GEORGES RIVER
COMBINED COUNCILS'
COMMITTEE

COMMUNITY RIVER HEALTH MONITORING PROGRAM

REPORT CARD - SPRING 2009

CMA
Sydney Metropolitan
CATCHMENT MANAGEMENT AUTHORITY

Streamwatch

Australian Government

RIVER HEALTH REPORT CARD SPRING 2009

A SNAP-SHOT OF RIVER HEALTH

The first sampling campaign for the Community River Health Monitoring Program (Spring 2009) has been completed. There will be a total of four catchment wide sampling campaigns during the two year program. After each campaign, a new report will be produced.

During four weeks between October 17 and November 14, a total of 42 sites were monitored with the assistance of more than 200 volunteers.

The monitoring focused on both freshwater and estuarine environments in the Georges River catchment, from the headwaters near Appin to Botany Bay.

During sampling, several important river health indices were monitored to provide a 'snap-shot' of catchment health: water quality, vegetation and macroinvertabrates.

By combining the results of the river health indices and accumulating more data as the project moves along, we will gain a greater understanding of the Georges River system.

We will be able to identify areas of high biodiversity that should be protected, areas where on-ground works have been effective, areas where remediation works could be carried out in the future, and areas where future investigation may be required.

This study provides a snap- shot of River Health. The results are indicative of the conditions present at the individual monitoring sites at the time the samples were taken.


Fresh water


Estuarine

MACROINVERTEBRATES

Macroinvertebrates are small animals without a backbone, such as snails, worms, yabbies and crabs. Macroinvertebrate populations provide us with valuable information on the health and quality of the aquatic ecosystem. Macroinvertebrates are an important part of the food chain and are particularly sensitive to changes in water quality.

By monitoring macroinvertebrates we will gain an understanding of populations living within the Georges River catchment and of the quality of the aquatic habitat they live in.

WATER QUALITY

Monitoring water quality allows us to understand what pollutants may be affecting the health of the river and estuarine ecosystems.

Many organisms are sensitive to changes in water quality and populations of many organisms may become stressed if changes to water quality occur. This can lead to reduced population numbers or local extinctions.

VEGETATION

Healthy riparian (stream bank) and estuarine vegetation are important for maintaining a functioning ecosystem. Vegetation plays a major role in nutrient recycling, slowing the flow of sediment laden stormwater, regulating water temperature and providing habitat and food for a vast array of organisms.

By monitoring these vegetation communities we will gain an understanding of their condition and subsequent effectiveness in maintaining water quality within the Georges River catchment.

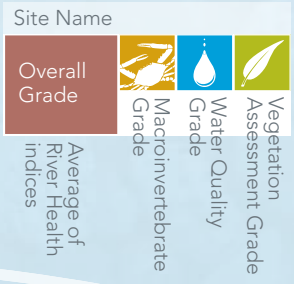
THE GRADING SYSTEM

River health parameters are assessed against environmental guidelines allowing the award of a grade between A and F.

A+	EXCELLENT
A - B+	GOOD
B - C-	FAIR
D+ - F-	POOR
FAIL	DEGRADED

INTERPRETING GRADING ICONS

This diagram shows an example grading box. Use this example to interpret the results from the individual sub catchments.



Acknowledgments: The Georges River Community River Health Monitoing Program is modelled on the following existing programs: EHMP (2008). Ecosystem Health Monitoring Program 2006–07 Annual Technical Report. South East Queensland Healthy Waterways Partnership, Brisbane. Centre for Environmental Management, Central Queensland University. IWC (2009). Cobaki and Terranora Ecosystem Health Monitoring Program. 2009 technical report. International Water Centre, Brisbane. Story A.W, Anderson L.E, Lynas J & Melville F (2007). Port Curtis Ecosystem Health Report Card. Port Curtis Integrated Monitoring Project (PCIMP). Cover photography by S.Cullis.

UPPER GEORGES RIVER REPORT CARD SPRING 2009

OVERALL RIVER HEALTH

C+

The overall grade of the of the Georges River Catchment is fair. A high degree of urbanisation in the lower and mid catchments has led to the loss of riparian and estuarine vegetation and deterioration in water quality and macroinvertebrate diversity.

