

Cooks River Health

Report Card 2013-2014



Ashfield Bankstown Canterbury City of Sydney Hurstville Marrickville Rockdale Strathfield

Cooks River

The Cooks River begins in Yagoona and flows east for 23 kilometres, through the inner south west suburbs of Sydney, to Botany Bay. As the Cooks River makes its way from Yagoona to Botany Bay, it's joined by seven creeks.

The Cooks River catchment (the area of land which feeds water to the river) covers an area of approximately 100km² and has a population of over half a million residents. This makes it one of the most densely urbanised catchments in Australia.

The health of our Cooks River

The Cooks River provides many benefits, which contribute to our well-being and quality of life. However, since almost the beginning of colonisation and through industrialisation, much of the River and its creeks have been significantly degraded, and modified into concrete channels. Natural areas of bush have been removed over the years, though small vibrant pockets of native habitat remain.

The many hard and paved surfaces in the River catchment means that rainwater cannot easily soak into the ground – it rushes from our roofs, roads and footpaths, picking up pollution along the way. It all ends up in the River.

Local communities have long worked hard to improve our River. As early as 1925, the Cooks River Improvement League, a group of concerned citizens, lobbied government to clean up the legacy of industrial pollution.

Today, community groups such as the Cooks River Valley Association, Mudcrabs, Wolli Creek Preservation Society, Inner West Environment Group, Botany Bay and Catchment Alliance, and Council bushcare groups, are committed to helping the River. Community groups have helped restore wetlands and bush, and removed huge amounts of litter.



Monitoring the health of the Cooks River

Why we monitor

The Cooks River Alliance has been monitoring Cooks River ecological health for the past three years. Regular monitoring of river health will allow us to evaluate our efforts at improving the health of the Cooks River, and make effective decisions on how to direct future efforts.

This monitoring program monitors the ecological health of the River. The Alliance does not monitor the water quality for recreational use, such as swimming.

How we monitor

River Health monitors three ecological indicators: macroinvertebrates, water quality, and riparian (riverside) vegetation.



Monitoring macroinvertebrates provides an understanding of how aquatic ecosystems respond to environmental pressures. Macroinvertebrates are small animals without a backbone, such as snails and worms, which are particularly sensitive to changes in water quality.



Monitoring water quality provides an understanding of how urbanisation and changed land use practices are affecting the health of the river ecosystems.



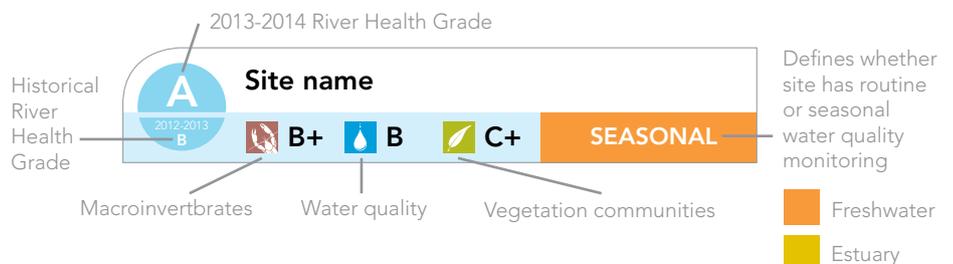
Monitoring vegetation communities provides an understanding of their condition and effectiveness in maintaining healthy ecosystems.

How we report

River Health indicators are assessed against environmental guidelines allowing the award of a grade between A+ and F-. These reporting guidelines are consistent with other River Health measurements undertaken in the Sydney metropolitan area.

GRADE	CONDITION
A+	Excellent
A to B+	Good
B to C-	Fair
D+ to F-	Poor

Interpreting the map



The estuary is where freshwater from the Cooks River and streams mixes with ocean water. Estuaries are influenced by the tides. Note, Cup and Saucer Wetland is freshwater because it receives water from the freshwater Cup and Saucer creek. Wolli Creek at Trurrella Weir is generally freshwater, and it is at the usual tidal limit of the estuary.

Summary of results



Macroinvertebrates

Macroinvertebrate communities at all sites exhibit moderate to extreme degradation.



Water quality

Water quality results are varied across the catchment, which is likely largely attributed to stormwater, fertilisers, industrial discharges, and sewage contamination.



Vegetation communities

Riparian vegetation condition is degraded at most sites, and vegetation community fragmented, often with a high degree of weed invasion.

