REEF CATCHMENTS

Healthy Waterways Alliance

Australian Government

WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

13 Blackrock Creek

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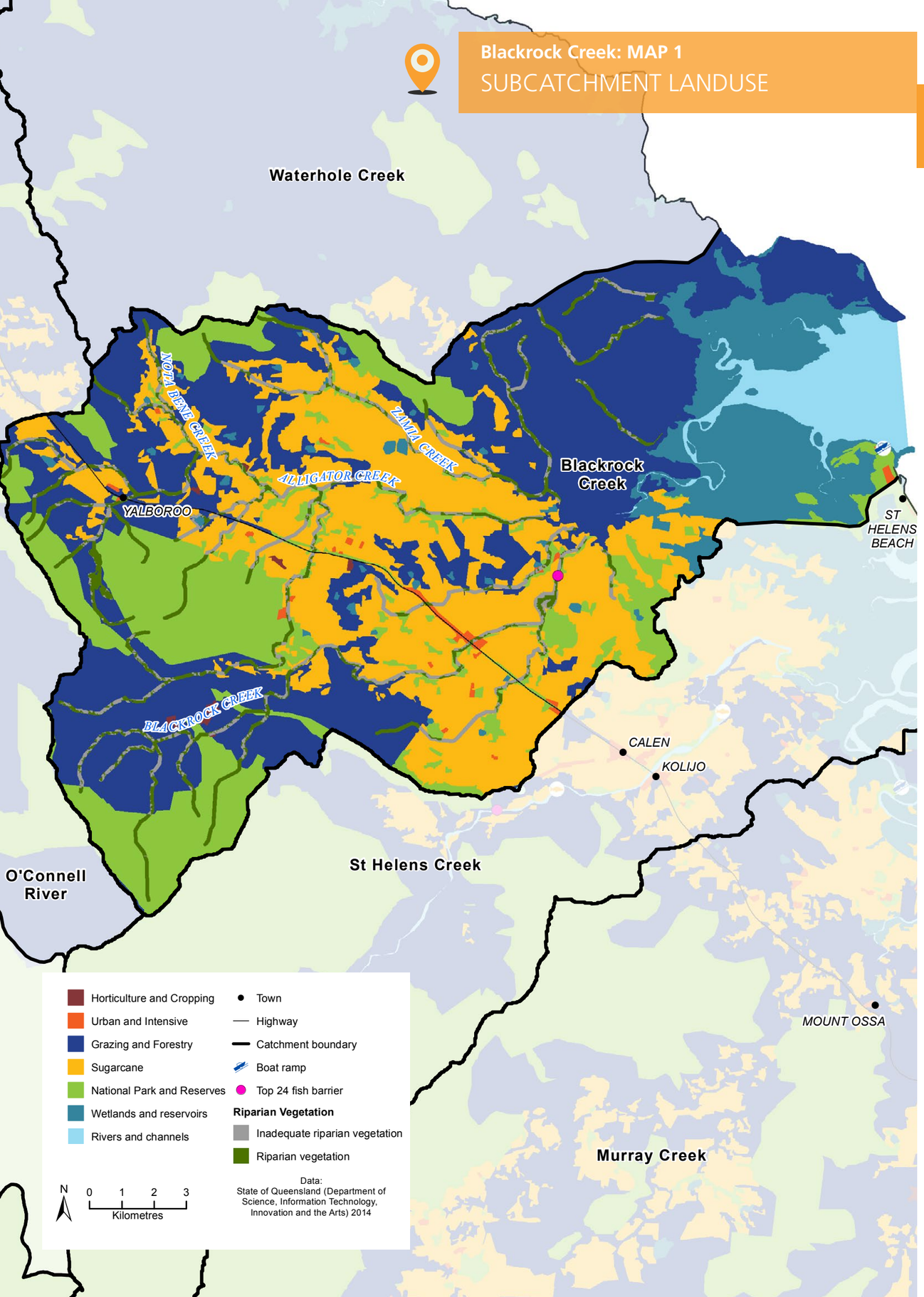
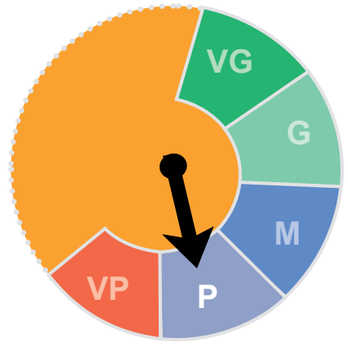


