



WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

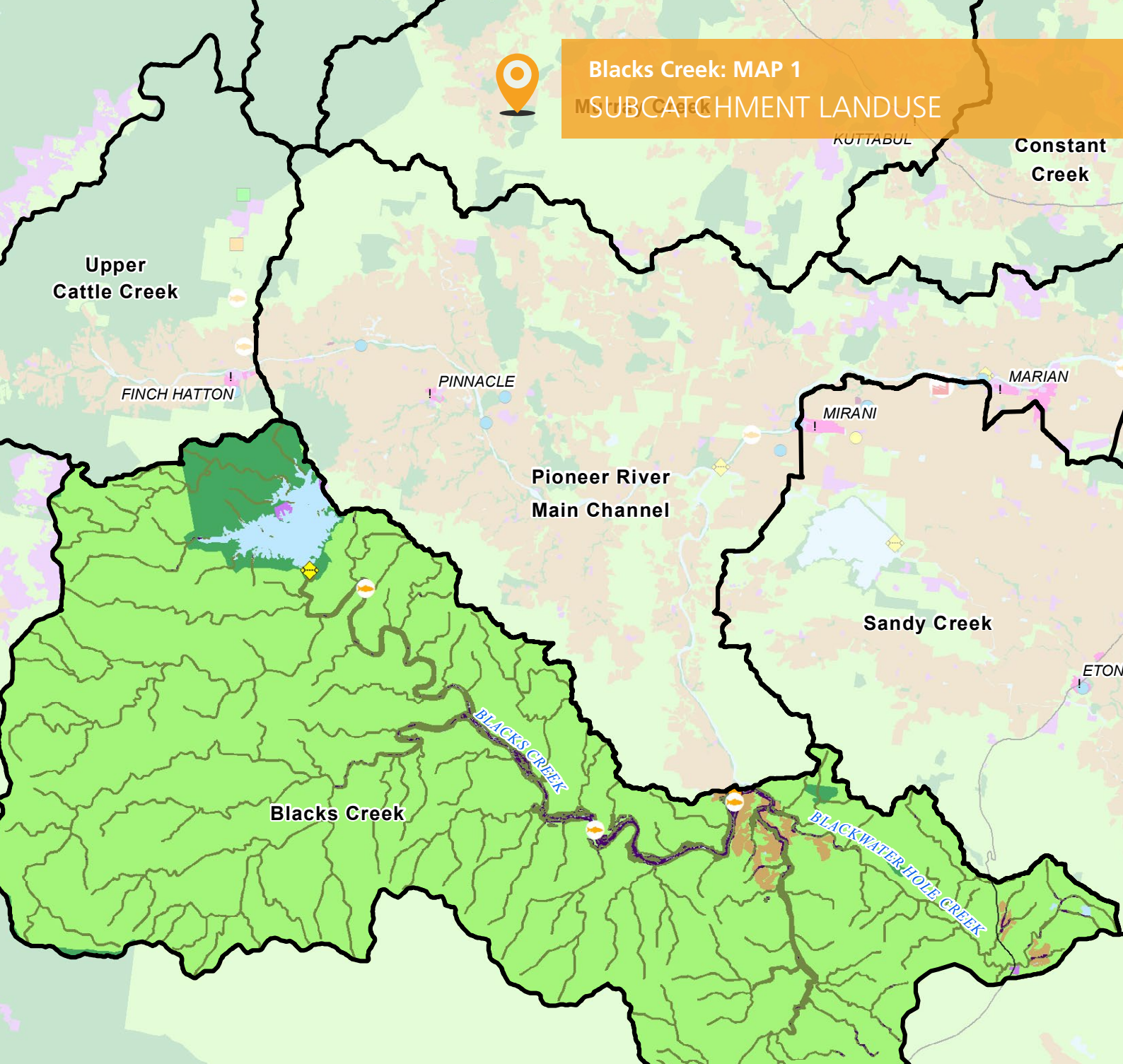
21 Blacks Creek





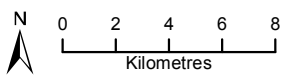
Blacks Creek: MAP 1

SUBCATCHMENT LAND USE



Key to land use

- National park or reserve
- Grazing or forestry
- Crop land (cane and horticulture)
- Intensive use (rural residential, transport corridors)
- Urban
- Dam or reservoir
- Wetland
- Town
- Sugar mill
- Fish monitoring site
- WQ monitoring site
- WQ baseline monitoring site
- Inadequate riparian vegetation
- Riparian vegetation
- Highway
- Catchment boundary
- Aquaculture
- Weir/dam
- Sewage treatment plant
- Drinking water
- Boat ramp



