



MIDCOAST
council

WATERWAY AND CATCHMENT REPORT CARD

Reporting on data October
2017 to March 2018

2018

Purchased
by Council in 2012
Bulahdelah Plain
Wetland creates a major
wildlife corridor along the
Myall River. The site has
high conservation significance
and helps protect water
quality and support
biodiversity.

The
wetland
is home to
a number of
threatened
species
including the
wallum froglet,
long-nosed
potoroo and
black-necked
stork (jabiru).



Office of
Environment
& Heritage

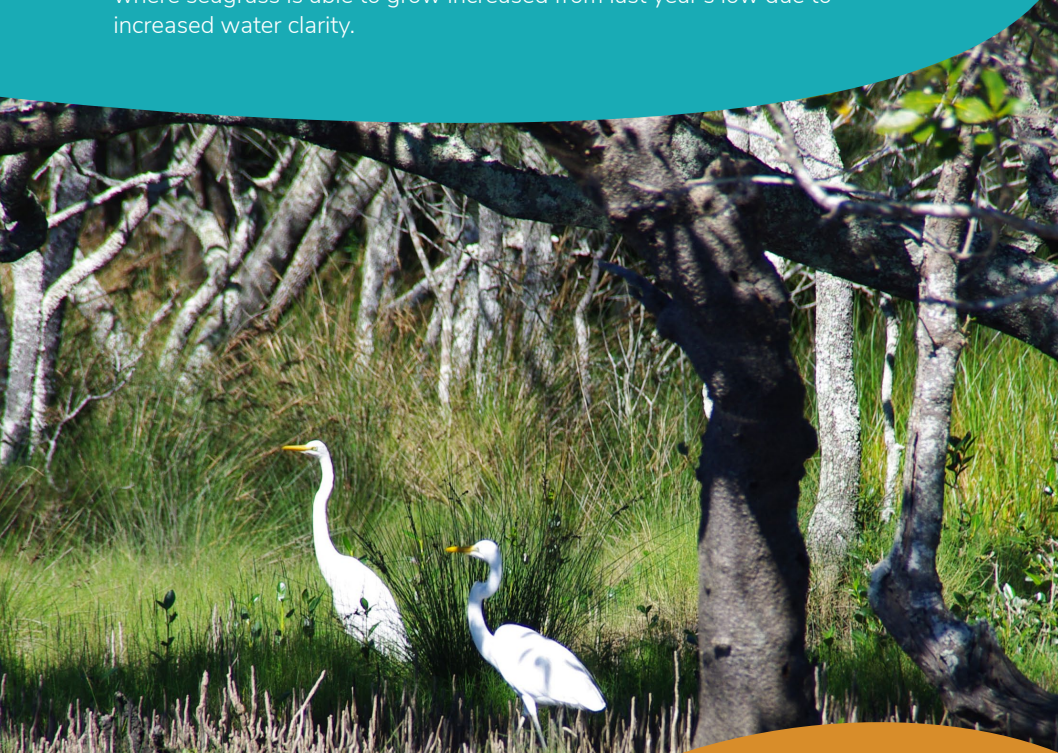


Local Land
Services
Hunter

MANNING ESTUARY

The Manning River Estuary has maintained its good overall ecological condition. Water clarity was excellent throughout the River. It continues to have algal levels that are much greater than desired, particularly in the upper reaches. The high algal levels recorded are most likely due to perfect growing conditions throughout most of the sampling period. Clear warm water and abundant sunlight allow the algae to fully utilise nutrient runoff from the Catchment.

Seagrass is an important component of the River's biodiversity. The depth range where seagrass is able to grow increased from last year's low due to increased water clarity.



