Community-Based Education and Involvement Program

Townsville Coastal Catchments Initiative Project

Final Report

Period June 2006 – December 2008

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Australian Government

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EXECUTIVE SUMMARY

Community-Based Education and Involvement (CBEI) approaches are a proven method for addressing issues that need the assistance, contribution and commitment in achieving a common goal of the community and individuals.

Townsville City Council's Integrated Sustainability Section has two main programs that seek to involve the community in total water cycle education and awareness, our eco-certified catchment tours and the Creekwatch program.

The eco-certified catchment tours are largely school based and are designed in partnership with teachers in order to meet curriculum needs. Students gain a sound understanding of current environmental problems and potential solutions and become part of a Water Cycle Network of people caring for their waterways. The tours are designed using experiential learning principles and promote hands on approaches to all activities.

School students are not the only participants however – community groups, visitors, local business operators, local government staff and environmental groups (Conservation Volunteers, Reefcheck Australia, Landcare, Creekwatch) are all involved. The tours facilitate communication and collaboration among these groups and unite them in the common goals of environmental sustainability and conservation.

A common outcome for all involved is an improved understanding of how land-based human activities impact upon our wetlands and reefs. Our catchment tours draw attention to the water cycle and we take participants around local water infrastructure (weirs, wastewater treatment plants, dams) to convey take home messages about where our drinking water comes from and where our waste and stormwater go. The tours also tie in with the principles of Creek to Coral program – community stewardship, awareness and ownership of whole of catchment issues.

The Creekwatch program aims to engender community-based stewardship of our waterways through facilitating volunteer involvement in water quality monitoring, flora and fauna surveys and revegetation activities. The program has expanded from one site in 2001 i.e. Louisa Creek, to the current total of nine creeks with an active core of volunteers.

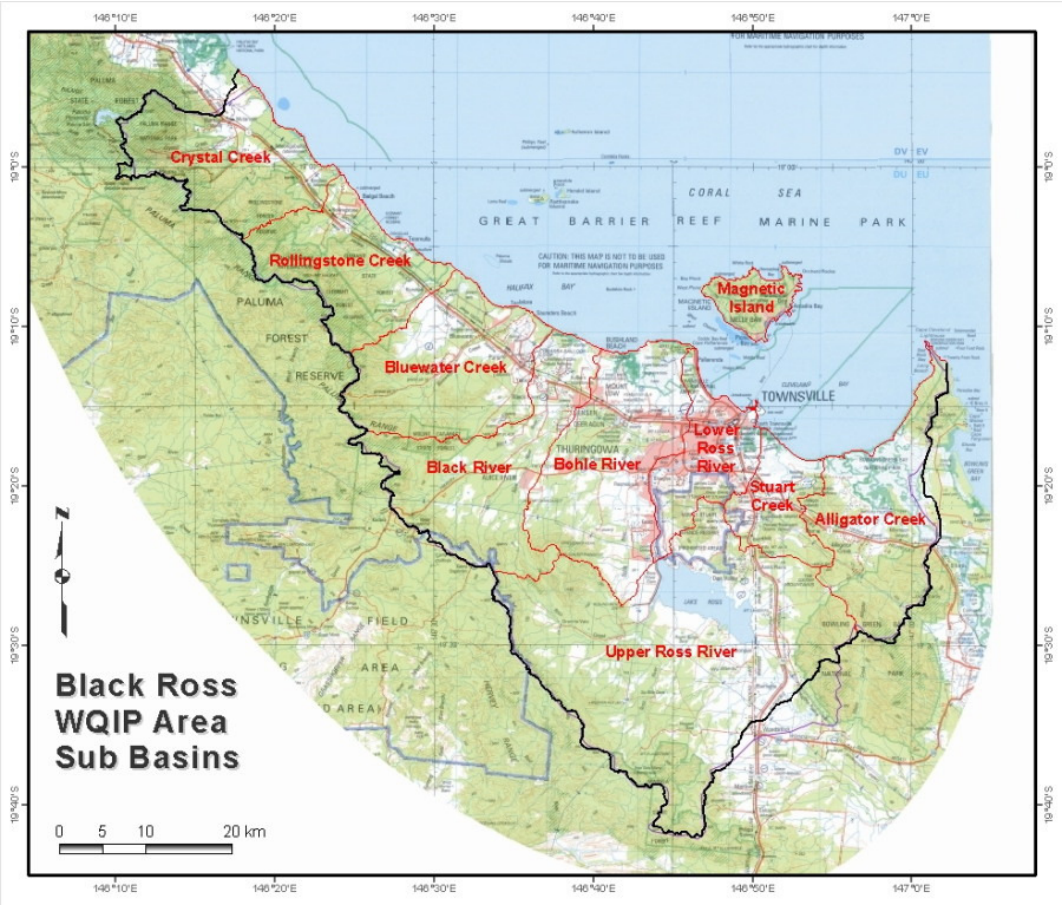
As indicated in the following report, both programs have exceeded their targets and have involved large numbers of the community. In 2007-2008 the numbers of school students attending catchment tours was more than double the target number of 800 while the number of Creekwatch volunteer days was 48% greater than the target of 120 days.

