

# Splitters Creek

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 Pilot Program project at Splitters Creek has been an outstanding example of thorough assessment and planning, combined with community involvement and delivery.

The project has significantly raised the profile of Splitters Creek, and on-ground works proved to be successful beyond any original aspirations. In fact, the high level of commitment from those involved attracted additional investment, and a plan of management focusing on long-term management of the creek has been developed.

Despite overall success, sustaining momentum remains an ongoing challenge. It is also essential to make progress towards other outcomes such as tenure-based protective management (e.g. reserves) and local council planning initiatives.



Photo 1: High-value deepwater lagoon in the lower reaches of Splitters Creek, historically a barramundi habitat (photo: Jim Tait)

## About the site

Splitters Creek is one of the last remaining lowland, stream-based wetland complexes in the Burnett Mary region, with no weir structures to interfere with natural flows and passage of migratory fish (including the recreationally important barramundi, bass and mangrove jack). It also hosts rare and threatened species including the Queensland lungfish (listed under the *Environment Protection and Biodiversity Conservation Act 1999*), and a regionally significant platypus population. Despite extensive agriculture surrounding Splitters Creek (particularly sugarcane), a relatively unbroken riparian vegetation corridor remains, important for buffering land-use impacts on Splitters Creek and improving water quality.

Splitters Creek comprises a diverse range of wetland forms including:

- a tidal reach extending several kilometres upstream from its mouth with the Burnett River, including brackish sedgeland
- a melaleuca swamp forest section, highly disturbed and overgrown with aquatic and terrestrial reeds and forming a substantial barrier to natural flows
- a deepwater lagoon running several kilometres through caneland, macadamia and rural residential areas and into a nature refuge
- a closed canopy lagoonal section surrounded by extensive native woodlands.



## Challenges

Key environmental threats affecting the biodiversity and water quality functions of Splitters Creek vary within its different reaches (see 'Innovations', below). Broadly, they include:

- aquatic and terrestrial weeds
- agricultural impacts
- urban encroachment.

**Aquatic weeds** (water hyacinth and salvinia) infest the deepwater lagoon in the mid-section of the project area. Without regular intervention, aquatic weeds form rafts that are colonised by sedges and ultimately by melaleuca, covering entire water surfaces. Mechanical removal of these aquatic weeds prior to the project has achieved a dramatic improvement in the ecosystem health of the lagoon. This has been aided by a significant flood event, which assisted in removing most remnants of aquatic weeds.

Para grass also invades the banks and encroaches on the waterway of the deepwater lagoon. **Exotic terrestrial grasses** generate fuel load build-up with the potential for fire, which can kill or severely damage fire-sensitive riparian vegetation, exposing banks to erosion and destroying shade trees.

Land practices such as unmanaged grazing and hot fire regimes, along with the threat of land-use change, are other problems that the Splitters Creek ecosystem faces.

The rapidly expanding population in the Bundaberg region is likely to lead to increasing demand for rural residential subdivision in the vicinity of Splitters Creek. There are already two rural residential subdivisions backing onto the high-value riparian ecosystems. This type of development has the potential for severe impact on Splitters Creek by inappropriate and over-intensive land uses, resulting in the fragmentation of the riparian areas.

## Rehabilitation actions

### Reach-based assessment

The Splitters Creek catchment was divided up into assessment and management '**reaches**' designed to assist in defining values, threats and management or protection needs (see 'Innovations', below) and in developing a plan of management. Over 16 000 hectares were surveyed during this assessment. Additional assessments were also carried out on:

- fish passage barriers within the system
- aquatic weed distribution within the catchment (see 'Further reading', below).

A Technical Advisory Group comprising 24 technical experts from government and non-government organisations met to review the reach-based assessments and provided feedback on management investment priorities and approaches.

**On-ground works** were then designed specifically for each reach, with involvement and support from landholders. Examples to date include:

- chemical spraying of para grass blocking stream channels
- electro fisher survey of fish fauna
- engagement of off-site grazier to provide strategic planning and advice on controlled grazing of exotic pasture grasses
- physical removal of aquatic weeds (water hyacinth and salvinia)
- channel flow reinstatement to an off-river waterbody, resulting in the flushing of one hectare of aquatic weeds
- chemical spot spraying of residual aquatic weed infestations
- physical pulling plus cut and dab of riparian weeds on stream frontages
- revegetation of the riparian vegetation buffer
- owl boxes installed, in partnership with GROWCOM farmer, as trial for bio-control of rats in a macadamia plantation
- revegetation and rehabilitation of bank erosion.