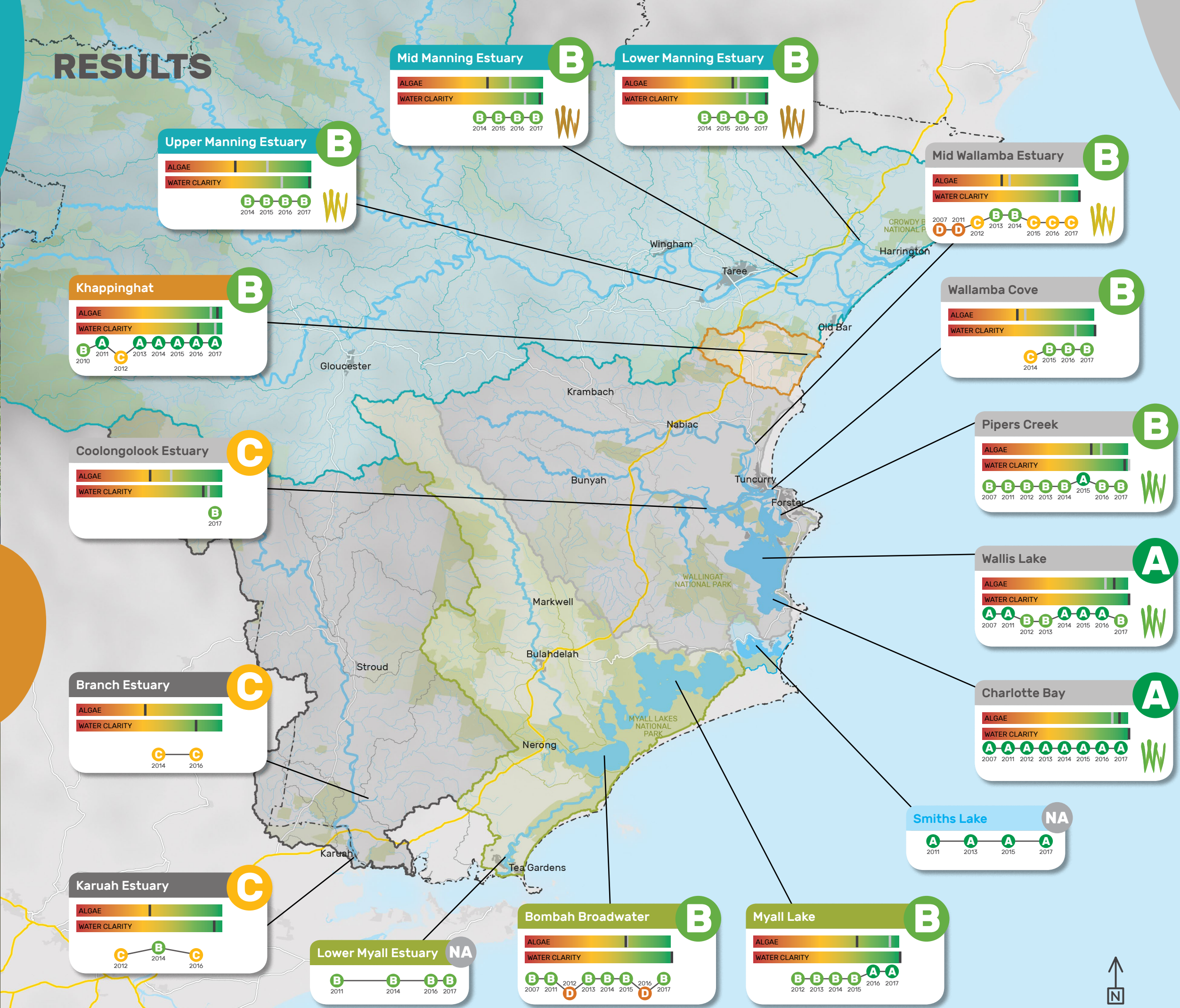
KHAPPINGHAT ESTUARY

The Khappinghat Estuary, located in Saltwater National Park, is surrounded by Khappinghat Nature Reserve and is typically in excellent ecological condition. Algal growth was low but there was a slightly poorer than expected water clarity leading to a drop in score from excellent to good.

