

Burdekin Dry Tropics Board

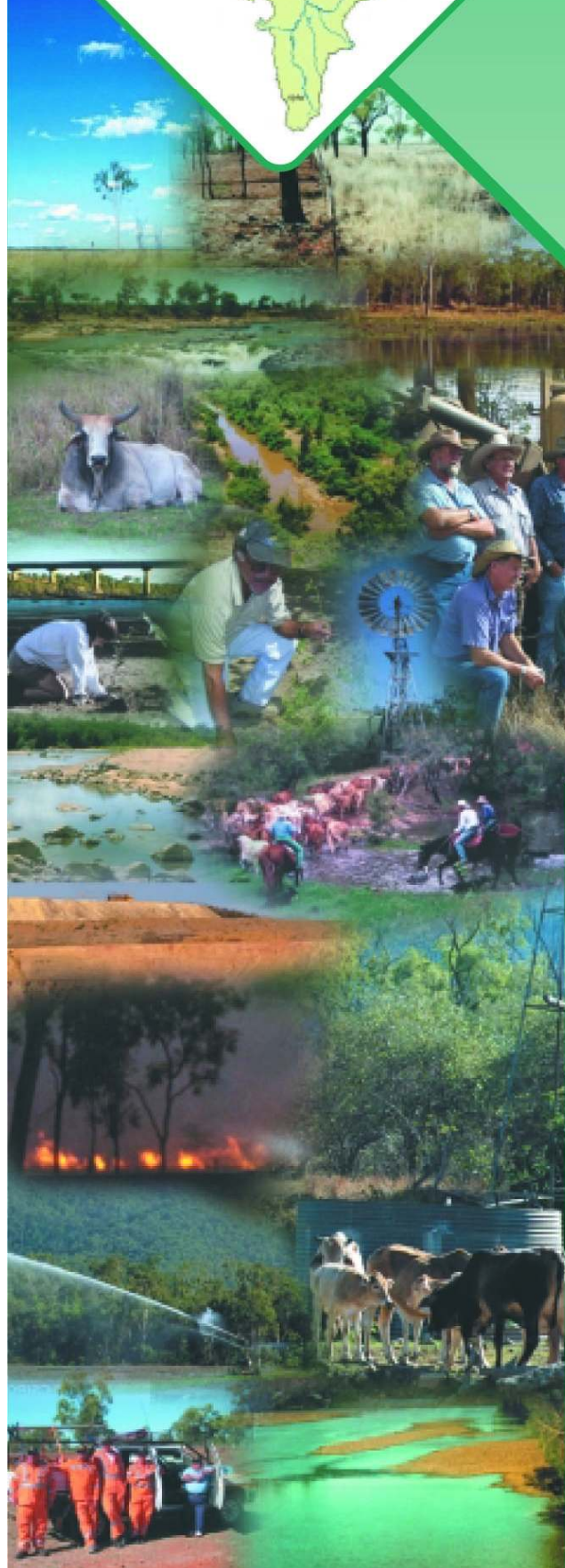
**Coastal Catchments Initiative Program**



Quarter Two

**Biannual Performance Report**

July to December 2005



**Coastal Catchments Initiative Program  
Burdekin Dry Tropics Region  
Biannual Performance Report  
Period ending 31 December 2005**

Produced by the Burdekin Dry Tropics Board.

