

**Chairman**

John Green, Phone 07 362 4204

**Secretary**

Ann Green, Phone 07 362 4204

53 Te Akau Road, RD4, Rotorua 3074

**Treasurer**

Brentleigh Bond, Phone 07 362 4700

**Website**[www.lakeswaterquality.co.nz](http://www.lakeswaterquality.co.nz)

6 February 2011

The Chief Executive  
Bay of Plenty Regional Council  
P O Box 364  
WHAKATANE 3158

**SUBMISSION TO BAY OF PLENTY REGIONAL POLICY STATEMENT 2010**

This Regional Policy Statement comes at a crucial time in the life of the Rotorua lakes. For over a century after European settlement in the district the lakes were abused by town and country alike. Septic tank effluent and partly treated sewerage were discharged by urban communities. Animal waste contaminated streams and nitrogen and phosphorus leached from livestock farms. We did not know the harm that we were doing.

By the early 1990s the Kaituna catchment scheme reduced soil erosion, and the Rotorua City sewage treatment was vastly improved. But year by year the water quality in most lakes got worse. After the turn of the century, once the harm became apparent and the science became clearer, both the Regional and District Councils responded to the challenge. So too did Central Government. LWQS is proud to have played its part in public education.

The *Rotorua Lakes Protection and Restoration Action Programme* has only been underway for a few years, but great results are already apparent. Water quality in Lakes Rotoiti and Okaro is much improved, and the sewerage reticulation for Lakes Okareka and Tikitapu will do most to fix those lakes. Sewerage is planned for several other lakes. Treatment of streams flowing into Lake Rotorua is progressing, as is research into lake treatment. Dairy shed effluent is now generally well disposed of.

Amongst all this good news there is still gloom. Nutrients still flow almost unabated from most farms. Old attitudes die hard. Lake Rotorua cannot recover unless nutrient outflows are restricted. The Regional Water and Land Plan has prevented adverse changes in land use, but does nothing to encourage changes favourable to the lakes. The District Plan is being revised, but has no regional or national document to require the changes needed to restore and protect the lakes.

Hence this RPS is vital to underpin the changes required in both the RWLP and the District Plan. Our submission details where, in our view the proposed RPS needs strengthening to play a full role in protecting the lakes, while still encouraging economic activity.

**Background:**

1. Lake Water Quality Society has now been in existence for 50 years.
2. The membership of the Society is 350.

3. The main focus of the Society is to restore the Rotorua Te Arawa Lakes to their agreed Trophic Level Indexes.
4. The Society has continued over this time to make submissions to Regional and District Plans including the Draft 2009 Regional Policy Statement.
5. The Society has made submissions to the National Policy Statement.
6. In April this year, the Society will run its seventh International Symposium.

**General:**

1. The Society is supportive of the general principles and thrust of the Proposed Regional Policy Statement (RPS).
2. The Society confines its submission to aspects of water quality for the Rotorua Te Arawa Lakes
3. The Society objects to some of the policies as more detail and clarity is required.
4. The Society requires to be heard in support of our submission and reserves the right to be represented by legal counsel.

**Detail Submission on Policies:**

**2.9 Urban Form and Growth Management: Page 67**

We submit that a clear statement is required allowing low intensity rural/urban subdivision within the Rotorua Te Arawa Lakes Catchments where significant nutrient reduction will result from the land use change.

It is of concern that principles outlined for urban growth conflict with the over-arching requirement to restore the Rotorua Lakes. Within the Lake Rotorua Catchment, at least one third of the land needs to be retired from farming and conventional thinking is inappropriate. The entire catchment needs to be able to participate in land use change. This requirement applies to all lake catchments at risk.

**Policy WL 1B Facilitating Land Use Change: Page 122**

We support the policy but object to the definition. Within the explanation a wider definition is required to incorporate rural subdivision, tourist activities and low nuisance industrial activities.

**Policy WL 2B Defining Catchments at Risk:**

We support the definition of the Catchments at Risk.  
 We object to all twelve lakes' TLIs not being included. The TLIs for the individual catchments being stated within the Plan will avoid any expectation of relitigation. These have been derived from exhaustive public consultation and scientific input. Lakes with a TLI of 0.2 greater than their base level are at risk.

Our objection can be met by the inclusion of the table hereunder.

<b>LAKE</b>	<b>Required TLI</b>
Okaro	5.0
Rotorua	4.2
Rotoehu	3.9
Rotoiti	3.5
Rotomahana	3.9

Rerewhakaaitu	3.6
Okareka	3.0
Tikitapu	2.7
Okataina	2.6
Tarawera	2.6
Rotoma	2.3
Rotokakahi	3.1

### **Policy WL 3B Establishing Contaminant Discharge Limits for Catchments at Risk:**

We support the inclusion of 435 tonnes of nitrogen exports for Lake Rotorua.

