

## SECTION 1: A "Whole-of-Catchment" Approach

KEY  
PRIORITY

To secure commitment and participation in integrated catchment management of natural resources from all relevant interest-groups in Townsville-Thuringowa



### *INTEGRATED CATCHMENT MANAGEMENT*

It is becoming ever more apparent that natural processes are strongly interlinked. As a result, our activities often have side-effects on the environment that we cannot predict, sometimes with disastrous consequences. Traditional ways of managing natural resources have not adequately recognised the inter-relatedness of the environment's components. In fact, many of the problems that we face today stem from managing one resource in isolation from all others.

Catchments provide a useful and functionally appropriate geographical unit for managing natural resources in a more holistic way. A catchment is an area bounded by natural features, such as mountain ranges or hills, from which runoff drains to a common lower point (e.g. a river, wetland, lake or ocean). Areas within a catchment are "linked" by the flow of water downstream. Some examples of linked catchment processes include the downstream transport of sediments, nutrients, pollutants and seeds from the upper catchment areas; the recharge of groundwater; and the role of vegetation in controlling the quantity and quality of surface and groundwater flowing through the catchment.

The integrated catchment management (ICM) approach recognises the importance of understanding the links in catchment processes so that natural resources can be managed in sustainable and equitable ways. However, the successful transition from traditional approaches to the ICM approach may be hindered by the historical co-existence of diverse and incompatible interests, activities and demands on our natural resources, which previously have occurred independently of each other. The solution is to develop genuine communication and co-operation between all of the relevant interest-groups.

## CATCHMENT MANAGEMENT UNITS

For ICM to be efficient, appropriate catchment units need to be adopted. This is not a simple task. There are approximately 40 separate catchments in the Townsville-Thuringowa sub-region. The southern parts include two large catchments with extensive floodplain areas (The Ross and Haughton Rivers and their tributaries). The northern districts are characterised by many small catchments, running off the Paluma Range across a narrow coastal plain to the sea. This geographical setting requires the identification of suitable Catchment Management Units (CMUs), which are groups of catchments that share similar natural resource management issues.

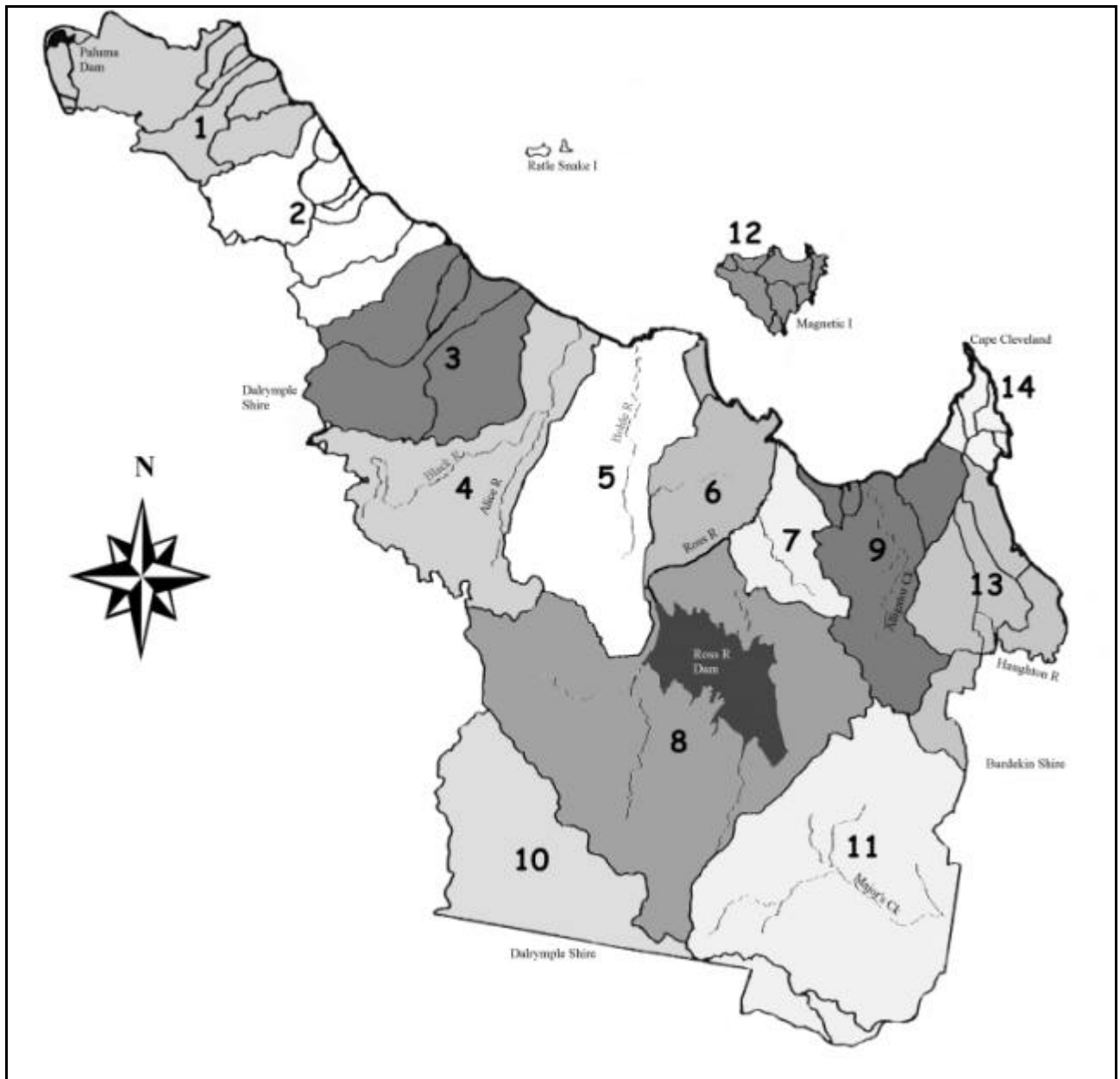
A proposed framework of Catchment Management Units in Townsville-Thuringowa is presented in Table 1 and Figure 1. This framework is based on existing data about surface water catchments (NRWG 1996), information on use of land and natural resources, and information contributed by experts participating in this Strategy's workshops. The catchment data are summarised in Appendix J. The proposed Catchment Management Units and the strategic priorities identified by this Strategy are intended to provide a sound basis from which to move towards a more sustainable management of our local resources.

