

## INTRODUCTION

### What is a waterbody?

Fraser Coast Regional Council (FCRC) manages urban (constructed/artificial) waterbodies, which provide a range of social, environmental and economic values and/functions such as; aesthetics, amenity, park landscape, ecological habitat, flood management and supporting surrounding property values.

Urban waterbodies are also under considerable pressure due to urban runoff. Many waterbodies are in a degraded condition, or are at risk of deteriorating, with declining water quality and aesthetic values, fish kills, algal blooms, failure of hydraulic structures and infestations of noxious weeds.

### Project Background

FCRC has developed a Draft Fraser Coast Waterbody Management Framework in order to strategically manage the 54 waterbodies across the region covering 120 hectares and 45 kilometres of shoreline. In conjunction with the Framework, two of the highest priority large waterbody systems were selected for the development of Draft Waterbody Management Plans (Ululah Lagoon, Maryborough and Lowlands Lagoon (Anembo Lake, Torquay)). The Framework and Plans will help Council to develop a draft Strategy for the management of our urban waterbodies.

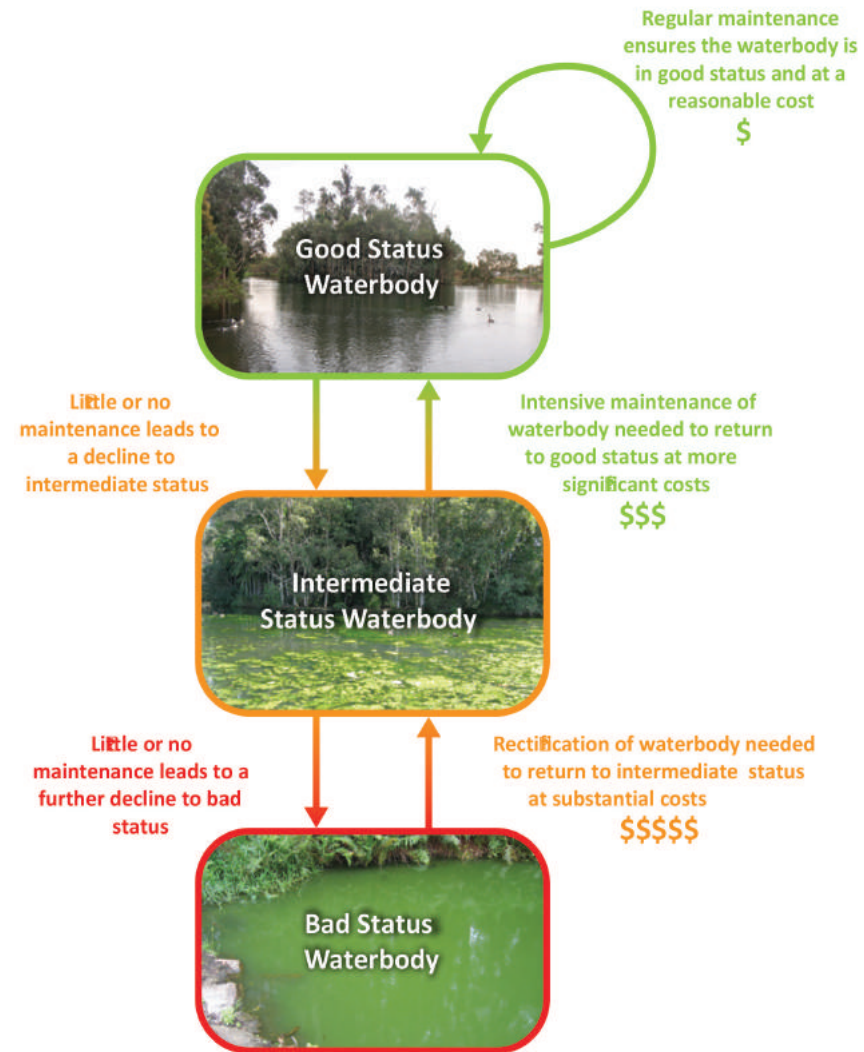
# HAVE YOUR SAY



Don't miss your opportunity to have your say on the future of our urban waterbodies, visit [www.frasercoast.qld.gov.au](http://www.frasercoast.qld.gov.au) for more information and complete the online survey which closes on **9 December 2019**.

### Goal

Council's goal for Fraser Coast waterbodies is to protect and enhance their values and functions, reduce risks associated with open water, and to optimise the effort involved in the sustainable management of these assets.



Proactive waterbody maintenance compared with reactive waterbody maintenance  
(Source: Waterbody Management Guideline, Water By Design, 2013)

### What is a 'healthy' waterbody?

A 'healthy' waterbody has good water clarity and supports a range of aquatic habitats including open water, emergent and submerged native water plants. Generally healthy systems occur where the following conditions occur:

- Typically <1m-2m (max). This allows native plants to establish which play an important role in removing nutrients and providing habitat for native fauna. Shallow systems tend to be more resilient and stable compared with deep systems, which reduces the risk of fish kills.
- Has a relatively large catchment (with ideally limited urban runoff). This ensures that the water within the system does not become stagnant and allow nutrients to build up. It also helps ensure water levels stay 'topped-up' with relatively clean water.