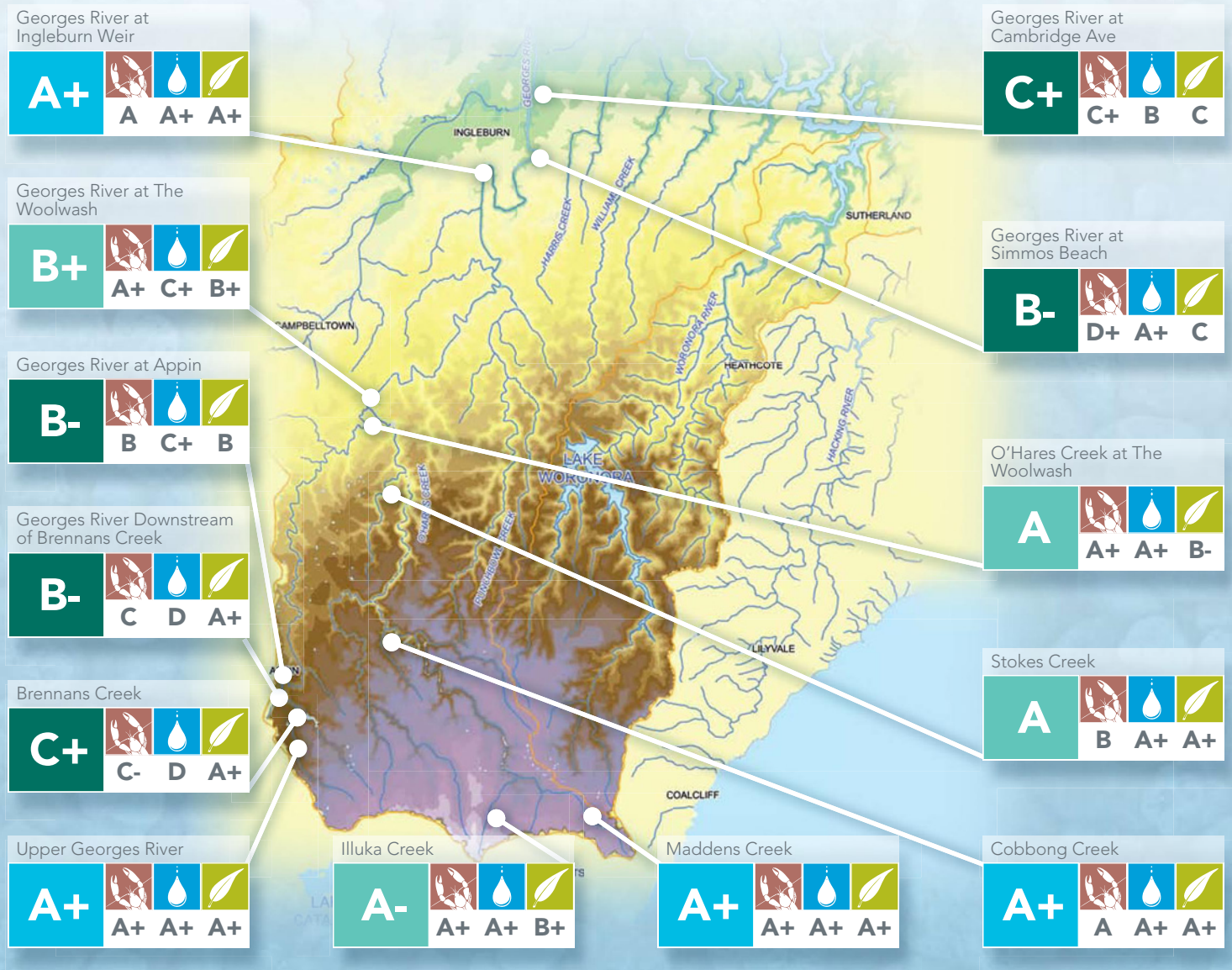
Land management practices in the upper catchment have preserved large areas of vegetation and resulted in healthy waterways with good macroinvertebrate diversity. Some negative impacts to water quality and macroinvertebrate diversity are evident in sites around Appin, possibly due to industrial and urban runoff.

