Aquatic Conservation Assessment of the Great Barrier Reef connecting catchments (GBRCC) for riverine and non-riverine wetlands (v2.1)

Project Commencement Information sheet

In 2022 the Biodiversity Assessment team within the Queensland Department of Environment and Science (DES) commenced an update of the Queensland Great Barrier Reef connecting catchments (GBRCC) Aquatic Conservation Assessment (ACA) using the Aquatic Biodiversity Assessment and Mapping Methodology (AquaBAMM).

ACAs for the GBRCC were previously completed from 2009 to 2011. This project will incorporate updated expert panel decisions, special feature mapping, aquatic species lists using current species sightings, Queensland Wetlands mapping, Regional Ecosystem mapping and other relevant contemporary ecological datasets. The project will start with the Wide Bay-Burnett catchments and progress north (Figure 1).

ACAs involve a non-social, non-economic and tenure-blind assessment of aquatic conservation values. The assessment methodology (AquaBAMM) uses criteria, indicators and measures to assess relative wetland conservation values at the individual wetland or subsection scale.

ACA results include a comprehensive set of baseline ecological information, and an overall assessment of aquatic conservation values (AquaScore) at the individual wetland or subsection scale.

Figure 1. GBR connecting catchments ACA project area.

The GBRCC ACA will provide information to support the Reef Wetlands Strategy and the Reef 2050 Plan, as well as a range of other applications. These can include natural resource management decisions, regional planning, regulatory implementation and other wetland conservation policy, planning and management efforts affecting wetlands in the GBRCC region.
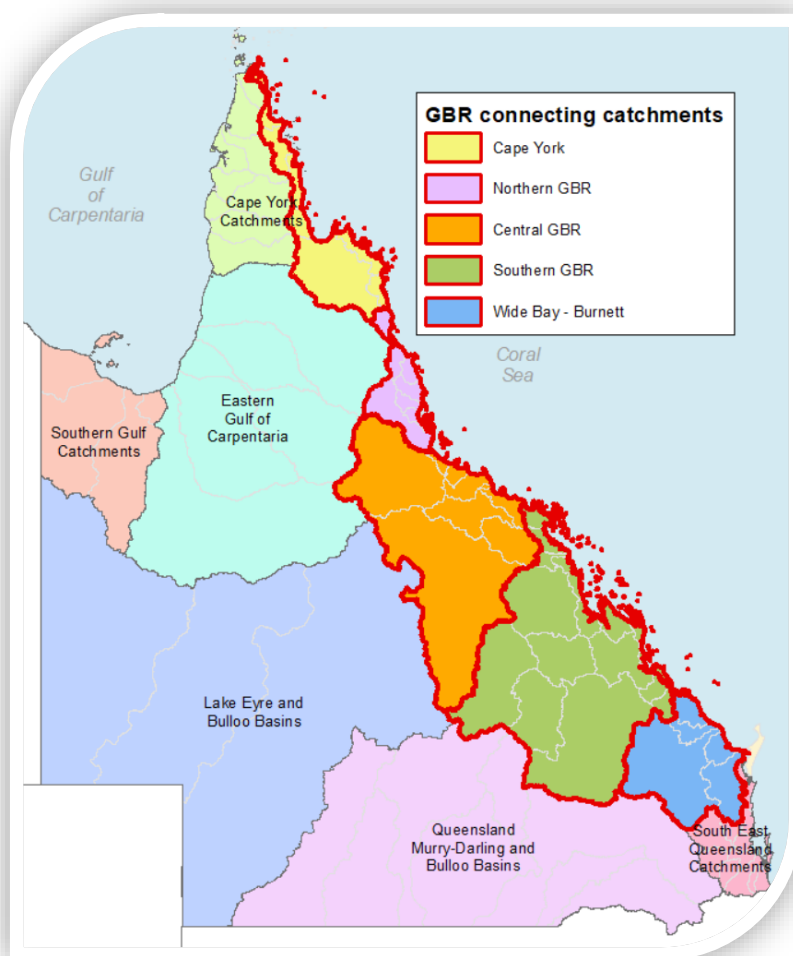
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What is AquaBAMM?

The Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM) is a comprehensive method used to assess the conservation values of wetlands. The method identifies relative wetland conservation values within a specified study area (usually a catchment) using available data and expert opinion. AquaBAMM results provide a powerful decision support tool that is easily interrogated through a Geographic Information System (GIS).