KARUAH RIVER AND THE BRANCH ESTUARY

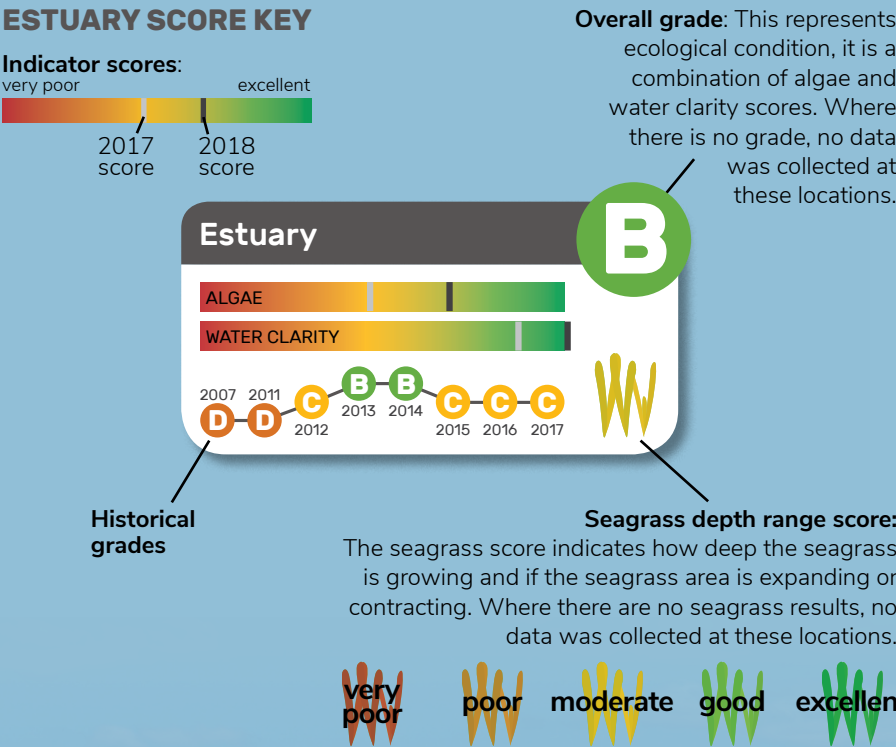
The Karuah River and The Branch Estuary continue to show signs of impaired estuary health with higher than desired algal growth in both locations. The algal score for The Branch was the highest recorded for any site this summer, highlighting the need to reduce nutrients within the Catchment. Water clarity in the Karuah Estuary was excellent and good in The Branch. Unusually there was no seagrass in the mid to upper reaches of the Karuah River Estuary which may be a consequence of past conditions.

RESULTS



WALLIS LAKE

Grades for Wallis Lake continue to range from good to excellent, with excellent water clarity and only occasional undesirable growth of algae. The Mid Wallamba Estuary continues to show consistent higher than desired growth of algae but this year saw an improvement in water clarity. Despite this, there was a slight decrease in seagrass range. Upstream parts of Wallamba Cove continue to be affected by runoff from Tuncurry stimulating algal growth. The Mid Coolongolook Estuary continued to show a large amount of algal growth but generally acceptable water clarity. The storm runoff in March 2018 stimulated a large algal bloom in the Coolongolook. Other than in the Wallamba River, seagrass depth ranges did not change markedly from last year and ranged from poor in Wallamba River to good at Pipers Creek and Wallis Lake and excellent in Charlotte Bay.



For more details see Waterway and Catchment Technical Report 2018 found at www.midcoast.nsw.gov.au/reportcard

MYALL LAKES

The condition of Myall Broadwater, and to some extent Myall Lake, is strongly influenced by runoff from the Myall River Catchment. Dry conditions meant that there was little runoff during sampling, resulting in clear waters and small amounts of algae. The grade for Myall Broadwater has risen back to the good condition that was evident prior to 2016. The marked variability in condition, swinging from good to poor and back again, emphasises the need to continue to control nutrients from the Catchment of the upper Myall River. Myall Lake has dropped slightly from excellent to good condition.



Healthy waterways support our local towns and communities, they keep them thriving. With healthy waterways our communities have a healthy vibrant future.

