

# Queensland Wetlands Programme

Frequently Asked Questions  
about wetland mapping in Queensland



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**Note:** Most of the information contained in this document is about the wetland mapping conducted as part of the Queensland Wetlands Programme (Queensland Wetlands Programme Wetland Mapping). This document also addresses relationships between the Queensland Wetlands Programme Wetland Mapping and other wetland mapping in Queensland.

## General Mapping FAQs

### What is a wetland? How are wetlands defined?

Queensland has a number of different wetland definitions in Queensland as a result of the way in which legislation and policy has developed over time. This in turn has led to the development and use of different mapping products.

The definition used in the Strategy for the Conservation and Management of Queensland's wetlands is based on the internationally accepted Ramsar definition. The Strategy definition is used as the basis for the Queensland Wetlands Programme Wetland Definition and includes rivers, lakes, dams, swamps, estuaries, springs, bays and marine areas, whether natural, modified, or artificial.

For more information on wetland definitions go to What are Wetlands?

### What is the difference between an image, a map, and mapping data?

Though the terms are sometimes used interchangeably, an image, a map and mapping data are not the same thing.

In a geographical information context:

- An image is a 'picture', generally taken from above, of an area at a given point in time. Examples of images include aerial photographs or SPOT and Landsat satellite images.
- A map is a portrayal of an area that is drawn to a selected scale and generally shows one of a limited number of features (for example, wetlands or vegetation). Traditionally maps are produced by the interpretation of imagery and other information combined with limited ground truthing and the classification of the features into discrete classes. While images can be interesting and useful, it is necessary to interpret imagery to provide the systematic and consistent information contained in a map that is required for natural resource planning and management.
- Mapping data contains spatial information about the location and extent of mapped features, as well as descriptive attributes associated with those features (for example, wetland system or vegetation type). Mapping data is generally stored on a computer and manipulated using Geographic Information System (GIS) software. GIS software can be used to view mapping data and query the information and attributes contained in the data. Mapping data can be used - either on its own or in combination with other data - to produce maps and statistics.

## What kinds of wetland mapping exist for Queensland and how do they relate to each other?

Many different kinds of wetland mapping exist for Queensland. The following table provides information about some of the main wetland mapping products available at a state scale. Note that in addition to those listed there may be other wetland mapping products available for your local area.

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Wetland Mapping Product	Scale	Currency	Linework	Includes (M=Marine, E=Estuarine, R=Riverine, P=Palustrine, L=Lacustrine).	Extent	Limitations	Use	Contact
Queensland Wetlands Programme Wetland Mapping	1:100 000 min 5 ha/ 75m (Inland), 1:50 000 min 1 ha/ 35 m (Coastal)	Data current to 2001. Proposed updating schedule every 2 years.	Wetland habitats mapped and classified.	M, E, R, P and L wetlands, whether natural, modified or artificial.	All of Qld (approx 200000 wetlands and 500000 wetland habitats).	Wetlands smaller than 1 ha not mapped. Does not include groundwater mapping. Very little classification in subtidal area.	Base mapping, may have multiple uses.	Environmental Protection Agency
Regional Ecosystem Mapping	1:100 000 min 5 ha/ 75m (Inland), 1:50 000 min 1 ha/ 35 m (Coastal)	Pre-clearing and 1997, 1999, 2001, 2003 extent. Updated biennially.	Regional Ecosystems mapped.	Regional Ecosystems that contain E, R, P and L wetlands.	85% of Qld	Wetlands smaller than 1 ha not mapped. Does not include groundwater mapping. Very little classification in subtidal area.	Multiple uses: trigger for assessable vegetation under the Vegetation Management Act 1999 (Qld); input into Queensland Wetlands Programme Wetland Mapping, Biodiversity Planning Assessments and many other data sets.	Environmental Protection Agency; Natural Resources and Water
Directory of Important Wetlands in Australia	Variable 1:250 000 1:100 000	Published 2005. Updated as needed.	Broad aggregations rather than individual wetlands mapped. May	Nationally significant M, E, R, P and L wetlands, whether natural, modified or artificial.	All of Qld (approx 180 sites).	Whole State mapped but mapping not done systematically. Includes non-wetland areas.	Some links to policy and legislation.	Environmental Protection Agency



