MIDCOAST council

2022 WATERWAY AND CATCHMENT REPORT CARD

Reporting on data November 2021 to April 2022

Bays Hill, Manning River

NSW GOVERNMENT

This project is funded by MidCoast Council's Environmental Rate and supported by the New South Wales Government through its Coast and Estuary Program and Department of Planning and Environment.

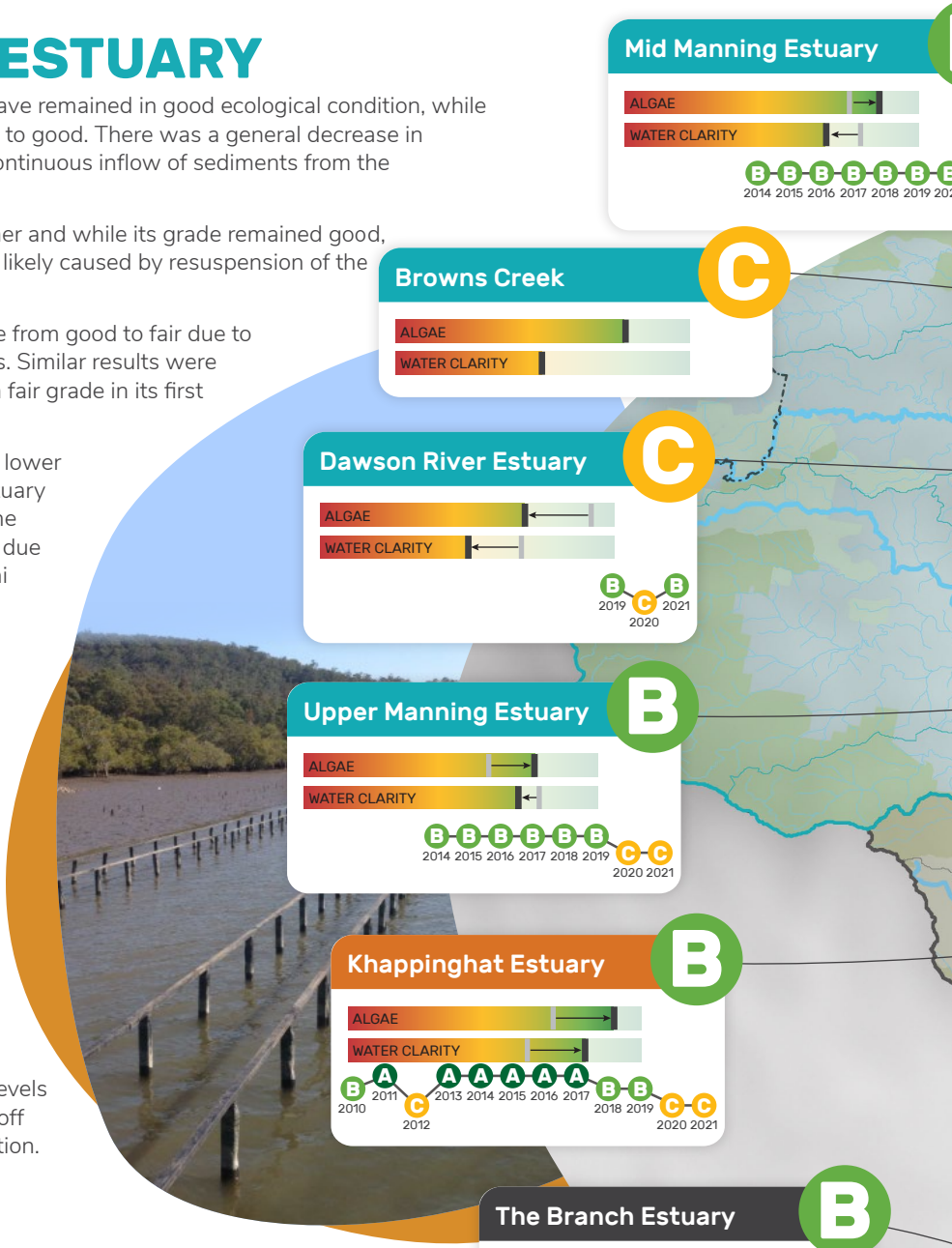
MANNING RIVER ESTUARY

The Mid and Lower Manning River Estuaries have remained in good ecological condition, while the Upper Manning Estuary improved from fair to good. There was a general decrease in water clarity across the entire system due to continuous inflow of sediments from the catchments.

Farquhar Inlet was open to the ocean all summer and while its grade remained good, there was a reduction in water clarity that was likely caused by resuspension of the sandy shoals due to wind and surf conditions.

