

Wetland mapping and classification

The Queensland Mapping and Classification project delivered comprehensive maps of Queensland's wetlands at a scale and level of detail that help wetland managers make accurate decisions about the protection and care of wetlands. It is also part of a larger project involving the wetlands inventory database which integrates existing and new inventory information from field surveys to form the basis of a wetlands information system for the storage, maintenance and delivery of wetland data.

Background

A fundamental requirement of any wetland management program is the inclusion of comprehensive information about the distribution of wetlands, mapped and classified at an appropriate scale, with sufficient detail to allow management actions to be implemented or for further mapping and inventory work to be undertaken.

Significant wetland mapping has already been conducted for a number of areas, using different methods and scales such as the Directory of Important Wetlands of Australia.

The Queensland Mapping and Classification project incorporates and builds on existing knowledge to produce a more consistent and comprehensive wetland mapping product.

Methodology

Base mapping

Four principles form the basis for the wetland mapping and classification method:

- Satisfy a need for rapid wetland classification and mapping that uses aquatic ecosystem characteristics together with contemporary regional ecosystem protocols and other wetland information, but is not reliant on detailed field assessment
- Incorporate and build on existing knowledge to produce a more consistent and comprehensive wetland mapping product
- Provide a process that is functional and consistent in application at a catchment or basin scale
- Make use of existing, proven techniques for aquatic ecosystem classification and assessment.

The methodology is a multi-step process:

1. Gather and process data
2. Undertake water body map development and classification:
 - a. Combine water body data (satellite imagery, Geodata and the remnant regional ecosystem (RE) water features) and apply the water regime modifier and preliminary system level classification
 - b. Add salinity and local hydrology and disturbance modifiers and manual edit and check of water bodies.
3. Allocate RE to water bodies
4. Reconcile and update mapping products (RE pre-clearing, RE remnant and waterbody maps) and generate final remnant RE wetland coverage
5. Generate final wetland map combining:
 - a. drainage
 - b. water bodies
 - c. remnant REs
 - d. springs and small waterholes
6. Refine wetland map through internal quality control expert panel reviews.

Updated mapping

Initial products delivered through this project were based on wetlands in Queensland in 2001 (version 1.0) with updates undertaken to 2005 (version 2.0), 2009 (version 3.0) and 2013 (version 4.0). The wetland mapping has now been updated to show the status up to 2017 (version 5.0).

These updates were carried out through manual and automated assessment of satellite imagery as well as incorporating feedback from users of the mapping—improving the mapping product as well as enabling the monitoring of changes in wetland extent.

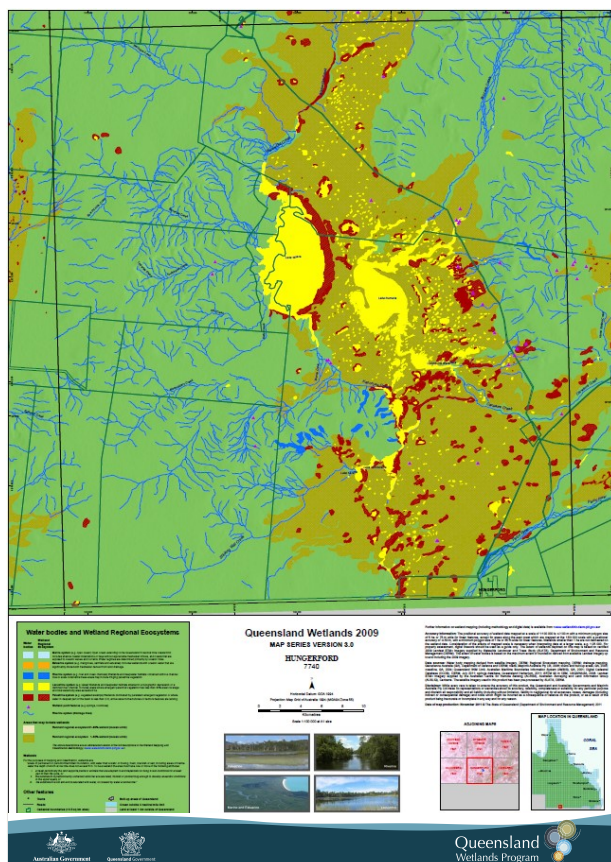


Products

The Queensland Mapping and Classification project delivered:

- a peer-reviewed and trialed wetland mapping and classification methodology
- maps displaying Queensland's wetland data in a number of different formats (pdf, KML using Google maps, via [online download](#), and through [WetlandSummary](#) and [WetlandMaps](#).)
- Queensland wetland data provided as 3 separate data sets:
 - wetlands (derived from water bodies combined with wetland regional ecosystems)
 - point datasets (e.g. waterholes)
 - streams (at a 1:100,000 scale or better where the information is available)
- an updated wetland map (version 5.0) showing the extent of Queensland's wetlands in 2001, 2005, 2009, 2013 and 2017
- a methodology for updating mapping to facilitate future monitoring of wetland extent.

These products are available on *WetlandInfo*—the Queensland Wetlands Program's comprehensive first-stop-shop for wetlands information, resources and tools.



Applications

The products of this project:

- provide a primary tool to support policy development
- guide investment in natural resource management funding
- provide important input for property level management
- inform tenure dealing associated with leasehold land
- guide priority acquisitions and conservation agreements
- provide specific advice to local government and landholders regarding wetland extent, values and impacts and
- provide a sound basis for coastal and marine park planning.

The Queensland Wetlands Program supports projects and activities that result in long-term benefits to the sustainable management, wise use and protection of wetlands in Queensland. The tools developed by the Program help wetland landholders, managers and decision makers in government and industry. The Program is a joint initiative of the Australian and Queensland governments.

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or visit www.wetlandinfo.des.qld.gov.au

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