Community data supporting regional environmental work bids

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Abstract
A core objective of the Waterwatch program is for on-ground monitoring to lead to action. A dedicated group of Waterwatch volunteers, the Nicholson Angling Club, have seen this objective become a reality.

The Nicholson Angling Club started monitoring in 2001 along the lower Nicholson River, which enters the Ramsar-listed Gippsland Lakes. The group's passion for fishing and sustainability of the resource, and appreciating that healthy fish populations would not be supported by poor water quality, led them to start monitoring as one way that they could assess emerging problems. The group has been undertaking physical-chemical monitoring monthly. Low oxygen and high nutrients were identified as emerging problems during 2004.

The East Gippsland Catchment Management Authority (the CMA) is responsible for prioritising and funding on ground projects supporting better river health in the region. Such funding is only allocated when sufficient evidence exists for needed improvement. The regional Waterwatch Coordinator played an important role in ensuring that the Angling Club's monitoring results were recognised by the CMA during the funding process. Consequently, this community data provided strong evidence and support for the CMA's bid for restoration projects along the Nicholson River.

This paper is a feel good story, demonstrating the value of community data in instigating on ground change. It is also an example of how communities working with local natural resource management agencies are able to achieve common goals and positive environmental outcomes.

Introduction - East Gippsland Waterwatch and surrounds
East Gippsland Waterwatch (EGWW) was established in 1995. The program encompasses school and community education and volunteer water quality monitoring. EGW monitors various water types including, rivers, estuaries, wetlands, lakes, stormwater and groundwater. The program covers the whole East Gippsland region; 2.2million hectares of land, and 60,000kms of waterways in eastern Victoria. This is about 10% of Victoria. The region is entirely south of the Great Dividing Range and includes the catchments of streams from the Mitchell River eastwards (East Gippsland Catchment Management Authority (EGCMA), 2004c).

Major land uses and industries include conservation, agriculture, tourism, service industry and native forestry. About 80% of the land of the region is in public ownership, mainly as State forests or National Parks (EGCMA, 2004c).

The Gippsland Lakes National Park spans an area of 340km^2 and is one of Victoria's major environmental assets and an important tourism destination. The Lakes form the largest navigable network of inland waterways in Australia. The Lakes are of great environmental importance, and contain a number of internationally significant wetlands and sites of international significance under the Ramsar Convention, Japan Australia Migratory Bird Agreement and China Australia Migratory Bird Agreement. (EGCMA, 2004a)

The Nicholson River is an important waterway that flows into the Gippsland Lakes. The Nicholson River catchment area includes the forested uplands area to the estuarine reach where the Nicholson River enters the Gippsland Lakes (614km^2). The entire upper catchment of the Nicholson River is public land managed as State forest (EGCMA, 2004a). The lower catchment is predominantly agricultural land to the waters' edge in many places. Significant tributaries of the Nicholson River include Yahoo, Bartmouth and the Strutterin creeks. The total length of the river is 72.5km.

Case Study

The Nicholson Angling Club (NAC) has been in operation for the past 27years and are very aware of environmental issues in the Nicholson River catchment. The Club initially came together due to their love of fishing. The group's passion for fishing and sustainability of the resource, and appreciating healthy fish populations would not be supported by poor water quality. They had noticed significant degradation in and along the Nicholson River where members have frequently fished over the 27 years. The NAC were unaware how these changes were affecting their River and fish populations decided to join East Gippsland Waterwatch to find out what the changes meant.

Every month members test electrical conductivity, reactive phosphorus, temperature, dissolved oxygen, depth and pH. The Club has 4 estuary monitoring sites from the mouth to approximately 10km upstream. They complete both surface and 1 metre depth samples at each site. The sites were selected by the NAC in conjunction with the EGCMA and EGWW. The EGCMA had anticipated that new data gathered by the group would supplement existing information and would lead to a better understanding of how threatening processes impact on the health of the Gippsland Lakes system.

In early 2003 the NAC noticed a drop in the dissolved oxygen levels and a rise in phosphorus levels at two of their monitoring sites. The Club had informed EGWW of the changes that they had observed. The results were then was analysed with the previous year's data.