The Dawson River Estuary saw a drop in grade from good to fair due to reduced water clarity and increased algal levels. Similar results were observed in Browns Creek which also scored a fair grade in its first summer of monitoring.

Two new sites were added in tributaries of the lower estuary, one in the upper Lansdowne River Estuary and one in Ghinni Ghinni Creek. The Lansdowne River Estuary scored an inaugural grade of fair due to issues with water clarity, while Ghinni Ghinni Creek was in good ecological condition with a comparatively clear water column.



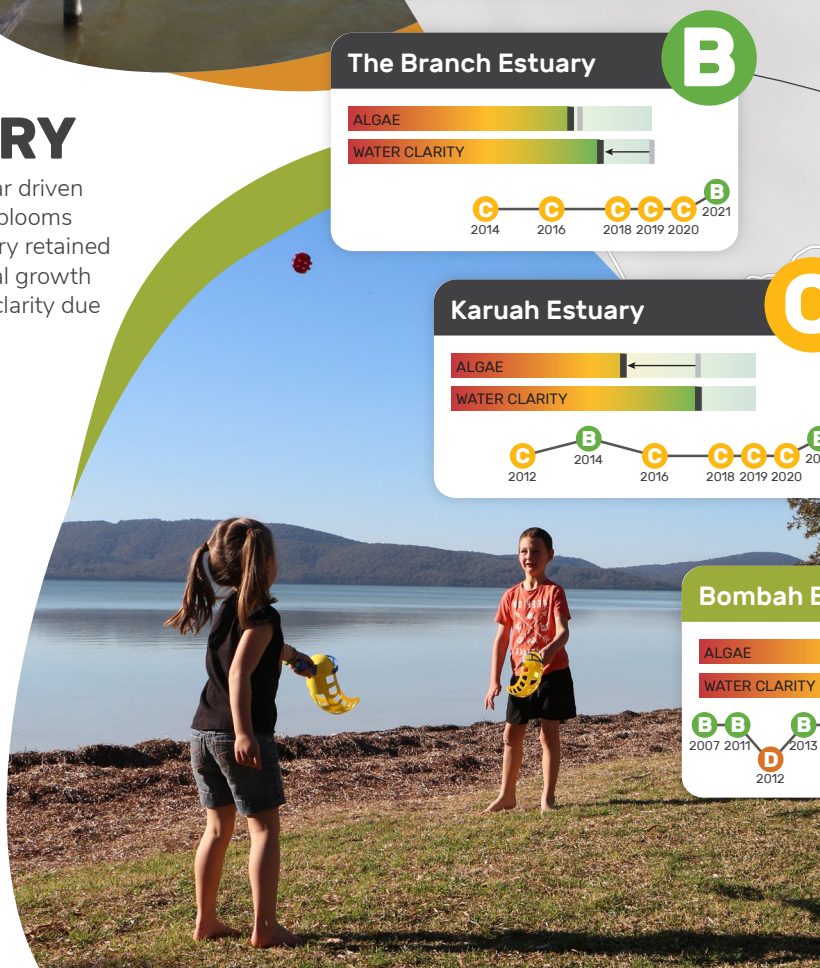
KHAPPINGHAT ESTUARY

The Khappinghat Estuary improved from fair to good condition this year due to a decrease in algal growth. Salinity levels in the estuary were very low reflecting another wet summer which resulted in water clarity remaining fair.

The estuary appears to be recovering from the impacts from the bushfires in 2019-20. Algal levels decreased possibly due to less nutrients in runoff from the catchment due to regrowth of vegetation.

KARUAH RIVER ESTUARY

The grade for the Karuah River Estuary dropped to fair this year driven by a significant increase in algal growth. Large, localised algal blooms were recorded on most sampling occasions. The Branch Estuary retained its good grade as it didn't experience the same increase in algal growth as the main estuary. However, there was a decrease in water clarity due to frequent runoff.

