve water quality to the required level: reticulation of the septic tanks. This action was completed in October 2010; and Bay of Plenty Regional Council will continue to monitor water quality at this lake.

We have created this action plan to ensure that we will meet the water quality requirements at Lake Tikitapu by:

- Identifying any other actions that will complement reticulation (such as monitoring the effects of reticulation on water quality).
- Ensuring we have actions in place to allow an adaptive management approach in case things change.
- Talking with the community to make sure we've covered everything.
- Looking toward the future and assessing other potential risks to water quality at this lake.

## The Lake

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Lake Tikitapu is one of the twelve Rotorua Te Arawa Lakes. It is a small, pear shaped lake framed by native bush and forestry. Famous for its striking colour, it is known as “the Blue Lake” and is found adjacent to the slate-green coloured “Green Lake”, or Lake Rotokakahi. With a pontoon and an easy walking track around the lake, it is a popular location for family outings.

Lake Tikitapu was formed 13,500 years ago by volcanic activity. The maximum depth of the lake is 27.5 metres, and the average depth is 18 metres.

There are no surface flows from the lake, however subsurface flow is thought to drain towards Lake Tarawera, via Lake Rotokakahi.

Lake Tikitapu has a small catchment area of 5.7 km<sup>2</sup> and has 1.4 km<sup>2</sup> of surface water. Ninety two percent of the catchment bordering the lake comprises native and exotic forest and scrub. Seven percent of the lake catchment is in pasture and one percent is urban. Steep inclines along the lake catchment allow fast run-off of rain water into the lake.

## What do people want for the Rotorua Te Arawa Lakes?

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The Bay of Plenty Regional Council has worked with the regional community to identify the community's aspirations for management of the environment. The community outcomes related to water quality across the region are:

- A clean and protected environment
- Healthy and safe communities
- A prosperous and sustainable economy
- Respected culture and heritage

The Bay of Plenty Regional Council, Te Arawa Lakes Trust and Rotorua District Council worked with the community to develop a strategy for the Rotorua Te Arawa Lakes and identified a long-term vision for the Rotorua Te Arawa Lakes. The vision is:

*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.*<sup>4</sup>

The Strategy for the Lakes of the Rotorua District also states a fundamental community value for Iwi is, “The principle of guardianship... and the protection of the mauri of the environment”.

## **What does the lake community want for Lake Tikitapu?**

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Lake Tikitapu has strong cultural and spiritual values for Iwi; is the most popular recreation lake of all the Rotorua Lakes; and hosts significant water-based events in the region. The Ministry for the Environment describes Lake Tikitapu as a lake of national importance to recreation.<sup>5</sup> Key stakeholders described their desires for this lake in a workshop at Apumoana Marae, Rotorua on 4 November 2010:

We value the pristine, crystal-clear condition of this lake and its deep local culture; the unique, deep-blue colour and rain-like composition of its water; the semi-remote recreation experiences that the lake provides close to a major city centre and the beauty of the lake and its surrounding forests.<sup>6</sup>

In order to achieve the regional community outcomes, the vision for the Rotorua Te Arawa Lakes and the desires of local stakeholders, the Regional Water and Land Plan (RWLP) has rules to protect the water quality of the Rotorua Te Arawa Lakes. The Trophic Level Index (TLI) as described in Objective 11 is used in this Plan to benchmark community expectations for water quality.<sup>7</sup>



## **Water quality in the Lake**

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Water quality in the Rotorua Te Arawa Lakes, as measured by the TLI, is deteriorating. Increasing pressures from development, land use and other activities have contributed to a decline in water quality.

Lake Tikitapu has the fourth best water quality of the twelve Rotorua Lakes in the Bay of Plenty region.<sup>8</sup> The lake is safe for swimming 100% of the time. However, some indicators suggest that Lake Tikitapu’s water quality has been getting worse since monitoring began in 1992.

The Rotorua Lakes Water Quality Report 2009 describes Lake Tikitapu’s water condition using the TLI. The TLI is an indicator of lake water quality. An increase in TLI can indicate the increasing possibility of nuisance biological growths such as algal blooms, resulting in declining aspects of water quality.<sup>9</sup>

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<sup>4</sup> Environment Bay of Plenty, Te Arawa Maori Trust, Rotorua District Council (2000) Strategy for the Lakes of the Rotorua District

<sup>5</sup> Ministry for the Environment (2010) Potential Water Bodies of National Importance

<sup>6</sup> Environment Bay of Plenty, Te Arawa Lakes Trust, Rotorua District Council & key lake stakeholders (2010) Lake Tikitapu Water Quality Workshop, Session 2

<sup>7</sup> Environment Bay of Plenty (2008) Regional Water and Land Plan

<sup>8</sup> Scholes, P, Bay of Plenty Regional Council (2009) Rotorua Lakes Water Quality Report

<sup>9</sup> Noel M. Burns (2000) Trophic Level Index Baselines and Trends for 12 Rotorua District Lakes, 1992 to 2000

The Regional Water and Land Plan, Objective 11, defines the maximum acceptable trophic level for each of the twelve Rotorua Lakes. The maximum trophic level acceptable at Lake Tikitapu is 2.7.<sup>10</sup> Currently, Lake Tikitapu TLI is 3.1. Therefore something needs to be done to reduce the TLI.

## What's causing the problem?

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There is too much nitrogen and phosphorous in Lake Tikitapu's water. Increasing phosphorous, in particular, has been causing the TLI to increase in the lake. TLI has remained relatively stable over the past five years, but is above the acceptable level described in Objective 11 in the Regional Water and Land Plan.

The current annual nutrient load for Lake Tikitapu is:

- Nitrogen: 2502 kilograms per year
- Phosphorous: 125 tonnes kilograms per year

The contributors of nitrogen and phosphorous to Lake Tikitapu are:<sup>11</sup>

Land Use	% N entering lake	% P entering lake
Exotic Forest	8%	5%
Native Forest	48%	28%
Grassland (pasture)	3%	6%
Grassland (recreation)	1%	2%
Stormwater	12%	3%
Septic Tanks	28%	56%
Total	100%	100%

N = Nitrogen

P = Phosphorous

The amount of land covered by native and exotic forest has not significantly changed since the TLI was first recorded. The steep nature of the lake catchment, and dominance of forest land cover, results in a steady flux of nutrients to the lake water. Farming remains stable, and contributes minor amounts of nutrients to the lake. Some gorse is present in the catchment mainly associated with pastoral land and this is likely to be contributing a minor quantity of nitrogen to the lake. In general, these land uses are therefore unlikely to have caused the TLI to be greater than the Regional Water and Land Plan objective.

