REEF CATCHMENTS

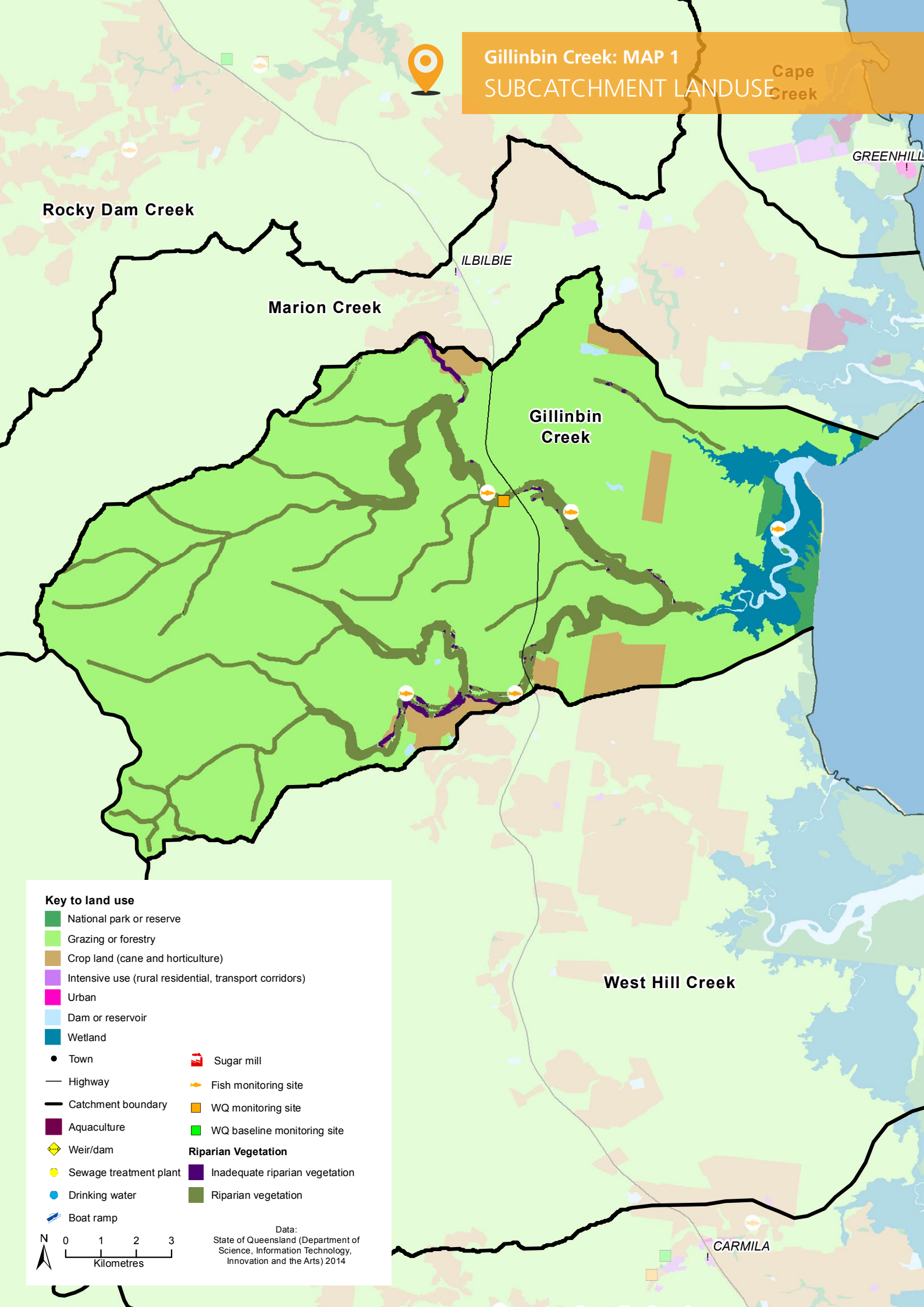
Healthy Waterways Alliance

Australian Government

WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

30 Gillinbin Creek


Gillinbin Creek: MAP 1
SUBCATCHMENT LANDUSE
Cape Creek
GREENHILL
Rocky Dam Creek
ILBILBIE
Marion Creek
Gillinbin Creek
West Hill Creek
CARMILA
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
Highway
Catchment boundary
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
N
0 1 2 3
Kilometres
Data:
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