Blackrock Creek Ecosystem Health Rating

Very Good | Good | Moderate | Poor | Very Poor

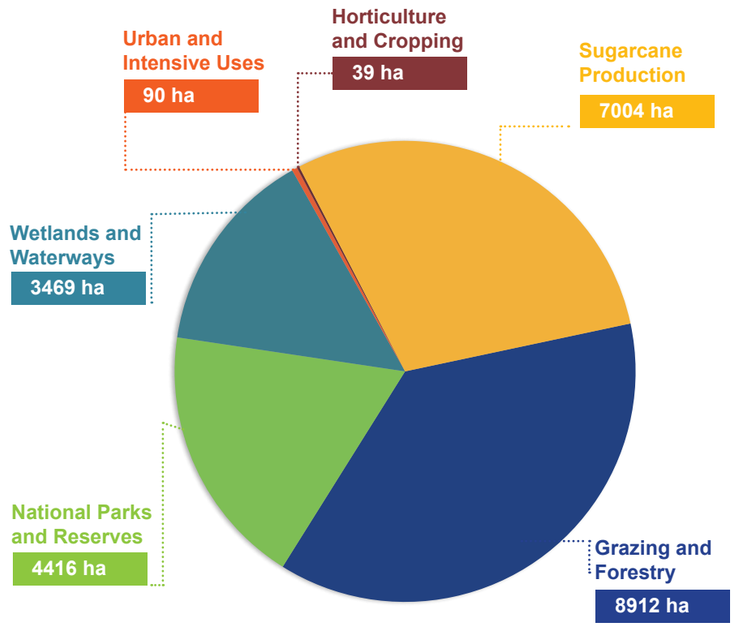
[FRESHWATER
Ecosystem Health



P

The Blackrock Creek **freshwater ecosystem** received an overall score of **Poor.**

Total Area by Landuse



Total hectares Blackrock Creek

23930 ha

The Blackrock Creek catchment headwaters originate in the Clarke Range and High Ecological Value forest of Eungella National Park before entering the coastal plain and estuary at St Helens Bay. Forty seven percent of the lowland are utilised for grazing, while 30% has been developed for cane production that is concentrated on the creek flats. The coastal zone is dominated by grazing to the estuary margins.

Grazing management practices that reduce phosphorus and nitrogen loads are the highest priority for continued improvement of event water quality in the Blackrock Creek catchment area. Management practices that reduce other nutrients and residual herbicides are a moderate priority.

System repair actions that restore riparian vegetation, saltmarshes and mangroves, and improve riparian connectivity are of the highest priority to improve the ecosystem health of the important estuarine areas at Blackrock Creek and St Helens Bay.

Table 1 [Subcatchment Freshwater Ecosystem Health Indicator Score: Current Condition 2014 and Target 2021