Lake Tikitapu has seen significant changes in recreation activities since 2005. Swimming increased by up to forty seven percent at Swimming Beach over five years, and boating has doubled.<sup>12</sup> Nearly half (45%) of all recorded recreation on a Rotorua Lake occurs at Lake Tikitapu.<sup>13</sup> The lake also hosts sixty three percent of all water-based Rotorua Lake events, attendees and participants. The increases have placed high pressure on the old on-site ablution blocks.

The current ablution blocks are on-site disposal units (septic tanks). These tanks slowly leach nitrogen and phosphorous into the ground and gradually into the lake water. High use causes more severe leaching into the lake as the septic tank facility becomes overfull. Increasing use of ablution blocks and storm water run off from the carpark (and road) have increased nitrogen and phosphorous levels in the lake.<sup>14</sup> In particular, increasing people using old septic tank facilities has caused high relative increases in phosphorous to the lake and has most likely caused a rise in lake TLI.

<sup>10</sup> Bay of Plenty Regional Council (2008) Bay of Plenty Regional Water and Land Plan, The Integrated Management of Land and Water, Objective 11

<sup>11</sup> John McIntosh (2010) nutrient budget for Lake Tikitapu

<sup>12</sup> APR Consultants (2010) Rotorua Lakes Review: Analysis of Recreational Use and Pressures on Supporting Infrastructure

<sup>13</sup> Excludes fresh water fishing

<sup>14</sup> Bay of Plenty Regional Council (2005) Lakes Quality Assessment and Action Plan Prioritisation

## What are our assumptions?

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We have, however, had to make some assumptions in our estimates of what is causing the TLI to increase. The most significant assumption is that the science used to establish the nutrient budget for Lake Tikitapu is correct.<sup>15</sup> Other important assumptions are:



- The science developed for other lake and coastal water bodies where septic tanks were reticulated is analogous to Lake Tikitapu.
- Septic tank performance at Lake Tikitapu is analogous to established and accepted septic tank performance measures.
- Nutrient loading from various land uses is similar to that measured around other Rotorua Lakes' catchments.
- No significant change (other than use of the lake) for land use has been identified in the Lake Tikitapu catchment.

## Community views: what else could be causing water quality issues at Lake Tikitapu?

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The community identified other factors that could be affecting water quality at Lake Tikitapu.<sup>16</sup> They were:

- Run-off from storm water pipes into the lake may be affecting water quality.
- Human activity on the lake (swimming and boating) has increased significantly, and this may be affecting water quality.<sup>17</sup>

The community also identified a concern that without vision, strategic direction and co-ordinated planning for this lake the ability to respond to water quality issues would be hampered.

## What if we did nothing?

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Action has been taken to reduce the TLI through reticulation of septic tanks. Without this action the TLI would likely increase and water quality at Lake Tikitapu would become noticeably poorer. If oxygen depletion rates increased in the lake, then the increased length of anoxia in the lake would result in higher phosphorous levels. If this were to occur the TLI would likely become worse.

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<sup>15</sup> The Technical Advisory Group (TAG) is made up of lakes water quality experts. This group developed the nutrient budget for Lake Tikitapu

<sup>16</sup> Bay Environment Bay of Plenty, Te Arawa Lakes Trust, Rotorua District Council & key lake stakeholders (2010) Lake Tikitapu Water Quality Workshop, Session 3

<sup>17</sup> Environment Bay of Plenty, Te Arawa Lakes Trust, Rotorua District Council & key lake stakeholders (2010) Lake Tikitapu Water Quality Workshop, Session 3. Stakeholders identified these as possible factors influencing water quality. However, we currently have little scientific evidence to support this statement, and stakeholders agreed that the science team should remain up to date regarding any new scientific information that may emerge on these topics

Lake Tikitapu is a popular recreation lake and is estimated to host 95,000 visitors every year. Deteriorating water quality is consistent with drops in recreation activity at other lakes and may occur at Lake Tikitapu in the future if water quality issues were not addressed. This could also have an economic impact. When algal blooms shut Lakes Rotorua and Rotoiti in the summer of 2002/2003 it was estimated that \$900,000 was lost to the Rotorua economy.<sup>18</sup>

## What do we need to do?

Reduce the nitrogen and especially the phosphorous in the lake. The table below describes the current amount of nutrient going into the lake and the amount we need to take out of the lake to meet required levels.

	<b>Nitrogen (kilograms per year)</b>	<b>Phosphorous (kilograms per year)</b>
Current Lake Nutrient Amounts	2502	125
How much nutrient we need to take out of the lake	701 – 822	21 – 31

## How can we do it?

It is estimated that the required nutrient reduction could be met by upgrading from septic tanks to sewage reticulation. Reticulation should reduce nitrogen by **700 kilograms** and phosphorous by **70 kilograms**.<sup>19</sup> This reduction adequately meets the amount required in the table above. Reticulation of septic tanks is therefore the single most likely action to return TLI to 2.7.

Rotorua District Council completed reticulation at Lake Tikitapu in October 2010 as part of the Lake Okareka reticulation project. Monitoring lake water quality is required to ensure that this will be effective.

## In addition to reticulation what other actions will we do to ensure water quality standards are met?

Bay of Plenty Regional Council, Te Arawa Lakes Trust, Rotorua District Council and key stakeholders identified some solutions to impacts on water quality other than the main action: reticulation of the septic tanks. These actions are described in the table below and on the next page as adaptive management actions:

<b>What else will we do?</b>	<b>How will we know if it's working?</b>	<b>When will we complete it?</b>	<b>Who will do it?</b>
Propose a policy direction that requires nutrient discharge limits to be set in the Water and Land Plan for all of the Rotorua Te Arawa Lakes.	Regional Policy Statement monitoring framework.	Submissions close 8 February 2011.	Bay of Plenty Regional Council.
Actively engage in any update of the Strategy for the Lakes of the Rotorua District.	Stakeholders are actively engaged in any update.	Future.	Bay of Plenty Regional Council; Te Arawa Lakes Trust; Rotorua District Council.

