Aquatic Conservation Assessment (ACA) for the riverine and non-riverine wetlands of the Queensland Wide Bay – Burnett Great Barrier Reef connecting catchments (v2.1)

Information Sheet

We would like to respectfully acknowledge the First Nations people of all nations throughout Australia and the Torres Strait Islands and recognise their continuing connection to land, waters, sky and culture. We pay our respects to their Elders past, present and emerging.

The Queensland Department of Environment, Science and Innovation (DESI) has completed Aquatic Conservation Assessments (ACA) for six catchments in the Queensland Wide Bay – Burnett Great Barrier Reef connecting catchments (WBBGBRCC ACA) using the Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM).

The area covered by this assessment totals 5,307,305 ha and includes the Burnett, Mary, Kolan, Burrum, Baffle and Other islands catchments. Separate assessments have been completed for riverine (Figure 1) and non-riverine (Figure 2) freshwater wetlands within each catchment.

The results from the WBBGBRCC ACA indicated that for the riverine assessments all study areas displayed a range of AquaScores from Very High to Very Low. The Mary, Baffle and Burnett had the highest percentages of Very High and High AquaScores, and these results were driven largely by the special features (Criterion 6) identified through the expert panel process, but also by the presence of rare and threatened species (Criterion 4). For the Mary and Burrum, proximity to high value natural assets (i.e. special features) and higher survey effort adjacent to coasts were contributing factors.

Like the riverine assessments, the Mary, Baffle and Burnett non-riverine assessments had the highest percentages of Very High AquaScores, and these results were driven largely by the special features (Criterion 6) identified through the expert panel process, but also by the presence of rare and threatened species (Criterion 4). The Kolan and Burnett study areas are dominated by agricultural and settlement landuse pressures within their coastal margins, which lowers the wetland ratings to Medium and Low.
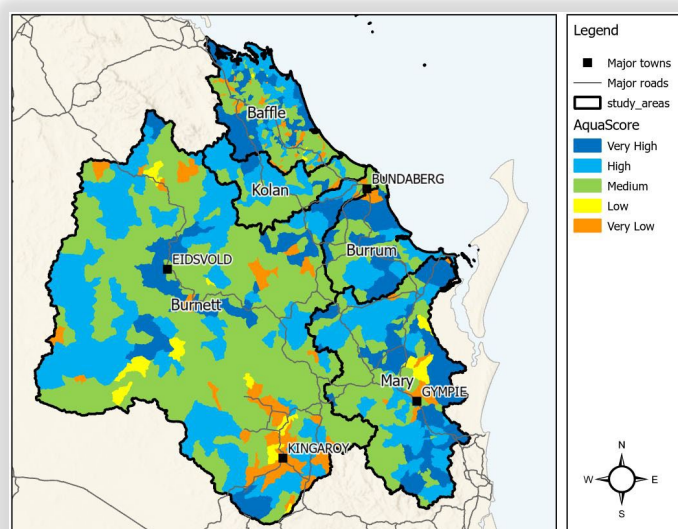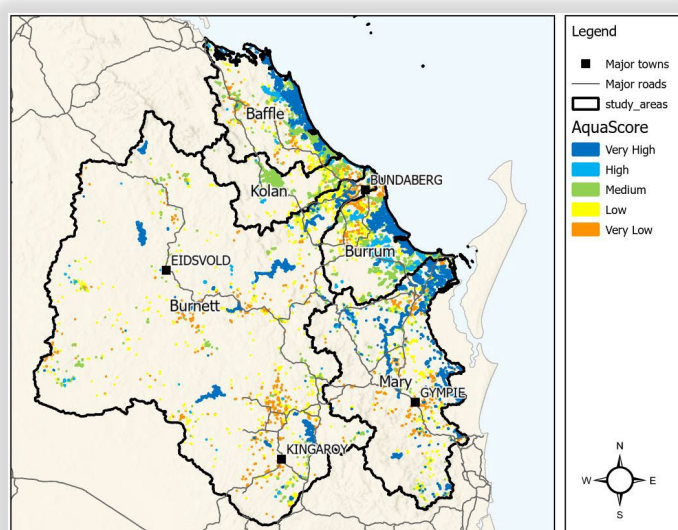

Figure 1 WBBGBRCC ACA – Riverine Results

Figure 2 WBBGBRCC ACA – Non-riverine Results

What is AquaBAMM?

The Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM) is a comprehensive method developed by DESI for assessing 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 Systems (GIS).

Any assessment of natural values is limited by available data. Consequently, there is 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.

Aquatic Conservation Assessments 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 3).
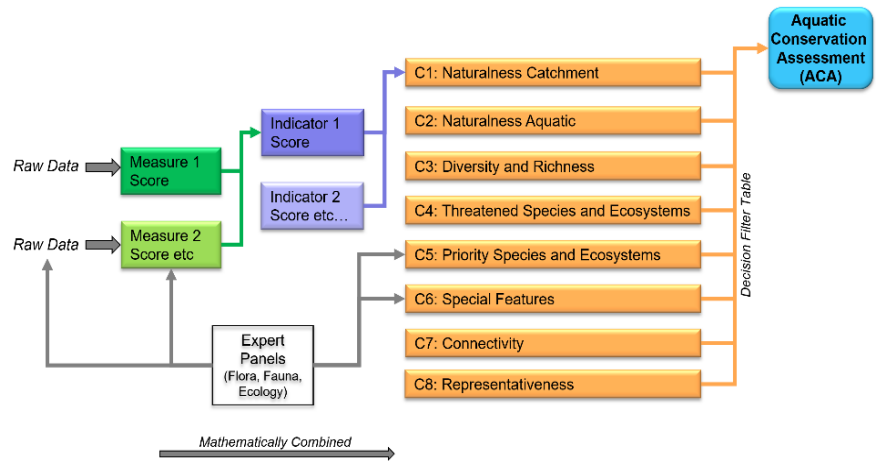

Figure 3. The AquaBAMM hierarchical structure

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.

Assessments conducted to date

Aquatic Conservation Assessments undertaken using the AquaBAMM have now been completed for the state providing comprehensive information to support natural resource management and planning decisions at a range of scales (Figure 4).
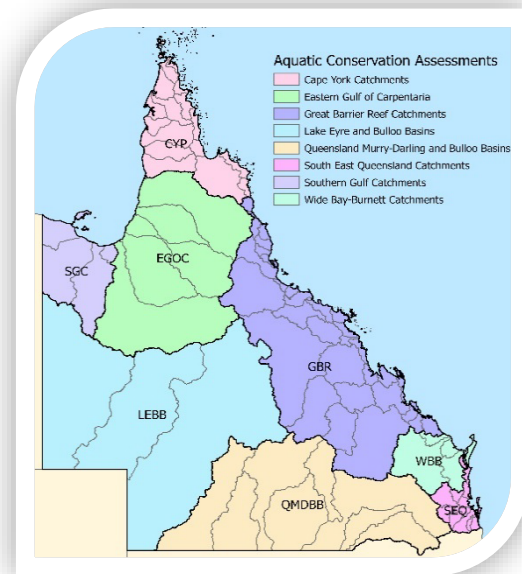

Figure 4. Areas covered by released ACAs

Accessing AquaBAMM results

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

- 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/

- Environmental Reports Online - https://apps.des.qld.gov.au/report-request/environment/

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