

An evaluation of Waterwatch activities in West Gippsland, Victoria

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Abstract

Evaluating program effectiveness for a multiple-objective based community engagement program can be challenging but is essential when communities are investing considerable time and effort. The Waterwatch program in Victoria aims to establish and maintain partnerships between community and catchment managers, to provide credible data, information and education on river health, needed for the sustainable management of Victoria's water resources. The regional West Gippsland Waterwatch program undertook an evaluation in late 2006 to determine whether the program is meeting its stated objectives. The program evaluation captured stories of significant change (Most Significant Change (MSC) Technique) that may have resulted from involvement in the Waterwatch program. The stories have enabled the program to recognize and celebrate successes to date, and will help direct the program's improvement in the future. This paper will identify this regional Waterwatch program's success toward community capacity building and identify areas for improvement.

Keywords

Review, capacity building, education, data collection, community, catchment

Introduction

Waterwatch is an Australia-wide program which engages local communities in appreciating, monitoring and protecting their local waterways: rivers, streams, lakes, wetlands and estuaries. The West Gippsland Waterwatch program was established in 1993 and is aligned with the West Gippsland Catchment Management Authority (WGCMA). While the broad scope, organization and objectives are aligned with National level, State level and other parallel local programs, each local region has relative autonomy in the organization and delivery of the local Waterwatch program. Therefore, it was considered to be beneficial to examine this regional Waterwatch program more closely, especially given the larger investment in this program than in other regional Victoria programs.

So, in the interests of good governance and best practice management, an external review was commissioned by the West Gippsland Waterwatch Regional Coordinator to inform the next round of local strategic planning and the development of a monitoring, evaluation and reporting framework to enable a more efficient assessment of the ongoing outcomes of the program, especially in terms of its social impact. The program evaluation captured stories of significant change (MSC) that may have resulted from involvement in the Waterwatch program. The stories have enabled the program to recognize and celebrate successes to date, and will help direct the program's improvement in the future. This paper will identify this regional Waterwatch program's success toward community capacity building and identify areas for improvement.

Box 1. Program Objectives

The formal objectives of the West Gippsland Waterwatch program are to:

1. Increase community awareness and understanding of water issues;
2. Collect and provide data which are credible, accepted and used;
3. Establish and increase community involvement in water management decisions and gain community commitment to action to improve water quality;
4. Establish and maintain partnerships between the community and catchment managers; and
5. Ensure integration of water quality issues into the school curriculum.

Box 2. Program ‘streams’ and associated activities

West Gippsland Waterwatch has three main streams of program activity: community education, a schools program and data collection.

Community education activities include:

- Events such as canoe tours and catch a carp days;
- Community based water quality monitoring projects such as the Nooramunga Corner Inlet Project;
- Involvement in major field days and festivals including Farmworld Field Days and Envirofest;
- Media releases and newsletters; and
- Provision of guest speakers and other support for local community groups such as Landcare.

The schools program is focused on establishing catchment health awareness as an integral part of the curriculum in local schools. Related activities include:

- Excursions and classroom presentations;
- Organization of or contribution to student events such as conferences, field days, and school expos;
- Provision of teacher in-service training days through schools, school cluster groups and staff associations; and
- The production and promotion of Gippsland’s Environmental Education Resource: Linking Our Catchments and Estuaries to the Coast, and the distribution of this resource to all Gippsland schools.

The data collection stream is based around a network of volunteer water collectors who routinely gather samples to monitor water quality across the West Gippsland catchment. Quality assurance and quality control of monitoring data is maintained via a QA/QC Program, including the routine submission of “mystery samples” for secondary verification. Volunteers are supported through the provision of:

- Water quality and biological monitoring training based around the QA/QC program;
- A comprehensive field manual of Standard Operating Procedures;
- Water sample collection and testing equipment; and
- Contact with their local Waterwatch facilitator.

Methods

Evaluation in this instance refers to the ability of program activities to achieve program objectives – is the program doing what it says it does, and to what extent? The first step in this process involved the development of Key evaluation questions.

Key evaluation questions

Key evaluation questions (KEQ) are carefully crafted and focused questions that form the basis of data collection for an evaluation study (Goodbourn, 2007). Based upon the stated Waterwatch program objectives, reference to additional parameters laid out in the evaluation brief, and with input from stakeholders, the following KEQ were adopted.

1. Has Waterwatch increased community awareness and understanding of water issues and their relationship to catchment health?
2. Does Waterwatch involve communities in the monitoring of their local waterways?
3. Is the data collected by Waterwatch perceived to be credible and acceptable, and is the data put to use?
4. Has Waterwatch increased community involvement in water management decisions?
5. Has Waterwatch gained community commitment to action in addressing waterway and catchment issues?
6. Does Waterwatch establish and maintain effective partnerships between the community and catchment managers?
7. Does Waterwatch provide school learning opportunities, and does Waterwatch figure as an integral part of the school curricula?

