

## **Back from the brink - water quality in the Great Lakes**

**P Tucker**<sup>1</sup>, G Tuckerman<sup>2</sup>

<sup>1,2</sup> Great Lakes Council

Great Lakes Council recognises the importance of healthy, clean and productive estuaries and catchments to local industries (tourism, oysters and commercial and recreational fishing). Strategic plans such as the Great Lakes Water Quality Improvement Plan (WQIP) and Catchment and Estuary plans provide direction and a co-ordinated and prioritised management response but it is the approach to community engagement, stakeholder analysis and partnerships that provides the 'space' and 'social license' to be innovative and comprehensive in the delivery of NRM initiatives.

The model consistently applied to all of our programs involves engaging with our community, partners and other stakeholders from the very early stages of project development. The focus on the issues, capacity building, stakeholder analysis and joint learning is complimented by gathering scientific information to fill identified gaps in knowledge. Planning and implementation stages involve collaboration, creative thinking and action learning principles - recognising that new ideas come from working with people who have a range of experiences and common objectives. Finally, providing feedback is a key part of the process of continuous learning.

This paper will outline how the model has assisted in the delivery of projects at a number of scales and can be directly transferable to other Councils.

### **Setting the scene**

In 1997 Great Lakes Council and their community were shaken by an event that shaped our future for water quality management. The event - now commonly known as the 'oyster crisis' involved the discovery of hepatitis A in Wallis Lake. The ramifications of this event were felt within the local community and while directly impacting on the oyster, fishing and tourist industry, the indirect effects were felt as far as Sydney where fish sales were impacted. The link between healthy waterways and a healthy economy had never been more evident.

Since 1999, Council staff have worked with the community to effectively plan and implement programs to improve water quality. Initially, this involved developing the Wallis Lake Catchment Plan (2001) followed by the Wallis Lake Estuary Plan (2005). The catchment plan became the strategic document that assisted Council to introduce with community support an Environmental Special Rate which has been in place since 2001. Since the adoption of these plans, Council have worked with the community to keep water quality at the centre of its environmental programs. The Great Lakes Water Quality Improvement Plan (2009) provided Council with the scientific research and modelling results to further embed water quality into Council's core business. The Great Lakes community consistently rank the environment as a high priority. One of the key directions in the Great Lakes 2030 Community Strategic Plan is to 'embrace and protect our natural environment'. Developing the plan was also an opportunity to further engage with the community on water quality issues and solutions.

To address water quality issues in the Great Lakes, Council has delivered a wide range of projects, examples include:

- Developing and implementing a Water Sensitive Design Development Control Plan (2011) to establish water quality targets for new and re-development.

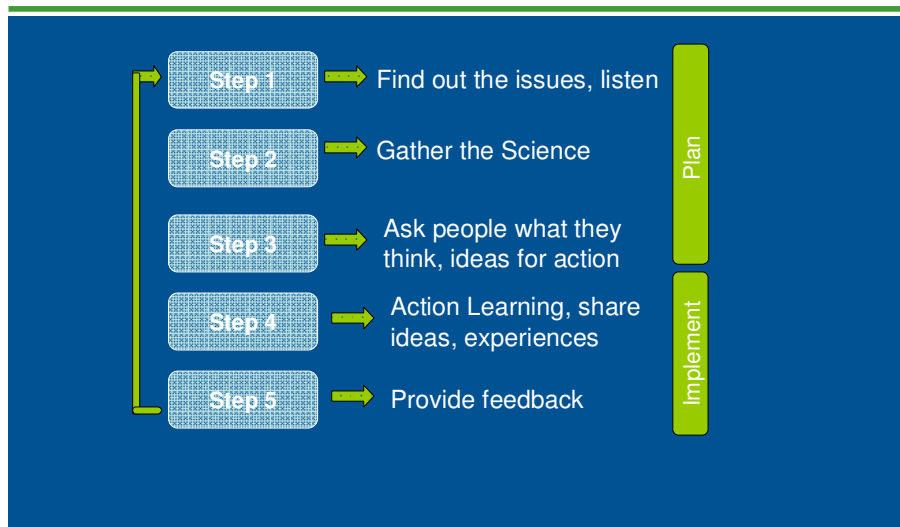
- Preparation of the Waterways report card for Myall Lake, Wallis Lake and Smiths Lake to provide feedback to the community on its environmental programs.
- Implementation of the Sustainable Farming Program to improve groundcover in rural areas.
- Wetland acquisition of over 1,500 ha and rehabilitation of acid sulfate soil landscapes.
- Engaging with Council staff to improve erosion and sediment control practices on road construction and maintenance.
- Establishing water quality gardens in urban areas to filter sediments and nutrients from urban stormwater.
- Stabilising sections of the Wallamba River with rock protection (rock fillets) and re-vegetation. Negotiating a voluntary access agreement for the recreation use of the Wallamba River to reduce impact of boat wash on the riverbank.
- Stabilising and sealing the approach to priority creek crossings on gravel roads.
- Engaging with urban residents to reduce their impact on stormwater quality through the Gardening for Sustainability program.