Data: State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

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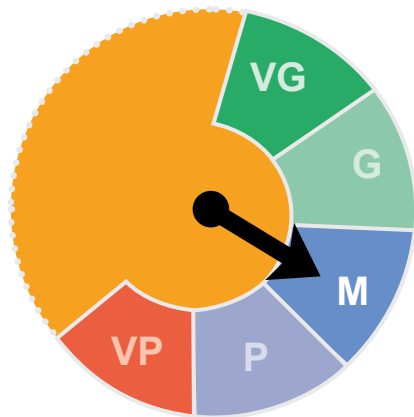
21 Blacks Creek



Blacks Creek Ecosystem Health Rating

■ Very Good
 ■ Good
 ■ Moderate
 ■ Poor
 ■ Very Poor

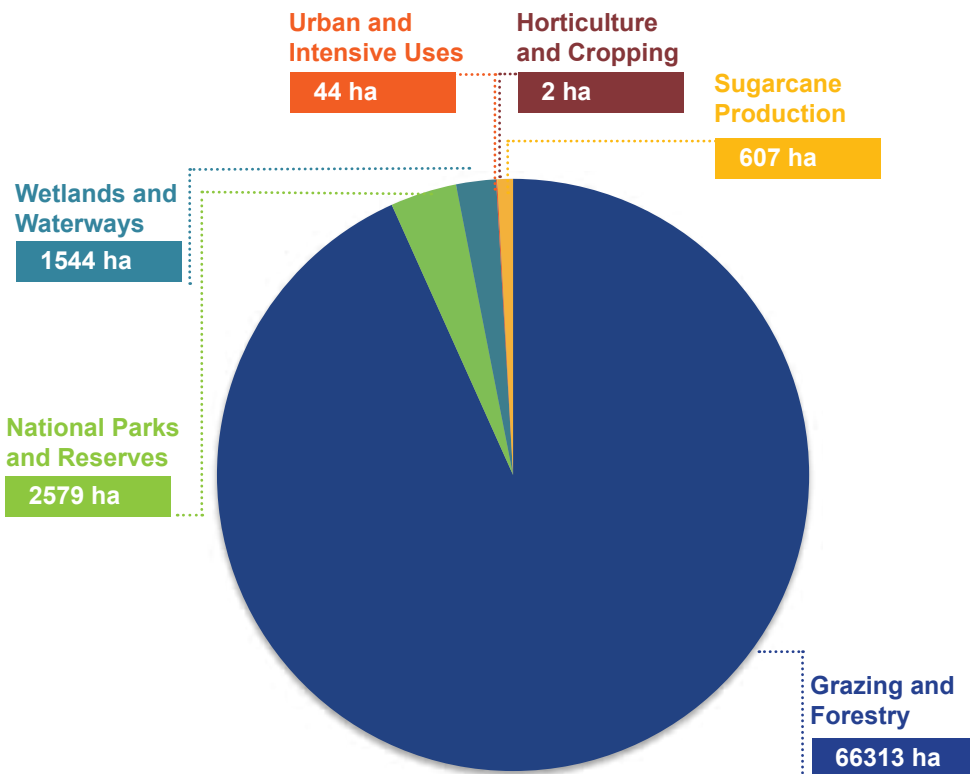
[FRESHWATER Ecosystem Health



M

The Blacks Creek **freshwater ecosystem** received an overall score of **Moderate**.