Wetland Mapping Product	Scale	Currency	Linework	Includes (M=Marine, E=Estuarine, R=Riverine, P=Palustrine, L=Lacustrine).	Extent	Limitations	Use	Contact
			contain non-wetland areas.					
Ramsar	Variable	Mapping conducted from 1971 - 2002. Updated as required.	Ramsar sites rather than individual wetlands mapped. May contain non-wetland areas.	Internationally significant M, E, R, P and L wetlands.	5 sites in Qld.	Only 5 sites in Qld. Includes non-wetland areas.	Triggers application of Environmental Protection and Biodiversity Conservation Act 1999 (Cth).	Department of Environment, Water Heritage and the Arts
Department of Primary Industries and Fisheries Coastal Wetlands	1:100 000	2003 No updates proposed.	Wetland habitats mapped.	Super tidal E wetlands only.	Entire Qld coastline.	Largely superseded by Queensland Wetlands Programme Wetland Mapping. Wetlands smaller than 5 ha not mapped. Does not include groundwater mapping.	Natural resource management. Input to Queensland Wetlands Programme Wetland Mapping.	Department of Primary Industries and Fisheries
Department of Primary Industries and Fisheries Fish Habitat Area Network	Variable 1:125000 to 1:5000	March 2008	Tidal fish habitats mapped	M,E,R	Extends over key fish habitats along East Coast and Gulf of Carpentaria.	Boundaries align with cadastral boundaries.	Management of fish habitats.	Department of Primary Industries and Fisheries



Wetland Mapping Product	Scale	Currency	Linework	Includes (M=Marine, E=Estuarine, R=Riverine, P=Palustrine, L=Lacustrine).	Extent	Limitations	Use	Contact
Map of Referrable Wetlands	1:100 000 min 5 ha/ 75m (Inland), 1:50 000 min 1 ha/ 35 m (Coastal)	Based on 2005 extent.	Derived from RE mapping.	2007 map includes important R, P and L wetlands, excludes highly modified and artificial wetlands.	80% of Qld.		Triggers EPA advice role under the Integrated Planning Regulation 1998 (Qld).	Environmental Protection Agency
Significant Coastal Wetlands as mapped in <u>Regional Coastal Management Plans</u> .	Variable 1:100 000 1:50 000	SEQ Aug 2006, Wet Tropical Coast Dec 2003, Curtis Coast Sept 2003, Cardwell - Hinchinbrook 2003	Variable	Mainly E and M wetlands and some associated L and P wetlands.	Areas covered by completed plans.	Only South-East Queensland, Wet Tropical Coast, Curtis Coast and Cardwell - Hinchinbrook plans are complete.	Managed under Regional Coastal Management Plans and the State Coastal Plan (given force under the Coastal Protection and Management Act 1995 (Qld)). Triggers EPA concurrence role under the Integrated Planning Regulation 1998 (Qld).	Via email (see below)
High Environmental Value (HEV)	1:100 000 1:50 000	Mapping conducted 1995 - 2008. New EVs mapping	Overlay on Queensland Wetlands Programme Wetland	Largely unmodified wetlands only. Mainly M, E, R and L wetlands.	Douglas, Mary, Great Sandy and South East Qld.	Only includes largely unmodified wetlands. Only some areas mapped.	Protected under the Environmental Protection (Water) Policy 1997 (given force	Environmental Protection Agency



Wetland Mapping Product	Scale	Currency	Linework	Includes (M=Marine, E=Estuarine, R=Riverine, P=Palustrine, L=Lacustrine).	Extent	Limitations	Use	Contact
		currently being conducted.	Mapping.				under the Environmental Protection Act 1994 (Qld).	