EGWW compared the data against the environmental quality objectives set out in the State Environment Protection Policy – Waters of Victoria (SEPP). The SEPP applies to all surface waters of Victoria and aims to provide a coordinated approach for the protection and, where necessary, rehabilitation of Victoria's water environments. "The environmental quality objectives describe the level of environmental quality needed, in most surface waters, to avoid risks to beneficial uses and to protect them. If an objective is not attained, the beneficial uses are likely to be at risk" (State of Victoria, 2003).

For the Estuaries and Inlets segment, the 75th percentile total phosphorus objective is 0.03mg/L. The 25th percentile dissolved oxygen objective is ≥80% and the maximum objective is ≤110%. Estuaries are considered to be in good health if the total phosphorus results are found to be below the total phosphorus objective. Results between the 25th and maximum percentile readings for dissolved oxygen are considered in good health. The phosphorus results gathered by the NAC are reactive phosphorus, which does not directly compare to the total phosphorus objective but provides an indication of the levels. Reactive phosphorus only measures the phosphorus that is freely available in water, whereas total phosphorus includes reactive plus what is locked up in soil particles in the water. Therefore in most cases you would expect total phosphorus to be equal to or above the reactive phosphorus reading.

For 6 months out of the first seven in 2003, reactive phosphorus readings were found to be 0.03mg/L or higher, the highest reading reaching 0.14mg/L. In the same period of time dissolved oxygen for the same site only once read above the 25th percentile, the lowest reading falling to 10%. In 2001, the CSIRO Gippsland Lakes Environmental Study found that the Gippsland Lakes were under threat from a variety of human impacts. In particular, increased levels of pollution from nutrients and sediments, which have steadily affected the water quality and overall health of the Lakes, as have reduced water flows and increased salinity. (EGCMA, 2004a) The NAC and EGWW wanted to address the arising problem in the River before it lead to more serious issues.

The Project – Enhancing riparian values in the Nicholson River estuary

The EGCMA were working on a project application to acquire funding for rehabilitation works on the Nicholson River when EGWW had discovered the problem. EGWW discussed the results found by the NAC with the Chief Executive Officer and the Waterways Unit and provided the data to help with the development of the application. The project will link up all the staggered revegetation work along the Nicholson River over the years. The target is 5km of fully fenced river bank, weeds sprayed and revegetated. The application identified a number of threats to the Nicholson River. In the Nicholson River's lower reaches the riparian corridor has been severely degraded by clearing, grazing and erosion. Riparian vegetation has also been severely impacted by the changed salinity regime in the Gippsland Lakes resulting from establishment of the permanent entrance to the ocean. (EGCMA, 2004b)

The Nicholson River is extremely popular with anglers, and is subject to significant recreational impacts, particularly from boat wakes. The project addresses the key threats to the values of the estuarine reach of the Nicholson River. The threats include weeds, algal blooms, and bed and bank instabilities. (EGCMA, 2004b)

The Nicholson River project is supported by a number of regional and state documents giving the project a good foundation, as does the involvement of the NAC. The documents specifically relating to the project include the 'Our Water, Our Future' action plan, the East Gippsland Regional Catchment Strategy (EGRCS) and the East Gippsland Regional River Health Strategy (EGRRHS).

Funding for the Nicholson River project could be sought after through the 'Our Water, Our Future' action plan. Several initiatives in this document allow for river health projects to be funded. In Chapter 6 – Pricing for Sustainability, Action 6.3 states "The Government will introduce legislation to require environmental contributions from water authorities. For an initial period commencing 1 October 2003 and ending 30 June 2008, approximately $225 million will be raised, with all of this revenue being used to fund water related initiatives that seek to promote the sustainable management of water and to address adverse impacts to the environment associated with its use. This is likely to increase prices by an average of five per cent for urban water customers and two per cent for rural customers" (State of Victoria, 2004). This money will be used to fund water saving, licensing and river health initiatives. The Nicholson River project therefore can obtain its funding through the river health initiatives in the action plan.