We object to other lakes that have appropriately defined sustainable export loads, not being included within this policy. Our objection can be met by the following table being included:

### **Sustainable load estimates for lake catchments**

Lake	Nitrogen tonnes/yr	Phosphorus tonnes/yr
<b>Rotorua</b>	435	37
<b>Rotoiti</b>	170	10
<b>Rotoehu</b>	40	2
<b>Rotoma</b>	17	0.5
<b>Okareka</b>	10	0.3
<b>Tikitapu</b>	1.8	0.1
<b>Okaro</b>	4	0.3

Attached as Appendage 1 is a report from John McIntosh, we acknowledge his input.

The inclusion of this detail will give clear direction to the Rotorua District Council District Plan as required to allow land uses that will achieve the stated maximum exports.

### **Policy WL 4B Requiring Consent for Increased Discharges:**

We support the requirement of consents but oppose the lack of recognition of Rule 11 and its associated benchmarking.

### **Policy WL 5B Allocating Nutrient Discharge Levels:**

We support the policy of allocating nutrient discharge levels but oppose that this is not done in association with the issuing of consents.

### **Policy WL 6B Managing the Reduction of Nutrient Discharges:**

We support the thrust of the policy and the nomination of 2019 for the Lake Rotorua Catchment.

We object that all other Rotorua Te Arawa Lakes at risk are not included within the requirements to be compliant by 2019 and request their inclusion.

### **Policy WL 8B Providing for Regular Reviews of Regional Council Consent Conditions**

We support the policy.

**Policy WL 9B Managing Rural Development and Protecting Versatile Land:**

We object to the following wording, "*In the catchments of the Rotorua Te Arawa Lakes, land-use change to achieve reduced nutrient discharges may justify over-riding this policy*".

There should be no justification in retaining intensive agriculture if significant nutrient discharges can be reduced by changing the land use.

Our objection can be met by redrafting this section.

**3.2.1 Directive Methods Method 1: District Plan Implementation Page 131**

Policy WL 1B and 6B are missing, the inclusion of them will meet our objection.

**Conclusion**

Previous Councils allowed the Rotorua Te Arawa Lakes to deteriorate; it is this Councils responsibility to restore them.

We wish to be heard in support of this submission in the Rotorua offices of Bay of Plenty Regional Council.

**John Green**  
**Chairman**  
**LakesWater Quality Society**

## Appendage 1

### **Estimates of annual average catchment loads to comply with TLI targets of Water & Land Plan (W&LP)**

The Trophic Level Index (TLI) is used as a specific lake quality index to trigger land use controls for the Rotorua lakes. In general the quality of the lakes at the target TLI will mean the lake does not experience blue-green algal blooms, which has become a common benchmark for lake quality issues.

The target TLI is the measurable parameter in the sustainable management of the Rotorua lakes. From the TLI sustainable catchment loads can be estimated. Two estimates are generally made for Rotorua lake action plans.

1. The catchment load is estimated from land use export coefficients. This is the annual average nitrogen and phosphorus loss per hectare. Average values have been calculated for specific land uses, by various researchers across NZ and in overseas surveys.
2. The catchment load is estimated from the annual average lake nitrogen and phosphorus concentration in the lake. There are models based on studies of lakes, world wide, that can be used to estimate the annual average catchment load discharged to the lake based on the physical properties of the lake.

In the action plan process an estimate is made of the reduction required in the catchment load so that the target TLI can be attained. Possible actions to reduce the catchment load are discussed and consensus reached on the realistic possibilities. An estimate is made of the nutrient reduction that can be obtained by each action. It is assessed whether the combination of these actions will be sufficient to meet the target TLI. It needs to be remembered that the addition or subtraction of estimates does not necessarily produce real numbers. So the assessment of whether actions will be sufficient is a matter of judgement. The primary purpose of the action plan is to devise realistic and attainable actions to reduce nutrient inputs to the lake and then to implement the actions.

The catchment load for Lake Rotorua is the most readily calculated because the majority of water enters the lake in measureable stream flows. Much survey work has been undertaken on annual flows and loads to Lake Rotorua over the past decades. For other lakes the estimates are more difficult.

#### **Sustainable load estimates for lake catchments**

Lake	Nitrogen tonnes/yr	Phosphorus tonnes/yr
<b>Rotorua</b>	435	37
<b>Rotoiti</b>	170	10
<b>Rotoehu</b>	40	2
<b>Rotoma</b>	17	0.5
<b>Okareka</b>	10	0.3
<b>Tikitapu</b>	1.8	0.1
<b>Okaro</b>	4	0.3

The estimate for Rotorua has some status because it is referred to in planning documents, e.g., the Regional Policy Statement. The other estimates have no status. They are my estimates based on examining action plans and the data used in devising them. I have rounded numbers where appropriate to produce the estimate. The numbers may need refining.

Prof David Hamilton is working with recent groundwater data and modelling by a student to refine the Tarawera sustainable load estimate.

**John McIntosh**  
16/1/2011