Contact emails for Regional Coastal Management Plans:

[seqcoast.plan@epa.qld.gov.au](mailto:seqcoast.plan@epa.qld.gov.au)

[Wet.Tropical.Coast.RCMP@epa.qld.gov.au](mailto:Wet.Tropical.Coast.RCMP@epa.qld.gov.au)

[Curtis.Coast.RCMP@epa.qld.gov.au](mailto:Curtis.Coast.RCMP@epa.qld.gov.au)

[Cardwell.Hinchinbrook.RCMP@epa.qld.gov.au](mailto:Cardwell.Hinchinbrook.RCMP@epa.qld.gov.au)



**Australian Government**

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## What is the Map of Referable Wetlands?

A referable wetland is an area identified as a wetland on the Map of Referable Wetlands. The current Map of Referable Wetlands was derived from the Regional Ecosystem (RE) mapping and is a tool used to trigger the EPA's advice agency role under the Integrated Planning Act 1997 (Qld). A search of referable wetlands can be performed using the maps on the web facility on the EPA website Referable Areas Mapping.

The current Map of Referable Wetlands includes areas dominated by wetlands but also other areas where the RE mapping indicates that the area may only contain a minor proportion of wetlands. The Map of Referable Wetlands will be updated from time to time upon approval by the chief executive (environment).

# General Queensland Wetlands Programme Wetland Mapping FAQs

## Why was the Queensland Wetlands Programme Wetland Mapping produced?

The Queensland Wetlands Programme coordinates more than 30 projects established to help sustainably manage and conserve wetlands in Queensland. A sound understanding of different wetland types - and where these are located - is fundamental to managing and making decisions about wetlands. Producing comprehensive wetland maps for the whole of Queensland was therefore a key part of the Queensland Wetlands Programme.

The Queensland Wetlands Programme Wetland Mapping is base mapping. It has no legislative standing in and of itself, however it may be used as an input for other wetland mapping products which may have legislative standing.

For more information please see the Wetland Mapping and Classification Project Fact Sheet.

## How was the Queensland Wetlands Programme Wetland Mapping produced?

The Queensland Wetlands Programme Wetland Mapping was produced using existing information including water body mapping derived from Landsat satellite imagery, regional ecosystem mapping, topographic data, and a springs database. The result is a consistent wetland map for the whole of Queensland.

The mapping team also used other ancillary data, such as higher resolution imagery (for example SPOT and aerial photographs), other vegetation and wetland mapping, geology, soil and landsystem mapping in attributing and assessing the derived Queensland Wetlands Programme Wetland Mapping products.

The team conducted the Queensland Wetlands Programme Wetland Mapping in accordance with a detailed, peer reviewed methodology which included quality assurance measures for all steps in the process. For more detailed information on how the Queensland Wetlands Programme Wetland Mapping was produced, please see the Wetland Mapping and Classification Methodology.



## What information does the Queensland Wetlands Programme Wetland Mapping contain?

The Queensland Wetlands Programme Wetland Mapping Data contains a number of data sets.

They are:

- A wetland data set that is made up of water bodies derived from satellite imagery and from wetland regional ecosystems. In addition to areas classified as wetlands this data set also includes areas that are classified as floodplains and 51-80% wetland regional ecosystem mosaics (refer to Neldner et al 005 Section 3.8.2 for further discussion of mosaic polygons).
- A springs data set containing points showing the location of inland surveyed springs in Queensland.
- A streams data set to show the drainage network for Queensland.

The Queensland Wetlands Programme Wetland Mapping Data also contains wetland attributes which classify the wetlands into wetland systems, salinity classes, local hydrological modification, inundation frequency and regional ecosystems.

Attribute and attribute code	Explanation
Wetland system	
M	Marine
E	Estuarine
R	Riverine
P	Palustrine
L	Lacustrine
Salinity (not for estuarine or marine)	
S1	Fresh
S2	Brackish
S3	Salt
Local hydrological modification	
H1	Natural wetland (no modifications observed)
H2M1	Dams or weirs within Riverine channels
H2M2	Lakes or swamps where size and/or hydrology altered, e.g. by construction of levee banks or deepening
H2M2p	Lakes or swamps dominated by exotic pasture species where size and/or hydrology altered by construction of levee banks (usually from estuarine to freshwater)
H2M3	Lakes or swamps where salinity classification changed by banks or bunding from estuarine/marine to freshwater
H2M3p	Ponded pastures (hydrology changed from estuarine to freshwater, dominated by exotic pasture species)
H2M4	Modified springs - damaged

