

Aquatic Biodiversity Assessment and Mapping Methodology (AquaBAMM)

Aquatic Conservation Assessment (ACA)

Information sheet

Biodiversity Assessment Team

Queensland Herbarium

Department of Science and Environment

What is AquaBAMM?

The Aquatic Biodiversity Assessment and Mapping Methodology (AquaBAMM) is a comprehensive method developed by the Department of Science and Environment for assessing the conservation values of wetlands.

The method identifies relative wetland conservation values within a specified study area (usually a catchment). It uses available data, including data resulting from expert knowledge, to produce an Aquatic Conservation Assessment (ACA) for a particular study area. Aquatic Conservation Assessment results provide a powerful decision support tool that can be comprehensively interrogated using a Geographic Information System (GIS).

Aquatic Conservation Assessments undertaken using the AquaBAMM are non-social, non-economic, and designed with the sole intent of identifying the conservation values of wetlands at a user-defined scale. The method uses criteria, indicators, and measures (CIM) founded upon a large body of national and international literature making it robust and objective. Measures and indicators are mathematically combined to produce Criterion ratings. A decision table is then used to combine Criterion ratings to produce an overall aquatic conservation score (AquaScore) for each wetland within a study area (Figure 1).

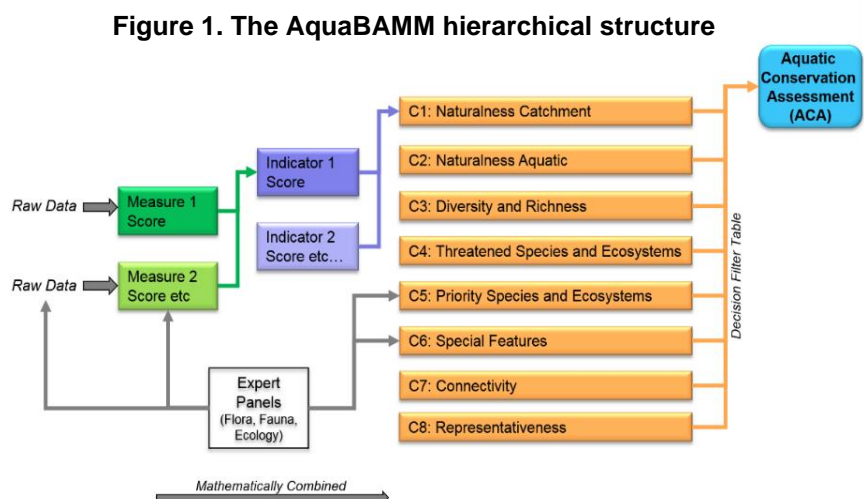
The criteria, each of which may have variable numbers of indicators and measures, include:

- 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 study area. ACA results can be used to support a range of natural resource management and planning activities such as:

- determining priorities for protection, regulation or rehabilitation of aquatic ecosystems
- on-ground investment in aquatic ecosystems
- development assessment
- local and regional planning processes (i.e. local government plans, regional plans)
- water resource management and planning processes
- the identification of significant aquatic assets



Assessments conducted to date

AquaBAMM was initially developed to assess the biodiversity values of riverine freshwater wetlands within 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. Future work will develop Measures for applying AquaBAMM in marine environments.

Aquatic Conservation Assessments undertaken using the AquaBAMM have now been completed for all freshwater riverine and non-riverine wetlands in Queensland (Figure 2). An ACA was also completed in 2019 for the intertidal and subtidal habitats within Central Queensland state waters.

Further information

The AquaBAMM methodology and ACA results (including summary report, expert panel reports and GIS results) are available from:

- WetlandInfo - <http://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/>
- WetlandMaps - <http://wetlandinfo.des.qld.gov.au/wetlands/facts-maps/get-mapping-help/wetland-maps/>
- Queensland Spatial Catalogue - <http://qldspatial.information.qld.gov.au/catalogue/custom/search.page?q=aquatic+conservation+assessment>
- Queensland Globe - <https://qldglobe.information.qld.gov.au/>
- Biomaps - <http://qldspatial.information.qld.gov.au/biomaps/>
- Environmental Reports online provide comprehensive reports for an area of interest and include summary information, tables and maps with respect to specific environmental values - <https://apps.des.qld.gov.au/report-request/environment/>