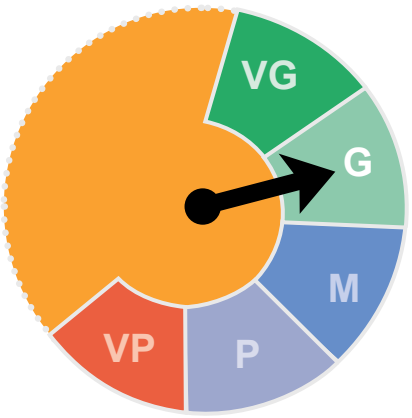
CATCHMENT MANAGEMENT AREA REPORT

30 Gillinbin Creek

Gillinbin Creek Ecosystem Health Rating

Very Good | Good | Moderate | Poor | Very Poor

FRESHWATER
Ecosystem Health



G

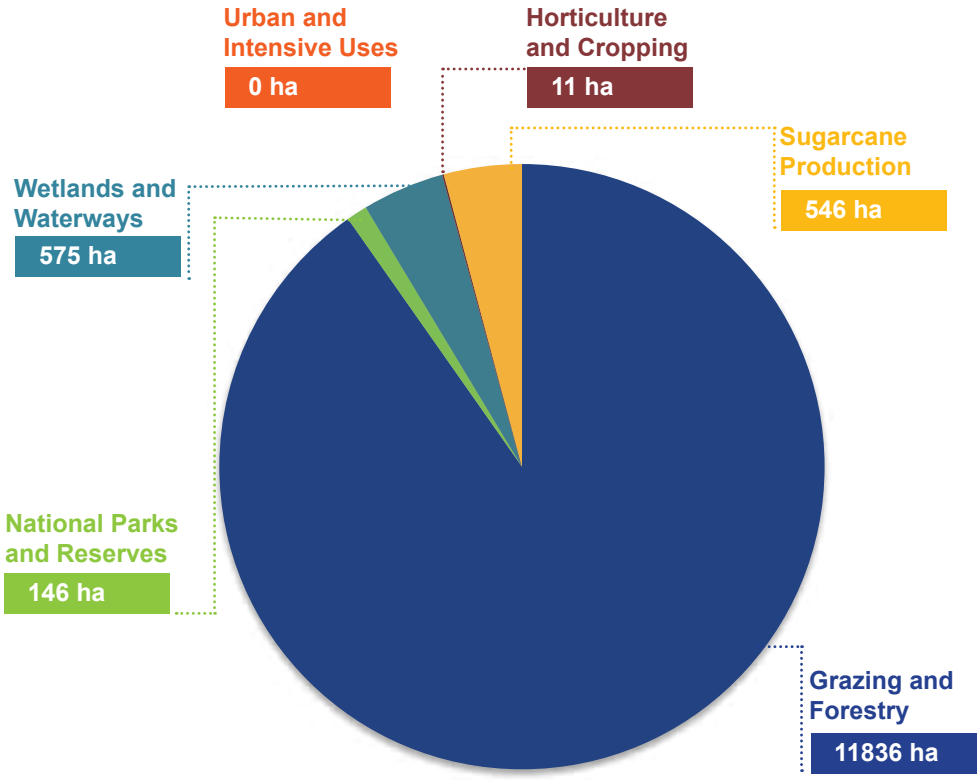
The Gillinbin Creek **freshwater ecosystem** received an overall score of **Good.**

Gillinbin Creek drains from the Connors Range into the marine and estuarine Four Mile Beach Wetlands system just south of Yarrawanga Point. The catchment area extends down the coast along a rocky shore and well developed sand beach. The inshore waters are recognised as an important fish habitat area supporting regionally significant seagrass beds that are critical to sustaining local dugong and turtle populations. Extensive clearing for agricultural production has the capacity to impact on the hydrology of the wetlands and water quality entering the site, as well as impacting on fish community abundance and diversity.