## Lessons learnt

Underpinning all these achievements was a dedicated local project driver and a good technical support group.

## Innovations

### Reach-based assessment

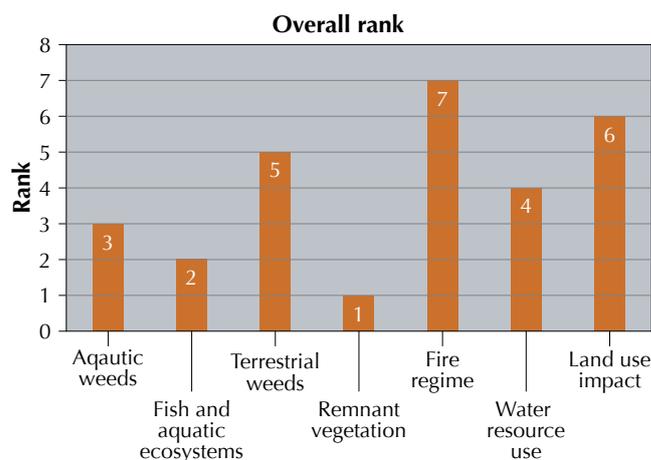
The Splitters Creek catchment was divided up into assessment and management 'reaches' on the basis of landform, hydrology, drainage network, land use and vegetation extent. This assessment method allowed focus on specific issues for specific reaches within the creek area. Thirteen 'reaches' were defined as a framework for prioritising value and management issue assessment across the whole catchment.

Site inspections of wetland and riparian values, habitat condition and management issues were conducted at the creek 'reaches' throughout the catchment and subcatchment tributaries using:

- current aerial photo coverage
- aerial fly-over of the catchment using a light aircraft for more detailed photography
- canoe, for larger waterholes and areas with difficult access
- Queensland Herbarium data (ecosystem and vegetation mapping)
- communication with state agencies with a history of involvement in the catchment
- interviews with landholders.

### Community Involvement

The **Friends of Splitters Creek** was formed as a community involvement program. Information bulletins were released and mailed out to local landholders. A survey provided an initial prioritisation based on the perception of residents and/or land managers within the catchment. A staggering 60 landholders participated in the project.



Ranking of Splitters Creek management issues by resident/land managers

Key awareness-raising mechanisms included:

- media releases, resulting in coverage on ABC Rural Radio and Channel 7 Local News
- an initial on-site project launch information day, with 80 people in attendance
- a plant and weed identification 'Catchment Crawl' bus trip with 20 participants
- a major project display at the AgroTrend Field Day in Bundaberg, which drew a high level of interest.

### Co-investment

The Splitters Creek project started with limited funding, but gained momentum and recognition and succeeding in attracting the co-investment of local project partners. The partners included Bundaberg and District Urban Landcare Association and Burnett Mary Regional Group (BMRG), and the Queensland Coordinator-General Department's Burnett Program of Actions (BPOA). The project has also been successful in attracting support from the Department of Primary Industries and Fisheries 'Bio-Pass Program' which funded electro fisher surveys of the creek system and may fund the rectification of several low-flow fish passage barriers within it.

## Further reading

Berghuis, A 2006, *Fish migration barriers of Splitter's Creek: summary and recommendations*, DPI&F, Bundaberg.

Burnett Mary Regional Group 2006, *Landowner weed survey proforma: Friends of Splitter's Creek project*, BMRG NRM plan activity quarterly report.

Burnett Mary Regional Group 2006, *Priority management actions and issues in Splitters Creek*, BMRG NRM plan activity quarterly report.

Burnett Mary Regional Group 2006, *Investment recommendations: Friends of Splitter's Creek project*, BMRG NRM plan activity quarterly report.

Burnett Mary Regional Group 2006, *Monitoring and evaluation plan for works completed to June 2007 Friends of Splitter's Creek Project*, BMRG NRM plan activity quarterly report.

Tait, J 2006, *Identification of reach values and management issues: Splitters Creek*, report by WetlandCare Australia.

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Photos courtesy of WetlandCare Australia



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