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Burdekin Dry Tropics Board

Level 1, 25 Sturt St, Townsville Q 4810

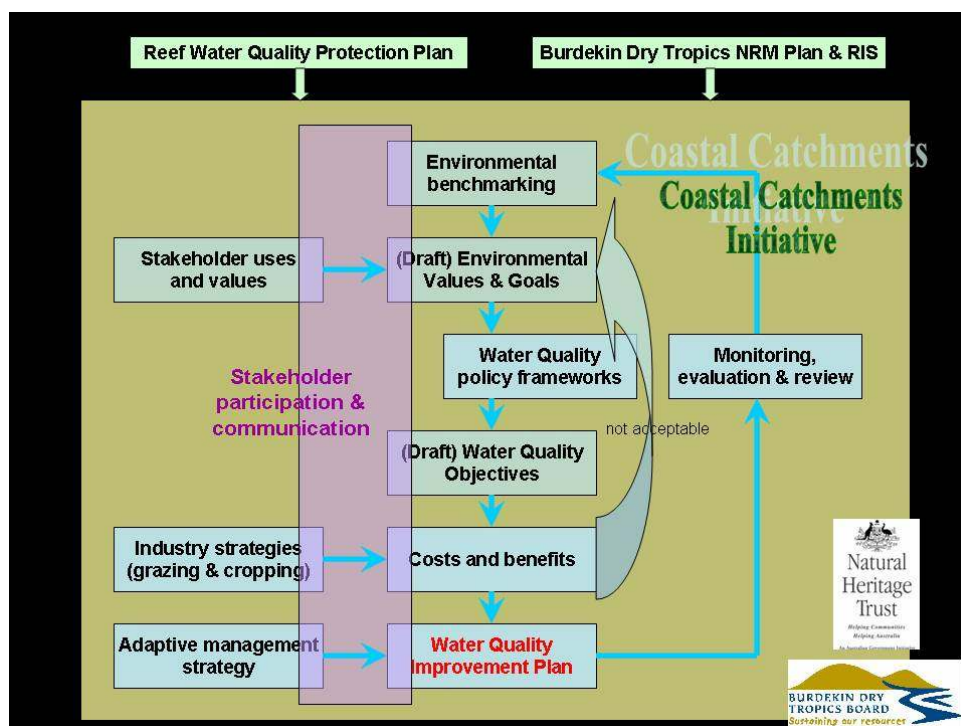
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**Coastal Catchments Initiative Program  
 Burdekin Dry Tropics Region  
 Biannual Performance Report  
 Period ending 31 December 2005**

**1. Executive Summary**

Significant progress has been achieved within the short period (less than 3 months) since the commencement of Coastal Catchment Initiative (CCI) Project activities. A conceptual framework for CCI implementation and preparation of a Water Quality Improvement Plan (WQIP) has been developed and presented to the Burdekin Dry Tropics Board (BDTB) of Directors and other major stakeholders (see Figure 1). This framework, or model, identifies the major policy drivers, inputs, processes and outputs associated with the CCI Project for the Burdekin Dry Tropics region.



**Figure 1.** Conceptual framework for CCI and development of a Water Quality Improvement Plan for the Burdekin Dry Tropics Region

Project activities commenced in October 2005, following recruitment of the three key project personnel. The late start was due to difficulty in recruiting a suitable person to fill the position of Project Manager and has had consequences with regard to completing some milestones, although the establishment of a WQIP Steering Committee, the development of a Collaborative Management Agreement and the preparation of activity proposals in support of the various components, including benchmarking reports, are in hand.

The grazing lands and cropping (sugar lands) component activities and the development of component work-plans, in collaboration with stakeholders, are well underway. Work has commenced to collate and synthesize data and information in support of identified Best Management Practices (BMPs) for grazing lands and sugar lands. Collaboration with the DPI&F ReefPlan extension officers for the upper and lower Burdekin has been established and a collaborative communication and extension strategy for grazing and sugar lands BMPs is in preparation.

Linkages have been established with the Burdekin Integrated Water Quality Monitoring Program (BIWQMP), which has a tiered structure of water quality activities ranging from the property scale to whole of catchment approach. This is a BDTB initiative that involves ACTFR, AIMS, CSIRO, DPI&F, Reef CRC, GBRMPA, NR&M



and community volunteers. The monitoring activities will provide data on sediment and nutrient concentrations for benchmarking and the preparation of a number of products within this component of the CCI project, including refining SedNet model predictions.

## **2. Final Reports Summary**

No activities were scheduled for completion during this first six month period and, consequently, no final reports have been submitted. It is expected that some tasks/activities will be completed within the next six months, however these are yet to be determined. All tasks/activities will be identified within the Project Workplan.

## **3. Progress against relevant milestones**

### **3.1 Activity 1. Project coordination**

*Progress performance report and quarterly financial report delivered*

The Quarter 1 Financial Report for the period Jul – Sept 05 was submitted as per Agreement in October 2005. The current Biannual Performance Report, including Financial Report for the period Oct – Dec 05, represents the delivery of this milestone.