The EGRCS applies to land and water within the East Gippsland region. Various action plans sit within the framework of the EGRCS, which coordinates the use and management, our natural resources into the future, and targets our high priority issues. The Strategy consists of Aspirational Targets (up to 50yr timeframe), Resource Condition Targets (5 to 15yr timeframe) and Management Action Targets (1 to 5yr timeframe). Management Action Targets relating to the Nicholson River project include, "An increase in the number of rivers in excellent or good condition, as assessed by the Index of Stream Condition (ISC)' and 'Priority actions implemented to improve riparian, floodplain, wetland and waterway health in accordance with EGRRHS…." (EGCMA, 2004c)

The East Gippsland Regional River Health Strategy (EGRRHS) was prepared under the guidance of the Victorian River Health Strategy and the East Gippsland Regional Catchment Strategy. These set state-wide and regional visions and directions for the management of rivers and streams in East Gippsland. The goals of the EGRRHS are to protect and improve the high value natural assets associated with the rivers of East Gippsland and to recognise the need for a sustainable regional economy for the current community and future generations. (EGCMA, 2004a)

In this strategy, the Nicholson River is broken up into 2 Management Units, the Nicholson estuary and floodplain, and the Nicholson upland. Only the lower estuary reach is identified as a High Value Stream. (EGCMA, 2004a) The Nicholson Angling Club's monitoring sites are located in the lower estuary that is identified as a high value stream. The EGRRHS identifies the presence of weeds, the presence of willows, algal blooms and carp, as urgent priority threats. High and medium priority threats are bed stability and loss of riparian habitat, respectively.

The EGRRHS Resource Condition Targets for the Nicholson catchment are "8.7km of stream with improved ISC Streamside Zone score by up to 7 units, 8.7km of stream improved ISC Physical Form score by up to 1.5 units and 7% reduction in nutrient and 7% reduction in sediment output to the Gippsland Lakes from sources in the lower Nicholson River" (EGCMA, 2004a).

These documents, the results collected by the NAC and also their support increases the chances of successfully obtaining funding for the commencement of the project.

Outcomes
At the end of 2004, $170,000 was granted for the Nicholson River project. This work is beginning in February/March 2005. The project will link up all the staggered revegetation work along the Nicholson River over the years. The target is 5km of fully fenced river bank, weeds sprayed and revegetated. The community will be involved in the project including the Nicholson Angling Club and landholders of the Nicholson River. The project also shows how partnerships between EGWW, the EGCMA and the NAC can work together to achieve the same desired outcome. EGWW through their education and monitoring program were able to help the NAC develop their knowledge and understanding of environmental issues.

Community involvement in natural resource management decisions are targets in both the EGRRHS and the EGRCS. This project gave the NAC the opportunity to provide input into the environmental projects developed by the EGCMA. Implementation of the project will form the first steps in realising the EGCMA's communities vision of re-connecting the rivers forested upland reaches to the Gippsland Lakes through a 'Corridor of Green' along the Nicholson River. (EGCMA, 2004b)

Learnings from East Gippsland Waterwatch
- Keep up a strong partnership with your Catchment Management Authority, especially with your Waterways/River Health Unit
- Read your River Health Strategy or similar document
- Read your Regional Catchment Strategy or similar document
- Keep the flow of information open, where your volunteers may identify changes with water quality this may help the CMA obtain funding for the area, and
- Give positive feedback to the community about the work they are achieving
- Linking community interests and strategic objectives leads to successful on-ground outcomes

References
EGCMA (2004a) "Protecting and Improving Our River Health: The East Gippsland Regional River Health Strategy 2004-2009". East Gippsland Catchment Management Authority, Bairnsdale Victoria pg iv, 64, 65, 100

EGCMA (2004b) "Enhancing Riparian values in the Nicholson River and Snowy River Estuaries Project"; *Application for Restoring Victoria's River Corridors;* East Gippsland Catchment Management Authority; Bairnsdale Victoria; pg 1, 2, 3

EGCMA (2004c) "East Gippsland Regional Catchment Strategy – Exhibition Draft"; East Gippsland Catchment Management Authority Bairnsdale Victoria; pg 10

State of Victoria (2002) "Victorian River Health Strategy Draft"; State of Victoria; Melbourne Victoria; pg 6, 8

State of Victoria (2003) "Variation to State Environment Protection Policy (Waters of Victoria)"; The Craftsman Press Pty Ltd; Melbourne Victoria; pg 32, 33, 40

State of Victoria (2004) "Victorian Government White Paper"; Department of Sustainability and Environment; Melbourne Victoria; pg 5