

# MEMORANDUM OF UNDERSTANDING

between

**Lake Rotorua Primary Producers' Collective (Inc)**

and

**LakesWater Quality Society (Inc)**

**20 July 2011**

## **1 DEFINITIONS**

1.1 In this Memorandum the following expressions shall have the following meanings:

<u>Expression</u>	<u>Meaning</u>
"The Collective"	Lake Rotorua Primary Producers' Collective (Inc)
"LWQS"	LakesWater Quality Society (Inc)
"Parties"	The Collective and LWQS

## **2 PARTIES TO THE MEMORANDUM**

- 2.1 This Memorandum is between the Lake Rotorua Primary Producers Collective (Inc) and the LakesWater Quality Society (Inc).
- 2.2 The Lake Rotorua Primary Producers Collective (Inc) comprises dairy and drystock farmers and land owners who own farms wholly or partly within the catchment area of Lake Rotorua. The Collective has been formed to negotiate a contractual Agreement with the Bay of Plenty Regional Council for a collective land use resource consent under Rule 11 of the Regional Water and Land Plan.
- 2.3 The LakesWater Quality Society (Inc) is a community organisation registered as a charity. It focuses on improving water quality in the wonderful Rotorua Lakes. Its activities include fostering research and education on lakes issues, and working with local and central government and community groups on restoring the lakes to health.

## **3 AIM OF MEMORANDUM**

The Parties to the Memorandum agree to work together to achieve the following:

- 3.1 To work cooperatively to achieve a clean and healthy Lake Rotorua through reduced nutrient emissions.
- 3.2 To provide greater insight and involvement in policy development to achieve a sustainable long-term solution to restoring Lake Rotorua.
- 3.3 To cooperatively develop and agree on processes that will achieve the total load target of less than or equal to 435 tonnes of nitrogen (RPS Policy WL 3B) and 6 tonnes of phosphorus entering Lake Rotorua.
- 3.4 To support a sustainable and viable rural sector as an important part of the Rotorua economy.
- 3.5 To advocate and support the aims and outcomes of this Memorandum and in particular to support in-lake and land based solutions in respect of 3.1 above.
- 3.6 To produce coordinated or joint submissions on statutory authorities' policy and plans that encourage the effective management of Lake Rotorua and its catchment.
- 3.7 To build public support and recognition for current and future efforts and initiatives of the Parties in reducing nutrient emissions to Lake Rotorua.

## **4 POLICY CONTEXT AND BACKGROUND**

4.1 In agreeing to this Memorandum the Parties recognise that policy documents are being developed which will have a significant impact on the rural sector and Lake Rotorua.

The Parties note:

4.1.1 The Proposed Bay of Plenty Regional Policy Statement (RPS)

4.1.2 The Draft Rotorua District Plan

4.1.3 The National Policy Statement for Freshwater Management 2011 (NPS)

4.1.4 The Regional Water and Land Plan

4.1.5 The Lakes Rotorua and Rotoiti Action Plan, which has been the basis for proposed action for Lake Rotorua

4.2 The Parties recognise that the targets referred to in section 3.3 above may not be practically achievable by 2019 and the Parties will:

4.2.1 Seek to agree on any timeframe modification necessary

4.2.2 Take into account the need for early and definitive actions to achieve the targets

4.2.3 Have regard for the practical realities of achieving changes on farm

4.2.4 Seek for actions to be completed within the timeframe parameters of project funding

4.3 The Parties recognize that nutrient output from farms in the Lake Rotorua Catchment is not the only contributing factor to water quality decline in Lake Rotorua.

4.4 The Parties are concerned that despite stakeholder dialogue and involvement in key policy processes and decisions this has not led to accepted policy recognizing the importance of a clean and healthy Lake Rotorua and the importance of the rural sector to the local economy.

4.5 Development of this MOU took place following initial meetings between the Parties and The Honourable Nick Smith (Minister for the Environment). Mr Todd McClay (MP for Rotorua) has played a key role in bringing the parties together and facilitating discussion to reaching agreement on the Memorandum.

## 5 TECHNICAL SITUATION

- 5.1 Lake Rotorua is a large (81 km<sup>2</sup>), shallow (mean depth = 11 m), polymictic lake that has been significantly altered from its natural state. Native fish populations were decimated following the introduction of rainbow trout in 1899 (McDowell 1990). Smelt (*Retropinna* sp.), a native planktivore common in lowland waterways were introduced to Lake Rotorua between 1906 and 1909 to provide a food source for trout (McDowell 1990). Aquatic plant communities are now dominated by invasive plant species, including hornwort and a number of oxygen weed species. Using the Lake SPI index the ecological condition of Lake Rotorua is currently described as Poor (Edwards & Clayton 2008).