Attribute and attribute code	Explanation
H2M4a	Modified springs - dormant
H2M5	Wetlands damaged by mechanical disturbance, e.g. cropping
H2M6	Wetlands completely converted to a ring tank or other controlled storage
H2M7	Riverine or Estuarine water bodies mostly converted to constructed waterways such as canals or irrigation channels, usually by earthworks to bed and/or banks
H3C1	Artificial stand-alone water storage not in a natural water body or channel
H3C2	Artificial channel (drain/canal)
H3C3	Modified floodplain water bodies
Water regime	
WR0	Water regime unknown
WR1	Rarely inundated
WR2	Intermediately inundated
WR3	Commonly inundated

For more information on how the Queensland Wetlands Programme Wetland Mapping is constructed and associated attributes are applied, please see the [Wetlands Mapping and Classification Methodology](#).

Users can vary the information portrayed in a map produced from the Queensland Wetlands Programme Wetland Mapping Data to suit their needs. The 1:100, 000 scale maps provided in PDF format are coloured to show the distribution of the different wetland systems and the mapping source (water bodies or regional ecosystems).

The interactive map server WetlandMaps and the Queensland Wetlands Programme Wetland Mapping Data shows wetland distribution and classification and contains information about all of the wetland attributes listed above, which can be queried and displayed to suit the user.

#### [Does the Queensland Wetlands Programme Wetland Mapping contain information about wetland condition?](#)

The Queensland Wetlands Programme Wetland Mapping Data contains limited information about wetland condition.

The Queensland Wetlands Programme Wetland Mapping Data contains an attribute which describes the Local Hydrological Modification to a wetland. This relates to modifications caused by construction or other works which may affect wetland condition.

Other wetland condition attributes are not described in the mapping. For example, though the Queensland Wetlands Programme Wetland Mapping may indicate that a wetland is a particular regional ecosystem which contains species specific to that ecosystem, there may in fact not be many of those species in the wetland due to clearing and/or other disturbances.

## How can I get the Queensland Wetlands Programme Wetland Mapping?

The Queensland Wetlands Programme Wetland Mapping is delivered in a number of different formats. It is available:

1. As summary information.
2. In PDF format.
3. Online via an interactive map server, WetlandMaps.

WetlandMaps allows you to explore the Queensland Wetlands Programme Wetland Mapping more closely, and to find out more information about particular wetlands. WetlandMaps contains a number of spatial layers, including the Queensland Wetlands Programme Wetland Mapping, protected areas, land use types, Ramsar sites and major towns so that you can see the context surrounding the wetlands you are interested in.

4. On an interactive DVD containing Geographic Information System data.

A Geographic Information System (GIS) is a computer system for capturing, storing, checking, integrating, manipulating and analysing geographic information, especially mapping data. If you have access to a GIS program, you can use the Queensland Wetlands Programme Wetland Mapping Data that is available on DVD.

You can obtain a copy of the most recently released DVD by requesting one from [data.coordinator@epa.qld.gov.au](mailto:data.coordinator@epa.qld.gov.au). Please note that charges will be incurred for using the Queensland Wetlands Programme Wetland Mapping Data for commercial purposes.

For more information on the Queensland Wetlands Programme Wetland Mapping Data see the Specific Queensland Wetlands Programme Wetland Mapping Geographic Information System FAQs.

## What is the currency, scale and accuracy of the Queensland Wetlands Programme Wetland Mapping Data?

It is important to know the details of the Data used in the Queensland Wetlands Programme Wetland Mapping in order to understand the appropriate uses of the Mapping and limitations of the Data.

### Currency

The Queensland Wetlands Programme Wetland Mapping was initially created using 2001 data and is currently being updated to 2005 data. The updated Queensland Wetlands Programme Wetland Mapping will be published in 2009. After this point, the team expects to update the Mapping every two years using the latest satellite imagery to update wetland extent and other information to update other wetland attributes.