Any assessment of natural values is limited by available data. Consequently, there is an important need for information that is comprehensive and accurate, both in terms of describing the value, and in defining its spatial extent within the landscape. ACAs undertaken using AquaBAMM provide a non-social, non-economic and tenure-blind assessment of wetland conservation values at a user-defined scale. The method is based on a series of criteria, indicators and measures founded upon a large body of national and international literature.

Measure data are mathematically combined into scores at the indicator and criterion level. A decision filter table comprised of a series of if/else statements is then used to calculate an overall aquatic conservation score (AquaScore) (Figure 2).
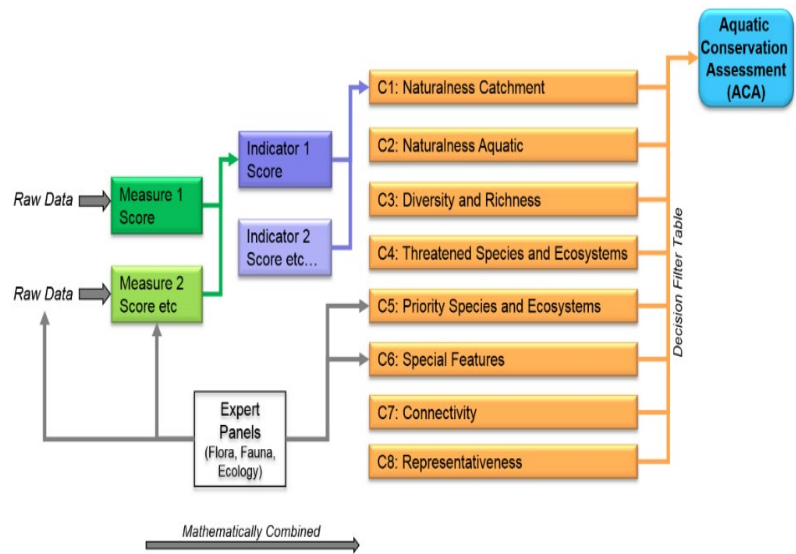

Figure 2. The AquaBAMM hierarchical structure

AquaBAMM applications

Aquatic Conservation Assessment results have application in:

- Matters of State Environmental Significance (MSES)
- determining priorities for protection, regulation or rehabilitation of aquatic ecosystems
- on-ground investment in aquatic ecosystems
- development assessment
- local and regional planning processes
- contributing to impact assessment of large-scale development
- water resource management and planning processes.

The AquaBAMM criteria are also consistent with nationally agreed guidelines for identifying high ecological value aquatic ecosystems (i.e. HEVAE).

Assessments conducted to date

Aquatic conservation assessments undertaken using the AquaBAMM have now been completed for all of Queensland providing important baseline information supporting natural resource management and planning decisions at a range of scales (Figure 3).

Accessing AquaBAMM results

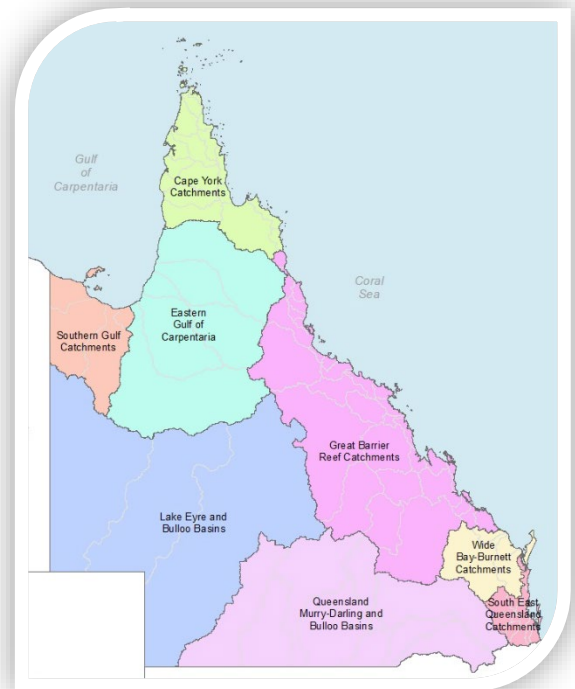The AquaBAMM methodology and assessment results (including summary report, expert panel reports and GIS results) are available from:

Figure 3. Areas covered by released ACAs

- Wetland*Info* - http://wetlandinfo.des.qld.gov.au/wetlands/assessment/assessment-methods/aca/
- Wetland*Maps* - 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/index.page
- Queensland Globe - https://qldglobe.information.qld.gov.au/
- Biomaps - http://qldspatial.information.qld.gov.au/biomaps/index.html (open using Microsoft Edge)
- Environmental Reports Online - https://www.qld.gov.au/environment/pollution/management/environmental-reports-online

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