The engagement model used by Council to undertake these projects focuses on collaboration with industry and stakeholders which works to build support within the community for challenging projects.

### How the engagement model works to build support

The engagement model employed by Great Lakes Council (Figure 1) has been used across a range of initiatives both at the strategic and project level. People are at the centre of the approach which in turn builds support and acceptance for initiatives that might otherwise be politically or socially challenging. Having applied this approach to many projects it opens up space to work on challenging issues by providing a political and social licence to operate.

## Best Practice Approach



**Figure 1: Engagement model**

In applying the model there are five key steps which cover the planning and implementation:

Step 1 – Find out the issues, listen to stakeholders who will be influenced by the project and who know about the specific nature of the issues.

Step 2 – Gather the science or facts about the issue, if scientific information is being collected by an independent body build the capacity of stakeholders to understand the scientific information to achieve joint learning.

Step 3 – Ask stakeholders involved in the project what they think, find out their ideas for action. If people are involved in coming up with the ideas there is more hope that they will be implemented.

Step 4 – As the project reaches the implementation stage, utilise action learning as a tool to engage with stakeholders, share ideas and experiences and allow projects to evolve.

Step 5 – Provide feedback on the project achievements, successes and areas for improvement or lessons learnt.

Two examples of how the engagement model described here has been applied are presented in this paper.

### **Strategic use of the engagement model**

The engagement model described in this paper was used to develop the Great Lakes Water Quality Improvement Plan. It was developed with stakeholders and this was achieved by establishing an open and transparent process whilst providing opportunities for capacity building and joint learning. A stakeholder advisory committee involving agency, industry and community representatives was established to guide the development of the plan. The input from this group was complimented by input from the general community and working groups which involved people with particular expertise or interests.

Step 1 – Find out the issues

Workshops were held with local community groups and the Advisory Committee to determine the environmental values for our waterways. Eighteen workshops were held across the catchment, and at each of these sessions the participants were involved in discussions about water quality issues particular to their area of interest. This information was used to inform Step 3 (ideas for action).

Step 2 – Gather the Science

Scientists from the Office of Environment and Heritage and the Australian National University were engaged to collect data on the water quality of Wallis, Smiths and Myall Lakes. This data was used to inform catchment models and an estuary response model and assisted in identifying key indicators for estuary health (Step 5). The Advisory Committee were engaged throughout the project receiving briefings from the scientists on model development and monitoring results, the idea was to build the capacity of the committee to assist them to make informed decisions when discussing management actions.

Step 3 – Ask people what they think, ideas for action

Engaging the committee in Step 2 assisted with identifying targets for estuary health. Facilitated sessions with the Advisory committee incorporated feedback from the general community to identify the targets for the plan.

One technical working group and two reference groups were established to specifically come up with ideas for improving water quality in urban and rural areas. Focussed workshops were held throughout the development of the plan, and these management ideas were interpreted by the technical group and used to develop scenarios to run through the catchment models. There was a continual process of feedback to the Advisory Committee and working groups to refine the management actions that were eventually included in the Water Quality Improvement Plan.

#### Step 4 – Action learning

Step 4 relates to the implementation phase and many projects have been developed to deliver actions identified in the plan. As an example, the Sustainable Farming Program was developed to implement improved ground cover management and sustainable practices on farms in the Great Lakes. The approach taken with this program is to engage rural land managers in action learning which involves using localised networking, participatory learning, on-farm trials and demonstrations sites to help empower land managers to develop locally adapted solutions for sustainable agriculture. The underlying goal of the program is 'landholders learning from landholders' as this creates true long term capacity building and community support.

#### Step 5 – Provide feedback

Providing feedback is seen as critical for the ongoing engagement of the community. At the strategic level Great Lakes Council utilise a catchments and waterway report card to inform the community about the achievements in catchment management. The report card, like a school report grades the ecological health of the waterways with a grade from A to F. The grades are based on the results of monitoring two key indicators – Turbidity and Chlorophyll a. Each year the report card is provided to Great Lakes Council by the Office of Environment and Heritage (who have been engaged to provide the scientific input) and Council undertake extensive media and promotion around the time of the release.