### Scale

The Queensland Wetlands Programme Wetland Mapping is conducted at a scale of 1:50 000 in coastal areas and 1:100 000 in inland areas. If you wish to do analyses at a finer scale then you may need finer scale mapping.

### Accuracy

The positional accuracy of the 1:50 000 scale Queensland Wetlands Programme Wetland Mapping is +/-50 metres, with a minimum polygon size of 1 ha or 35 metres wide for linear features.

The positional accuracy of the 1:100 000 Queensland Wetlands Programme Wetland Mapping is +/-100 metres with a minimum polygon size of 5 ha or 75 metres wide for linear features.

Wetlands smaller than 1 ha are not delineated on the Queensland Wetlands Programme Wetland Mapping.

### Where can I find the metadata for the Queensland Wetlands Programme Wetland Mapping Data?

The metadata (information about the data) for the Queensland Wetlands Programme Wetland Mapping Data is available on the DVD and on WetlandMaps. You can find it on the DVD under the Geographic Information System data section and on WetlandMaps by clicking on the name of the data layer for which you would like to view the metadata in the Legend.

### Who do I contact for more information or assistance using the Queensland Wetlands Programme Wetland Mapping?

For more information on the Queensland Wetlands Programme Wetland Mapping browse these FAQs and the [WetlandInfo](#) website. Otherwise, email questions to [wetlands@epa.qld.gov.au](mailto:wetlands@epa.qld.gov.au).

### Who do I contact to provide feedback on the Queensland Wetlands Programme Wetland Mapping?

Please email your comments and suggestions to [wetlands@epa.qld.gov.au](mailto:wetlands@epa.qld.gov.au). Your comments and any suggested changes will be reviewed and where appropriate incorporated into the Queensland Wetlands Programme Wetland Mapping as it is updated periodically.

## Specific Queensland Wetlands Programme Wetland Mapping FAQs

### Are floodplains included in the Queensland Wetlands Programme Wetland Mapping?

Many areas of floodplains do not remain wet for long enough to generate wetland soils or support wetland species and so are not wetlands according to the [Queensland Wetlands Programme Wetland Definition](#). Parts of a floodplain may meet the Definition of a wetland and are sometimes called floodplain wetlands. Floodplains themselves however are not wetlands per se.

For Geographic Information System users, where possible a floodplain layer has been included in the Queensland Wetlands Programme Wetland Mapping Data so that you can view them if you wish. Floodplains are included as a separate field in the HYD\_WETLAND feature class ("FLOODPLAIN") and can be added as a separate addition of this layer to an MXD file.

## Are artificial wetlands included in the Queensland Wetlands Programme Wetland Mapping?

Yes. Artificial wetlands such as farm dams, ring tanks and canals are included in the Queensland Wetlands Programme Wetland Mapping. Not all wetlands are totally natural or totally artificial, some are natural wetlands that have been modified. One of the attributes included in the Queensland Wetlands Programme Wetland Mapping is a Local Hydrological Modifier which identifies whether a wetland is natural, modified, or artificial.

For more information on these hydrological modifiers go to the What information does the Queensland Wetlands Programme Wetland Mapping contain? question.

## Is riparian vegetation included in the Riverine wetlands that are mapped?

Riverine systems are often associated with fringing wetland vegetation which by definition is classified as a Palustrine wetland system separate to the channel which is classified as a Riverine wetland system.

However, in many instances the Queensland Wetlands Programme Wetland Mapping scale is not large enough to distinguish between the two wetland systems as the minimum width shown on the Mapping is 35 metres on the coast and 75 metres for inland areas. Therefore areas mapped as a Riverine wetland on the Queensland Wetlands Programme Wetland Mapping often include (unmapped areas of) fringing Palustrine wetlands. For more information see the [Wetland Mapping and Classification Methodology](#).

## What do lacustrine and palustrine mean?

Lacustrine wetlands are large water bodies dominated by open waters and deepwater habitats. They are generally greater than 8 hectares in size and have less than 30% coverage of emergent vegetation. Examples of Lacustrine wetlands are lakes and dams. Artificial water storages such as ring tanks and impounded watercourses such as large on-line dams are also classified as Lacustrine wetlands. They are differentiated from natural Lacustrine wetlands by their local hydrological modifier attribute.

