TWEED SHIRE COUNCIL

Tweed River Report **2019**

Council monitors water quality at many locations throughout our rivers and creeks. This is a useful indicator of the health of our environment, but it doesn't tell the whole story. The environmental health of our waterways depends on more than just water quality and there are a number of other environmental features that can be monitored to fill in the picture of how healthy our waterways are.

One of the best ways to assess an ecosystem is to consider the top order predators that exist within it. Top order predators are the animals that sit at the top of the food chain. They require a complex range of resources to breed and survive, including, abundant prey species, appropriate habitat and the ability to hunt and rest without undue disturbance. A stable number of healthy top order predators in a waterway can indicate that the ecosystem is in good condition.

Council supports programs that monitor two of these top order predators and our most iconic coastal species – the osprey and the bottlenose dolphin. The *2019 Tweed River Report* looks at these two species, as well as water quality monitoring report card scores. These programs will help to enhance our understanding of the environmental health of the Tweed's waterways.

For more information, visit www.tweed.nsw.gov.au/WaterwaysManagement

The Tweed Shire Council is actively working in the region to achieve a long-term vision for the waterways of the Tweed:

The Tweed River is a special place; a healthy ecosystem supporting lifestyles, culture and productivity.

SUSTAINABILITY INITIATIVE TWEED SHIRE COUNCIL

Water quality report card scores

Cobaki – Terranora

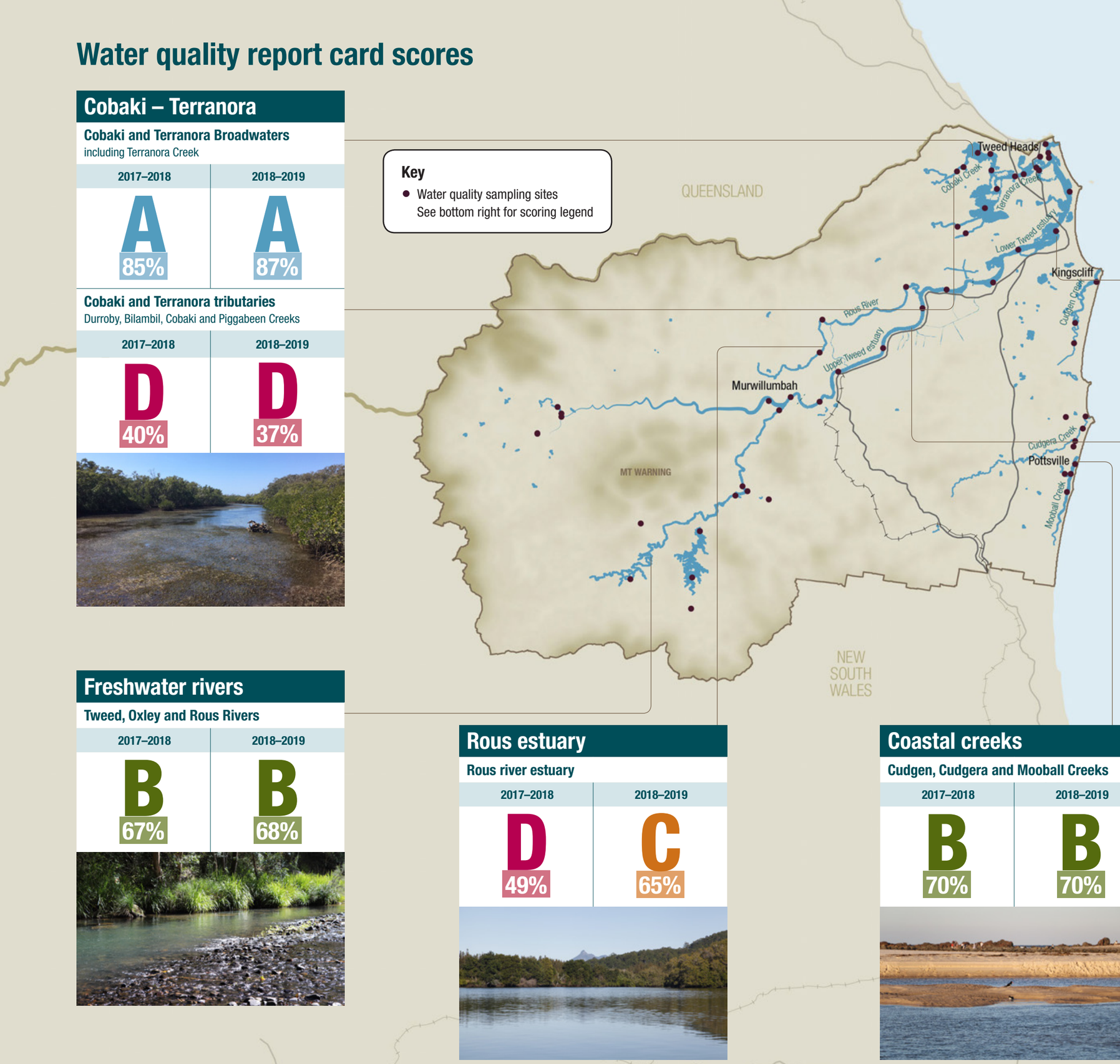
Cobaki and Terranora Broadwaters
including Terranora Creek