<sup>18</sup> Nimmo-Bell (2004) The Rotorua Lakes Evaluation of Less Tangible Values

<sup>19</sup> John McIntosh (2010) Lake Tikitapu Nutrient Budget

What else will we do?	How will we know if it's working?	When will we complete it?	Who will do it?
Monitor the Trophic Level Index, bathing water quality and de-oxygenation rates at Lake Tikitapu.	Monitoring of TLI and de-oxygenation rates is carried out.  Monitoring bathing water quality indicators are carried out at Lake Tikitapu in the swimming season.	Ongoing, Monthly.  Ongoing, fortnightly from October to March.	Bay of Plenty Regional Council.
Report to the community on Lake Tikitapu water quality.	The Rotorua Lakes Water Quality Report is produced.  The Bathing Surveillance Grading Report is produced.	Ongoing, annually.  Ongoing, biennially.	Bay of Plenty Regional Council.

## Action Plan review: when will we see a difference?

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Even though reticulation is now in place to improve water quality it can take many years before a change occurs in TLI. This is usually due to the nature of the soil in the catchment, the scale of the problem, and the type of land use that has been contributing to nutrient inputs. Lake Tikitapu has low overall nutrient levels, a small catchment, and problematic nutrient sources are limited in scale and nature. This means that we could see a positive movement towards the required TLI in as little as 4-6 years (2013/2014 - 2015/2016).<sup>20</sup>

## Action Plan review: what will we do if circumstances change?

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When implementing the action plan we are operating under the assumptions of current knowledge and behaviour. Sometimes these things change. We will therefore take an adaptive management approach, and will be prepared to change if circumstances demand it. This could require examining options for stormwater run-off and new and existing technologies and solutions (such as wetland development).

Monitoring and engagement with the community will inform us of the need to look at these options.



<sup>20</sup> Bay of Plenty Regional Council science team believe that septic tank reticulation will show much faster results than those expected from agricultural nutrient reductions



# Bibliography

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- APR Consultants (2004) Economic Impact of Tourism on the Rotorua Economy
- APR Consultants (2010) Rotorua Lakes Review: Analysis of Recreational Use and Pressures on Supporting Infrastructure
- Bay of Plenty Regional Council, Te Arawa Lakes Trust, Rotorua District Council (2000) Strategy for the Lakes of the Rotorua District
- Bay of Plenty Regional Council (2005) Environmental Data Summaries to December
- Bay of Plenty Regional Council (2005) Lakes Quality Assessment and Action Plan Prioritisation
- Bay of Plenty Regional Council (2008) Bay of Plenty Regional Water and Land Plan
- Bay of Plenty Regional Council (2010) 2009/2010 Rotorua Lakes TLI Update, Bay of Plenty Regional Council, Environmental Report 2010/18
- Bay of Plenty Regional Council (2010) Lake Tikitapu Water Quality Workshop Report
- Bioresearches (2003) Estimate of the Geothermal Nutrient Inputs to Twelve Rotorua Lakes
- Greenhalgh S, Landcare Research (2009) Assessment of Interventions for the Rotorua Lakes
- Hoare R A (1980) The sensitivity to phosphorus and nitrogen of Lake Rotorua, New Zealand. Progress in Water Technology 12: 897-904
- Macaskill J B, Cooper A B, Bowman E J (1997) Nitrogen and Phosphorus in Streams Draining Catchments of Different Landuse in the Rotorua Lakes Region. NIWA Client report BPR 223
- McIntosh J (2010) Lake Tikitapu Nutrient Budget
- Ministry for the Environment (2010) Potential Water Bodies of National Importance
- Nimmo-Bell & Company Ltd. (2004) The Rotorua Lakes Evaluation of Less Tangible Values
- Noel M. Burns; J. Christopher Rutherford; John S. Clayton (1999) A Monitoring and Classification System for New Zealand Lakes and Reservoirs, Lake and Reserve Management Volume 15, Issue 4, December 1999
- Noel M Burns of Lakes Consulting, Graham Bryers and Eddie Bowman of NIWA Hamilton, Protocol for Measuring Trophic Levels of New Zealand Lakes and Reservoirs
- Noel M. Burns (1990 – 2000) Trophic Level Index Baselines and Trends for 12 Rotorua District Lakes
- Pittams R B (1968) Preliminary water balance studies of the Rotorua lakes. NZ Journal of Hydrology volume 7 (1) 24-37
- Rutherford J C, Cooper A B (2002) Lake Okareka Trophic State Targets. NIWA Client report HAM2002-031
- Scholes, P (2009) Rotorua Lakes Water Quality Report 2009. Environment Bay of Plenty, Environmental Publication 2009/12
- Williamson R B (1985) Urban Stormwater Quality 1. Hillcrest Hamilton, New Zealand. NZ Journal of Marine and Freshwater Research 1985 Vol19: 413-427.

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**Report To:** Rotorua Te Arawa Lakes Strategy Group  
**Meeting Date:** 25 March 2011  
**Report From:** Warwick Murray, Group Manager Land Management

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## Group Manager's Report

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### Executive Summary

The purpose of this report is to provide the Rotorua Te Arawa Lakes Strategy Group with a briefing on key issues and actions associated with the implementation of the Strategy for the Lakes of Rotorua District, not otherwise covered in the agenda.

## 1 Recommendations

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

- 1 Receives the report, Group Manager's Report.**

## 2 Policy Update

### 2.1 Streamlining Process to develop Rotorua Te Arawa Lakes Action Plans

An independent review of the current Action Plan development process has been undertaken by APR Consultants. They undertook a desktop review of existing action plans and interviewed key stakeholders. The following results will be presented to the Rotorua Te Arawa Lakes Strategy Group at its next meeting:

- Results from the key stakeholder interviews
- Issues around previous Action Plan processes (including Methods 41 and 42 of the Regional Water and Land Plan)
- Guidelines and a framework for developing more streamlined Action Plans in the future.

Taking into consideration the improvements identified in the review, staff will present a streamlined process to develop remaining Action Plans to improve water quality of the Rotorua Te Arawa Lakes.

### 2.2 Lake Tikitapu Action Plan

The Lake Tikitapu Action Plan has been drafted. The draft Action Plan is to be presented as a separate agenda report at this meeting.

The draft Action Plan was developed in accordance with the Regional Water and Land Plan and it has incorporated the stakeholders workshop (November 2010) outcomes. The Regional Council's Strategy Policy and Planning Committee were presented with

the draft in February 2011, and made recommendations to this Group to release the draft Action Plan for public feedback.

### 2.3 **Wetlands Feasibility**

A wetland feasibility study, investigating the cost-effectiveness of wetlands for lowering nutrients in the Lake Rotorua catchment, was completed in November 2010.

The purpose of the study was to provide well informed advice on options available for using wetlands to limit nutrients going into Lake Rotorua. The study identifies and assesses four types and possible packages of wetlands that could be used in the catchment.