### **Using the engagement model to address riverbank erosion**

The Wallamba River is a key tributary of Wallis Lake. It has a 20 km estuarine section with 6 km utilised for oyster production. The river is also utilised extensively by recreational and commercial fishers. Significantly the river has a long history of water sports particularly water skiing but and more recently wake enhancing activities. Caravan park businesses have developed to support tourism based around waterway recreation. Unfortunately significant riverbank erosion has been experienced along large sections of the river contributing to loss of foreshore reserves and vegetation, loss of property, increased turbidity and associated loss of seagrass. This has led to wide concerns regarding the health of the river but also conflicts between some users.

Earlier attempts (1996) to provide a management solution to the problem of riverbank erosion were ineffectual and dealt with the symptoms not the causes. The response was restricted to a consultant prepared riverbank erosion plan which recommended the expenditure of millions of dollars in hard bank protection. There was virtually no engagement of the key stakeholders. The engineering solutions provided by the plan avoided the hard questions required to be addressed to develop a sustainable solution. It left a legacy of raised expectations, a set of simple but prohibitively costly solutions with unrealistic maintenance requirements and unfortunately further polarisation of stakeholders and no changes. The riverbank erosion issue was solely treated as a technical problem rather than as a people problem.

The success of applying the community engagement, stakeholder analysis and joint learning practice at the strategic level in developing the catchment and estuary plans

prompted the extension of this model to specific natural resource management issues. The application of this model to the issue of riverbank erosion and waterway use is a demonstration of its effectiveness in moving to improved decision making and expenditure of limited public funds on restoration activities. The end product of the application of the model was the Wallamba River Memorandum of Understanding (MOU). This is a voluntary agreement negotiated amongst stakeholders to address the symptoms of erosion by providing for the sustainable use of the river by all users and targeting funds to restore and protect priority areas. The MOU was successful in limiting water ski activities to a 9 km section where impacts could be managed rather than the previous 14 km.

#### Step 1 – Find out the issues, stakeholder analysis

All key stakeholders were identified and meetings held with each stakeholder either individually or in groups. This process sometimes required multiple visits and meetings to build relationships and trust. Some representatives were not prepared to work collaboratively for a solution. In this case new representatives were requested and/or identified who were prepared to move on from past debates to try and achieve an outcome. Riverbank inspections also took place. A specialist community engagement/facilitator was hired to undertake this stage in conjunction with Council staff. This information was used to inform Step 3 (ideas for action).

#### Step 2 – Gather the Science

Specialist technical advice on river health and riverbank erosion was obtained. To help answer questions and issues raised during the stakeholder consultation. A focus on action and key information needs was taken to avoid unnecessary research.

#### Step 3 – Ask people what they think, ideas for action

Further conversation occurred after the technical reports and advice were provided. This process was slow as all stakeholders had to work through the issues and identify where compromise was possible. This was a challenging step for all parties. Often it was necessary to remind the participants how valuable was it to achieve a resolution to a long lasting polarised conflict.

#### Step 4 – Action learning

Each stakeholder was able to appreciate the range of views and objectives through the negotiation process. Once the MOU was in place and operational the stakeholders were able to review its effectiveness and learn together. This led to the group regathering to review the MOU and address the increasing problem of wake enhancing activities. Again the group was able to negotiate a way forward which involved the relocation of wake boarding and wake enhancing activities to areas of the lake where the impact could be managed. This followed the review of the original 2004 MOU in 2008.

#### Step 5 – Provide feedback

The MOU implementation is monitored and feedback periodically sought from stakeholders. Relationships are maintained as this has been the key to delivering of a negotiated outcome rather than a government imposed solution. The Council role continues to be that of a facilitator. The emphasis is now also on delivering the riverbank protection and restoration measures through installation of rock fillets, fencing of the riverbank to restrict cattle and allow revegetation.

### **Summary**

Water quality improvements in the Great Lakes have been achieved on the back of a simple but consistently applied engagement, stakeholder analysis and action learning approach. It was recognised early that it was necessary to address the NRM issue in a technical, social, political and economic framework. To do this a model has been applied which is based on building community capacity and relationships, negotiating outcomes and joint learning. Participatory approaches have been the key for establishing a platform for development and implementation of innovative and difficult projects. We have developed the social licence and credibility to tackle future challenges. Our messages are to:

- Combine science and people to tackle the causes of the problem first
- Councils are well positioned as local facilitators and negotiators through estuary and catchment management.
- Forming lasting relationships and partnerships are the key to on ground achievements
- Involving a wide range of stakeholders challenges all views and helps develop a way forward.
- Learning by applying new approaches and solutions and reflecting on the reasons for past failures has been crucial to adopting new practice.