



WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

20 Upper Cattle Creek





Upper Cattle Creek: MAP 1 SUBCATCHMENT LANDUSE

St Helens
Creek

Upper
Cattle
Creek

Pioneer
River
Main
Channel

EUNGELLA

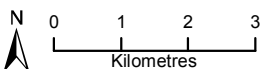
FINCH HATTON

LEURA CREEK

Blacks Creek

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
 - Aquaculture
 - Weir/dam
 - Sewage treatment plant
 - Drinking water
 - Boat ramp
 - Sugar mill
 - Fish monitoring site
 - WQ monitoring site
 - WQ baseline monitoring site
- Riparian Vegetation**
- Inadequate riparian vegetation
 - Riparian vegetation



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

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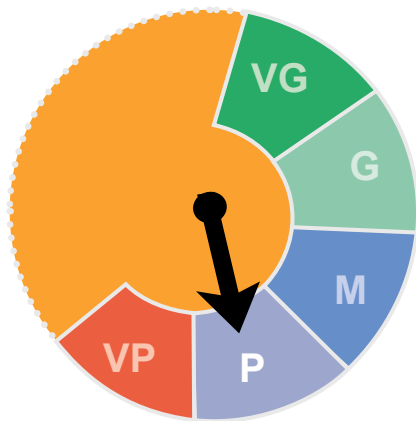
20 Upper Cattle Creek



Upper Cattle Creek Ecosystem Health Rating

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

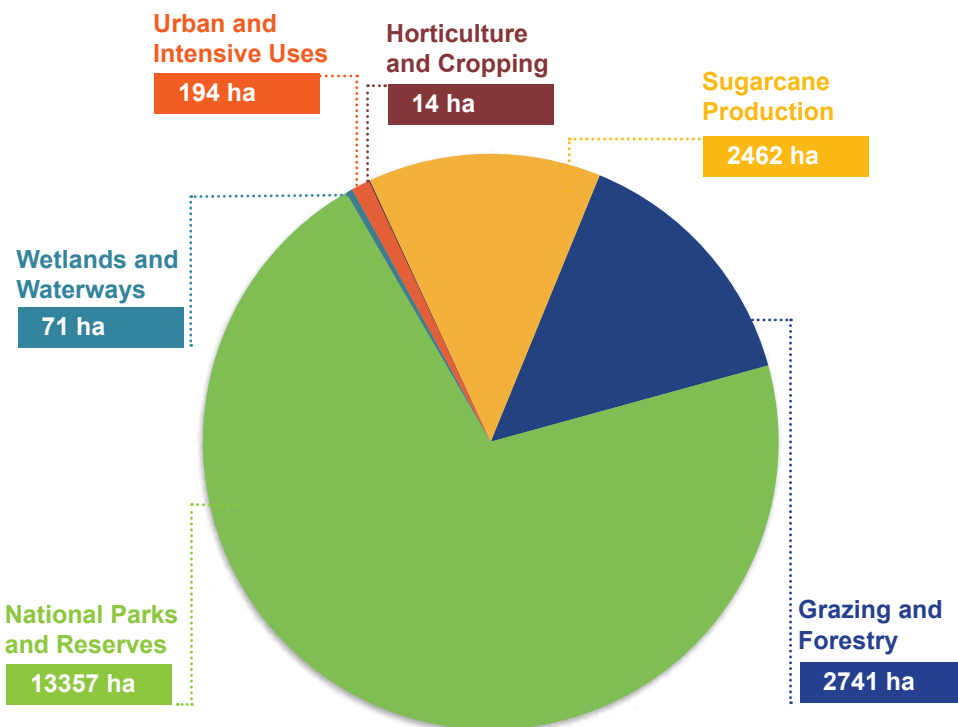
FRESHWATER Ecosystem Health



P

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

Total Area by Landuse



Total hectares Upper Cattle Creek

18839 ha

Upper Cattle Creek is a tributary of the Pioneer River located in the west of the Mackay Whitsunday region. The catchment area receives high annual rainfall in excess of 3000 mm. The highlands in the headwaters of Upper Cattle Creek catchment are heavily timbered with rainforest while the lower reaches are dominated by open woodland. Eungella National Park protects over 70% of the catchment area on these steep upper slopes. On the alluvial floodplains 14% of the catchment is under cane production, and 13% under grazing. Downstream, Mirani Weir creates a barrier to fish migration for the Upper Cattle Creek flow.