This study was scheduled for presentation at this meeting, however, due to an already full agenda the presentation of this study is now re-scheduled for the coming meeting in June 2011. If the Strategy Group requires a separate briefing this can be organised.

### 2.4 **Review of the Strategy for the Lakes of the Rotorua district**

An independent review of the Strategy for the Lakes of the Rotorua district has been undertaken. Essentially the review recommends that the Strategy be updated and rewritten to provide an up to date and strategic direction for the Rotorua Te Arawa lakes.

Staff are reporting back to the group at this meeting with options to respond to the review findings including a costs and benefits analysis and a staff preferred option.

### 2.5 **Review of Phosphorous Targets for Lake Rotorua**

The *Regional Special Projects Committee Position Paper on Lake Rotorua* directed staff to provide a phosphorus plan and reduction target for Lake Rotorua.

Staff have completed a draft review of existing data regarding phosphorus loads to Lake Rotorua. The results of the review indicate that:

- Sustainable phosphorus load to Lake Rotorua remains at 37 tonnes of phosphorus/year
- Differing estimates of future phosphorus inputs into Lake Rotorua exist.

The draft review was presented to the Rotorua Lakes Technical Advisory Group (TAG) in December 2010 along with updated phosphorus modelling data. The TAG has been asked for comment on the review and to verify assumptions on phosphorus inputs and targets for Lake Rotorua. NIWA and the University of Waikato are close to completing modelling work that includes phosphorus inputs and their impact on Lake Rotorua. Once this information is available the TAG will be in a position to report back on this matter and staff can present the phosphorus inputs and targets for consideration. We are also working to ensure that this work links with other work such as the *Intervention Packages for Lake Rotorua* outlined below.

### 2.6 **Rules to regulate nutrient discharges to the Rotorua Te Arawa Lakes**

Our Proposed Regional Policy Statement sets out clear policy intent for the management of all of the Rotorua Lakes. Essentially, discharge limits are to be set for catchments at risk (defined to include all Rotorua Te Arawa Lakes) and managed reduction is required for at risk catchments (by a specified date in the case of Lake Rotorua). Rules in our Regional Water and Land Plan are seen as the main vehicle for implementation.

Staff and experienced planning consultant Rob Van Voorthuysen have started scoping the development of Regional Water and Land Plan rules to manage nutrient discharges to the Rotorua Te Arawa Lakes. In May 2011, staff will report to the Strategy, Policy and Planning Committee estimated costs, expertise required and timeframe for each step of rule development. It is likely resourcing required will exceed that already budgeted for and financial decisions will be required.

In June 2011, staff will report to this committee the project scope to develop rules for the Water and Land Plan and any decisions made by the Strategy, Policy and Planning Committee.

## **2.7 Intervention Packages for Lake Rotorua**

This project will review and determine a cost-effective and efficient package of new and existing interventions to meet the sustainable nitrogen load to Lake Rotorua.

An update presentation on the project will be given at this meeting as part of a separate agenda report titled *Intervention Packages for Lake Rotorua*.

## **2.8 Action Plans for Lake Tarawera, Ōkātina and Rotokakahi**

Work on the Action Plan for Lake Tarawera will start in May 2011 with an update on the science and nutrient budget for the lake. Staff will engage with the partner organisations, key stakeholders and the wider community to develop the Action Plan.

Discussions with partner organisations for Action Plans for Lake Ōkātina and Lake Rotokakahi will commence in June 2011.

Key staff for these projects will be introduced at the next meeting of the Rotorua Te Arawa Lakes Strategy Group.

# **3 Lake Operations**

## **3.1 Lake Rotorua**

The plan to construct a P locking plant on the Awahou Stream has been put on hold because of objections expressed by Ngati Rangiwewehi. Staff, with advice from the Sediment Technical Advisory Group, have been assessing the possibility of dosing alum directly into the lake hypolimnium as an alternative. Although some iwi have expressed support for this proposal, Ngati Rangiwewehi are have some concerns about the impact of alum being dosed into the environment and its possible impact on koura. Staff are therefore undertaking further research into the effects of alum on native species to address the concerns raised. A survey of koura populations within the lake is also being undertaken to determine whether koura reside in the deeper areas where dosing would occur

The Tikitere De-nitrification Pilot Plant (opposite Hell's Gate) has been commissioned. The plant is now being adjusted to perform its trial duty of de-nitrification of stream water. This is a 3 step operation:

- (a) Balance the pH of incoming flows,
- (b) Seed the oxidation stage with bacteria to enable oxidation of ammonium, and
- (c) Divert oxidised flow to the de-nitrification bed.

Once all stages are operating reliably, testing will be undertaken to optimise performance and test the boundaries of this technique. It is expected that the trial will

need to run for 12 to 18 months to provide appropriate design criteria for the full scale plant.

The design of the sediment capping trials programmed for Lake Rotorua in November 2010 has been reviewed by the Sediment Technical Advisory Group. Their conclusions are that these trial are unlikely to provide conclusive results for Lake Rotorua. As a result they have been placed on hold. Further information on this capping work is detailed in the science section below.

Aeration as an alternative to sediment capping is continuing to be investigated. The initial investigation involves the installation of two machines on Lake Rotoehu in order to develop a proof of concept for Lake Rotorua. Further information is discussed at section 5 (Rotoehu) below.

Modelling work with the ROTAN catchment model is well advanced and will be completed during March 2011. The ROTAN modelling work uses current and proposed (synthetic) changes to land use to predict the changes in the quality of water reaching Lake Rotorua, and the expected timeframe for these changes. The Lake modelling work tests the impact of land use change scenarios and the effect of all in-lake and in-stream interventions on water quality. The aim is to determine the time expected for the lake to reach the target TLI as set in the Regional Water and Land Plan.

### 3.2 Lake Rotoehu

The annual weed harvesting work is programmed to start at the end of March. It will harvest weed mainly in the vicinity of Kennedy Bay. It is expected that a good harvest will be achieved judging by the accumulation of weed in that area currently. The floating wetland trials for Rotoehu are continuing and will be reported in August 2010.

The construction of the Rotoehu P locking plant is nearly completed. It is expected that the plant will be operational by early April 2011. It is expected that this plant will remove about 700kg of P from the Waitangi Soda Springs Stream.