### What is an 'unhealthy' waterbody?

An unhealthy waterbody typically has poor water quality resulting from high nutrient levels. Common symptoms of an unhealthy waterbody include:

- Lack of native water plants (emergent and submerged)
- May have floating scums or appear pea-soup green from blue-green (cyanobacterial) blooms or filamentous algae.
- The surface of the waterbody can become overgrown with aquatic weeds (such as floating plants like Salvinia). These plants can grow rapidly utilising excess nutrients within the water.
- Fish kills are more prevalent in unhealthy systems due to low oxygen levels. This can occur when the waterbody 'turns-over' releasing low-oxygen water trapped in the deeper areas.



### Why do urban waterbodies go from healthy to unhealthy over time?

Waterbody condition can decline and there are a range of reasons why the appearance of your local waterbody may change over time. Generally the key reason is the gradual accumulation of nutrients that can result in a transition from 'healthy' to 'unhealthy' waterbodies. Nutrients can build up due to urban stormwater inflows that contain organic matter and pollutants. These nutrients fuel algae and bacteria growth.

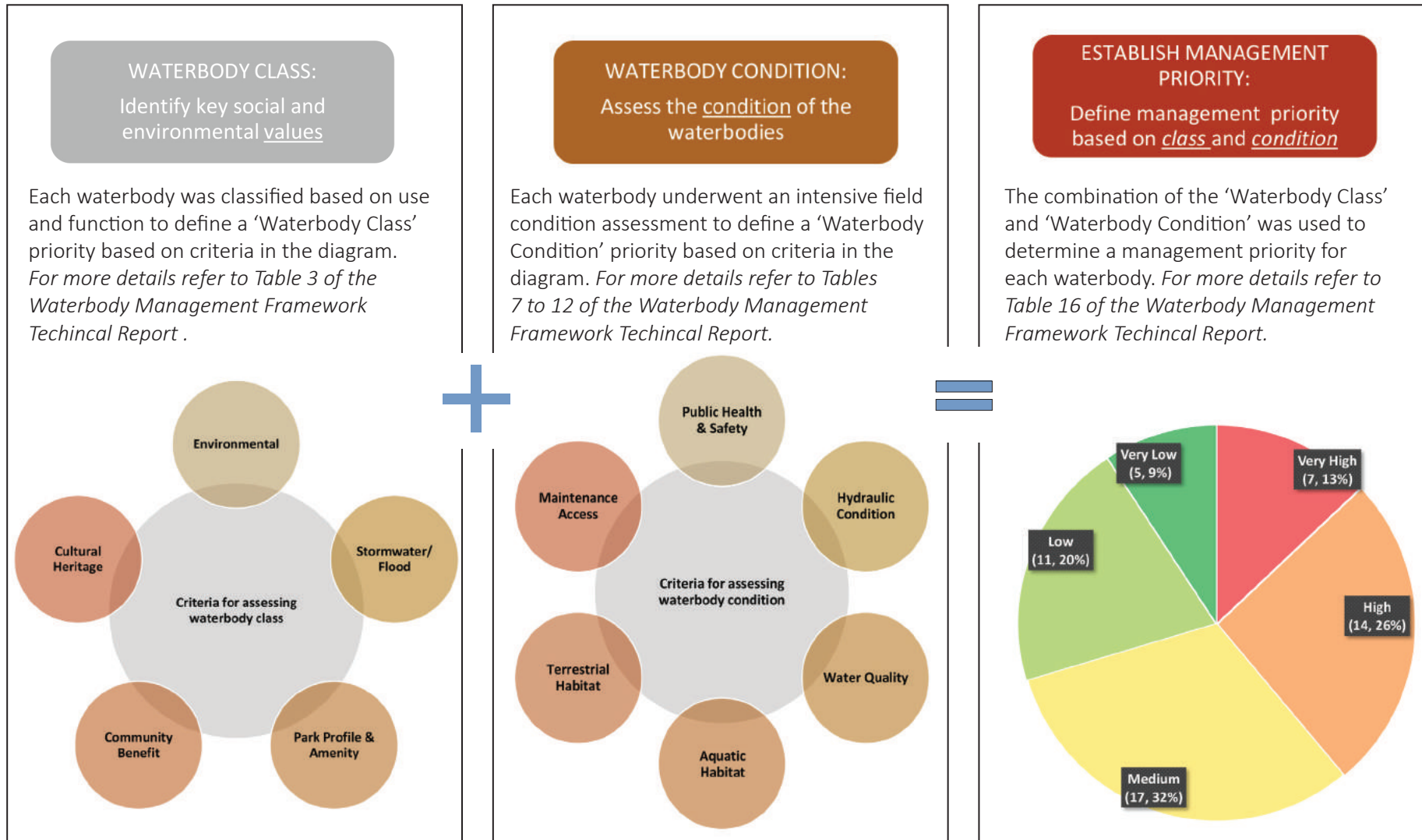


### What are submerged, emergent and floating water plants?

- **Submerged** – plants that grow completely underwater
- **Emergent** – plants that grow partly below and partly above the water surface, usually along the water's edge
- **Floating** – plants that grow entirely on the water surface

## Approach to developing the Waterbody Management Framework

In recognition of the values and potentially significant management costs associated with urban waterbodies, Council is aiming to proactively manage its urban waterbody assets. Due to limited resources, Council's efforts need to be prioritised. As such, Council is developing a management framework that identifies the values and condition of its urban waterbodies in order to prioritise and efficiently manage the systems as shown below.