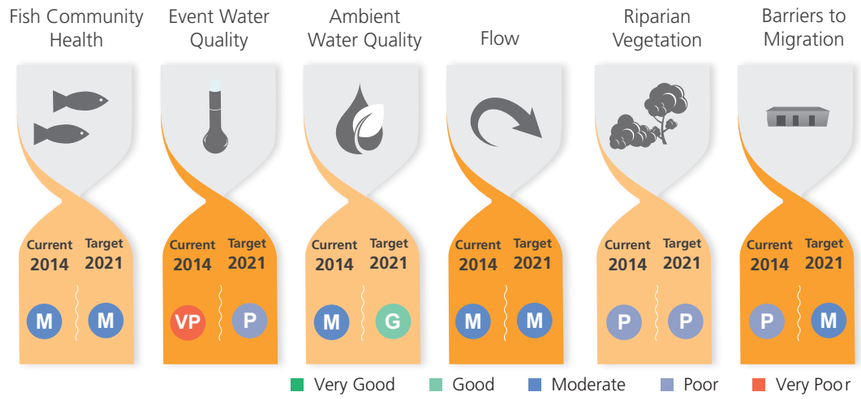


Table 1: OVERVIEW

This index presents the indicators chosen to assess the condition of freshwater ecosystem health. The index uses a combination of monitored data and expert opinion to provide a score for the current condition of fish community health, event water quality, ambient water quality, flow, riparian vegetation, and barriers to migration for each of the region's 33 catchment management areas. The table also presents the target for each indicator to be reached by 2021.

Table 2 [Event Freshwater Quality: Current Condition, Targets and Objectives

Key Pollutant	Current Condition	Target 2021	Objective 2050	Action	Pollutant Source
BLACKROCK CREEK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	372	313	300	HIGH	CIU
Particulate Nitrogen µg/L	228	221	221	MEDIUM	CIUG
Filterable Reactive Phosphorus µg/L	107	90	30	HIGH	CIU
Particulate Phosphorus µg/L	80	78	70	MEDIUM	CIUG
Total Suspended Sediment mg/L	29	28	28	MEDIUM	CIUG
Ametryn µg/L	0.06	0.05	0.02	V HIGH	CIU
Atrazine µg/L	0.61	0.55	0.55	HIGH	CIU
Diuron µg/L	1.38	0.91	0.30	HIGH	CIU
Hexazinone µg/L	0.41	0.37	0.20	HIGH	CIU
Tebuthiuron µg/L	<LOD	<LOD	<LOD	LOW	G

C Cane **IU** Intensive Uses **G** Grazing

Table 2: OVERVIEW

This table presents the current condition (2014) event freshwater quality values for nutrients, sediment, and herbicides. It also presents water quality targets for 2021 and 2050 water quality objectives that have been calculated based on an achievable level of adoption of improved management practices and the level of effort that will be required ("Action"). For each of the pollutants listed, the table also identifies the main pollutant source.

Table 3 [Action Targets: Ecosystem Health Management

L = Low, M = Moderate, H = High

	Condition 2014	Planned Activities to 2021	Effort	$ Cost
Blackrock Creek				
Barriers (number)	18	2	M	$80,000
Riparian Vegetation Management (hectares)	806 ha	0 ha	L	$0
Bank and bed stabilisation (kilometres)	n/a	0	L	$0
In-stream Habitat Works (number)	n/a	0	L	$0
Total Cost = $80,000				

Table 3: OVERVIEW

This table presents the on-ground management actions determined to be required to improve ecosystem health, including the removal of barriers to fish migration, establishment of riparian vegetation, bank stabilisation, and in-stream habitat works. The table displays the current condition for each component, as well as the planned activities to be completed by 2021, the level of effort required and associated costs.

Tables 4: OVERVIEW

The table below displays the current level of management practices for Sugarcane/Horticulture, Grazing, and Urban within D, C, B and A Management Framework classifications at 2014. The table also presents the level of voluntary adoption of management practices required to meet 2021 objectives and their associated costs.

Table 4 [Agriculture ABCD Adoption Targets

Land Use		2014 Adoption %				2021 Adoption %				Total Cost $ '000s
		D	C	B	A	D	C	B	A	
BLACKROCK CREEK SUBCATCHMENT										
Cane & Horticulture	Soil	18%	21%	34%	27%	15%	20%	30%	35%	70
	Nutrient	20%	25%	47%	9%	10%	15%	65%	10%	542
	Herbicide	20%	20%	43%	16%	10%	10%	60%	20%	554
Grazing	Soil	25%	16%	54%	5%	25%	15%	55%	5%	20

D Dated practice **C** Common practice **B** Best practice **A** Cutting-edge practice