Aquatic Biodiversity Assessment and Mapping Methodology (AquaBAMM)

Aquatic Conservation Assessment (ACA) Information sheet

What is AquaBAMM?

The Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM) is a comprehensive methodology developed by the Department of Environment and Heritage Protection (EHP) for assessing the conservation values of wetlands in Queensland.

The method identifies relative wetland conservation values within a specified study area (usually a catchment). The method uses available data including data resulting from expert knowledge to produce an Aquatic Conservation Assessment (ACA) for the wetlands within a study area. The results provide a powerful decision support tool that is easily updated and able to be comprehensively interrogated through a Geographic Information System (GIS) platform.

AquaBAMM assessments are non-social and non-economic, designed with the sole intent of identifying conservation values of wetlands at a user-defined scale. The methodology provides a robust and objective method for assessing conservation values using criteria, indicators and measures (CIM) that are founded upon a large body of national and international scientific literature. The measures and indicators are mathematically combined to give a value for each criterion. A decision filter table is then used to determine an overall AquaScore for each spatial unit in the chosen study area (Figure 1).

The criteria, each of which may have variable numbers of indicators and measures include:

- Naturalness Aquatic
- Naturalness Catchment
- Diversity and Richness
- Threatened Species and Ecosystems
- Priority Species and Ecosystems
- Special Features
- Connectivity
- Representativeness

What is an ACA?

An ACA is the result of applying AquaBAMM to a particular area. The final results of an ACA contribute to baseline ecological information available to support natural resource management and planning processes across both government and non-government organisations. An ACA can have application in:

- determining priorities for protection, regulation or rehabilitation of aquatic ecosystems,
- on-ground investment in aquatic ecosystems,
- development assessment,
- contributing to impact assessment of large-scale development,
- local and regional planning processes,
- regional plans,
- water resource management and planning processes, and
- the identification of significant aquatic assets.
Assessments conducted to date

Initially, AquaBAMM was developed and applied to assess the riverine freshwater wetlands of the Burnett River catchment. Since its inception in 2006, the method has been further developed to assess non-riverine (i.e. palustrine and lacustrine) and estuarine wetlands. Work on the application of AquaBAMM in the marine environment is underway. It is intended that an ACA will eventually be completed for all wetlands in Queensland.

As at March 2015, AquaBAMM has been applied to the following areas (Figure 3):

- Thirty-five catchments in the wider Great Barrier Reef catchment (riverine and non-riverine).
- Six catchments in the Queensland Murray Darling Basin (riverine and non-riverine).
- Six catchments in the Wide Bay-Burnett (riverine and non-riverine).
- Three catchments in the Southern Gulf of Carpentaria – Draft (riverine and non-riverine).
- Brisbane City Council planning area (riverine and estuarine).
- Seventeen catchments in Cape York (riverine and non-riverine).
- Sixteen catchments in South east Queensland (riverine and non-riverine).

Assessments in progress include:

- Eight catchments in the Lake Eyre Basin (riverine and non-riverine).

Accessing AquaBAMM results

The AquaBAMM methodology and assessment results (including summary report, expert panel reports and GIS results) for the released ACAs are available from:


Contact us

Further details about either AquaBAMM or the ACAs can be obtained from: aquabamm@ehp.qld.gov.au

Figure 3 Areas covered by Aquatic Conservation Assessments

Figure 2 WBB ACA riverine v1.1