FRESHWATER SITES - 13

OVERALL SUMMARY

B+ | B+ | A- | A-

The overall grade of the Upper Georges River is good. The majority of sites within the upper catchment area show excellent health. However sites in Brennans Creek and downstream of the confluence of Brennans Creek and the Georges River show deterioration to water quality and macroinvertebrate populations.



Georges River at Ingleburn Weir
A+ | A | A+ | A+

Georges River at The Woolwash
B+ | A+ | C+ | B+

Georges River at Appin
B- | B | C+ | B

Georges River Downstream of Brennans Creek
B- | C | D | A+

Brennans Creek
C+ | C- | D | A+

Upper Georges River
A+ | A+ | A+ | A+

Illuka Creek
A- | A+ | A+ | B+

Maddens Creek
A+ | A+ | A+ | A+

Cobbong Creek
A+ | A | A+ | A+

Georges River at Cambridge Ave
C+ | C+ | B | C

Georges River at Simmos Beach
B- | D+ | A+ | C

O'Hares Creek at The Woolwash
A | A+ | A+ | B-

Stokes Creek
A | B | A+ | A+

campbelltown city council

WOLLONDILLY SHIRE COUNCIL

MID GEORGES RIVER REPORT CARD SPRING 2009

FRESHWATER SITES - 11
OVERALL SUMMARY

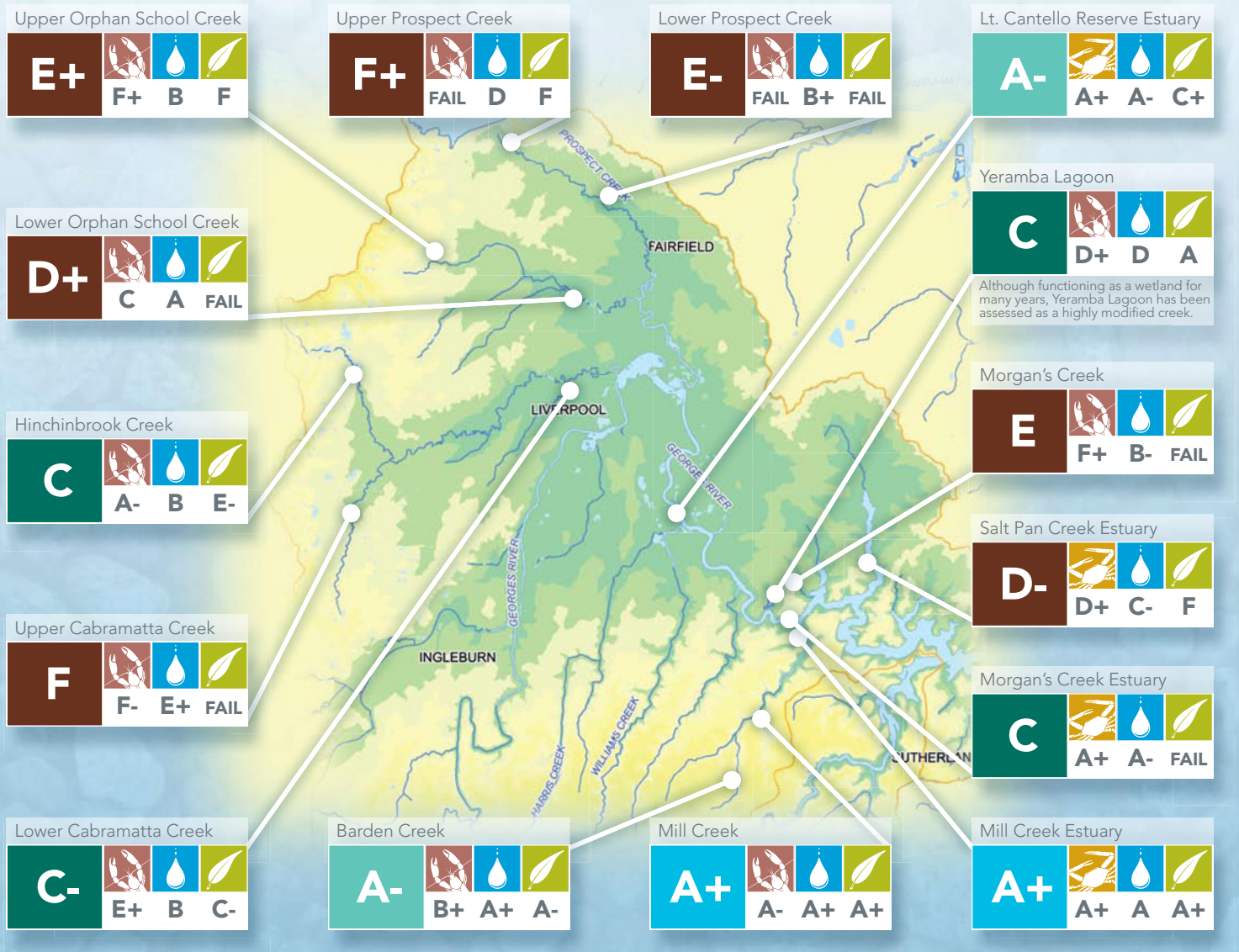
D	D-	B-	E+

The overall grade of freshwater areas in the Mid Georges River is poor. This is due to the loss of sensitive macroinvertebrate taxa and poor riparian habitat across sites, mostly on the northern and western heavily urbanised and industrialised sides of the catchment. Study sites located on the southern, less urbanised side of the catchment scored highly.

ESTUARY SITES - 4
OVERALL SUMMARY

B-	A-	B+	D

The overall grade of estuarine areas within the Mid Georges River is fair. This is due to poor estuarine vegetation across sites on the northern heavily urbanised side of the catchment. Sites on the southern, less urbanised side of the catchment scored highly.



Liverpool city council
creating our future together

Georges River Environmental Education Centre
NSW Department of Education & Training