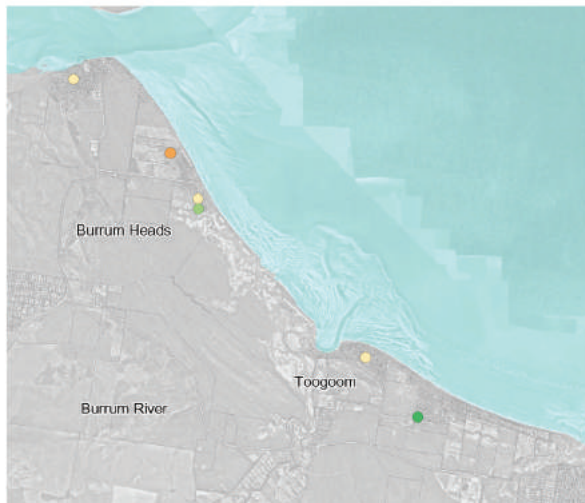
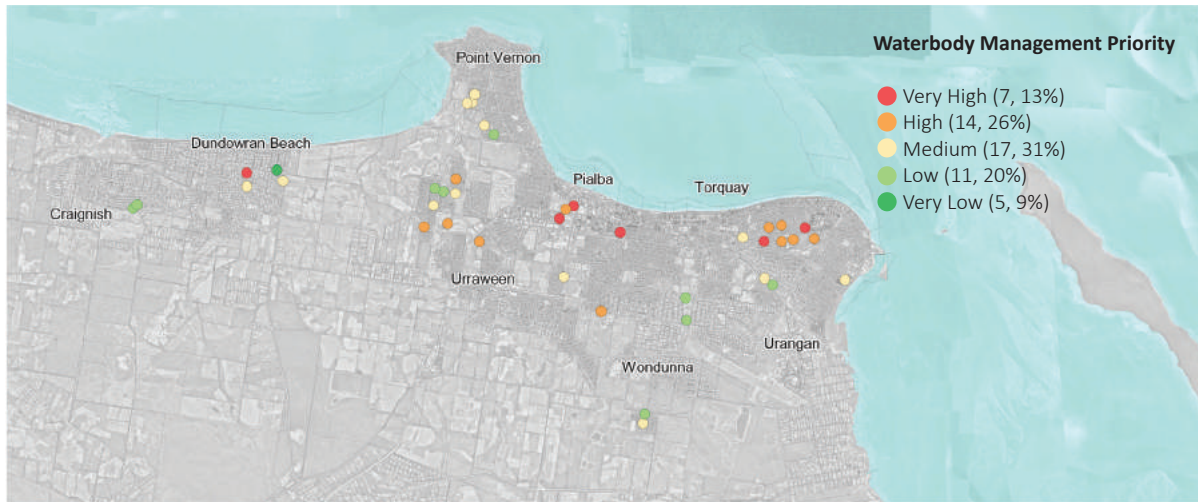
### Individual Waterbody Management Plans

Council has started to develop individual waterbody management plans for some of its high priority waterbodies. The draft Plans (Lowlands Lagoons and Ululah Lagoons) are examples of the potential management actions that could be rolled out to address similar issues for other urban waterbodies.



### Map of Waterbody Management Priority

The following maps illustrate the location and management priority of council managed waterbodies on the Fraser Coast.



### Common Waterbody Issues:

Regardless of priority, some common issues observed in waterbodies include:

- Risk of injury or drowning;
- Health risks (pollution or pathogens);
- Drainage and Flooding;
- Sediment and organic matter build up;
- Odour;
- Algal or blue green algae blooms;
- High turbidity (i.e. murky water);
- Aquatic weeds;
- Exotic fish species;
- Terrestrial weeds (on land);
- Erosion of bank edges;
- Water bird populations;
- Fish kills (including from low dissolved oxygen, excessive depth)

### Common Management Responses can include:

- Modify waterbody edges for safety (edge barriers, vegetation, fencing or profiling bank edges)
- Reduce depth of waterbody (increase flushing time, improve safety)
- Treat upstream stormwater
- Create wetlands
- Fill in isolated pockets/stagnant areas
- Drain waterbody (removal of sediment and/or weed species)
- Manage water birds, including reduced waterbird feeding
- Establish and maintain submerged and emergent water plants within waterbody and along margins
- Stabilise bank erosion including re-profiling and/or repairing areas and revegetate with native species
- Manage exotic fish species



