

# Report Card 2013



## Introduction

This document is the second Report Card for the Tuggerah Lakes estuary. The estuary health data presented here was collected in Tuggerah, Budgewoi and Munmorah Lake basins during the summer of 2012/2013.

The estuary was divided into five zones (see map), with each zone receiving an estuary health grade based on the data collected there. As Council continues to collect data we should be able to establish whether long-term trends indicate the health of the estuary is improving or declining. The data will also allow us to be more informed when identifying target areas in need of rehabilitation and conservation.

## The Tuggerah Lakes Estuary

Located in the Wyong Shire on the New South Wales Central Coast, the Tuggerah Lakes estuary consists of three interconnected coastal lagoons – Lake Munmorah, Budgewoi Lake and Tuggerah Lake which opens to the sea at The Entrance.

The lakes spread over 70 square kilometres, and stretch from Killarney Vale in the south to Lake Munmorah in the north. The catchment area is much larger spanning 670 square kilometres and covers most of Wyong Shire. It includes the five major tributaries of the Wyong River, Ourimbah, Wallarah/Spring, Tumbi and Saltwater Creeks.

The Tuggerah Lakes estuary is a very special place with a remarkable variety of landscapes, scenery, wildlife and flora. The health and beauty of the estuary is vital to the district's strong tourism industry. It is also the playground for many recreational pursuits and supports a significant commercial fishing industry and recreational fishing activities.

## Methods

The report card is like a health check for our estuary: it compares the current ecological health of the Tuggerah Lakes estuary with ideal estuary health.

To calculate the report card grades, scientists from the NSW Office of Environment and Heritage (OEH) have assessed three important indicators of estuary health:

- Chlorophyll-a – is an indication of levels of microalgae and nutrients in the water. High levels of chlorophyll-a indicate high inputs of nutrients which can lead to algal blooms.
- Turbidity – refers to the amount of sediment suspended in the water and indicates water clarity.
- Seagrass depth range – is a biological indicator of water clarity. Seagrass growth depends on how deep light penetrates through the water.

A healthy estuary has low levels of both microalgae and turbidity (noting that this system is sediment based and wind driven so will always look turbid to some degree).

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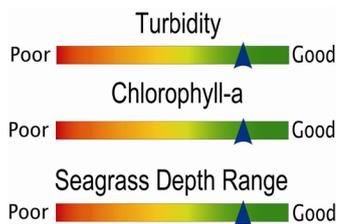
The information collected by OEH scientists is converted into a grading system which compares the health of waterways across the state. Where available the report card also shows data from previous years for comparison.

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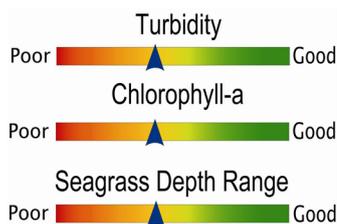
## Results



### Lake Munmorah

**B** **B** 2012

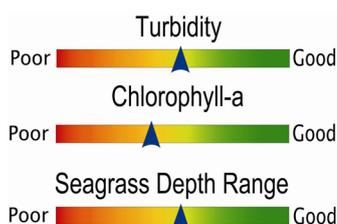
The ecological health of Lake Munmorah improved from good in 2012 to excellent in 2013. This was as a result of improvements in algal (chlorophyll-a) and turbidity levels, and an increase in seagrass depth range.



### Budgewoi Lake

**B** **C** 2012

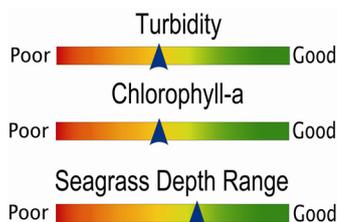
High turbidity levels and moderately elevated algal concentrations coupled with no change in seagrass depth range from 2012 resulted in Budgewoi retaining a rating of fair water quality in 2013.



### Tuggerah Lake North

**C** **B** 2012

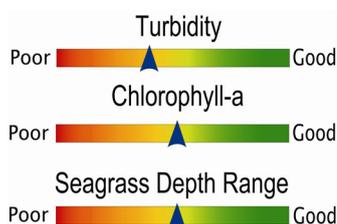
The northern part of Tuggerah Lake stabilised in 2013 achieving a fair grade as in the previous year. Fair turbidity levels and moderate seagrass depth range both similar to 2012 results were however slightly offset by increases in chlorophyll concentration.