Townsville City Council realises that managing natural resources through regulation and enforcement is largely ineffective without the support and encouragement of our community's participation in the protection of our waterways. The Community Based Education and Involvement program enables this participation and has proven to be a successful initiative that is popular and respected by all those involved.

1. Introduction

Townsville City Council through its Creek to Coral initiative is leading the development of a Water Quality Improvement Plan (WQIP) for the Black and Ross River Basins and along with its many partners. This project is funded through the Coastal Catchment Initiative, an Australian Government funding program to help address pollutant delivery to sensitive marine receiving environments, such as the Great Barrier Reef.

Figure 1-1 The Black Ross Water Quality Improvement Plan Area (Townsville)



Among other things the Black Ross WQIP will;

- Determine environmental values and water quality objectives for our waterways;
- Determine load reduction targets for key pollutants;
- Identify cost-effective management practices to achieve load reduction targets and water quality objectives; and
- Identify investment opportunities for all parties, including Council, the Australian and Queensland Governments, industry and the community.

In addition to the preparation of Black Ross WQIP, the CCI funding from the Australian Government has supported the continuing enhancement of Townsville City Council's Community Based Education and Involvement Program (CBEI). This document reports on the outcomes achieved by the CBEI program over the period of the CCI funding support between June 2006 and December 2008.

2. Community Based Education and Involvement

2.1 Background

Townsville City Council's Community Based Education and Involvement (CBEI) program provides an interactive learning experience to involve and show the Townsville community various aspects of the water cycle and its management (including water quality improvement). This is achieved through a unique and innovative learning and involvement experience for school children and the wider community. The program is jointly implemented by Townsville City Council (TCC) and Conservation Volunteers Australia through the Creek to Coral initiative.

The CBEI program is comprised of two main components:

1. Education programs including TCC's eco-certified catchment tours; and
2. The Creekwatch program.

2.2 Aims

The CBEI program aims to:

- Raise awareness and understanding of total water cycle issues and management in Townsville;
- Foster ownership and stewardship of total water cycle issues and management practices/programs using accepted behaviour change and community development principles;
- Build community capacity to implement management practices for water management in their own homes and workplaces;
- Facilitate on-going community involvement in water quality monitoring through Townsville City Council's Creekwatch program;
- Facilitate a unique eco-catchment tour experience within a framework of co-learning and partnering; and
- Promote innovation and excellence in a safe, fun and dynamic environment.

2.3 Program Outcomes

The CBEI program seeks to continually expand and enhance its delivery in order to meet community expectations and TCC water cycle management aims and objectives. Program targets have been developed in order to track and report on this continuous improvement.