The biological treatment of Ōtautū Bay application was undertaken weekly over the period October 2010 to February 2011. This is a small scale, low cost project aimed at reducing nutrients and breaking down sediment in the bay. It was initiated at the request of the community working party. Monitoring is yet to demonstrate significant changes, but the construction of the weed cordon in Otautu Bay in the near future is expected to assist the project by preventing weed being blown into the area.

The construction of the floating wetland project has now commenced. The wetland will have a surface area of 2800 m<sup>2</sup>, but due to its configuration, it will actually cover a total area of 4000m<sup>2</sup>. The project is aimed at removing up to 1600 kg nitrogen in the vicinity of the Te Maero Stream. Trial work completed as part of the project indicates that the floating wetlands are capable of removing higher levels of nitrogen per unit area than terrestrial based wetlands. Recent experience with floating wetlands in Lake Rotoiti has demonstrated that they can form an ideal habitat for young koura, as a side benefit.

As noted above, plans are being developed to establish an aeration plant in Lake Rotoehu as a proof of concept trial for Lake Rotorua. Installation is planned to be completed prior to the end of October 2011, in preparation for the summer. This concept aims to keep the water column aerated thereby preventing anoxic water conditions during summer /autumn periods. These are the conditions when nutrients, in particular phosphorus are released from the sediments and can have the effect of driving the unsightly blue green algal blooms that move with the wind direction. It is expected that 2 machines will be needed. They will be driven by compressed air from a land based compressor. So far consultation with a number of interested groups has

taken place, and support for the project is overwhelming. Support has not only be received from Rotoehu groups, but also from Rotorua groups and it appears to fit with the values of many iwi groups. There could be some cost advantages to this technology, as well as possible ecological benefits. To assess this staff have initiated koura sampling work at Lake Rotoehu prior to installation.

The fourth live monitoring buoy is currently being installed in Lake Rotoehu by the University of Waikato. This will provide vital information for the management and assessment of the aeration work on the lake.

### **3.3 Lake Rotoiti**

Monitoring to understand the effects of the diversion wall is continuing. Algae monitoring to date continues to show that except for a period in February for Okawa Bay, algae numbers in the lake for the current season are low. This would indicate the continuing success of the wall. Monitoring includes water quality, algae numbers, fishery numbers (including koura and kakahi) and avian monitoring. So far no trends of concern have been identified.

For a period in February 2011, algae numbers in Okawa Bay reached the “amber” level. This alerted scientists to the risk of a continued climb in algae numbers to a “red” warning level if action was not undertaken. As a result staff undertook emergency works (pursuant to S330 RMA) and dosed the bay with 5 tonnes of Aqual P by helicopter on 21 February. Within 5 days algal numbers had declined below the risk level and have remained there. Further investigation is being conducted to identify the cause of this elevation in algae. Staff are considering obtaining resource consent to allow for this activity in the future when necessary to ensure evasive action can be taken when the need arises. This type of application would be applicable to Okawa Bay and Lake Okaro.

Professor Hamilton has been completing flow monitoring work and hydrodynamic modelling of flows around the diversion wall. A report will soon be available showing the results of the second monitoring operation around the diversion wall. The hydrodynamic modelling is the application of modelling work undertaken by the University of Waikato as part of the restoration of Rotoiti. It has been particularly useful in determining the likely impact of changes in the Okere control gate operation for the current resource consent application. Further modelling is planned to assess the micro operation of the control gates to see if their operation was implicated in the recent algae numbers in Okawa Bay.

### **3.4 Lake Okaro**

An unpleasant algal bloom persisted on Lake Okaro this spring until mid December. This is a contrast to last year when the Aqual P application completely prevented the annual bloom we have become accustomed to. Staff are assessing whether consent should be sought for application of Aqual P in a similar way to the emergency application in Rotoiti's Okawa Bay this summer. This would allow for a maintenance dose of Aqual P if monitoring shows conditions arising that predispose to serious algal bloom.

### **3.5 Lakeside Community Sewerage Scheme Up-date**

An up-date on Rotorua District Council's lakeside communities sewerage schemes is attached as appendix 1.

### 3.6 Lake Ōkataina Weed Cordon

A weed cordon specifically designed to prevent the spread of aquatic weed has been placed around the Boat Ramp at the main beach, Lake Ōkataina. Lake Ōkataina is particularly vulnerable to invasion by two of the worst aquatic weeds Hornwort and Egeria. Both of these weeds spread by vegetative fragments and are found in nearby lakes. An isolated site of Hornwort down the southern end of the lake is under active control by the Regional council in a hope to eradicate the area of this infestation.

The cordon which is constructed from used mackerel purse seine net donated by Sanford fisheries. Shade cloth covers the top two meters of the cordon and has been designed to contain any fragments that may arrive at the boat ramp on boats or boat trailers. A fish pass has also been installed as a means of allowing trout that migrate along the beach to continue to do so. The area of the cordon is marked out with buoys and port and starboard makers, signage informs the public of the cordons purpose and gives navigational instructions. The area within the cordon will be sprayed out annually and will be checked regularly for any Hornwort or Egeria incursions.

Installation of the cordon which occurred on the 25<sup>th</sup> of February was carried by Bay of Plenty Regional Council staff and has been well received by lake users who have been pleased to see proactive management aimed at maintaining the high water quality and amenity values at Lake Ōkataina.

To date the monitoring as part of the consent has shown no signs of capturing trout or bird species and the fish pass has been working well. Trial work is set to commence on the Ōkataina cordon to test its effectiveness along with the other cordons in Lake Rotomā following on from the trial work that was done in 2010.



Figure 1 The weed cordon has been placed around the boat ramp at the main beach on Lake Ōkataina



*Figure 2 Underwater view of the Weed Cordon*

### **3.7 Bench Marking Progress**

Benchmarking work continues for Lake Rotorua. Staff are now working in all sub-catchments. The focus for Lake Rotorua is to benchmark properties with an area of greater than 70 Ha. So far 53 properties have been completed and staff are working with other property owners through the process. It has been determined that there are about 100 properties that will need to be benchmarked to meet this objective. Although 4 dairy farms have been benchmarked staff are awaiting the information from farms included within the “collective” to enable benchmarking of the final dairy farms.

### **3.8 Science Update and Modelling Work**

Ground water monitoring work around Lake Tarawera has been completed. Three monitoring bores have been installed in the catchment which will assist in determining ground water flows and consequent nutrient interactions between ground water and the lake. This work is important for determining sustainable nutrient loads to Lake Tarawera.

Further ground water monitoring work around Lakes Rotomahana and Rerewhakaaitu is being implemented with the installation of four monitoring bores. This work is expected to be completed in the near future and will assist in determining ground water flows within these lake catchments.