Palustrine wetlands are large water bodies dominated (greater than 30% coverage) by emergent vegetation, or are less than 8 ha in size and shallow. Examples of Palustrine wetlands are swamps, marshes, fringing riparian vegetation and small clay pans.

For more information on how Lacustrine and Palustrine wetlands are classified see the [Wetland Mapping and Classification Methodology](#).

## How did you decide where a Riverine wetland ends and an Estuarine wetland begins?

The primary mechanism used to distinguish between systems influenced by tidal salinity (Estuarine and Marine) and those not influenced by tidal salinity (Riverine, Palustrine and Lacustrine) is water sampling to determine where salinity drops below 5ppt. However, as the Queensland Wetlands Programme Wetland Mapping is compiled remotely using existing data, it is necessary to use mapping surrogates.

Where the cut-off between saline and fresh water is across a channel, the surrogates used to determine the mean high water springs (MHWS) were the presence of a barrier such as a barrage or weir, or the line between estuarine and non-estuarine vegetation. Where the cut-off is outside a channel, the surrogate used to determine the highest astronomical tide (HAT) was the boundary between estuarine and other types of vegetation or water. For more information go to [Wetland Mapping and Classification Methodology](#).

#### [How did you decide where an Estuarine wetland ends and a Marine wetland begins?](#)

The primary mechanism used to determine the boundary between Estuarine and Marine wetlands is water sampling to determine where salinity drops below 34ppt. Wetland systems where salinity is lower than 34ppt are classified as Estuarine, those with salinity higher than 34ppt are classified as Marine.

However, given the inherent variability of this characteristic over various temporal and spatial scales and as the Queensland Wetlands Programme Wetland Mapping is compiled remotely using existing data, it is necessary to use mapping surrogates.

The current Queensland Wetlands Programme Wetland Mapping uses estuarine geomorphic features to approximate the extent of persistent estuarine conditions using a range of remotely sensed LASDSAT ETM imagery as base data. This approach is similar to that of the OzEstuaries program (for more information, go to the [OzCoasts website](#)).

The Queensland Wetlands Programme is working toward utilising a range of more sophisticated techniques to better approximate the extent and variability of the boundary between Estuarine and Marine systems using remotely sensed methods in accordance with the [Queensland Wetlands Programme Wetland Definition](#).

#### [How did you decide the Marine wetlands end?](#)

According to the [Queensland Wetlands Programme Wetland Definition](#) Marine wetlands extend to a depth of 6m below the Lowest Astronomical Tide. However, a map of the 6m bathometric (ocean depth contour) does not currently exist for Queensland, therefore the 3 nautical mile limit has been used to draw the edge of the marine wetlands in Queensland waters on the Queensland Wetlands Programme Wetland Mapping. If the 6m bathometric data becomes available in the future the Queensland Wetlands Programme Wetland Mapping will be updated.

## Specific Queensland Wetlands Programme Wetland Mapping Geographic Information System FAQs

#### [What formats is the Queensland Wetlands Programme Wetland Mapping Data available in?](#)

The Queensland Wetlands Programme Wetland Mapping is created using a geodatabase and exported into shapefile format. A number of layerfiles and an MXD file are also created for use

with ESRI ArcView programs. Three pre-defined layerfiles have been prepared for viewing the Queensland Wetlands Programme Wetland Mapping: a waterbodies layer, a springs layer, and a streams layer. We suggest that if you have ArcView 9.2, you use these layerfiles to view the Queensland Wetlands Programme Wetland Mapping.

### [I am not using an ESRI GIS program. How can I view the Queensland Wetlands Programme Wetland Mapping?](#)

If you are not using an ESRI GIS program, you should access the inbuilt or online help file for your program to determine how to import and use ESRI files. Some programs, such as MapInfo, can use shapefiles directly. For others, such as AutoCAD, you may need to use a utility to import the file. There are also a number of free programs available on the internet (for example ArcExplorer which is available from [ESRI](#)) that will allow you to perform simple operations such as viewing, navigating and querying shapefiles.

