The Queensland Intertidal and Subtidal Ecosystem Classification Scheme

Knowing the extent and nature of intertidal and subtidal ecosystems is essential for understanding how they provide beneficial human uses, including maintaining fish habitat and supporting the fishing and tourism industry. **The Queensland Intertidal and Subtidal Ecosystem Classification Scheme** (the scheme) demonstrates how to use the biophysical characteristics of the water column and sea floor for classifying intertidal and subtidal ecosystems.
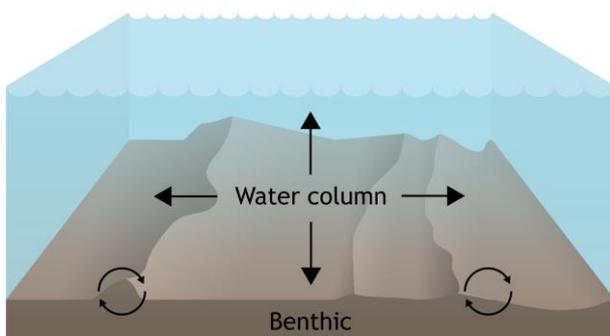

Why is classification important?

Understanding the nature, extent and values of ecosystems is integral to their effective management. Terrestrial and freshwater ecosystem classification, mapping and conservation assessment already provides a basis for management and planning in Queensland. This scheme provides the basis for a similar management approach for intertidal and subtidal ecosystems.

What ecosystems are covered?

Intertidal ecosystems, such as mangroves, are exposed at some time in the tidal cycle. Subtidal ecosystems remain continually submerged. The scheme distinguishes between the water column, which is the vertical water mass between the water surface and the sea floor and benthic ecosystems, which are on the sea-floor.

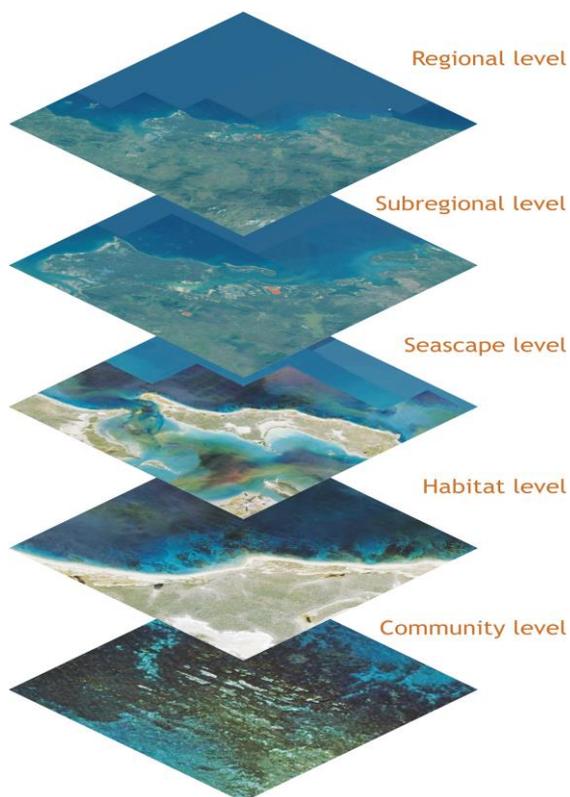## Advantages of the scheme

- Provides a common language, to assist with communication and reduce complexity about ecology, values and management for technical and non-technical audiences

- Consolidates existing data and knowledge into a consistent platform for intertidal and subtidal ecosystems

- Integrates with and complements other state and national classification and mapping

- Provides the basis for mapping, describing ecosystem and developing conceptual models

- Provides a consistent, measurable, transparent, repeatable and flexible approach

Principles and concepts

The biological, physical and chemical characteristics (termed attributes) of intertidal and subtidal ecosystem provide the basis for describing how they function.

Attributes (e.g. sediment size, structural biota, salinity etc.) are described and further split into categories (e.g. seagrass, coral etc.), independent of each other. There are five spatial levels to allow ecosystems to be classified at the regional, subregional, seascape, habitat or community scale.

Queensland Government

Regional level

Subregional level

Seascape level

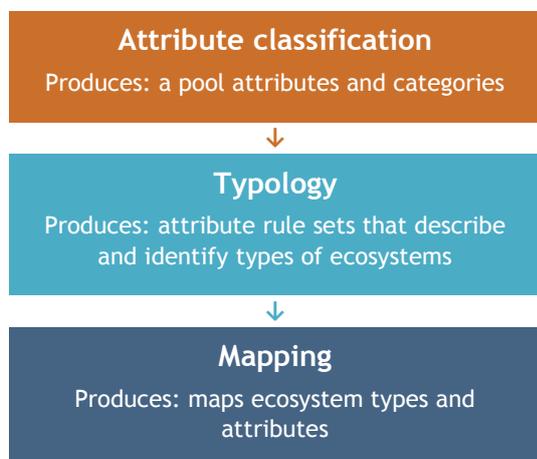Habitat level

Community level

Spatial attributes provide information on the relative position, size and location of features.

Attribute qualifiers provide further information on attributes such as naturalness, variability over time and cover.

Habitat condition is not dealt with in the scheme, but some attributes and qualifiers may be useful as an input to condition assessments.

Stages of the scheme

The three stages of the scheme are attribute classification, typology and mapping. Outputs are produced from each of these steps.

Attribute classification
Produces: a pool attributes and categories

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Typology
Produces: attribute rule sets that describe and identify types of ecosystems

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Mapping
Produces: maps ecosystem types and attributes

Uses of the scheme

The scheme can be used and integrated with other frameworks for many purposes including:

- classification, mapping, inventory and monitoring

- assessing, understanding and communicating ecological values and threats, including climate change

- assessing ecosystem representativeness/ uniqueness for reserve systems and conservation assessment

- informing a range of management and planning uses, including offsets

- informing inventory standards, assessing knowledge gaps.

Get involved

If you would like to know more about how to apply the classification scheme or have relevant data and research, we would like to hear from you. Email wetlands@ehp.qld.gov.au to find out more. Please email us to join the mailing list and to find out about future workshops and project outcomes.

The Queensland Wetlands Program

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 wetlands landholders, managers and decision makers in government and industry. The Queensland Wetlands Program is currently funded by the Queensland Government.

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