Planning and management practices that reduce phosphorus and nitrogen loads are the highest priority for improving event water quality in the Upper Cattle Creek catchment area. Management practices that reduce other nutrients and residual herbicides are also a high priority.

Efforts are required to restore condition and connectivity of riparian vegetation for instream habitat and bank stability to reduce sediment entering the stream. Investment is also required to improve downstream fish passage.

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

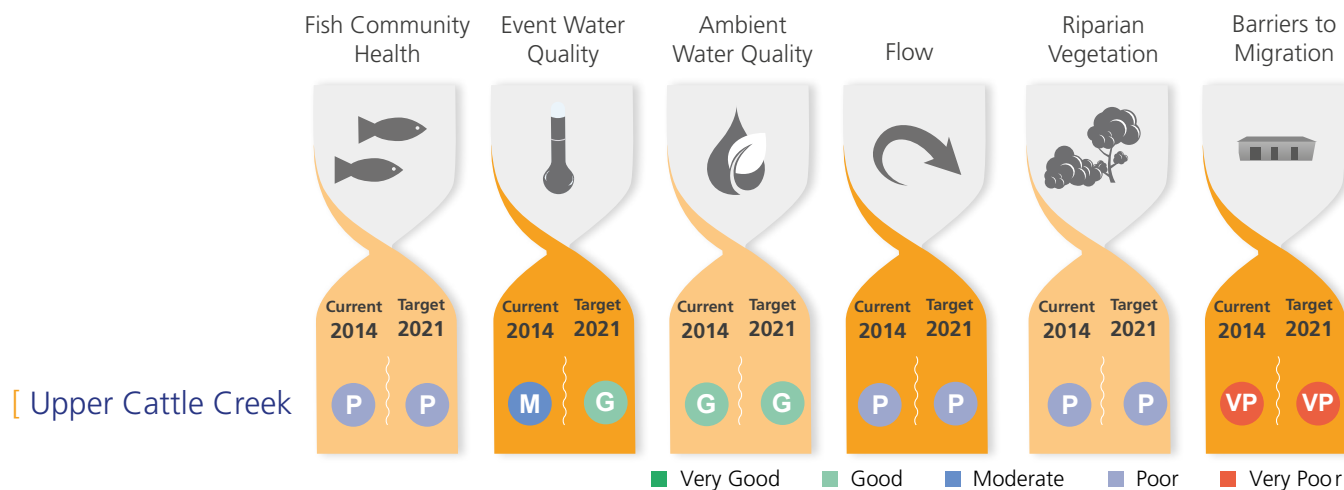


Table 1: OVERVIEW

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
UPPER CATTLE CREEK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	272	272	272	LOW	CIU
Particulate Nitrogen µg/L	113	113	113	LOW	CIUG
Filterable Reactive Phosphorus µg/L	31	30	30	LOW	CIU
Particulate Phosphorus µg/L	51	51	51	LOW	CIUG
Total Suspended Sediment mg/L	41	41	41	LOW	CIUG
Ametryn µg/L	<LOD	<LOD	<LOD	LOW	CIU
Atrazine µg/L	0.15	0.14	0.14	MEDIUM	CIU
Diuron µg/L	0.46	0.43	0.30	MEDIUM	CIU
Hexazinone µg/L	0.17	0.16	0.16	MEDIUM	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
Upper Cattle Creek					
Barriers (number)		12	0	L	\$0
Riparian Vegetation Management (hectares)		1734 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.

Tables 4: OVERVIEW

The tables below display 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	
UPPER CATTLE CREEK SUBCATCHMENT										
Cane & Horticulture	Soil	11%	16%	57%	16%	10%	15%	55%	20%	13
	Nutrient	9%	13%	63%	15%	10%	10%	60%	20%	17
	Herbicide	12%	20%	63%	5%	10%	20%	65%	5%	16
Grazing	Soil	20%	33%	43%	5%	20%	30%	45%	5%	0

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