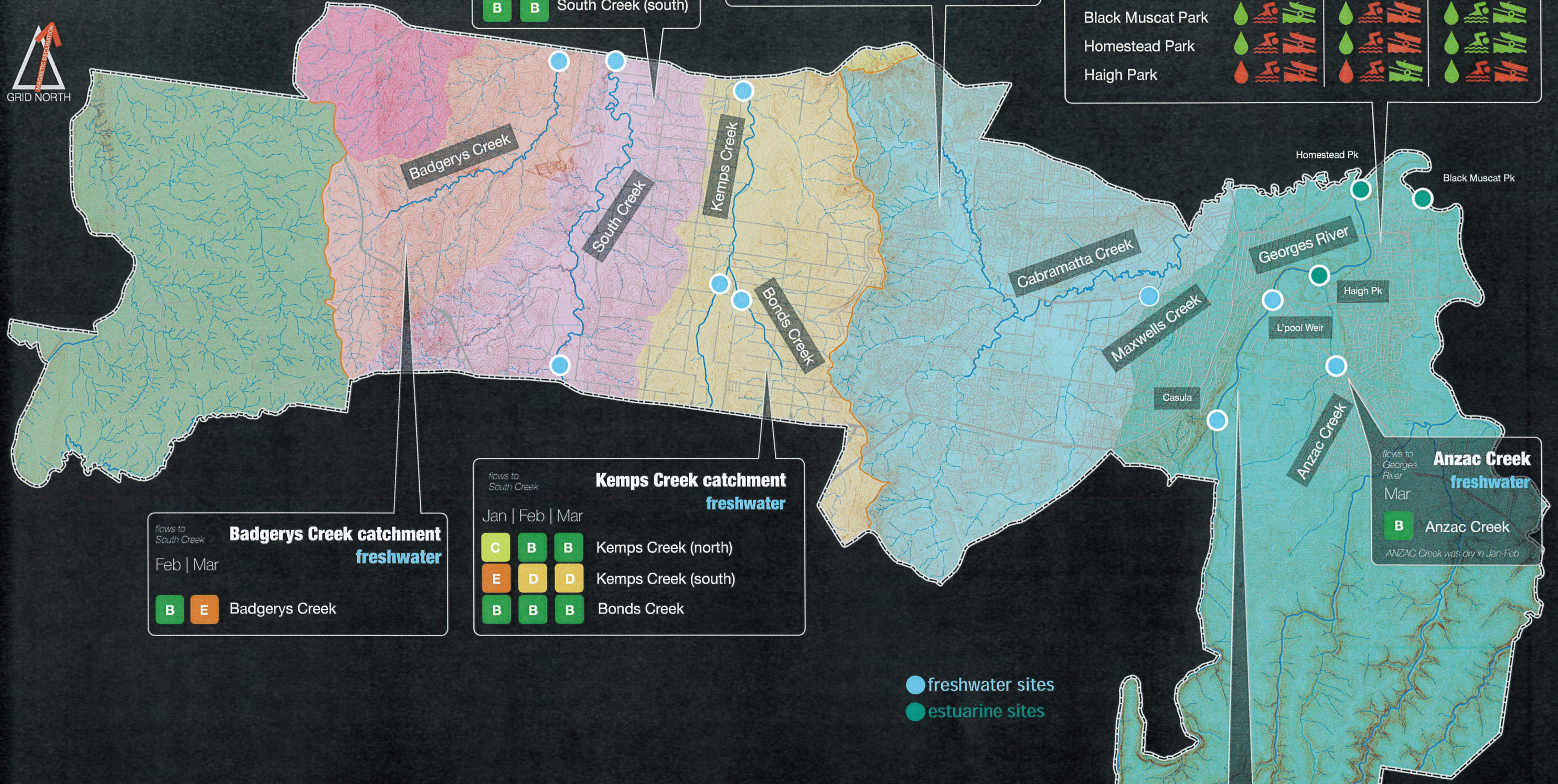
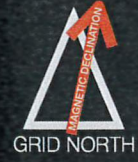