D+
2012-2013
D+

Upper Cooks River

Fair macroinvertebrate communities indicate periodic episodes of urban and/or industrial pollution. This area has undergone bank naturalisation, however the riparian vegetation is of low complexity and limited habitat value.



C-



A



F-

ROUTINE

B-

2012-2013
B-

Chullora Wetlands

A constructed wetland designed to capture and treat stormwater. Provides habitat for a range of bird and frog species. Macroinvertebrate communities are the most rich and biodiverse of all monitoring sites. Riparian vegetation community is mostly shrub and grass, and scattered canopy.



B+



B



C+

SEASONAL

D+

2012-2013
D+

Cox's Creek Reserve

Poor macroinvertebrate communities – likely a result of high salinity and a highly modified concrete channel. This site is freshwater, therefore high salinity is likely a result of upstream human sources. Only a small narrow remnant patch of riparian vegetation.



D+



B+



F-

SEASONAL

F+

2012-2013
E-

Cup and Saucer Wetland

A constructed wetland designed to capture and treat stormwater. Provides important habitat to a range of bird species and amenity to local residents. Poor macroinvertebrate communities indicate episodes of urban and/or industrial pollution.



F



C-



F-

SEASONAL

C+

2012-2013
C+

Upper Bardwell Creek

Macroinvertebrate monitoring shows degraded in-stream aquatic ecosystem, and evidence of episodes of water pollution. Remnant patch of native vegetation in good condition.