ARLINGTON WETLAND

Wallis Lake is heavily impacted by pollutants in stormwater runoff from the adjacent urban land. To improve water quality entering the lake a constructed wetland treating water from 7.1 hectares of land has been installed in south Forster.

The wetland is designed to remove sediment and filter nutrients before the water is discharged into the lake. The project is one of many water quality initiatives that are happening within our community to improve the health of Wallis Lake.



MARINE DEBRIS

Litter is a serious pollution issue that creates unhealthy waterways and oceans. We are working in conjunction with government agencies and the local community to reduce litter sources and remove established litter along our waterways.

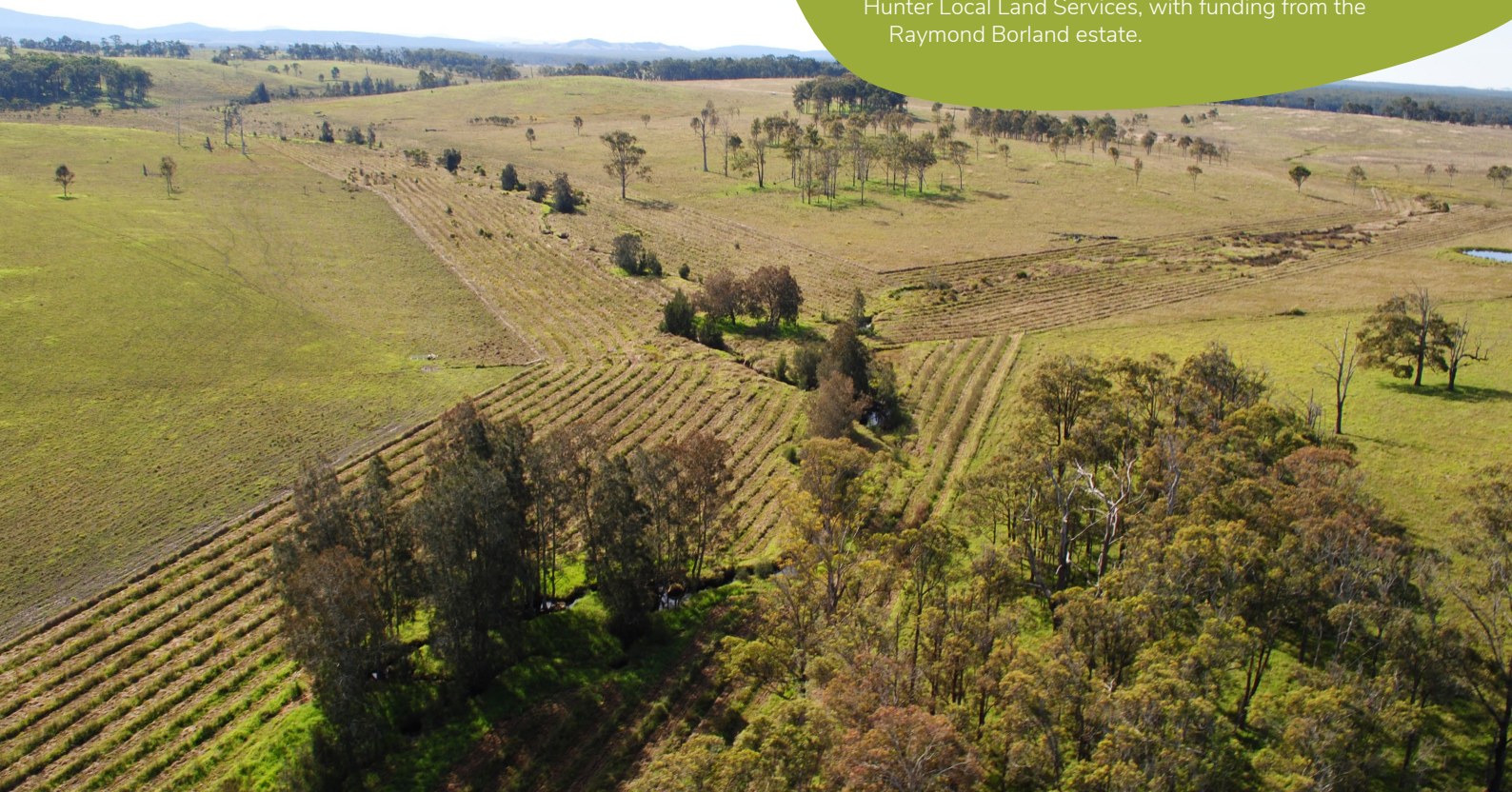
Over the last two years, 4660kgs of waste has been removed from Penentton Creek preventing this material from entering Wallis Lake. A further 930kgs of material has been removed from Browns Creek in the Manning Catchment.