### [How is the digital wetland mapping projected?](#)

The geodatabase coordinates are geographic. More specifically, they are geodetic longitude and latitude (Datum: GDA94 Projection: GCS94). The data includes wetland area and habitat area fields which provide the wetland and habitat areas in hectares for analysis, however, if you would like to measure distances in metres you will need to reproject the data to an appropriate co-ordinate system.

### [How can I extend my use of the Queensland Wetlands Programme Wetland Mapping Data?](#)

The Queensland Wetlands Programme Wetland Mapping can be imported into other GIS analyses as needed by the user. The data has been used in AgForward's Computer Mapping Workshop in the FarmKeeper software. Any GIS program that is capable of importing shapefiles is capable of using the Queensland Wetlands Programme Wetland Mapping Data. It must be noted that the disclaimers on the data should be maintained on all products produced. Data should be used appropriately and at the recommended scale.

# For more information

Table: Other sources of information referred to in the text and where to find them

Information Source	Location
Strategy for the Conservation and Management of Queensland's wetlands	<a href="http://www.epa.qld.gov.au/publications?id=565">http://www.epa.qld.gov.au/publications?id=565</a>
Queensland Wetlands Programme Wetland Definition	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/WetlandDefinitionstart/WetlandDefinitions.html">http://www.epa.qld.gov.au/wetlandinfo/site/WetlandDefinitionstart/WetlandDefinitions.html</a>
What are Wetlands?	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/WetlandDefinitionstart.html">http://www.epa.qld.gov.au/wetlandinfo/site/WetlandDefinitionstart.html</a>
Regional Coastal Management Plans	<a href="http://www.epa.qld.gov.au/environmental_management/coast_and_oceans/coastal_management/regional_coastal_management_plans/">http://www.epa.qld.gov.au/environmental_management/coast_and_oceans/coastal_management/regional_coastal_management_plans/</a>
EPA advice agency role	<a href="http://www.epa.qld.gov.au/environmental_management/planning_and_guidelines/environmental_legislation/integrated_planning_act/advice_agency_role_under_ipa/idas/">http://www.epa.qld.gov.au/environmental_management/planning_and_guidelines/environmental_legislation/integrated_planning_act/advice_agency_role_under_ipa/idas/</a>
Referable Areas Mapping	<a href="http://www.epa.qld.gov.au/environmental_management/planning_and_guidelines/environmental_legislation/integrated_planning_act/advice_agency_role_under_ipa/idas/referable_areas_mapping/">http://www.epa.qld.gov.au/environmental_management/planning_and_guidelines/environmental_legislation/integrated_planning_act/advice_agency_role_under_ipa/idas/referable_areas_mapping/</a>
Wetland Mapping and Classification Project Fact Sheet	<a href="http://www.epa.qld.gov.au/wetlandinfo/resources/static/pdf/FS10_mapping_class_web.pdf">http://www.epa.qld.gov.au/wetlandinfo/resources/static/pdf/FS10_mapping_class_web.pdf</a>
Wetland Mapping and Classification Methodology	<a href="http://www.epa.qld.gov.au/register/p01769aa.pdf">http://www.epa.qld.gov.au/register/p01769aa.pdf</a>
Summary information	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/SummaryInfo.jsp">http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/SummaryInfo.jsp</a>
PDF format	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/PDFMaps.html">http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/PDFMaps.html</a>
WetlandMaps	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/WetlandMaps.html">http://www.epa.qld.gov.au/wetlandinfo/site/MappingFandD/WetlandMapsAndData/WetlandMaps.html</a>
WetlandInfo	<a href="http://www.epa.qld.gov.au/wetlandinfo/site/index.html">http://www.epa.qld.gov.au/wetlandinfo/site/index.html</a>

Information Source	Location
OzCoasts website	<a href="http://www.ozcoasts.org.au/conceptual_mods/index.jsp">http://www.ozcoasts.org.au/conceptual_mods/index.jsp</a>
ESRI	<a href="http://www.esri.com/software/arcgis/explorer/index.html">http://www.esri.com/software/arcgis/explorer/index.html</a>



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