

Cungulla inter-dunal wetlands

The Great Barrier Reef Coastal Wetlands Protection Program Pilot Program was commissioned by the Australian Government to deliver on-ground actions for the sustainable management of 22 priority wetlands in the Great Barrier Reef catchment. The \$2 million program was delivered over two years by a consortium led by Conservation Volunteers Australia and involved partnerships between government, community and landowners to identify and protect these wetlands.

Project summary

The Cungulla inter-dunal wetlands Pilot Program was one of the first pilot projects initiated. Achievements of the project include production of the *Cungulla inter-dunal wetlands management guidelines*, which provide easy-to-follow guidance on land management for property holders in the area.

An incentive scheme, which was promoted to 90 landholders, resulted in work being carried out on only one property. The work included weed removal and revegetation.

It is hoped that this pioneering work will create interest and momentum in the community, and will encourage others to follow the lead of these property owners.



Photo 1: Transition zone between Cungulla inter-dunal freshwater wetlands and Cromarty salt marsh (photo: Townsville City Council)

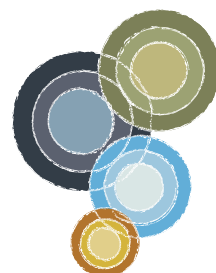
About the site

The Cungulla wetlands are located in the coastal plains of the Burdekin Dry Tropics Region, and comprise over 3000 hectares of high conservation value inter-dunal wetlands, including shallow sedgeland and grasslands, open water lagoons, and saline wetlands. The wetlands adjoin the extensive regionally important Cromarty wetlands to the south and the Ramsar-listed Bowling Green Bay National Park to the east.

The area seasonally supports large waterbird populations, including broilgas, magpie geese and numerous duck species. It is also an important nursery area for fish and other marine life.

The Cungulla beach ridge area contains a substantial groundwater aquifer, which feeds into the surrounding wetlands and sustains them into the dry season. This provides a significant area of wetland habitat during the mid-dry season when other wetlands have dried out.

The Cungulla sand mass and associated vegetation filters water before passing into downstream wetlands and the Great Barrier Reef Lagoon (World Heritage Area and Marine Park), thus contributing to the maintenance of water quality in the surrounding Ramsar wetlands and the Great Barrier Reef World Heritage Area. The Cungulla area is also home to several known endangered species, including the northern quoll.



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Photo 2: Remnant *Livistona* palm forest and cleared sand ridge near the edge of Cromarty wetland (photo: Townsville City Council)



Photo 3: Mature *Melaleuca dealbata* wetland complex (photo: Townsville City Council)

Challenges

Land uses within the area include urban and rural/residential development, agriculture (irrigated crops, forestry and tree crops), grazing, sand mining, recreation and tourism. The impacts of these land uses on the Cungulla inter-dunal wetland include:

- loss and damage to native vegetation through clearing
- infestation by weeds and feral animals
- changes to vegetation caused from altered fire regimes
- erosion caused by off-road vehicles, machinery and stock
- changes to surface and groundwater hydrology.

The inter-dunal wetlands containing *Melaleuca dealbata* and *Livistona* spp. have been degraded by rural residential subdivision and inappropriate land management practices, such as excessive clearing, grazing and misuse of fire.

There is an urgent need to **increase understanding** of the high conservation value and management needs of these intermittent wetlands within the local community.

Rehabilitation actions

The company Earthworks Environmental Services was engaged to conduct an **ecological study** and produce a report on land management issues and threats to the Cungulla wetlands. This report was then published as the ***Cungulla inter-dunal wetlands management guidelines*** for public distribution. A public forum was held to gain community input into the report and subsequent management guidelines. A small number of enthusiastic community members attended, and it is hoped that ongoing support will entice others to become involved in future rehabilitation projects.

Following from this, a one-year matched contribution funding scheme was initiated to assist landholders with following the guidelines to manage wetlands (establish a fire regime, reinstate hydrology, remove offending structures, control weeds, erect fencing for exclusion/inclusion of livestock). The guidelines and expression of interest form was sent out to 90 landholders. Funding agreements, project outlines and statutory declarations were sent out to successful landholders with offers of \$10 000 each for management actions on their properties. Once again, it is hoped that, as the recognition and knowledge base grows, interest will continue to be generated in these kinds of projects.

Buralga

At the Buralga property, work on the ground focused on wetland enhancement, **weed removal and revegetation**. Through a partnership with Conservation Volunteers Australia (CVA), Better Earth teams worked on the site for a total of three weeks over a period of six months. This included extensive hand weeding and herbicide application for the control of several weed species (lantana, chinee apple and leucaena), site preparation, revegetation, mulching and maintenance of the site. The CVA team planted several hundred native trees, which were mulched and watered before the wet season.



Photo 4: Selected site for wetland rehabilitation in the Cungulla inter-dunal wetlands system (photo: Townsville City Council)

The landholders also hand-removed an infestation of noogoora burr located in and around a wetland swale. Many burr seed pods were scattered on the ground during this removal process, but the seeds were collected with the innovative use of a paint roller and then destroyed. Photo monitoring of this weed removal by the landholders is continuing.

A major part of the project involved the excavation of a dune swale wetland to a greater depth at this site. This will create a more permanent water resource for water birds and native animals, some of which have already started to move into the area. Native frog larvae appeared very quickly, and many different types of water birds visit the area. Large flocks of brolgas and even large barramundi can already be found in the wetland, along with other fish, bird and insect species. It is expected that the values of the wetland will continue to increase as the revegetation becomes better established.

With the assistance of Townsville City Council, the landowners have been successful in seeking funding from the Australian Government's Envirofund program to continue works to restore and improve the values of the wetlands on their property. This will make possible the planting of a further 600 trees on the site, additional weed eradication and excavation works.





Photo 5–8: Sites after wetland rehabilitation in the Cungulla inter-dunal wetlands system (photos: Townsville City Council)

Lessons learnt

Although the project had strong managerial support within Townsville City Council, the project took a long time to implement because of an initial lack of response to the call for projects. Despite being one of the first projects initiated under the Pilot Program, it was one of the last to achieve outcomes.

An excellent ecological assessment of the management needs of the Cungulla wetland area has been developed, and it is hoped that momentum will be sustained.

The low response rate to the workshop and the call for expressions of interest indicate a need for ongoing effort to raise awareness in the community of the value of these wetlands.

Further reading

City of Townsville 2007, *Cungulla inter-dunal wetlands management guidelines*.

Lokkers, C & Perry, T 2006, *Ecological review of inter-dunal wetlands in the Cungulla area, north-east Queensland*, report to Townsville City Council, June 2006, Earthworks Environmental Services.

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Photos courtesy of WetlandCare Australia



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