Contact us

Further details about AquaBAMM or the ACAs can be obtained by emailing: biodiversity.planning@des.qld.gov.au

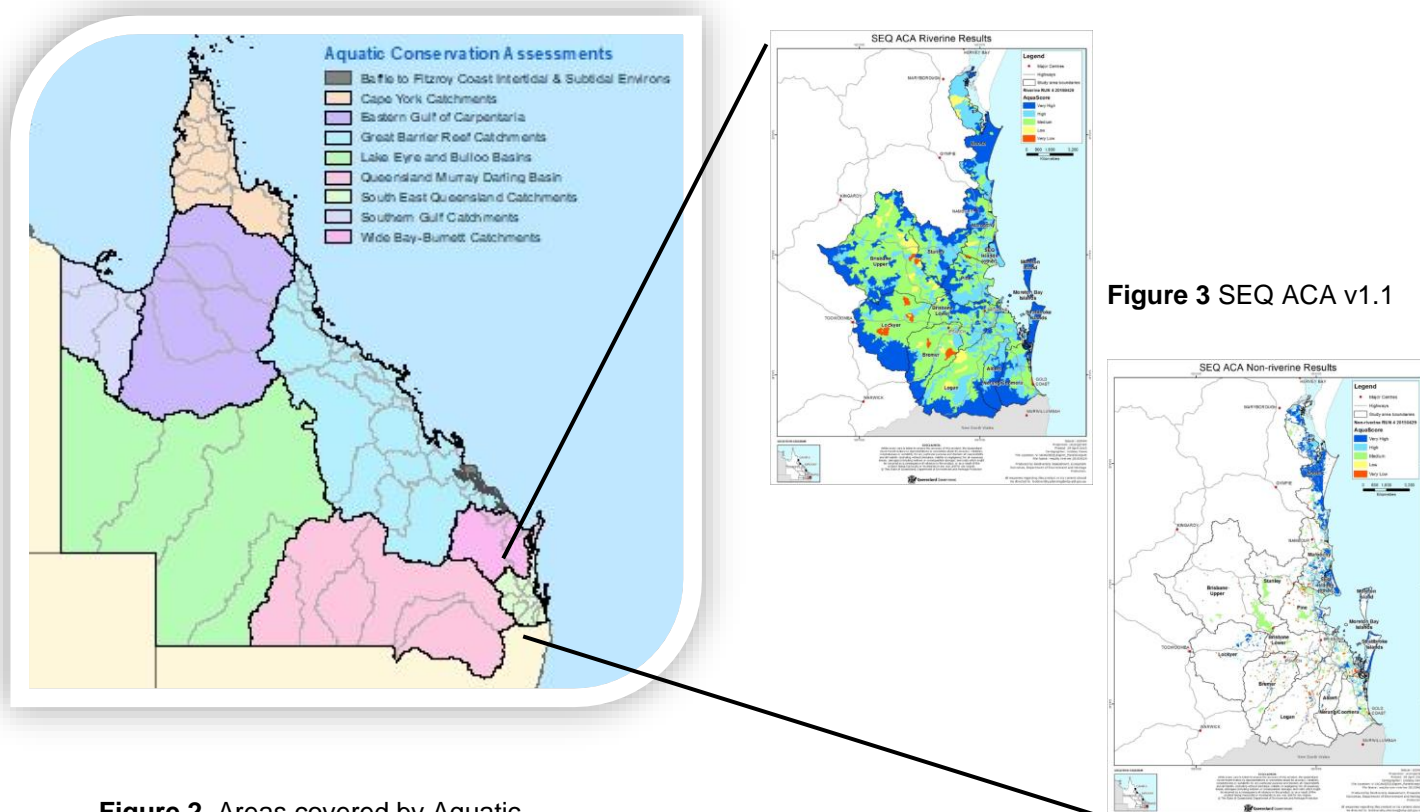


Figure 2. Areas covered by Aquatic Conservation Assessments

Figure 3 SEQ ACA v1.1