### **3.2 Activity 2. Water Quality Improvement Plan**

*Tasks 1-7 (per Table 5) completed*

**Task 1** *Employment of a Water Quality Improvement Plan (WQIP) Project Manager*, has been completed. The Project Manager, Dr Ian Dight, commenced employment on 10 October 2005. A conceptual framework for CCI implementation and preparation of a Water Quality Improvement Plan has been developed and presented to the Burdekin Dry Tropics Board (BDTB) of Directors and other major stakeholders. The framework is presented in Figure 1. Activity proposals that cover Tasks 2-7 are currently being developed within the context of preparing the project workplan.

**Task 2** *Establish a WQIP Steering Committee*. This task is being undertaken in conjunction with Task 4, which will establish Collaborative Management Agreements with all key stakeholder organizations and groups (see below). Discussions have been held with key partners in the implementation of the Reef Water Quality Protection Plan (hereafter ReefPlan) with the intent of identifying those partners with relevant responsibilities under ReefPlan and a willingness to contribute to development and implementation of the WQIP for the Burdekin Dry Tropics. In addition to the establishment of a policy-level Steering Committee, two Technical Advisory Groups (TAGs) will be formally established within Collaborative Management Agreements – one for each of the Grazing Lands and Cropping (sugar lands) project components (discussed in more detail under Activities 3 and 4 below).

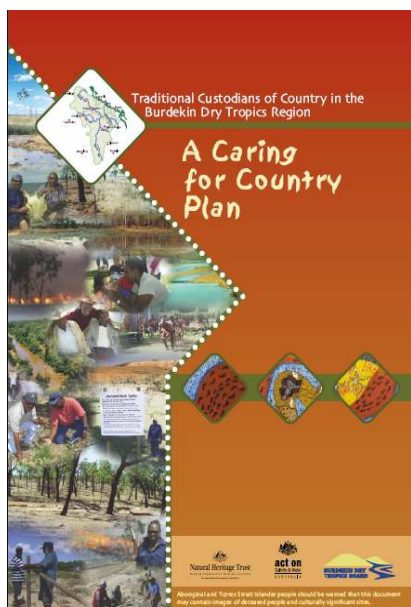
**Task 3** *Delineate the extent of the receiving water body that will be the subject of the WQIP*. A contract is currently under development with the Australian Centre for Tropical Freshwater Research (ACTFR) to undertake this task, including reviewing knowledge of flood plain and flood plume dynamics, and terrestrial signals in coral cores in order to delineate the receiving environments.

**Task 4** *Establishment of a Collaborative Management Agreements (CMA) with all key stakeholder organizations and groups*. A consultation process is currently underway to identify the rights, roles and responsibilities of all key stakeholders and groups. These will subsequently be included within written agreements. Most stakeholders have already been formally contacted and institutional focal points identified through which negotiations on the wording of CMAs can be undertaken.

The Burdekin Dry Tropics (BDT) region has 16 Traditional Owner groups that are represented within the BDT Traditional Owner Management Group. The Management Group has expressed their wish to be involved in the CCI project, emphasizing a strong cultural heritage relationship to water bodies within the Burdekin catchment. This relationship is reflected in the Traditional Owner Caring for Country Plan.

**Task 5** *Prepare a Stakeholder Consultation Strategy*. The Stakeholder Consultation Strategy is being devel-

oped through a consultative process in conjunction with the development of the CMA. A database of stakeholders has been established and is being continually updated.



**Task 6** *Identify the key pollutants for riverine estuaries and the receiving water body.* An activity proposal, to be coordinated by ACTFR in collaboration with CSIRO and AIMS, which will meet the requirements of this task, is currently in preparation. Under this activity proposal, identification of the key pollutants for riverine estuaries and the receiving water body will be undertaken as part of a broader WQ issues analysis within the Benchmarking and Monitoring component of the CCI project. This analysis will review monitoring data, chemical usage data, point source data including NPI & catchment modeling (SedNet & others), and seek advice from local stakeholders as to the key water quality issues in the Burdekin region. The activity will contribute to the fulfillment of several other tasks, including 7 (see below).