**Table 1. Proposed Catchment Management Units for Townsville-Thuringowa.**

Catchment Management Unit	Main Catchments and Sub-catchments included
1 Crystal Creek	Crystal, Birthday, Ollera, Scrubby and Hencamp Creeks
2 Northern Coast	Rollingstone, Saltwater, Cassowary, Camp Oven, Lillypond and Leichardt, Creeks
3 Bluewater Creek	Sleeper Log, Two Mile and Christmas, Bluewater, Deep, Healy & Althaus Creeks
4 Black River	Black and Alice Rivers; and Log, Canal and Alick Creeks
5 Bohle River	Little Bohle and Bohle Rivers; and Stoney, Saunders, Middle Bohle and Mt Louisa Creeks
6 Ross River	Ross River (below dam), Mt Louisa Creek (high flow)
7 Stuart Creek	Stuart, Stoney and Sandfly Creeks
8 Ross River Dam	Ross River (above Dam) and tributaries; Sachs, Antill Plains, Four Mile and Six Mile Creeks
9 Alligator Creek	Alligator, Slippery Rock, White's, Killymoon, Crocodile and Cocoa Creeks
10 Reid River	Reid and upper Haughton Rivers
11 Woodstock	Spring, Double, Walkers, Double Barrel, Majors Creeks, Serpentine Lagoon, middle Haughton River
12 Magnetic Island	Gustav, Petersen, Alma, Gorge, Endeavour and Western Creeks
13 Bowling Green Bay	Reed Beds, Mackenzie, Emmet, St Margaret, Barrambush, Cromarty and Palm Creeks, lower Haughton River
14 Cape Cleveland	Cape Cleveland catchments and groundwater flowing off Mt Elliot

Two major priorities for this Section are:

- ✓ Finalisation of the proposed framework of Catchment Management Units, based on negotiation and consensus among interest-groups; and
- ✓ An increased awareness of the benefits of adopting a truly integrated and holistic approach to local natural resource management.



**Figure 1: Draft Map of Proposed Catchment Management Units.**

Key to Catchment Management Units

- |                   |                   |                      |
|-------------------|-------------------|----------------------|
| 1 Crystal Creek   | 6 Ross River      | 11 Woodstock         |
| 2 Northern Coast  | 7 Stuart Creek    | 12 Magnetic Island   |
| 3 Bluewater Creek | 8 Ross River Dam  | 13 Bowling Green Bay |
| 4 Black River     | 9 Alligator Creek | 14 Cape Cleveland    |
| 5 Bohle River     | 10 Reid River     |                      |

## **STRATEGY 1.1 A "WHOLE-OF-CATCHMENT" APPROACH**

### **❖ WHAT ARE THE ISSUES?**

Integrated Catchment Management (ICM) is the co-ordinated management of land, water, vegetation, and wildlife within the natural boundaries of river catchments and/or coastal floodplains (the latter is the case in much of Townsville-Thuringowa). In 1997, a series of workshops in Townsville-Thuringowa and the broader Burdekin Dry Tropics region indicated widespread interest among the community in developing an ICM approach for management of natural resources in the region.

A number of local planning activities have already recognised that catchment processes require important consideration when management strategies are being developed (e.g. local storm-water quality management plans; Townsville-Thuringowa Water Supply Board catchment management plan). However, a "whole-of-catchment" approach requires:

- ✓ Genuine participation from all of the relevant interest-groups;
- ✓ A framework for planning and management that is agreed to by all concerned; and
- ✓ A willingness to commit resources towards common goals.

Local governments, communities and the commercial sector are the major users and managers of resources in catchments and they all need to play a leading role in ensuring coordination and integration of management at a local level. We need to build co-operation among these parties to achieve the widespread benefits that will flow from an integrated approach to natural resource management. Existing constraints will need to be identified and addressed. Current programs and initiatives can form a starting point on which to build by improving communication and co-operation among the groups and agencies involved.

Additionally, it is essential to increase the level of understanding among the general public about the implications of catchment processes for the future sustainability of our natural resources.

### **❖ WHY DO WE NEED A "WHOLE-OF-CATCHMENT" APPROACH?**

The adoption of a "whole-of-catchment" approach to natural resource management:

- recognises and respects the natural interconnection between ecosystem and landscape processes;
- provides a framework in which informed decisions about use and management of resources can be made with due consideration offered to other relevant processes and interests;
- brings managers together to co-ordinate their efforts, which increases efficiency and effectiveness; and
- provides communities with a defined focus for involvement in natural resource management.

### **❖ WHAT CAN WE DO ABOUT IT?**

We can ensure that planning and management of all activities on land and water in Townsville-Thuringowa are based on a clear recognition and understanding of the interconnection of natural processes on a catchment-wide scale.

### **❖ WHAT CAN THIS STRATEGY ACHIEVE?**

- ★★★ The adoption of a framework of natural catchment units for integrated planning and sustainable management of natural resources.
- ★★ A catchment-based information system built on existing data, ongoing monitoring and further research.
- ★★★ The promotion, integration and coordination of involvement by all sectors of the community in catchment-care initiatives.