2017–2018	2018–2019
A 85%	A 87%

Cobaki and Terranora tributaries
Durroby, Bilambil, Cobaki and Piggabeen Creeks

2017–2018	2018–2019
D 40%	D 37%

Key
- Water quality sampling sites
  See bottom right for scoring legend



Freshwater rivers

Tweed, Oxley and Rous Rivers

2017–2018	2018–2019
B 67%	B 68%

Rous estuary

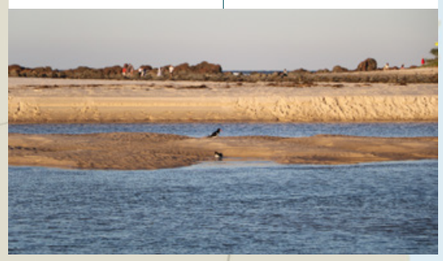
Rous river estuary

2017–2018	2018–2019
D 49%	C 65%

Coastal creeks

Cudgen, Cudgera and Mooball Creeks

2017–2018	2018–2019
B 70%	B 70%



Overall, there was no significant change in water quality between the 2018 and 2019 monitoring programs, with the exception of the Rous River, where the grade improved from D to C. An improvement in the levels of oxygen in the Rous River has driven this change, however, the reason for this occurring is not clear.

The total annual rainfall for the 2018–2019 monitoring period was 1021mm, which is 65% of the long term average annual rainfall of 1,586mm. On a monthly scale, October 2018 was the only month where the long term monthly average was exceeded.

Tweed estuary

Lower Tweed Estuary
down stream of Chinderah

2017–2018	2018–2019
A 84%	A 93%

Upper Tweed Estuary
Chinderah upstream to Murwillumbah

2017–2018	2018–2019
C 56%	C 61%

Scoring legend

A	**Good** – Average of greater than 75% compliance with NSW water quality objectives
B	**Moderate** – Average of 65–75% compliance with NSW water quality objectives. One or more water quality parameter does not comply, most do.
C	**Fair** – Average of 50–65% compliance with water quality objectives.
D	**Poor** – Average of less than 50% compliance with NSW water quality objectives. Most of the parameters sampled do not comply with objectives.

Ospreys

Ospreys, also known as sea hawks, prey on fish and hunt in coastal waters and estuaries. The Tweed osprey population utilises our coastal creeks and the Tweed River as far inland as Murwillumbah. Due to loss of one of their key habitat requirements (large old trees close to waterways), ospreys in the Tweed rely on artificial nests to breed and raise their young. A long-term goal of Council's work in revegetation of our creek and river banks is to provide appropriate natural roosts for future generations of osprey.

Council inspects and maintains artificial osprey nests across the Tweed, with the most recent project being an upgrade of a nest cradle at Les Burger Field near Bogangar/Cabarita Beach.

Osprey nesting and breeding activity is monitored by dedicated volunteers from Birdlife Australia (Northern Rivers). The results of the last year's breeding activity showed that 25 nests were active (ospreys were present during part or all of the breeding season), and that 15 pairs attempted to breed. It is considered that 11 (possibly 12) chicks survived fledgling stage and left the nest to establish their own territory.

Osprey and artificial nest cradle at Kingscliff.

Council staff installing a new nest cradle on the Tweed Coast.

Riparian vegetation

Riparian vegetation refers to trees and other plants that grow along the banks of waterways or frequently flooded areas. Native riparian vegetation is of critical importance to the health of our waterways as it prevents erosion, filters pollutants and provides habitat for many species of wildlife, particularly fish.

During preparation of Council's 10-year management plan for the Tweed River Estuary, riparian vegetation, condition and extent was mapped throughout the estuary. Unfortunately, due to historical clearing and ongoing factors such as weed infestation and erosion, approximately 70 per cent of the Tweed River's banks are in a highly disturbed condition, with very little healthy natural vegetation remaining. The best vegetation along the river is around Stotts Island and the Tweed Broadwater.

Dolphins

Healthy Waterways-Healthy Dolphins Project Update

The Healthy Waterways-Healthy Dolphins project is a long-term research and monitoring program led by Dolphin Research Australia and supported by Council. The project aims to understand the population size and health of the resident Indo-Pacific bottlenose dolphins that rely on the Tweed River Estuary.

A team of citizen scientists monitor dolphins in the Lower Tweed and Terranora Creek estuaries monthly. Eleven individual dolphins have been photographically identified, with 55 per cent of these recorded during previous surveys in 2010/11.

Preliminary results suggest that some individuals have long-term residency and rely heavily on the Tweed Estuary. Ongoing surveys will continue to assess the effect of environmental parameters such as water quality on the health of this dolphin community.

It is critical that people who use power craft be aware of the Tweed River's dolphin population and use every care to ensure that these iconic animals are not injured or disturbed.

The public can assist in monitoring this population by becoming a dolphin watcher and report dolphin sightings at www.dolphinresearchaustralia.org

Indo-Pacific bottlenose dolphin in Terranora Creek.