Methods to address key evaluation questions

The following principles were used to guide the choice and combination of strategies for the collection of information:

- Mixed methods to support the required depth and breadth of analysis;

- A process accommodating findings in line with predetermined indicators (that is, according to the pre-defined KEQ) as well as unexpected issues or emergent domains;
- Innovative methods to encourage the broadest feasible stakeholder involvement and engagement; and
- Participation of the key stakeholders in the formulation of success criteria

Accordingly, a five part process influenced by models of participatory and realistic evaluation was tailored to meet the requirements of the program evaluation (Goodbourn, 2007):

1. Program logic workshop:

Program logic constructed for the three streams of program activity: community education, schools program and data collection. Program logic represents the rationale underlying a program, making explicit the assumed cause and effect relationships between activities or inputs, output and outcomes (Goodbourn, 2007).



Figure 1. Program logic workshop: This workshop involved the construction of a program logic – a way of understanding and representing the underlying rationale of a program – for Waterwatch program activity.

2. Interviews:

A total of 53 semi-structured interviews were conducted with informants from groups identified through network mapping or through construction of the program logics for the three “streams”. Semi-structured interviews have the benefit of ensuring that key questions are covered, while being flexible enough to allow the respondent to address issues that may fall outside the scope of pre-determined questions.

3. Document and media review:

A literature review was conducted of published articles, reports, strategic plans, reviews, guidance documents and other materials and media relating to the Waterwatch program at a National, State and Regional level. These materials were used to either frame the initial context for the review, or to provide specific data to inform the evaluation.

4. Steering committee workshop:

In a half-day workshop, the Waterwatch steering committee and staff mapped out data collected from selected interviews against the formal program objectives to determine the extent to which each objective had been met, and whether there were program outcomes or impacts not captured by the targeted objectives. Participants were presented with 12 informant stories derived from exploratory interviews.



Figure 2. Steering committee workshop: The Waterwatch steering committee and staff mapped out data collection from selected interviews against program objectives.

5. Stakeholder forum:

In a half-day forum, the Waterwatch team and other identified key stakeholders analysed 34 stories of program activities, impacts and outcomes collected during interviews. Given the inevitable limitations on future program resources, it was critical to ensure future program efforts are directed towards outcomes that are significant and valued. Therefore, key desired outcomes underpinning values had to be identified for input to the subsequent development of strategic plans and the monitoring, evaluation and reporting framework.

Working in small groups, participants used a variation of the Most Significant Change technique (MSC; see Davies & Dart, 2005) to identify those stories from the original set of 34 that represented the most significant impacts of Waterwatch. This approach allowed the key values underpinning the Waterwatch program to be surfaced and confirmed.



Figure 3. Stakeholder Forum: At the stakeholder forum, stakeholders analysed stories of program activities, impacts and outcomes collected during the interviews.

Overview of the data set

In total, 64 stakeholders were consulted as part of the evaluation. The range and size of stakeholder groups represented in interviews and at the workshops and forum are given in the following tables.

Table 1. Interviews

Volunteer water monitors	16
Teachers	15
Waterwatch staff and WGCMA staff	6
Data users	8
Events participants	8
N	53

The total number of stakeholders consulted is less than the raw total of workshop participants plus interviewees as some people were involved in both activities.

Table 2. Workshops and stakeholder forum

Volunteer water monitors	3
Waterwatch staff	5
WGCMA staff	3
Data users	3
Event participants	1
Steering Committee members	9
N	18

Individual members do not add up to the total as several participants represented more than one stakeholder group.

Limitations of the methodology

While every effort has been made to minimise bias, it must be recognised that there are inevitably limitations to any evaluation design. In this instance it is possible that some aspects of the program were not covered, there may have been bias in the selection of informants, and interpretations made by the reviewers are inevitably influenced by their own experience and opinions.

Results

The following assessment is based on data gathered (stories) during the series of interviews and workshops undertaken for the evaluation; in particular, much of the section is based upon outputs from the steering committee workshop. Findings are presented according to the KEQs corresponding to the stated objectives of the program.

KEQ 1. Has Waterwatch increased community awareness and understanding of water issues and their relationship to catchment health?

It was widely held that Waterwatch had succeeded in raising awareness and understanding of water quality. This was predominantly achieved through community engagement with Waterwatch activities. However, raised awareness did not necessarily translate into increased involvement. This concern relates to the relationship between Objectives 1, 2 and 3 (Box 1); see also the following discussion questions.

KEQ 2. Does Waterwatch involve communities in the monitoring of their local waterways?

