

This technical report has been previously published by the Queensland Government. The technical information in this publication is still current, however it may contain references to former departmental names. Please refer to www.qld.gov.au/dsitia for up-to-date contact details for the Department of Science, Information Technology, Innovation and the Arts.



Australian Government

Queensland
Wetlands Program



Queensland
Government

Wetland Mapping and Classification Methodology

Overall Framework

A Method to Provide Baseline Mapping and Classification for Wetlands in Queensland

VERSION 1.2

Attachment 7c

Embayments – Boundaries

Contents

1. Background	2
2. Rules and Rationale Relating to Embayments	2
3. Location of Embayments	2
4. References.....	3

1. Background

Embayments represent transitional environments between true estuarine and marine environmental conditions and thus contain abundant and highly variable biota and environmental conditions (Dethier 1992; Rainer et al. 1981b; Roy et al. 2001).

Depending upon energy conditions and climate (latitude), habitats such as saltmarshes, mangroves, intertidal flats, and sandy beach environments fringe the embayment. Swamp areas and freshwater wetlands tend to occur behind sandbars (Abell and Jones 1993). Clear shallow waters support various seagrasses (Abal and Dennison 1996; Humphries et al. 1992), rocky shores, and rocky (or coral) reefs. Habitats are typically marine, with extensive subtidal environments and very narrow intertidal environments.

2. Rules and Rationale Relating to Embayments

Due to the unique conditions within embayments when compared with rivers on the open coastline, a different approach is required to separate estuarine and marine systems in embayments.

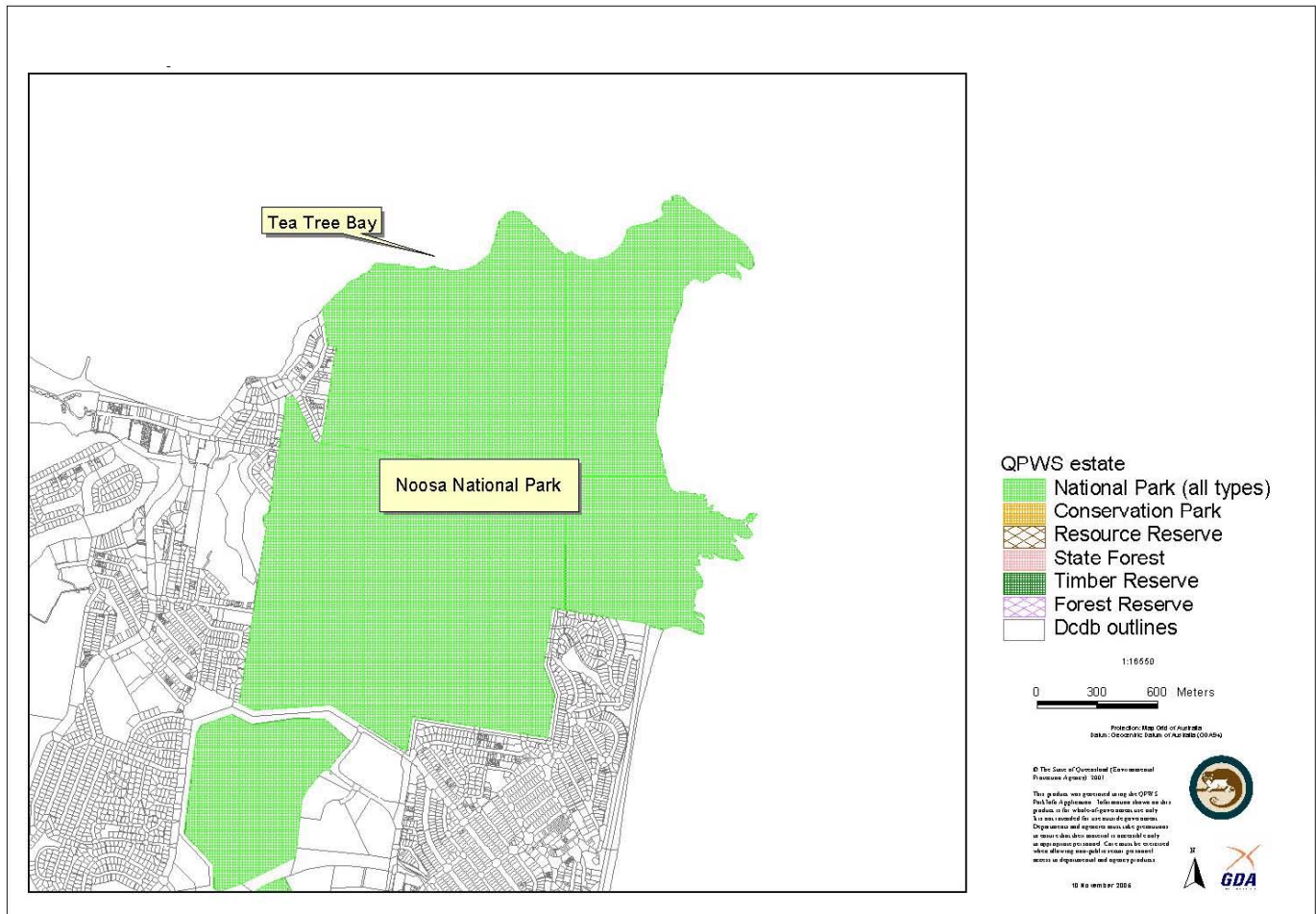
In order to define an embayment a line is required between the most outlying point of the most outlying island and the most outlying point of the mainland.

In addition, areas 6m below lowest astronomical tide (LAT) within a bay are not excluded from this mapping and classification process, as they are in the marine system and considered an important wetland area.

For further technical information please refer to the Technical Specifications and Data Recording Standards (Decision Rule 11 in the main text of the Method).

3. Location of Embayments

Embayments have been identified by the Queensland Department of Natural Resources and Mines. A list of embayment place names can be found at <http://www.ga.gov.au/map/names/>.



Example of an embayment located in the Noosa Headland (graphic courtesy of the Queensland Parks and Wildlife Service (QPWS) Park Info service; “Dcdb” refers to the Queensland Digital cadastral data base).

4. References

Abal, E.G. and Dennison, W.C. (1996) Seagrass depth range and water quality in southern Moreton Bay, Queensland, Australia. *Marine and Freshwater Research*. 47:763-771.

Abell, R. and Jones, N. (1993) Earth science and environmental diversity in the Jervis Bay area. *AGSO Research Newsletter*. 19:11-12.

Dethier, M.N. (1992) Classifying marine and estuarine natural communities: An alternative to the Cowardin system. *Natural Areas Journal*. 12:90-98.

Humphries, P., Potter, I.C. and Loneragan, N.R. (1992) The fish community in the shallows of a Temperate Australian Estuary: relationships with the aquatic macrophyte *Ruppia megacarpa* and environmental variables. *Estuarine, Coastal and Shelf Science*. 34:325-346.

Rainer, S.F. and Fitzhardinge, R.C. (1981) Benthic communities in an estuary with periodic deoxygenation. *Australian Journal of Marine and Freshwater Research*. 32:227-244.

Roy, P.S., Williams, R.J., Jones, A.R., Yassini, R., Gibbs, P.J., Coates, B., West, R.J., Scanes, P.R., Hudson, J.P. and Nichol, S. (2001) Structure and function of south-east Australian estuaries. *Estuarine, Coastal and Shelf Science*. 53:351-384.