2.4 Education Program

Underpinning the education program are the eco-certified catchment tours, which involve school students and the wider public. A bus is provided to take participants to relevant sites, following the 'flow' of the water catchment from the Ross River Dam to Rowes Bay and the Town Common.

There are a variety of activities that can be included in the catchment tours, depending on the audience involved i.e. students or other groups, and their interests and needs. All tour itineraries are designed in partnership with teachers or community groups and are supported by an interpretive plan, risk assessments and experienced staff from Townsville City Council and/or Conservation Volunteers Australia (CVA).

Activities that can be experienced on the catchment tours are based around developing a better understanding of the interrelationships between people and the environment using the water cycle and aquatic ecosystem health in the context of a water catchment. Activities include:

- Fish sampling;
- Macro invertebrate collection and identification;
- Site visits of water treatment plants;
- Inspection of riparian vegetation and rehabilitation areas;
- Viewing gross pollutant traps and stormwater treatment devices.

2.5 Outcomes

The success of the Community Based Education and Involvement program is indicated by the figures in Table 2-1. The tours are well known in the school community and target numbers for school students have been exceeded each year.

Table 2-1 CBEI Program Outcomes 2006-2008

Educational Objectives	Annual Targets	06-07	07-08	July 08-present	TOTAL
School Activities Total	40	50	42	30	122
Total Schools	20	25	24	18	67
Total Students	800	1200	1845	1266	4311
Sites Visited		131	112	53	296
Displays and Special Events	8	8	13	6	27
Promotional Material ▪ Distributed ▪ Developed	600 4	800 2	1000 3	300	2100
Media ▪ Releases ▪ Coverage	12 4	1 2	1 3	5 2	7 7
Meetings/Seminars Attended	8	5	5	3	13
Industry / Business Involved	4	2		6	8

Figure 2-1 One of the Interpretive Sites on the Catchment Tours

3. Creekwatch

3.1 Background

Creekwatch is a local community awareness program, promoting catchment management principles and involving community members in the monitoring of local waterways and wetlands. The Creekwatch network strives to increase awareness and understanding of water quality issues through the delivery of strategic monitoring and technical and educational services and support.

The Creekwatch goal is *'to improve the health of our waterways and catchment through collaborative partnerships with communities and businesses*'.

3.2 Outcomes

The Creekwatch program is continually expanding and adapting to meet community expectations. This keeps the program dynamic, with the program objectives and targets improving over time. Creekwatch conducted water quality, macro invertebrate and fish monitoring on 9 different creeks (up from 1 in 2001), including some irregular monitoring of Stuart Creek, with Stuart school students and Green Corps teams. Louisa Creekwatch, Sachs Creekwatch, the Ross River Network and Mundy Creekwatch have all continued to develop.

Table 3-1 Creekwatch Community Involvement and Support

Creekwatch Objectives	Annual Targets	06-07	07-08	July 08 - present	TOTAL
Riparian vegetation (planted)	200	260	240	100	400
Weed and erosion control (m²)	400	290	1420	1500	3210
Water quality monitoring (sampling)	144	144	241	125	510
Fish and macroinvertebrate (monitoring)	12	81	105	52	238
Aquatic plant and weed (surveys)	8	43	7	3	53
Community members consulted (count)		37	5	7	49
Enquiries handled (count)		34	17	14	65
CVA contribution (volunteer days)	120	237	178	142	557
Support to local groups (meetings attended)	8	4	2	2	8

Notes: The water quality monitoring sites above do not include the additional sites that have been sampled at the Bohle River/Tchooratippa Creek and Rocky Springs development sites, as part of an agreement between Conservation Volunteers Australia (CVA) and Townsville City Council's Planning and Development department.