The success of the volunteer water monitoring program (and to a lesser extent, the schools program) was seen as *prima facie* evidence that this objective had been met. Volunteer monitors were perceived as engaging as groups e.g. Landcare, or as individuals. As such there were multiple pathways for engaging and involving local communities.

KEQ 3. Is the data collected by Waterwatch perceived to be credible and acceptable, and is the data put to use?

Key findings included a lack of recognition of the QA/QC systems by data users within the NRM industry, in particular the level of training, certification and corroboration of skills standards of volunteer monitors. This was most evident in the private sector.

It was believed that groups were more likely to be using data focused on monitoring outcomes related to a higher NRM objective, whereas individuals were more likely to be monitoring for a variety of personal objectives, not necessarily directed toward some specific use or application of the data. There was one sited example of using Waterwatch data for lobbying government.

Although there was evidence of data being put to good use, especially in the public sector, there was widespread lack of awareness of data applications, especially on the part of the volunteer monitors. While some feedback on data use is currently provided, it is not necessarily suitable or accessible to all interested stakeholders.

KEQ 4. Has Waterwatch increased community involvement in water management decisions?

There was limited evidence of the community becoming involved in water management decisions, except:

- Via representation on the Waterwatch Steering Committee;
- Through involvement with a project-focused community group (such as monitoring wetlands that are protected by the group); or
- Where people were making a career shift and planned to work in the NRM industry.

KEQ 5. Has Waterwatch gained community commitment to action in addressing waterway and catchment issues?

Despite a widespread reported belief that there was growing community commitment to action on waterway issues, other than Catch-a-Carp events, there were few concrete examples that were attributable to Waterwatch. Examples were invariably related to volunteer monitors responding to abnormal data readings. Larger-scale community-based interventions relating to estuarine and wetlands projects had Waterwatch involvement but were not demonstrably a function of Waterwatch activity.

KEQ 6. Does Waterwatch establish and maintain effective partnerships between the community and catchment managers?

Other than providing a link via community volunteer data collection and the various management authorities using this data within the catchment, the key partnership link is the Regional Waterwatch Steering Committee and its nexus with the WGCMA. There was little or no evidence of other comparable “effective

partnerships” with other catchment management related authorities. However, if land managers are regarded as the frontline catchment managers, then the partnership between Waterwatch and Landcare is highly significant. In West Gippsland, Waterwatch and Landcare have a very strong (largely informal) partnership through their inextricably linked functions and roles.

KEQ 7. Does Waterwatch provide school learning opportunities, and does Waterwatch figure as an integral part of the school curricula?

Waterwatch provided significant and highly valued learning opportunities in schools including water monitoring, information days and classroom presentations. Teaching and learning resource access was also very much appreciated; not simply the extensive teaching materials and monitoring kits, but also the ability to have supported visits to facilities and access to the popular model of the West Gippsland catchment.

At present, the extent to which Waterwatch features as an integral part of the school curriculum is primarily a function of the strength and scope of NRM or environmental studies within school’s syllabus and educational themes. However, the need for linkage to the new Victorian Essential Learning Standards (VELS) is well recognised and already clearly presented within Gippsland’s Environmental Education Resource. The current VELS links are focused on environmental studies and there is further opportunity to extend these links into other broad education subject areas

Discussion

The West Gippsland Waterwatch Program has achieved considerable success. It is consistently held in high regard by participants, end users and other stakeholders. The program has clearly met the majority of its formal objectives however there are several aspects of program delivery which could be improved. For example, attainment of objective one (KEQ1) could be improved by developing a communications plan with targeted actions, reducing the reliance on word of mouth and ad-hoc ripple effects to spread and raise community awareness. Achievement of objective two (KEQ3) could be improved by promoting the integrity of volunteer data and encouraging agencies to acknowledge Waterwatch data whenever they use it. Tailored feedback mechanisms should also be used for different stakeholders, especially for volunteer monitors wanting to know how their data is used. In order to increase community commitment to action and involvement in decision making (objective 3; KEQ 4 & 5), Waterwatch should promote itself to catchment managers as a means to formulating management actions through the use of volunteer data. Waterwatch should also try to play a more formal role in establishing information flows between monitors and organisations. Promoting success stories of community involvement in decision making and action on waterway and catchment issues would also lead to more individuals, groups and agencies looking to use Waterwatch in this way; it would also help facilitate partnerships between community and catchment managers (objective 4, KEQ 6). Clearly, the development of a comprehensive communications plan would allow for the implementation of most of the recommendations mentioned above. West Gippsland Waterwatch will develop a new strategic plan incorporating a communications plan based on the results and recommendations of this evaluation. A second evaluation should be conducted 3-5 years on to evaluate the effects of changes in program delivery and also the local environment.

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