E-

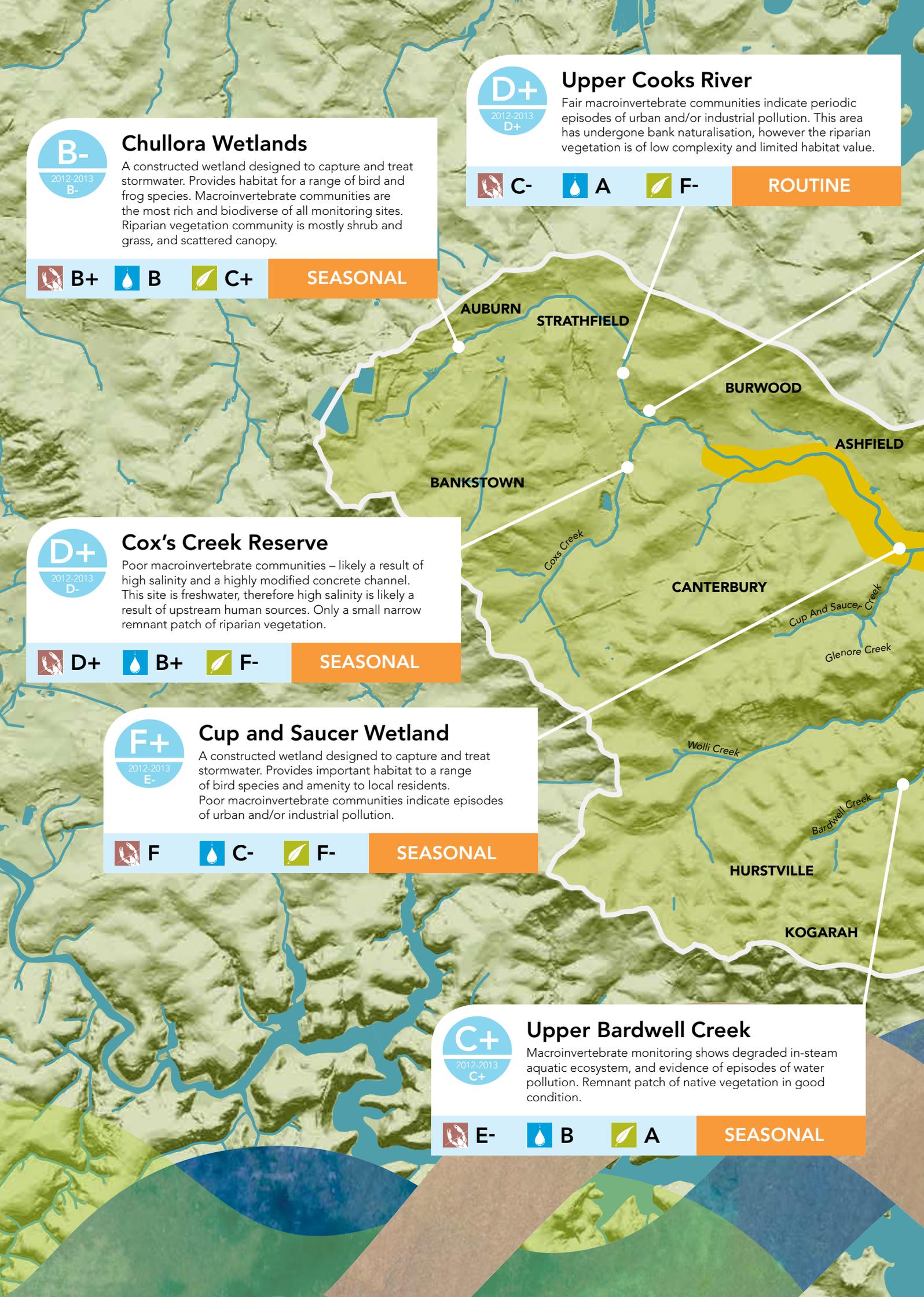


B



A

SEASONAL



SYDNEY HARBOUR

E-
2012-2013
E+

Yarrowee Road Wetland

A constructed wetland designed to capture and treat stormwater. In extended periods of low rainfall, the surface dries up resulting in the loss of habitat. Poor macroinvertebrate communities and water quality. Riparian vegetation lacks canopy complexity and habitat value.

E D F- **SEASONAL**

CITY OF SYDNEY

MARRICKVILLE

C+
2012-2013
D-

Mid Cooks River Estuary

C+ **ROUTINE**

C
2012-2013

Lower Cooks River Estuary

C **ROUTINE**

Water quality monitoring at estuary sites shows the mid and lower reaches of the Cooks River are significantly affected by urban stormwater runoff.

ROCKDALE

E
2012-2013
E

Wolli Creek at Turrella Weir

Poor macroinvertebrate communities, typical of a degraded urban waterway. Narrow vegetation corridor, lack of complex canopy structure, and high proportion of invasive species.

F- B- F **ROUTINE**

BOTANY BAY

D-
2012-2013
D-

Bardwell Creek at Coolibah Reserve

Poor macroinvertebrate communities, typical of a creek affected by urbanisation. Narrow vegetation corridor, and lack of complex canopy structure.

D C+ F- **ROUTINE**

More detailed information is available in the *Cooks River catchment 2013/14 River Health Monitoring Technical Report*

Improving the health of the Cooks River

What we're doing

The Cooks River Alliance, formed in 2011, is a partnership of councils working together with communities for a healthy Cooks River catchment. The Alliance builds upon previous Cooks River council partnerships and projects. Alliance plans for improving the River include:

Capturing rainwater

The many hard and paved surfaces in the River catchment means that rainwater cannot easily soak into the ground – it rushes from our roofs, roads and footpaths, picking up pollution along the way. It all ends up in the River. A raingarden is a garden designed specifically to capture rainwater, remove pollutants, and allow water to soak into the ground. The Cooks River Alliance is working with Councils to build raingardens across the catchment.

Connecting natural habitats

The wetlands and bushland surrounding the Cooks River provides vital habitat for native plants, birds and other animals, as well as many parks and facilities for people. A challenge for management of the Cooks River, is that the River crosses multiple local government boundaries. The Cooks River Alliance assists local Councils to work together and coordinate activities to protect the precious wetlands and bushland.

Supporting and engaging communities to take action

Local communities have long worked hard to improve the Cooks River. Community groups have helped restore wetlands and bush, and removed huge amounts of litter. The Cooks River Alliance undertakes a wide range of community engagement programs, seeking to involve a broad spectrum of community groups, including culturally and linguistically diverse communities, and Aboriginal communities.

What you can do

The Cooks River Alliance River Health Program encourages participation of community members in monitoring activities. Volunteers work alongside ecologists collecting data integral to assessing the ecological condition of the River.

There is also a lot you can do from home:



Visit the Cooks River, to explore the many great creeks around the catchment.



Put your rubbish in the bin and pick up after pets, so it doesn't end up in the River.



Get involved in a local community group to help care for our River.



Keep your gutters free of leaves, and safely dispose of oils and chemicals. Rain carries pollution to the River.



Plant locally native species in your garden, to increase habitat for plants and animals.



Build a raingarden or install a rainwater tank, to minimise the rain water that runs off your property to the River.

Find out more

Visit cooksriver.org.au to find out more and to sign up for our email newsletter.



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Please contact the Alliance if you wish to receive a copy of the *Cooks River Catchment 2013/14 River Health Monitoring Technical Report*