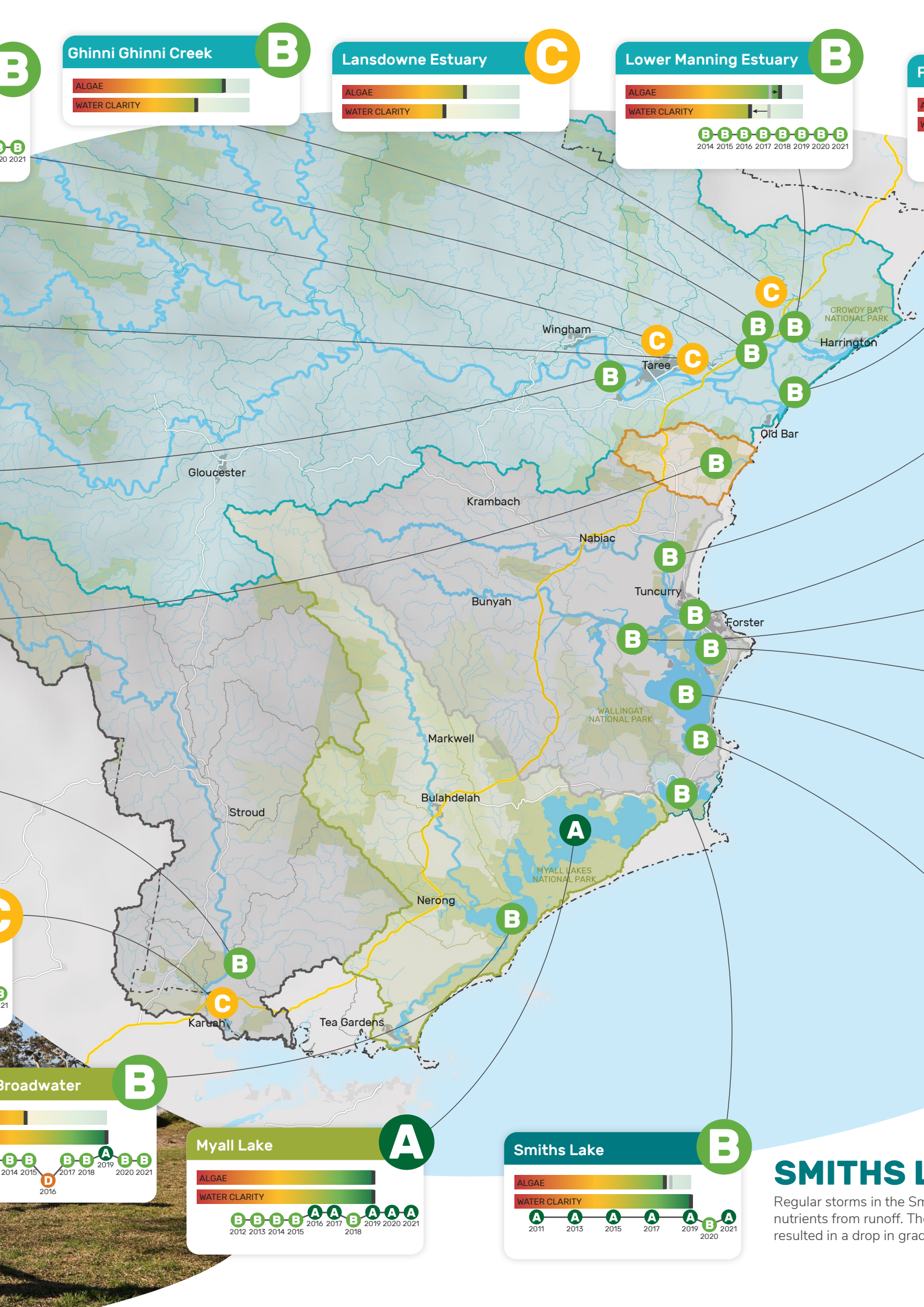


MYALL LAKES

The grade for Myall Lake remained in excellent condition this year.

Bombah Broadwater remained in good ecological condition despite a significant decrease in water clarity due to considerable runoff from the Myall River catchment.

The salinity of both systems was close to freshwater as a result of another very wet summer. For the first time in over a decade of monitoring, the average salinity was higher in Myall Lake than the Broadwater. This reflects the unique hydrology of Myall Lakes which have no major tributaries, only receiving runoff from the surrounding catchment.



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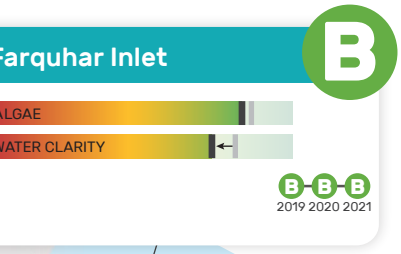
WALLIS LAKE

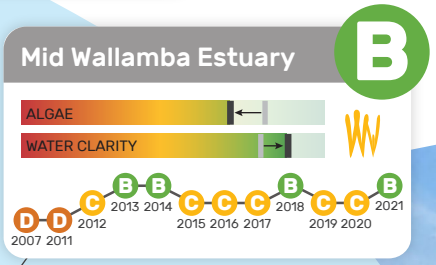
Wallis Lake and Charlotte Bay both dropped from excellent to good this year due to higher algal growth during the summer.