[Total Area by Landuse



Total hectares Blacks Creek

71089 ha

Blacks Creek catchment area hydrology was significantly altered in 1997 with the construction of Teemurra Dam to provide water resources for agriculture and townships in the Pioneer Valley. Flow regimes through Blacks Creek are now regulated by the Pioneer Valley Water Resources Plan (2009) to minimise adverse impacts on the downstream environment. However, while Blacks Creek supports good instream and riparian habitat, the dam impacts dramatically on flow regimes and fish passage. Almost 90% of the catchment area supports grazing production.

Grazing management practices that reduce particulate and inorganic nitrogen as well as phosphorus loads are the priority for improving event water quality of Blacks Creek catchment area.

Management strategies to improve flow from Teemurra Dam to mimic natural flow regimes of Blacks Creek will be key to improving fish community abundance and diversity. Continued efforts to improve riparian management should see in-stream habitat improvements over time.

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

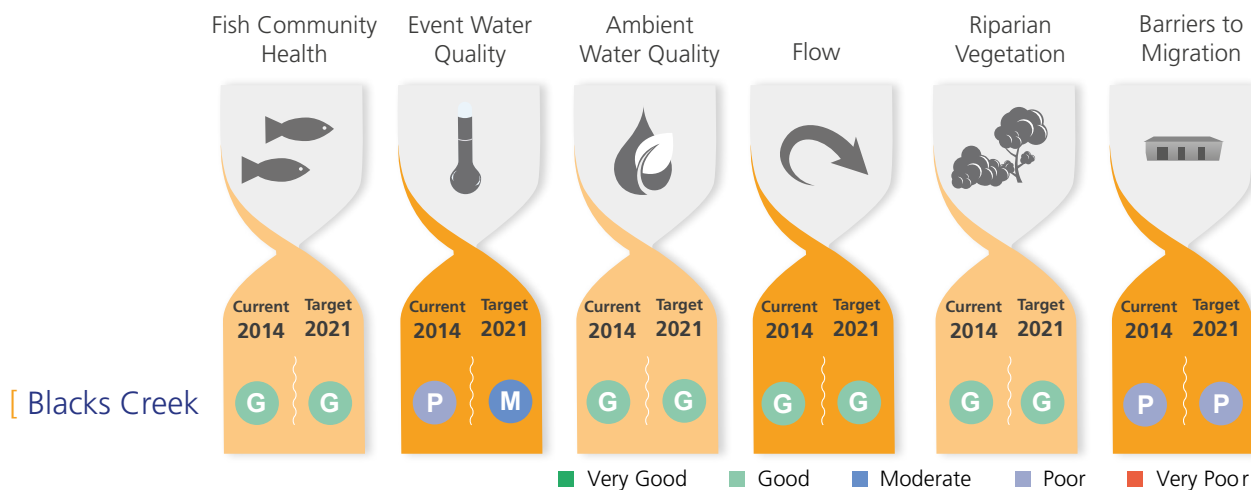


Table 1: OVERVIEW

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
BLACKS CREEK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	329	317	300	V HIGH	CIU
Particulate Nitrogen µg/L	674	450	340	V HIGH	CIUG
Filterable Reactive Phosphorus µg/L	52	50	30	V HIGH	CIU
Particulate Phosphorus µg/L	209	139	70	V HIGH	CIUG
Total Suspended Sediment mg/L	178	119	119	V HIGH	CIUG
Ametryn µg/L	<LOD	<LOD	<LOD	LOW	CIU
Atrazine µg/L	<LOD	<LOD	<LOD	LOW	CIU
Diuron µg/L	0.09	0.06	0.06	V HIGH	CIU
Hexazinone µg/L	0.04	0.03	0.03	V 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
Blacks Creek					
Barriers (number)		4	0	L	\$0
Riparian Vegetation Management (hectares)		7532 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 = \$0					

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.

Table 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		
BLACKS CREEK SUBCATCHMENT										
Cane & Horticulture	Soil	35%	45%	15%	5%	20%	25%	50%	5%	59
	Nutrient	40%	45%	10%	5%	20%	20%	55%	5%	106
	Herbicide	40%	45%	10%	5%	20%	25%	50%	5%	94
Grazing	Soil	25%	36%	34%	5%	5%	15%	75%	5%	4217

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