### Tuggerah Lake Central

**B** **B** 2012

The central part of Tuggerah Lake showed an improvement in seagrass depth range from the previous year, however this was offset as water clarity did not improve with high algal and turbidity levels similar to last year. The grading for the central part of Tuggerah Lake remained as fair.



### Tuggerah Lake South

**B** **B** 2012

The ecological health of the southern part of Tuggerah Lake was fair in 2013. A small increase in the seagrass depth range was observed, however there was no change in the algal or turbidity levels from the previous year.

# Tuggerah Lakes Estuary



## The Grades explained

- A Excellent** The indicators meet all benchmarks for more than most of the year. Equal to the best 20% of scores in NSW.
- B Good** The indicators meet all benchmarks for most of the year. Equal to the next 30% of scores in NSW.
- C Fair** The indicators meet some benchmarks for part of the year. Equal to the middle 30% of scores in NSW.
- D Poor** The indicators met few benchmarks for part of the year. Equal to the next 15% of scores in NSW.
- F Very Poor** The indicators never meet benchmarks. Equal to the worst 5% of scores in NSW.



## Management actions

Tuggerah Lakes estuary is dependant on the broader catchment area – whatever comes down the rivers and enters the stormwater ends up in our lakes. What we all do impacts the estuary, by working together we can improve and protect it.

### What Council is doing to help

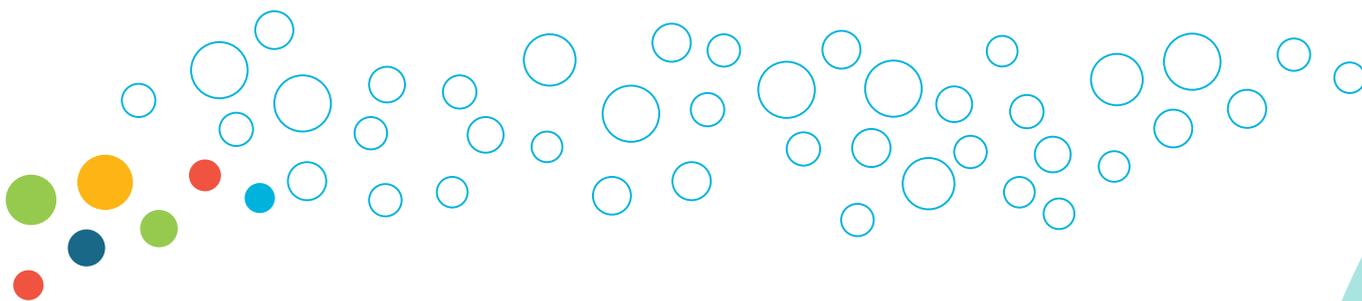
- Constructing and upgrading gross pollutant traps, wetlands and other stormwater infrastructure to reduce sediment, litter and nutrient loads from the catchment.
- Protecting and improving natural wetlands, riparian vegetation and saltmarsh, to help reduce erosion and filter runoff before it enters the estuary.
- Dredging The Entrance channel (when triggers are met) to maintain exchange with the ocean.
- Removing excess seagrass wrack and floating algae to enhance the water quality of the estuary and improve circulation of water into nearshore areas.

### Simple things you can do to help

- Wash your car on the grass or at a car wash.
- Use less fertiliser on your lawn or grow a native garden which doesn't need as much fertiliser.
- Place your garden waste and lawn clippings in the green bin.
- Pick up your dog's poo and place it in a bin.
- Always put litter in the bin.
- Protect saltmarsh and wetlands by never mowing to the water's edge.
- Dispose of your garden waste in your green bin, not by dumping it in reserves and stormwater channels.
- Keep to formed walking trails and boat ramps.

Keeping our estuary healthy is the responsibility of everyone who lives in, works in or visits our Shire. We all impact the lake, let's make our impacts positive.





### More Information

For more information or to view our range of videos on the Tuggerah Lakes, including an animation please visit [www.loveourlivinglakes.com.au](http://www.loveourlivinglakes.com.au)



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