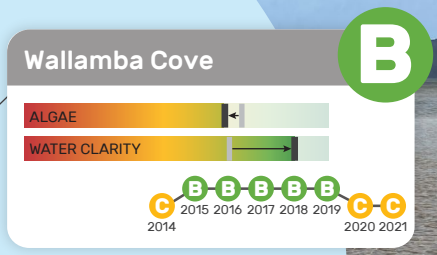
Pipers Creek, Mid Wallamba and Coolongolook Estuaries retained their good grades. Water clarity was good but frequent runoff events delivered nutrients to the estuaries which fueled algal growth.

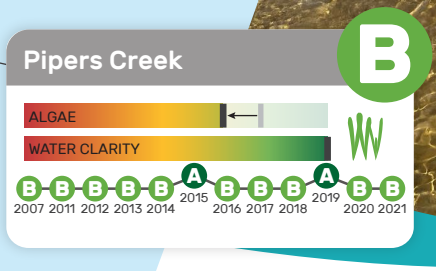
Wallamba Cove's grade improved from fair to good, despite frequent runoff over summer. Nutrient levels in runoff remain a problem driving algal growth in the estuary.

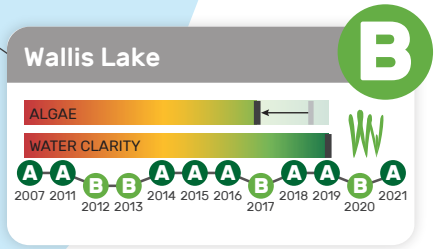
Seagrass depth range was reduced at all sites in Wallis Lake as runoff from frequent rainfall restricted the depth to which seagrass can grow.

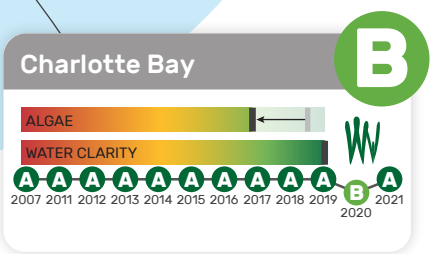




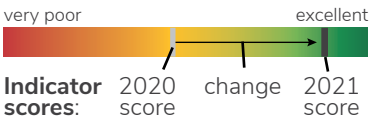




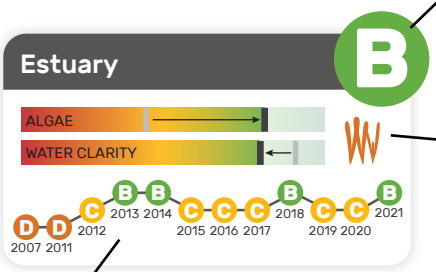




ESTUARY SCORE KEY



Overall grade: This represents ecological condition, it is a combination of algae and water clarity scores.



Seagrass depth range score: The seagrass score indicates how deep the seagrass is growing and if the seagrass area is expanding or contracting. Where there are no seagrass results, no data was collected at these locations.

Historical grades

For more details on the scientific methods and results contained in this Report Card (Waterway and Catchment Technical Report) www.midcoast.nsw.gov.au/reportcard

LAKE

iths Lake Catchment this year provided a continuous supply of ese excess nutrients created higher than desired algal growth and de from excellent to good.

IMPACT OF CLIMATE ON ESTUARY HEALTH

Climate drivers influence our weather patterns and can cause extreme events, including floods, storms, droughts, high temperatures and bushfires. Rivers, wetlands and lakes are changing environments that are strongly influenced by local weather conditions and global climate cycles.

Rainfall along the NSW coast exhibits high variability and often fluctuates over two to five year timescales due to the influences of the El Niño–Southern Oscillation (ENSO) index.

In general, a sustained positive ENSO index (termed a La Niña event) results in above average winter–spring rainfall along the NSW coastline and higher likelihood of cyclone formation in the Coral Sea.

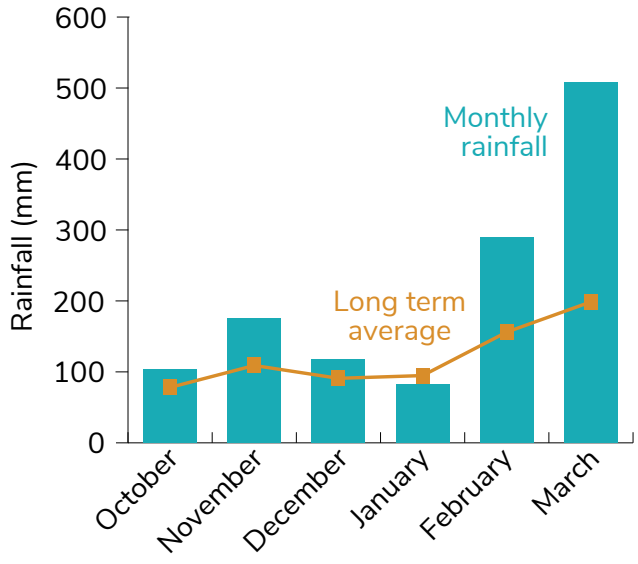
Increased rainfall means the water moving through the landscape will transport larger amounts of sediments and nutrients that can impact the health of our waterways.