DURNESS-BORLAND LANDCARE CORRIDOR

This partnership success story has delivered significant environmental and economic outcomes. Wildlife corridors were established across Durness (a 4,000-hectare beef production property) which link habitats from the foreshores of Port Stephens with public lands in Nerong State Forest. The works involved fencing, erosion control and revegetation as well as provision for off-stream water, cell-grazing and enhanced pasture management systems. The project will yield significant water quality improvements in the Kore Kore and Monkey Jacket Creek systems of the Port Stephens Estuary.

The project was a partnership involving the owners of Durness, Landcare Australia Ltd, MidCoast Council and Hunter Local Land Services, with funding from the Raymond Borland estate.



PATHWAYS OF IMPACT

Activities

What we do on the land impacts on the quality of water that runs off. If the quality of the runoff is poor it puts stress on the environment.

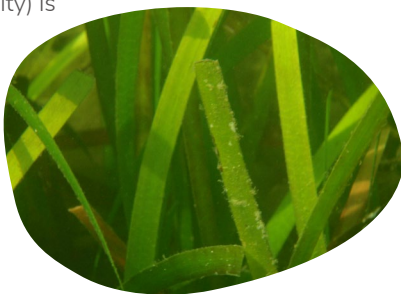
Stressors

Stressors are changes to the environment that result from the activity, these can lead to ecological harm. Stressors can include nutrients, acid leachate and sediment in the water (turbidity).

Ecological impacts

REPORT CARD INDICATORS

Seagrass is the basis of the food web in healthy estuaries. Seagrass provides essential habitat and food for marine life. Where seagrass is abundant so is aquatic life and as such, it is an excellent indicator of ecological health. Seagrass growth is affected by a number of factors including nutrient levels, algal growth, physical removal and water clarity. Water clarity (turbidity) is directly linked to seagrass growth and can be used as a surrogate for ecological health. When water clarity is high, seagrass is abundant as there is plenty of light for it to thrive.



Algae are microscopic plants that can grow excessively with high levels of nutrient inputs. Nutrients are delivered to estuaries from urban stormwater, fertiliser and sediment runoff from farms and gardens and seepage from effluent disposal and septic tanks. Algal blooms can reduce the amount of light reaching

seagrass beds limiting their growth.

When algal blooms die and start to decay, the resulting bacterial activity can reduce oxygen levels in the water body and lead to fish kills. Measuring the amount of algae in a water body is an indicator of ecological health. Chlorophyll is a measure used to determine the amount of algae in a water body.



Why a Report Card?

Report Cards are an effective way to check on the health of our waterways. They help us compare current conditions with the condition we would like them to be. Scientists use indicators to 'health check' our waterways. Just as your body temperature is used as an indicator that something may be wrong with your own health, indicators are used to show if something is out of balance or unhealthy in the system. The indicators are selected to assess the overall health or ecological condition. The results of the Report Card are used to guide future management actions and ensure long-term ecological health of our catchments.

KEY FEATURES OF A HEALTHY CATCHMENT



River and estuary banks are vegetated and stable and stock is excluded



Land is managed to avoid disturbance of acid sulfate soils



Stormwater runoff from urban areas is filtered



Litter and debris are removed from the environment



Natural wetlands are healthy and filter sediments and nutrients



Oysters and fish stocks are healthy



Natural areas are conserved to increase biodiversity and protect water quality



Seagrass is abundant and algae levels are low