Human modifications of Lake Rotorua's catchment (50,000 ha) have also dramatically altered the Lake Rotorua ecosystem. Until around 1900 most of the catchments of the Rotorua Lakes were densely forested with native forest and manuka scrub (Chapman 1970). The first major land use change involved planting of *Pinus radiata* forests, and sawmilling of native and introduced trees. Agriculture was limited in the catchments until the 1940s and 1950s when conversion of land to pasture for sheep, beef and dairy stock increased dramatically. Human population also increased dramatically during the 20th century (see Table 1 in Rutherford 2003), with human sewage being discharged directly to Lake Rotorua until 1991.

Land use change and increased land use intensity (both urban and agriculture) have greatly increased the loads of nitrogen and phosphorus to Lake Rotorua. These nutrient loads reflect both the inputs from the lake catchment and an internal nutrient load reflecting a legacy of past nutrient inputs stored in lakebed sediments. A significant issue for the management of Lake Rotorua lies in the lag-time for land-derived nitrogen to enter the lake via deep groundwater (Rutherford 2008). Groundwater residence times in the Rotorua catchment range from 15-100 years, and much of the current nitrogen load to the lake reflects land-use intensification in the 1950s, rather than current land-use patterns. Much of the nitrogen associated with land use intensification since the 1950s has not yet reached the lake.

Catchment development for agriculture, rapidly increasing human populations around the lake, and changes to the flora and fauna of the lake have all contributed to a deterioration of the trophic status of the lake. The lake is currently defined as eutrophic (Scholes & Bloxham 2008).

Since the 1970s there have been growing concerns about the state of Lake Rotorua. Much of this concern has focused on the dramatic changes in nutrient status of the lake and associated changes in seasonal peaks in algal biomass. Rutherford (1984) highlighted increasing trends (late 60s – early 80s) in total phosphorus and nitrogen in the lake, along with increasing trends in algal biomass (Chlorophyll *a*) and decreasing water clarity (Secchi Disk depth). These four variables are inter-related, but the exact relationships are dynamic and often difficult to quantify. However, decreasing water clarity and an increasing incidence of nuisance algal blooms in the 1980s-1990s finally resulted in changes in the management regime of the lake. The most dramatic of these was the removal of human sewage discharge to the lake in 1991. Rutherford (2003) attributed significant improvements in water clarity and

chlorophyll *a* concentrations to this change, but the improvements appeared to be short-lived.

Rutherford (2003) also highlighted clear scientific evidence of increasing concentrations of nitrate entering the lake through major tributaries streams since the 1960s. Much of this nitrogen is assumed to come from the increased agricultural activities in the catchment post WWII. There was no evidence that baseflow phosphorus loads to the lake from tributaries were increasing.

Following a detailed review of available evidence, Rutherford (2003) concluded that “There is no reason to revise the recommendation (made in the 1980s) that the most effective method to improve lake water quality control is to control the external loads of both nitrogen and phosphorus. The combination of low lake TN and TP concentrations and a high TN/TP ratio is desirable to make it more likely maximum phytoplankton biomass remains low and that diatoms and greens predominate over blue-greens.”

## **6 PURPOSE AND SCOPE OF THE MEMORANDUM**

- 6.1 To ensure a sustainable rural sector and sustainable environment in the Lake Rotorua catchment.
- 6.2 This Memorandum documents a joint commitment by the parties to defining and implementing actions that will reduce the load of nutrients transported to Lake Rotorua from lands within the catchment.
- 6.3 This Memorandum also aims to provide advice and recommendations to statutory authorities.

## **7 OUTCOMES SOUGHT THROUGH THE MEMORANDUM**

The Parties agree to work together towards the following outcomes:

- 7.1 To agree on a target for N and P reduction from farms.
- 7.2 To obtain financial support for the Collective to achieve this reduction.
- 7.3 To achieve agreement on timing of nutrient reduction from farms.
- 7.4 To seek a mechanism within the Regional Water and Land Plan whereby the Collective’s share of this reduction is the responsibility of the Collective.
- 7.5 To change subdivision rules in the existing and future District Plans to facilitate subdivision that contributes to lower nutrient flows.
- 7.6 To achieve the transfer of appropriate funding within the current Rotorua Lakes Funding Deed and other funding sources to ensure continued application of such

funds to a reduction in nutrient emissions from rural land to improve the water quality of Lake Rotorua and its catchment.