Christine Price

WHAT WERE THE CLIMATIC CONDITIONS IN 2022?

La Niña was in effect during the 2021-22 summer, which resulted in wetter than normal conditions. Rain events were recorded for approximately 58% of days during the sampling period, and total rainfall conditions saw 1100 mm in Whoota and 1276mm in Taree, both well above average. Similar trends were seen in rainfall data throughout the MidCoast Area.

Taree Airport monitoring station



HOW DID WET CONDITIONS IMPACT THE RESULTS?

This year there were 20 monitoring sites, 17 of which had previously been sampled. The majority (9) of these maintained their grade from 2021, while five decreased their grade and just three improved their grade.

Algal growth amplified in response to more nutrients in the water brought by high rainfall, resulting in increased algal levels at 11 sites. High algae levels can have a detrimental impact on aquatic ecosystems particularly when algal blooms die and decay. Bacterial activity associated with this increased organic matter reduces oxygen levels in the water column, possibly leading to fish kills.

Water clarity decreased at many of the sample sites, impacted by increased sediment runoff. Sediment in water reduces the light available to seagrass for growth and has the potential to smother seagrass, fish and other organisms.

While algal growth increased and water clarity decreased at many sites, the changes were small and therefore the majority of our estuaries were able to maintain their grade this year.

This shows the resilience of our estuaries and their ability to cope with extreme conditions over the short term. However, these results are also a reminder of how important it is to stay focused on the strategic priorities for managing our waterways. Especially as our climate continues to change and extreme events become more frequent.

SETTING DIRECTION FOR HEALTHY WATERWAYS

The waterways of the MidCoast connect our communities, they strengthen the MidCoast economy and provide social, cultural and recreational values that benefit the people that live, visit and work in the region.

Strategic management of our catchments and estuaries is important for protecting these values.

Mark Gutterson

SOUTHERN ESTUARIES COASTAL MANAGEMENT PROGRAM

The Southern Estuaries of the MidCoast region include Wallis, Myall and Smiths Lakes, Karuah River, Black Head Lagoon, North Arm Cove and Khappinghat and Kore Kore Creeks. There has been a long history of planning, on ground action and review of strategic plans for these estuaries.

Building on this experience, Council are preparing a Coastal Management Program which will update the long-term strategy for the coordinated management of the Southern Estuaries. Stage one is complete, and the scope of the program has been set. Community input helped establish the values the program aims to protect and emerging issues and gaps in knowledge have been identified.

Council will continue to work with our community to prepare the program throughout 2023.

To get involved with the project visit www.midcoast.nsw.gov.au/oursouthernestuaries

MANNING RIVER ESTUARY AND CATCHMENT MANAGEMENT PROGRAM

The Manning River Estuary and Catchment Management Program (ECMP) aspires to protect and improve the ecological health of the Manning Estuary. The program was adopted by Council in July 2022 and takes a whole-of-catchment approach to address current and future risks.

The program contains 36 management actions grouped under 8 key objectives (see list below). High priorities include community engagement and education, supporting a transition to water resilient farming, restoring coastal wetlands and riverbank vegetation, and remediating acid sulfate soils.

An extract of the program relating to the coastal zone has been certified by the NSW Government under the Coastal Management Act 2016, giving the program legal weight and opportunities for funding. Implementation is now underway with 24 out of 36 actions in progress.

To find out more about the Manning River CMP visit www.midcoast.nsw.gov.au/ourmanningriver

"The Manning River, its tributaries and the estuary give life to our community, connecting the mountains to the sea. Together we manage the catchment holistically and respond to a changing climate - safeguarding environmental, social, cultural and economic values."

1. STEWARDSHIP
2. WATER QUALITY AND ECOSYSTEM HEALTH
3. CLIMATE CHANGE
4. BIODIVERSITY
5. ABORIGINAL CUSTODIANSHIP
6. SOCIAL AND ECONOMIC VALUES
7. LAND USE PLANNING
8. GOVERNANCE

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