FairfieldCity
Celebrating diversity

BANKSTOWN
City of Progress

LOWER GEORGES RIVER REPORT CARD SPRING 2009

FRESHWATER SITES - 7
OVERALL SUMMARY

C+ | E | A | C+

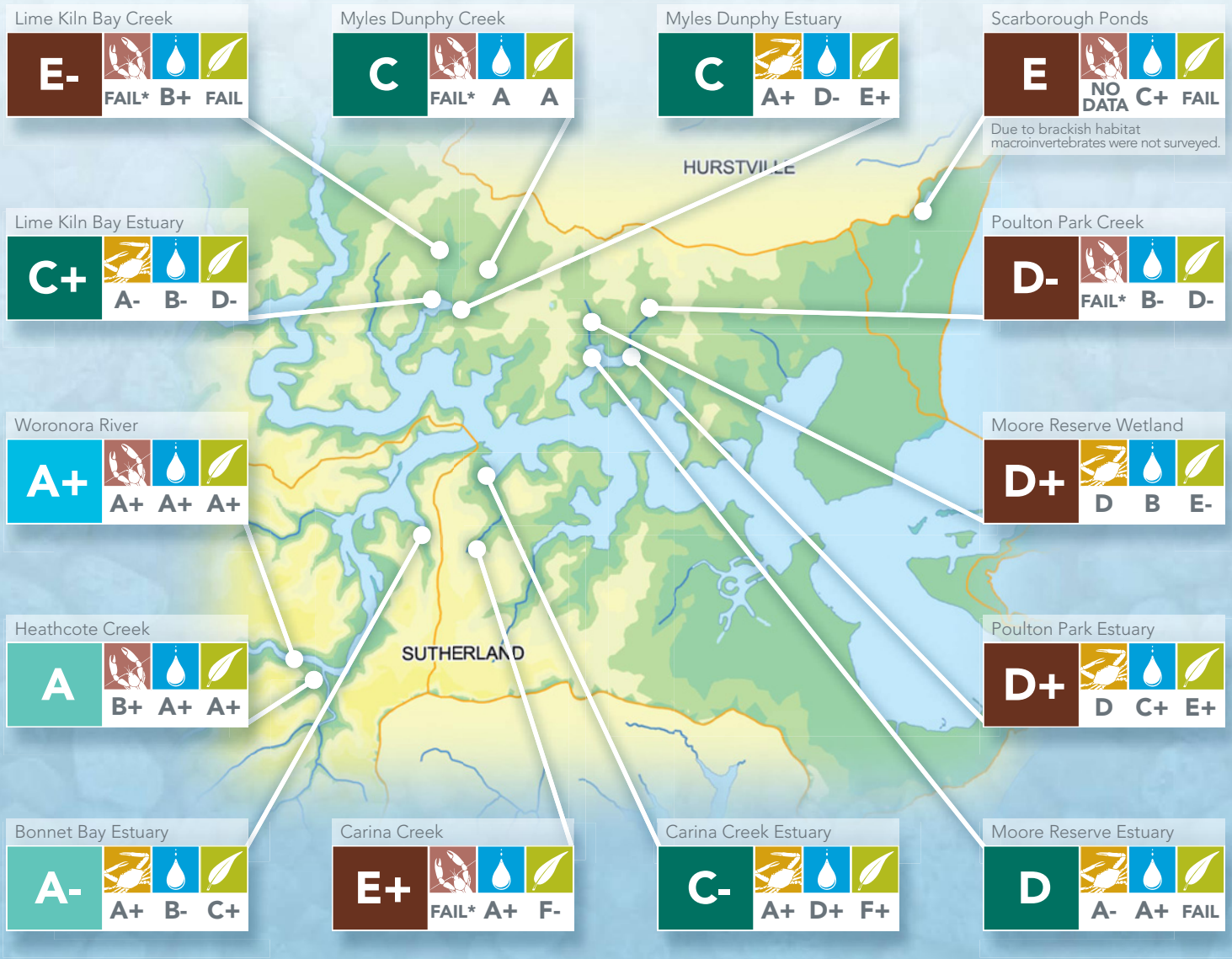
The overall grade of freshwater areas in the Lower Georges River is fair. This is due to the loss of sensitive macroinvertebrate taxa and poor riparian habitat at survey sites on the northern, heavily urbanised side of the lower catchment. The relatively good condition of sites on the southern, less urbanised side of the catchment has positively influenced the overall grade for the lower catchment.

ESTUARY SITES - 7
OVERALL SUMMARY

C- | A- | C- | E

The overall grade of estuarine areas within the Lower Georges River is fair. This is due to poor estuarine vegetation and poor water quality across most sites, with the exception of Bonnet Bay which was awarded an A-.

*At the time of monitoring localised flooding occurred in the lower catchment and may have affected macroinvertebrate populations.



ROCKDALE CITY COUNCIL On Historic Botany Bay

KOGARAH CITY COUNCIL

Hurstville City Council

Sutherland Shire COUNCIL

THE GEORGES RIVER CATCHMENT

The Georges River begins its journey approximately 60km south-west of Sydney in the town of Appin. From here the river flows north towards Liverpool, through the Chipping Norton Lakes, then east until it reaches Botany Bay.