**Task 7** *Summarize the condition of the current water quality in the receiving body.* This task will be carried out by ACTFR as part of a broader WQ issues analysis in collaboration with CSIRO and AIMS (see also Task 6 above).

### 3.3 Activity 3. Grazing Best Management Practices

*Develop project workplan. Identify hotspots and demonstration sub-catchments.*

A Project Officer (Grazing), Mr Tom Coughlin, has been appointed to oversee and coordinate activities under this component. Mr Coughlin is employed by James Cook University and located within ACTFR. This situation provides excellent opportunities for coordination and collaboration with other relevant CCI activities, particularly with Activity 4 (cropping - sugar lands) and Activity 5 (benchmarking and monitoring).

Mr Coughlin is currently preparing a component workplan in collaboration with DPI&F (Charters Towers), with whom he has developed a strong working relationship. DPI&F, in collaboration with CSIRO, have an ongoing programme in the upper Burdekin involving trials that investigate, amongst other outcomes, the relationship between grazing strategies and water quality. The CCI project will provide support to these trials and assist in the development of a water quality (WQ) module for Grazing Land Management (GLM). Staff from both DPI&F and CSIRO is already actively engaged in the CCI Project and are providing technical advice as the

workplan is developed. This role will subsequently be formalized through a CMA. Linkages to the Dalrymple Landcare group and individual graziers have also been established.



*Photo: Gully erosion in the upper Burdekin*

The identification of WQ BMPs for Grazing Lands is well underway. This work will also collate and synthesize data and information in support of identified BMPs for land, riparian and wetland management. Hotspots, based on earlier model results, have also identified and efforts initiated to confirm these findings using more current technological developments.

Collaboration with the DPI&F ReefPlan extension officer for the upper Burdekin has been established and a collaborative communication and extension strategy

for grazing lands BMPs is in preparation.

### **3.4 Activity 4. Cropping (sugar lands) Best Management Practices**

*Agree industry involvement and support within Burdekin Irrigation Area and Water Board regions. Review and document water quality outcomes from on-farm practices, including pollutant loads discharging to receiving waters at property and drainage unit scales.*

A Project Officer (sugar lands), Mr Aaron Davis, has been appointed to oversee and coordinate activities under this component. Mr Davis is also employed by James Cook University and located within ACTFR. He is currently preparing a component workplan in collaboration with industry groups, including BSES, Canegrowers, CSIRO, DPI&F and BBIFMAC, with whom he, also, has developed a strong working relationship.

Presentation of the CCI project at the Sugar Agency Network (SAN) Forum in Home Hill provided an opportunity to establish contact with a wide range of industry bodies and raise awareness of the activities that will be undertaken under the CCI umbrella. Industry support groups, such as BSES, CSIRO and Canegrowers, are undertaking trials that are relevant to WQ BMPs. While the timing of the project has not facilitated strong technical input at this early stage, ongoing discussions seem promising with regard to future involvement.

The identification of WQ BMPs for sugar lands is also well underway. This work will collate and synthesize data and information from a wide range of disparate research activities focussing on BMPs for water quality and water use efficiency of particular relevance to the Lower Burdekin cane growing region. An important linkage between this undertaking and the Qld. Government's, Land and Water Management Plan (LWMP) process for irrigation enterprises in the Lower Burdekin catchment has been identified. It is anticipated that



the WQ BMPs for sugar lands will provide a coherent, accessible information source to assist in the preparation of property level management plans.

Collaboration with the DPI&F ReefPlan extension officer for the lower Burdekin has also been established and a collaborative communication and extension strategy for sugar lands BMPs is in preparation. It is anticipated that this communication and extension strategy will support the Bowen-Burdekin Integrated Floodplain Management Committee (BBIFMAC) to raise awareness of water quality issues, establish net-

works (communications and WQ monitoring) and provide access to information on innovative sugar cane farming systems and their benefits.