- 7.7 To facilitate the establishment of an independent entity to manage funds received under 7.6 above

## **8 COOPERATION**

- 8.1 The Parties agree to meet on a quarterly basis, or as required, to discuss issues and progress in relation to the aims and outcomes of the Memorandum.
- 8.2 The Parties agree that these meetings shall be chaired by Todd McClay MP; or other independent chairperson; or alternately chaired by each Party; or otherwise as agreed by the Parties.
- 8.3 Minutes of meetings to be recorded.
- 8.4 In addition to 8.1 and 8.2 the Parties will communicate whenever appropriate concerning the matters covered by this Memorandum, and will use their best endeavours to ensure that members of the LWQS and Collective co-operate in good faith on all relevant issues.
- 8.5 In line with a 'no surprises' policy, all publicity and press releases produced by either party will be provided to the other party at least 48 hours before release.
- 8.6 To safeguard their interests, each party retains the right to independent action and/or submissions when necessary, with the expectation that this will be seldom exercised.
- 8.7 The Parties agree to communicate with each other on progress towards meeting the Memorandum's aims.

## **9 SPECIFIC ACTIVITIES**

- 9.1 Specific activities will be developed and funding sought to facilitate actions to meet targets specified under this Memorandum. Schedule 1 contains an outline of proposed activities; this Schedule may be amended as required by mutual agreement of the Parties.

## **10 TECHNICAL SUPPORT**

- 10.1 The parties agree where necessary to establish technical committees where required.
- 10.2 The parties agree that experts may be invited to be part of this process as advisors.
- 10.3 The work of these groups is to be science-based and evidence-based.

## **11 NO NEW ENTITY CREATED**

- 11.1 This Memorandum does not itself create a new entity, association or society, nor create any executive or operational roles.

## **12 FUNDING**

- 12.1 This MoU does not make or imply any commitments regarding funding. All costs of the parties are to be covered by the respective parties unless otherwise mutually agreed.

## **13 DISPUTE RESOLUTION PROCESS**

- 13.1 If any issue or dispute arises between the Parties concerning the matters covered by this Memorandum, the Parties will use their best endeavours to resolve the dispute promptly. Where dispute resolution cannot be achieved bilaterally the services of Todd McClay MP or other independent facilitator will be used to aid resolution.

## **14 PROCEDURES FOR AMENDMENT**

- 14.1 This Memorandum may be amended or renegotiated by mutual agreement of both Parties.
- 14.2 This Memorandum may be amended or renegotiated if, at any time during its term, the nature or structure of the Collective or LWQS changes materially or substantively resulting in the objectives of this Memorandum no longer being appropriate or achievable.
- 14.3 The Collective and the LWQS may agree to amend the output and related performance measures and standards if changes in circumstances result in either party seeking a change. Any changes are to be recorded in writing and inserted or attached to the Memorandum and will have the effect of updating the Memorandum. Copies of the original and amended Memoranda will be held by both parties to the Memorandum.

## **15 TERM AND REVIEW**

- 15.1 This Memorandum commences on 20 July 2011 and continues to have effect unless amended or cancelled.
- 15.2 Every three years from that date a review of the MoU shall be undertaken by both parties.
- 15.3 Either party may withdraw from this MoU after giving 3 months written notice to the other.

## **SIGNATURES**

Executed for the Lake Rotorua Primary Producers' Collective (Inc)

by its duly authorised representative: **Tanira Kingi (Chairperson)**

SIGNED:

Date: 20 July 2011

Executed for the LakesWater Quality Society (Inc)

by its duly authorised representative: **John Green (Chairperson)**

SIGNED:

Date: 20 July 2011

## **SCHEDULE 1 – ACTIVITIES TO BE PURSUED WITHIN 12 MONTHS OF SIGNING**

- Present catchment change options – stock movement around catchment, riparian planting; extend the findings of current and past research to the catchment.
- Provide information to farmers on system changes and mitigation options to achieve the agreed objectives of the MoU whilst also giving farmers the option to choose from a number of avenues, rather than a narrow band of restrictive options.
- Explore investment in land use and landscape change within the catchment.
- Identify and test catchment attenuation strategies to manage peak rainstorm flows, erosion and sediment control, including dams, watercress use in streams, wetland development
- Support the investigation of mitigation strategies e.g. standoff pads, wintering barns, biogas production and other infrastructure investments
- Identify land with the catchment that could be used by the Collective members under agreement
- Develop proposals for BoPRC and other funding for the above initiatives