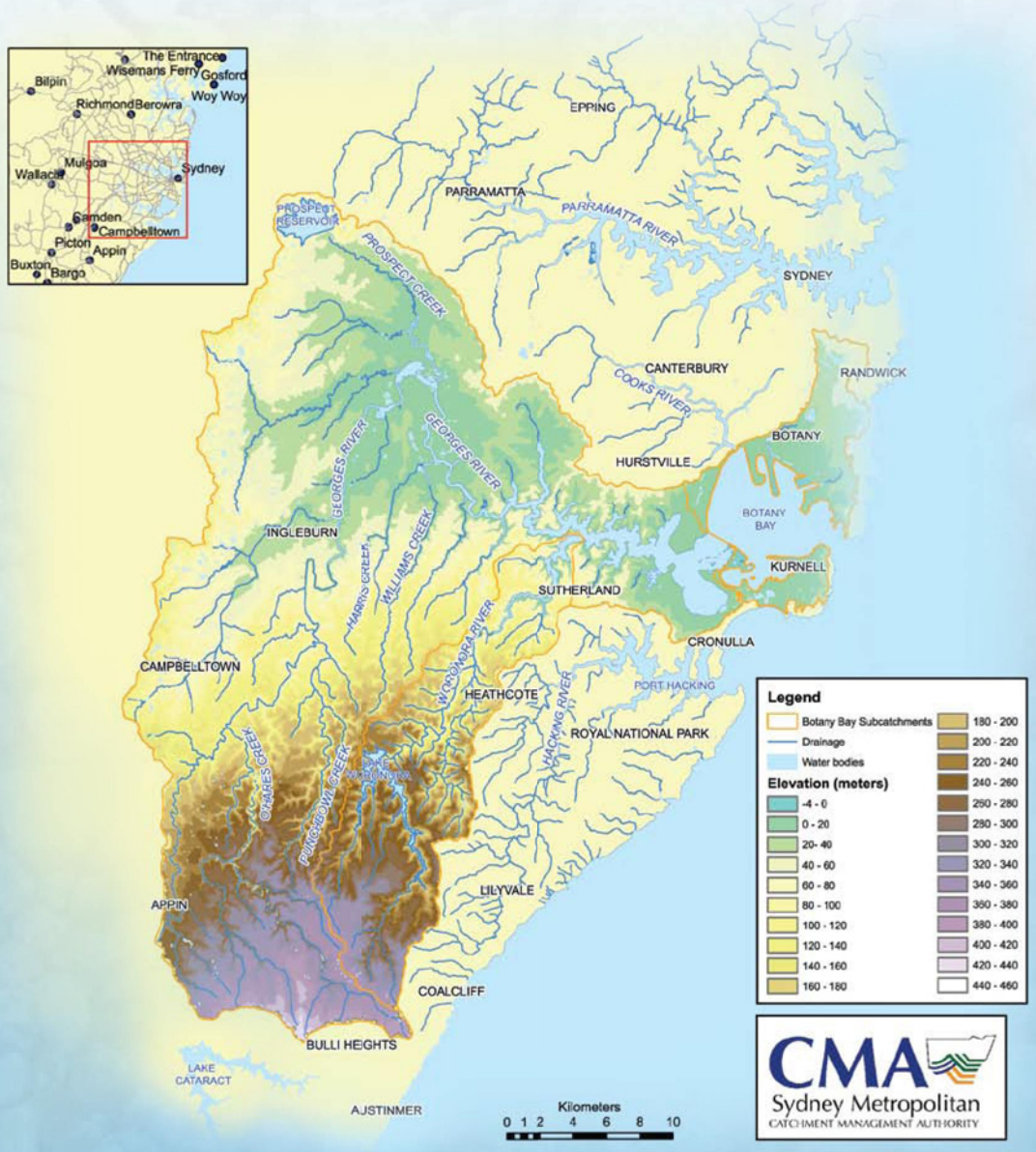
The catchment area of Georges River covers an area of approximately 960 km^2 and, with over 1 million people living within its boundaries, is one of the most highly urbanised catchments in Australia.

The river has a number of important tributaries including Bunburry Curran Creek, Cabramatta Creek, Prospect Creek, Williams Creek, Salt Pan Creek, Mill Creek, and the Woronora River.

The Georges River catchment has two broad soil groups. The western part of the catchment is predominantly fertile soil derived from Wianamatta Shale while deeply incised Hawkesbury Sandstone valleys predominate the northern, southern and eastern catchment areas.

This report card is the first of a series of four that will be released following each monitoring campaign. A detailed description of the methodology used during this project will be presented in the annual project report following the autumn 2010 monitoring campaign.

For enquiries email: riverhealth@georgesriver.org.au



The GRCCC represents Local Government in the Georges River Catchment of NSW. Member Councils include Rockdale City, Sutherland Shire, Kogarah City, Hurstville City, Bankstown City, Liverpool City, Fairfield City, Campbelltown City and Wollondilly Shire Councils. The Community River Health Monitoring Program is being undertaken in association with the Georges River Environmental Education Centre, Sydney Water Corporation, Sydney Metropolitan Catchment Management Authority and the NSW Department of Environment, Climate Change and Water. It is funded by the Commonwealth Government's Caring for Our Country Program.