### **3.5 Activity 5. Water quality benchmarking and monitoring**

*Develop project workplan. Assess monitoring requirements taking into consideration biophysical and social factors. Assess the most accurate and cost effective methodologies.*

A number of activity proposals are under development in support of CCI water quality benchmarking and monitoring, as follows:

Linkages were quickly established with the Event Monitoring Program - a collaborative activity that is coordinated by ACTFR and involves AIMS, CSIRO, DPI&F, Reef CRC, GBRMPA, NR&M and community volunteers. Event monitoring fits within a BDTB initiative to establish a Burdekin Integrated Water Quality Monitoring Program (BIWQMP), which has a tiered structure of water quality activities ranging from the property scale to whole of catchment approach. The monitoring activities will provide data on sediment and nutrient concentrations for benchmarking and the preparation of a number of products within this component of the CCI project, including refining SedNet model predictions. Basic data and information for benchmarking of pesticides/

herbicides, including an understanding of the fate of these chemicals in irrigation water and flood runoff, from paddock through to the marine receiving body, has also been identified as a significant weakness that will be addressed within this component of the CCI project.

It is also proposed that SedNet/Annex modeling of sediment and nutrients from grazing lands will be refined by incorporating high resolution cover and elevation overlays, and an improved hillslope delivery ratio. These parameters have been identified as reflecting significant weaknesses in previous SedNet/Annex products. It is expected that this activity will be undertaken by CSIRO. Hotspots will be identified through a combination of modeling and monitoring or ground truthing.

ACTFR, in collaboration with CSIRO, AIMS and GBRMPA, is expected to coordinate the preparation of the benchmarking reports that will provide input to the development of a WQIP, as identified in Figure 1. The series of activity proposals that is in preparation will contribute to development of the project workplan.

## **4. Difficulties Encountered In Achieving Milestones**

### **4.1 Appointment of key personnel and project commencement**

Initial efforts to recruit a Project Manager in July 2005, following Agreement between DEH and Burdekin Dry Tropics Board in relation to financial assistance for the Coastal Catchments Initiative programme in the Burdekin Dry Tropics catchment, were unsuccessful. Only in September was a Project Manager recruited, with employment commencing in October 2005 together with the two other key project personnel. October 2005, therefore, marks the actual commencement of CCI project activities. This report therefore represents three (3) months of activity only.

### **4.2 Approaching wet season**

The rapidly approaching wet season, which is to provide the main opportunity to collect additional benchmarking data and information, and to measure the effectiveness of trialled BMPs in achieving water quality improvements, has limited opportunities to develop new activities in this regard. Attention, instead, has been concentrated on identifying opportunities to build on existing trials and monitoring activities. Notwithstanding this emphasis, knowledge gaps have been identified and activity proposals are in preparation in the expectation of meeting certain data and information needs.

### **4.3 Development of workplan**

Progress in the development of the workplan has been hindered by multiple demands on key science providers, including their involvement in concurrent CCI projects. This, combined with Christmas vacations, has made it difficult to get sufficiently detailed activity proposals that will contribute to a workplan from key organizations.

## **5. Progress against relevant outputs**

**Task 1** *Project Manager appointed.* Output complete.

**Task 2** *Steering Committee established.* Output in preparation (see report on progress against relevant milestones above).

**Task 3** *Receiving water body, catchments and other features subject to the WQIP identified and mapped.* Output in preparation (see report on progress against relevant milestones above).

**Task 4** *Partnerships established and agreed in writing.* Output in preparation (see report on progress against relevant milestones above).

**Task 5** *Stakeholder Consultation Strategy in place.* Output in preparation (see report on progress against relevant milestones above).

**Task 6** *Key pollutants identified.* This task will be undertaken as part of a broader WQ issues analysis that will result in an output (a) summarizing the condition of the current water quality (Task 7); (b) identifying the key pollutants (Task 6); (c) identifying critical source categories for key pollutants (Task 9); and (d) determining and prioritising water quality issues for the Region (part Task 8). The output is in preparation (see also



report on progress against relevant milestones above).

**Task 7** *Water quality conditions described.* Output in preparation (see report on Task 6 immediately above and report on progress against relevant milestones).