# **WATERWAY HEALTH REPORT CARD**

**JANUARY-MARCH 2019**



# **LIVERPOOL CITY COUNCIL**



*flows to the Hawkesbury River*  
**South Creek freshwater**  
 Feb | Mar  
 C B South Creek (north)  
 B B South Creek (south)

*flows to Georges River*  
**Cabramatta Creek catchment freshwater**  
 Jan | Feb | Mar  
 B B C Maxwells Creek

*flows to Botany Bay*  
**Georges River estuarine recreation**  
 January February March  
 Black Muscat Park  
 Homestead Park  
 Haigh Park

*flows to South Creek*  
**Badgerys Creek catchment freshwater**  
 Feb | Mar  
 B E Badgerys Creek

*flows to South Creek*  
**Kemps Creek catchment freshwater**  
 Jan | Feb | Mar  
 C B B Kemps Creek (north)  
 E D D Kemps Creek (south)  
 B B B Bonds Creek

*flows to Georges River*  
**Anzac Creek freshwater**  
 Mar  
 B Anzac Creek  
 ANZAC Creek was dry in Jan-Feb

*flows to Botany Bay*  
**Georges River freshwater recreation**  
 January February March  
 Liverpool Weir  
 Casula

# WATERWAY HEALTH REPORT CARD

## A SNAPSHOT OF WATERWAY HEALTH FOR LIVERPOOL'S FRESHWATER AND ESTUARINE RIVERS AND CREEKS

Liverpool Local Government Area is traversed by two major river systems, Georges River flowing to Botany Bay and the Hawkesbury–Nepean River flowing to Broken Bay in Sydney's north

# HOW TO USE THIS REPORT CARD

Liverpool Council is actively monitoring the health of rivers and creeks across the Local Government Area to ensure we effectively and sustainably manage our impacts on our waterways. This report card presents results of quarterly monitoring for January-March 2019. Council will publish a report card each quarter to track our progress managing these important natural resources.

Report card grades are calculated in a number of ways:

**Freshwater creeks** are graded from A to F with both water quality parameters and biological indicators combined to calculate grades for each site.




Two sets of waterway-specific guidelines have been developed for Council; one for creeks on the clay-dominated Cumberland Plain (including Badgerys, Bonds, Kemps and South Creeks in the Hawkesbury-Nepean Catchment) and one for creeks on Hawkesbury Sandstone (which despite the geological name occur here in the Georges River catchment, includes Anzac Creek). These guidelines are tailored to the unique waterway characteristics created by the different geologies.

Grades and their corresponding condition are:





<b>A</b>	Excellent	<b>D</b>	Poor
<b>B</b>	Good	<b>E</b>	Degraded
<b>C</b>	Fair	<b>F</b>	Severely degraded

**Recreation sites** are assessed according to the National Health and Medical Research Council (NHMRC) guidelines for cyanobacteria (blue-green algae) and the Australia and New Zealand Environment and Conservation Council (ANZECC) guidelines for bacterial contamination.

The NHMRC guidelines are used as an indicator of ecological health. The presence of blue-green algae in freshwater rivers or creeks is a sign of stress caused by high nutrients, low flow and/or low oxygen. A water drop symbol is used, graded by colour:

-  no/low levels of blue-green algae
-  moderate levels of blue-green algae
-  high levels of blue-green algae

Enterococci bacteria are also monitored as an indicator of contamination by sewage/wastewater or animal faeces that presents a health risk to human users of waterways. To assess this risk the ANZECC guidelines for primary contact (swimming) and secondary contact (boating, canoeing) are applied. A swimmer symbol is used for primary contact and a boat for secondary, both graded by colour.

-  primary contact pass
-  primary contact fail
-  secondary contact pass
-  secondary contact fail