NIWA has completed three projects on the sediment capping work for Bay of Plenty Regional Council. These include:

- (a) In lake mesocosms work to assess the settling and distribution performance of manufactured prills,
- (b) Current flow measurements in Lakes Rotorua and Rotoehu, this is related to both sediment capping research and aeration, and
- (c) Lab performance of various sediment capping agents as formed into prills for application.

This work will be reported in due course when final reports are available.

Staff are working with NIWA to evaluate the effect of capping agents on local fauna. They are particularly interested in the impact of alum on koura and other species. Alum has some significant cost advantages in capping P releases from sediment and it is widely used in some countries overseas for this purpose.

### 3.9 **Ōhau Channel Algae Harvest Project**

As part of the Rotorua Lakes Restoration Programme a pilot trial of algal harvest was undertaken using AquaFlow developed technology to address the potential for algae harvesting within some of Bay of Plenty Regional Council's eutrophic lakes while at the same time, improving water quality.

The three month trial undertaken using algal rich waters from the Ōhau Channel successfully proved that wild algae can be harvested from an open water body. However, careful consideration of the results is needed before scaling these up to a lake environment.

The Ōhau Channel was identified as an ideal location to test this equipment due to its consistent flow of algae laden water from Lake Rotorua.

The aim of the project was threefold:

- To undertake a "proof of concept" trial to test the capacity for wild algae harvest in a water quality improvement project;
- To test the technology for algae harvesting within some of Environment Bay of Plenty's eutrophic lakes; and
- To fulfil one of the key recommendations from the Proposed Rotorua and Rotoiti Action Plan to investigate the role of biomass harvesting within the Lakes Protection and Restoration Programme.

Over the 92 day trial period approximately 94,000 litres of concentrated algal laden slurry had been drawn off the harvesting plant. The weight of solids extracted from harvested effluent over the trial period was approximately 1,000 kilograms.

The harvester removed on average around 30% of the suspended solid load from the in-flows. Removal of organic material showed that over 90% of chlorophyll-a has been removed from in-flows. Phosphorous concentrations were lower in the effluent than the in-flows with on average 59% total phosphorus removal achieved, indicating that most of the phosphorous is associated with the suspended solids material.

Over the three month trial period the harvester managed to extract approximately 14 kilograms of nitrogen which represents approximately 60% of the nitrogen in the in-flows.

The results indicate that the harvesting of wild algae from a water body can be successfully achieved by the Aquaflow harvest method. However, to meet half of the nitrogen target for Lake Rotorua of 175 tonnes per annum would require approximately 131,000 m<sup>3</sup> of water to be processed per day. This presents a significant challenge as the test equipment was able to process only 2,620m<sup>3</sup> per day. Smaller abstraction rates targeted at algae hot spots may have long term benefits for lake health. However, identifying these hot spots could be difficult as algae tend to move rapidly in response to wind conditions.

#### 4 **Okere Gates and Ohua Weir Consents**

Consents to operate the Okere Gates and Ōhau Weir which control the levels and discharges from Lake Rotorua and Lake Rotoiti expired at the end of 2010. A consent application to operate the structures according to a new operational strategy was filed by the Bay of Plenty Regional Council, Rivers and Drainage Group (now renamed Environmental Hazards Group). Te Arawa Lakes Trust, the owners of the Rotorua Te Arawa Lake beds, and the Rivers and Drainage Group (Applicant), jointly developed the programme for consent renewal and proposed operational strategy. The consent hearing took place in Rotorua from 6-9 December 2010 and commissioners have made the decision to grant the consents for placement and operation of the Okere Gates and Ōhau Weir. The decision was signed 27 January 2011 and received on 1 February 2011.

An appeal has since been lodged with the Environment Court by Ngati Pikiao. Submitters that have expressed an interest in being party to the appeal, at this point in time, include Tapuika, Fish and Game and the Lake Rotoiti Community Association. The Applicant has also filed an appeal to address a minor technical operational issue. The next step from here is mediation to see if issues raised through the appeal can be resolved. If the issues are not able to be resolved through mediation, an Environment Court hearing will take place.

It is emphasised that the consent conditions are not final until all appeals have been resolved, however key operational, liaison and reporting requirements of the decision are summarised below in order to communicate the role that this committee may play in future operation of the structures.

Operational requirements specified in the consent conditions attached to the decision are essentially the same for Lake Rotorua, controlled by the Ōhau Weir. For Lake Rotoiti controlled by the Okere Gates the figure 3 below summarises the operations. This figure shows the distribution of measured levels from 1998 to 2007 for operations according to the current consented operational targets with a 75mm target band either side of the target level of 279.116m. Under current operations lake levels clustered around the target level in a narrow 50mm band for 61% of the time.

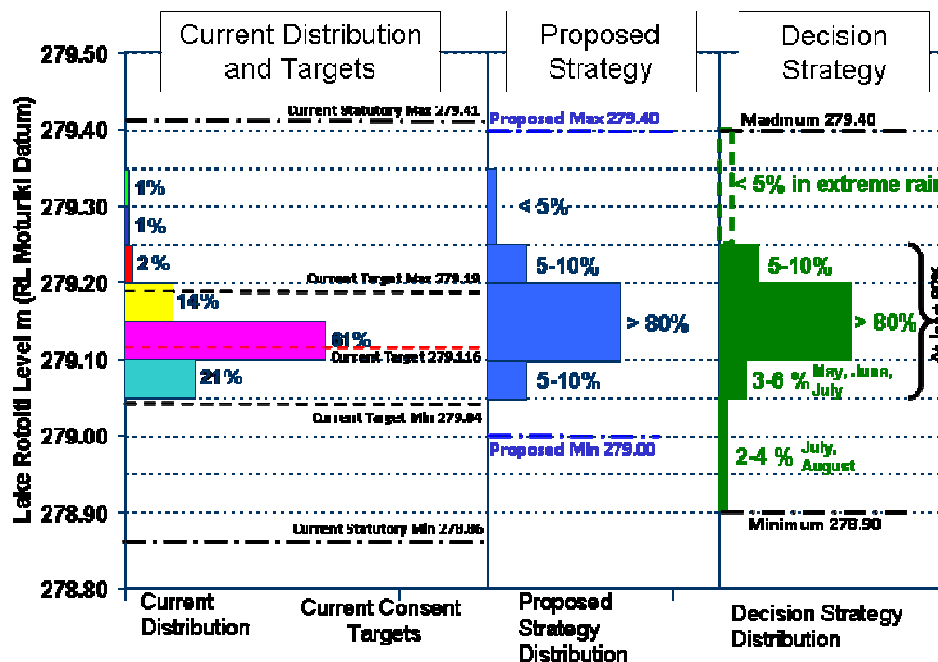


Figure 3 Lake Rotoiti level distribution under current operations and consent targets compared with proposed operational strategy and decision operational strategy

The proposed operational strategy is shown in the center of the figure and the operational strategy specified in the consent conditions associated with the decision is shown on the right side of the figure. Both operational strategies recognize the need for a range of levels that follow natural wet and dry patterns. The difference between the proposed and decision operational strategies is the recognition by the commissioners of the importance placed by Ngati Pikiao on the flushing of the Ōhau Channel which allows Lake Rotoiti to be drawn down once a year for a limited period of time during the months of July and August to encourage flushing of sediment and possibly algae from the Ōhau Channel.