Figure 3-1 Macroinvertebrate Monitoring at Sachs Creek

Note: Stuart State Primary School students enjoy some macro-invertebrate monitoring at Sachs Creek

4. Case Studies

4.1 International Youth Coastal Conference

Townsville City Council welcomed over 300 local, national and international students to the International Coastal Conference in October 2008. The students came to work together for three days and learned how to protect and enhance our coastal environments. The event was the culmination of a lengthy process with many groups of students working with mentors to develop presentations, using the Kids teaching Kids model. They then delivered these presentations to their peers in a series of workshops.

The students also took part in a day of environmental activities on Magnetic Island. Nine sites were prepared and students were able to undertake hands on learning activities such as constructing gross pollutant traps, surveying coastal vegetation, testing water quality and sampling macro-invertebrates.

Figure 4-1 All Together at the Youth Coastal Conference

4.2 Rasmussen State School

The Grade 6 class at Rasmussen State School have gone on a learning journey that has impacted on the whole school. The students have been on several catchment tours and discovered parts of their local environment that they didn't know existed. The school is situated close to the top of the catchment at the Ross Dam and several students had never been to the mouth of the river. By the end of the school year they had become familiar with their river, understood how water is treated and became champions of water conservation. The school has planted native trees to provide habitat for local wildlife and have become xxx Qld wetlands program. Students at the school also won the Dry Tropics Water Smart art competition for the water themed mural they painted at their school.

Some the students said:

'I liked the water treatment plant the most. It was awesome fun.' Amy

'I liked the time I caught the water scorpion.' Shian

'I liked EVERYTHING!' Tani

Figure 4-2 Rasmussen State School Mural

4.3 Water Wise Educators Catchment Tour

The Queensland Department of Natural Resources and Water approached Council to partner with them and deliver a Water Wise workshop for teaching staff of the Townsville region.

Twenty-five teachers attended the workshop on 21 November 2008. They learnt about the Water Wise curriculum resources available for Years 1 to 12. Council 'Water Educators' took the teachers on a catchment tour to show them what was available to support their teaching about the water cycle, water concervation and catchment management issues.

The teachers also met Creekwatch and Conservation Volunteers Australia staff and volunteers who are involved in the catchment tours and found out more about these programs and their school initiatives.

The teachers were enthusiastic about both the curriculum materials and the availability of water education activities from Council and their community partners. They expressed strong interest in becoming involved in the program.

4.4 Creekwatch

CBEI activities undertaken by the Creekwatch Project Officer, Greencorps and volunteers included:

- Regular monitoring of Creekwatch sites;
- Catchment tours with schools and community members;
- Revegetation work;
- Networking with schools and undertaking water quality, education and revegetation activities with students and teachers;
- Running information booths at local events such as Ecofiesta (annual environmental event with 5,000 visitors);
- Interviews with James Cook University students, as part of a research project producing information videos;
- Partnering with groups (Landcare, Townsville City Council) to run events on key dates such as;
    - International Biodiversity Day,
    - World Wetlands Day,
    - Clean Up Australia Day.

Figure 4-3 Explaining about Macroinvertebrates at Ecofiesta

Note: Mick Brady (Creekwatch Project Officer) mans the stand to talk about Creekwatch at the Ecofiesta

Figure 4-4 Water Quality Testing at Ross River Dam

5. References

Eco-Catchment Education Tours Interpretive Plan, Townsville City Council,

Total Water Cycle Management Community Report July 06-Sept 06

Total Water Cycle Management Community Report Oct 06–Dec 06

Total Water Cycle Management Community Report Jan 07-March 07

Total Water Cycle Management Community Report April 07-June 07

Total Water Cycle Management Community Report July 07-Sept 07

Total Water Cycle Management Community Report Oct 07-Dec 07

Total Water Cycle Management Community Report Jan 08-March 08

Total Water Cycle Management Community Report Apr 08-June 08

Total Water Cycle Management Community Report July 08-Sept 08

Total Water Cycle Management Community Report Oct 08-Dec 08

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