Management practices that reduce atrazine and diuron loads continue to be a priority for cane and horticulture production. Grazing management practices that reduce total suspended sediment can be addressed through improved grazing management practices for event water quality.

All system repair actions that support an improvement in fish communities are the highest priority. Future management efforts will also focus on protecting and improving the coastal wetland extent and condition to support regeneration of inshore seagrass beds.

Total Area by Landuse



Total hectares Gillinbin Creek

13114 ha

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

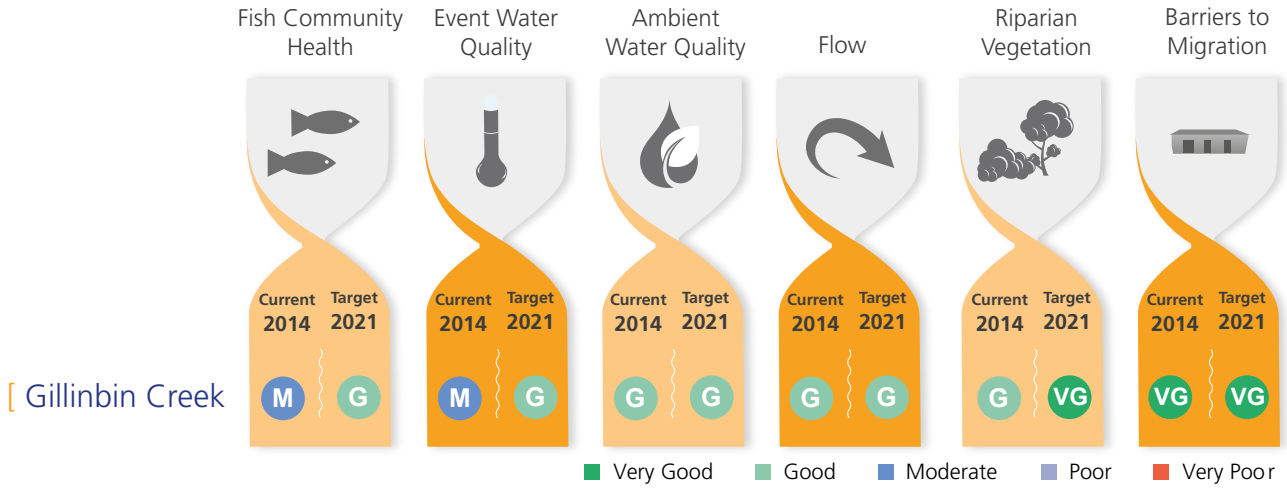


Table 1: OVERVIEW

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
GILLINBIN CREEK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	43	42	42	MEDIUM	CIU
Particulate Nitrogen µg/L	152	152	152	LOW	CIUG
Filterable Reactive Phosphorus µg/L	3	3	3	LOW	CIU
Particulate Phosphorus µg/L	37	37	37	LOW	CIUG
Total Suspended Sediment mg/L	66	66	66	LOW	CIUG
Ametryn µg/L	<LOD	<LOD	<LOD	LOW	CIU
Atrazine µg/L	0.02	0.02	0.02	LOW	CIU
Diuron µg/L	0.06	0.06	0.05	LOW	CIU
Hexazinone µg/L	<LOD	<LOD	<LOD	LOW	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
		Gillinbin Creek			
Barriers **(number)**		0	0	L	$0
Riparian Vegetation Management **(hectares)**		1357 ha	20 ha	H	$254,400
Bank and bed stabilisation **(kilometres)**		n/a	9	H	$901,200
In-stream Habitat Works **(number)**		n/a	2	H	$45,000
				Total Cost = $ 1,200,600	

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	
GILLINBIN CREEK SUBCATCHMENT										
Cane & Horticulture	Soil	11%	31%	53%	5%	10%	30%	55%	5%	3
	Nutrient	12%	23%	60%	5%	10%	20%	65%	5%	11
	Herbicide	9%	29%	57%	5%	5%	30%	60%	5%	6
Grazing	Soil	25%	40%	30%	5%	20%	40%	35%	5%	136

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