The consent conditions only allow flushing to occur if recommended and approved by the Rotorua Te Arawa Lakes Strategy Group.

Key liaison and reporting requirements of the conditions are as follows:

- A Kaitiaki group is to be formed to facilitate discussion and free flow of information between the consent holder and the group to include Ngati Pikiao, Te Arawa Lakes Trust and other relevant Tangata Whenua. The Kaitiaki group is tasked with developing a Cultural Management Plan and providing recommendations to the consent holder on environmental and Maori cultural effects of the consented operations.
- A Rotorua Te Arawa Lakes Operational Liaison Group (RTALOLG) is to be formed to facilitate discussion and free flow of information between the consent holder and various community representatives.
- There will be annual reporting to both the Kaitiaki Group and the RTALOLG as well as to the Chief Executive of the Bay of Plenty Regional Council or delegate. It is possible that the reporting could be delegated to the Rotorua Te Arawa Lakes Strategy Group.

Several mitigation actions are specified including groundwater monitoring at Tamatea Street, Hinehopu and implementing mitigation measures if needed, and applying

herbicide to beaches at Hinehopu and Ruato Bay for the duration of consent to widen these beaches.

The term of the consent is 35 years.

## 5 **Lakes Water Quality Society – Rotorua Lakes Symposium**

The Lakes Water Quality Society Symposium is planned for 7 - 8 of April. The Regional Council has arranged for a field trip on 6 April. There is an impressive line-up of guest speakers from around the world and within New Zealand. The theme of this year's conference is Fix a Lake Grow a City.

The issue being addressed is; how can cities clean up their lakes and waterways, and prosper at the same time? The symposium aims to show how to reduce nutrient pollution to a lake, but at the same time develop a city. Lake Rotorua and the city of Rotorua are a case study.

A keynote speaker from Sweden, Bo Frank, is the Mayor of Växjö, a city that faced problems similar to those of Rotorua. In the 1960s, Växjö land mark lake system was severely polluted. In 1970 a major rehabilitation program was initiated and this returned the lakes to a healthy state for fishing and swimming. Community awareness of the problem and participation in the solution set the basis for broader action on sustainability. Mayor Frank will tell the rest of the story at the Symposium.

The Lake Water Quality Society has shown that they can produce very informative and thought provoking symposia in the past and the Rotorua Lakes 2011 Symposium looks to be the same high quality. This will be the 7th Lake Water Quality Society symposium. It promises to be of interest to regional and local governments, environmentalists, scientists and those interested in tourism, forestry, agriculture and energy.

## 6 **Financial Implications**

### **Current Budget**

There are no implications for the current budget arising from this update

### **Future Implications**

There are no future financial implications arising from this update.

### **Ten Year / Annual Plan Implications**

Planned expenditure for all works projects discussed above are provided for in the Ten Year Plan and Annual Plan.

Warwick Murray  
**Group Manager Land Management**

**17 March 2011**



# Appendix



**Report To:** Rotorua Te Arawa Lakes Strategy Group

**Meeting Date:** 25 March 2011

**Report from:** Greg Manzano  
General Manager – HYDRUS Eng. Consultants  
Business Unit of Rotorua District Council

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**Progress Report on Rotorua District Council Lakeside Communities  
Sewerage Scheme Programme**

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**1. Recommendations**

**That the Rotorua Te Arawa Lakes Strategy Group under its delegated authority:**

**Receives the report: Progress Report on Rotorua District Council  
Lakeside Communities Sewerage Scheme Programme.**

**2. Introduction**

This report will provide a summary of the progress of work up to the end of February 2011 on the remaining sewerage schemes. This will supplement the six months Deed Funding Report which provides a summary of Financial and Physical Progress of each scheme up to 31 December 2010.

**3. Lake Okareka and Lake Tikitapu Scheme**

The scheme was completed in November 2010 and it has been operating since then. The scheme has performed well during the Christmas holidays except for a few start up operational issues which have been addressed. Except for two properties that have substandard domestic power supply, all properties within the scheme area are now connected. The contract work is now under maintenance over a period of 1 year from completion date.

**4. Okere Falls/ Otaramarae and Whangamarino Sewerage Scheme**

The properties at Whangamarino along SH 30 from Hamurana Road to the Okere Falls Store are in the process of being connected. It is expected that this sector of the scheme which connects to the newly commissioned pump station at the intersection of Hamurana Road and SH 33 will be made “live” before the end of March 2011.

Work along other parts of the scheme (Okere Road and Otaramarae) continue to progress well and connection of properties will be undertaken progressively. The work has been programmed to be completed in February 2012.

**5. Hamurana/Awahou Sewerage Scheme**

The detailed design plans and specifications are currently being reviewed.

A Funding Policy Report for the scheme will be submitted to the RDC Corporate and Customer services Committee on 16 March 2011. The Funding Policy Report will establish the capital cost contribution that each property will pay towards the sewerage scheme.

Tenders for the construction of the scheme will be invited in mid April 2011. It is expected that construction of the scheme will commence in July 2011.

#### **6. Rotoiti/Gisborne Point Sewerage Scheme**

Detailed design of the street mains and trunk mains are currently underway. Approvals as required by the Local Government Act for RDC to install the pumping units within each property are currently being obtained. Consultation with the community continues as work progresses.

#### **7. Rotoma/Rotoehu Sewerage Scheme**

Detailed design of the street mains and trunk mains are currently underway. Approvals as required by the Local Government Act for RDC to install the pumping units within each property are currently being obtained. Consultation with the community continues as work progresses.

Additional information to address the queries related to the Ministry of Health subsidy application submitted early last year is being compiled. The Ministry of Health will then continue with processing the provisional Subsidy application.

#### **8. Wastewater Treatment Plant and Disposal Facility for Rotoiti/Gisborne Point and Rotoma/Rotoehu Sewerage Scheme.**

The Resource Consent Application to authorise the activities related to the construction and operation of a wastewater treatment plant and disposal facility that will service both schemes has been completed. The application will be submitted to the BOPRC in the second week of March 2011.

The proposed site is located on the north side of Manawahe Road approximately 2.5km from the intersection with Pongakawa Valley Road.

The proposed wastewater treatment and disposal system will comprise a Membrane Bio Reactor plant with trench disposal system.

The conclusions of the Resource Consent Application stated that:

- The proposed treatment plant has been developed specifically to address adverse effects on lake water quality. It will enable the protection and enhancement of lake water in the project area.
- The design population is subject to summer peaks which places specific demands on the efficient and effective functioning of the scheme. The proposed plant has been designed to respond to the seasonal characteristics and reduce nitrogen and phosphorous prior to discharge.

- As a Discretionary Activity, the proposal must be assessed against s104 of the Act, subject to Part 2 of the Act.
- The site has been selected as it is well separated from residential sites and is largely outside the lake catchments. The nearest surface waterbody is some 9km away, the Waitahanui Stream. The stream has limited habitat values and the identified species will not be adversely affected by minor (1%) increase in N and P.
- The minor increase in downstream water needs to be considered against significant reduction in the N and P in lake water, which also finds its way to the stream. Overall there is considered to be a net benefit.
- The proposal is concluded to be consistent with the objectives and policies of the relevant Regional Policy Statement and Regional Plans.
- Mitigation and a recommended monitoring regime are suggested for consideration.
- The proposal is considered to provide the purpose of the Act as set out in Part 2.

#### **9. Upgrade of the Existing Rotorua Wastewater Treatment Plant**

The \$8.0M upgrade work on the existing Rotorua Wastewater Treatment is well underway and is programmed to be completed in September 2011.

The current upgrade work will involve the construction of a Sidestream Membrane Bio Reactor Plant utilising existing redundant tanks. It will increase the capacity of the existing plant to allow growth within the catchment and the connection of the following completed and planned sewerage schemes:

<b>Sewerage Scheme</b>	<b>Status</b>
Mourea/Okawa Bay	Connected
Brunswick/Rotokawa	Connected
Okareka/Blue Lake	Connected
Okere Falls/Otaramarae/ Whangamarino	To be connected February 2012
Hamurana/Awahou	Planned for connection
Hinemoa Point	Connected
Paradise Valley	Connected
Tarawera	Planned for connection

The above schemes will reticulate an additional 2,500 households. These households equate to an additional 33 tonnes of nitrogen and 7.5 tonnes of phosphorous per year from septic tanks being treated at the city's wastewater treatment plant. After treatment at the city's wastewater treatment plant and being sprayed into the Whakarewarewa forest, it is anticipated that a residual 5.3 tonnes of sewage derived nitrogen and 3.0 tonnes of phosphorous will reach the Waipa Stream and enter Lake Rotorua. It is proposed that a change of condition be applied for on the existing Resource Consent 60739 (Condition 11) to increase the discharge limit for the sewage

derived total nitrogen from 30 tonnes to 35.3 tonnes and the sewage derived phosphorous from 0.5 tonnes to 3.5 tonnes.

#### **10 Retention of existing septic tanks on areas where a reticulated sewerage connection is provided**

The sewerage schemes being implemented include the connection of the existing plumbing systems of the property to the completed reticulated sewerage system. As part of the connection process the existing septic tanks are being decommissioned. The decommissioning of the existing septic tank involves emptying the contents of the tank and filling it up with appropriate backfill material.

There have been some cases where residents expressed their desire to retain their existing septic tank to provide as a back-up to the newly constructed community sewerage system in cases of emergency. The option of retaining the existing septic tanks as an alternative emergency wastewater system has not been approved for the completed and planned sewerage schemes because of the following reasons:

- a) The installed community sewer system has built-in provisions for emergency situations such as power, pump and sewer mains failure. Operations and maintenance systems and processes are also in place to deal with these situations. In case of a major earthquake where the pumping units are dislodged from the ground, it is expected that the same thing will happen to an empty septic tank. The existing septic tank will then be of no use as a back-up system in this situation.
- b) Building Act 2004 provision

The following are Building Act provisions that relate to this issue as follows:

- a) G.13.3.3

The need for the drainage system of a dwelling to be connected to a sewer system if it is available.

- b) B1. and B1.2.1

The need for buildings, building elements to safeguard people from injury and have low probability of rupturing, becoming unstable, losing equilibrium and collapsing during construction, alteration and throughout their lives.

This is the provision that the Building Officers hesitate to sign off without undertaking a comprehensive evaluation of the condition of the tank to ensure compliance with the above.

It is considered that once approval is given by Council to retain the existing septic tanks, they may be liable if the septic tank fails and causes injury to persons or property."

Notwithstanding the above, a legal opinion has been sought from Council's solicitors regarding the above issue specifically on:

- a) Whether a resident can retain a septic tank for a particular purpose;
- b) What consent process might need to be followed;
- c) What offence would be committed by a resident (pursuant to the Building Act, the RMA or any other enactment) should they re-connect wastewater discharges to a septic tank without consent;
- d) How can Council be assured that it has no exposure to criminal or civil liability if any person is subsequently injured or killed in an accident involving a derelict septic tank that was not properly decommissioned?

The legal opinion has addressed in detail the issues listed above and it supports Council's position on its policy to decommission existing septic tanks within a completed sewerage scheme area.

It should be emphasized however, that support from the Bay of Plenty Regional Council is essential for the successful implementation of this policy. The support required should include:

- Provision of consistent information to the community related to this issue;
- Ensure that property owners who insist on retaining their existing septic tank comply with the Regional Plan.

In spite of Council's policy, property owners could elect to retain their existing septic tanks.

If property owners elect to retain their existing septic tanks, a Hazard Classification will be included into the corresponding Property File which would state that an empty septic tank exists within the property and that the property owner is responsible for ensuring that it complies with relevant statutes such as the Building Act, Resource Management Act and including relevant Regional and District Council Plans and Regulations.



**Greg Manzano**  
**HYDRUS Engineering Consultants**



## **Public Excluded Section**

### **Resolution to exclude the public**

THAT the public be excluded from the following parts of the proceedings of this meeting.

The general subject of each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows: