REEF CATCHMENTS

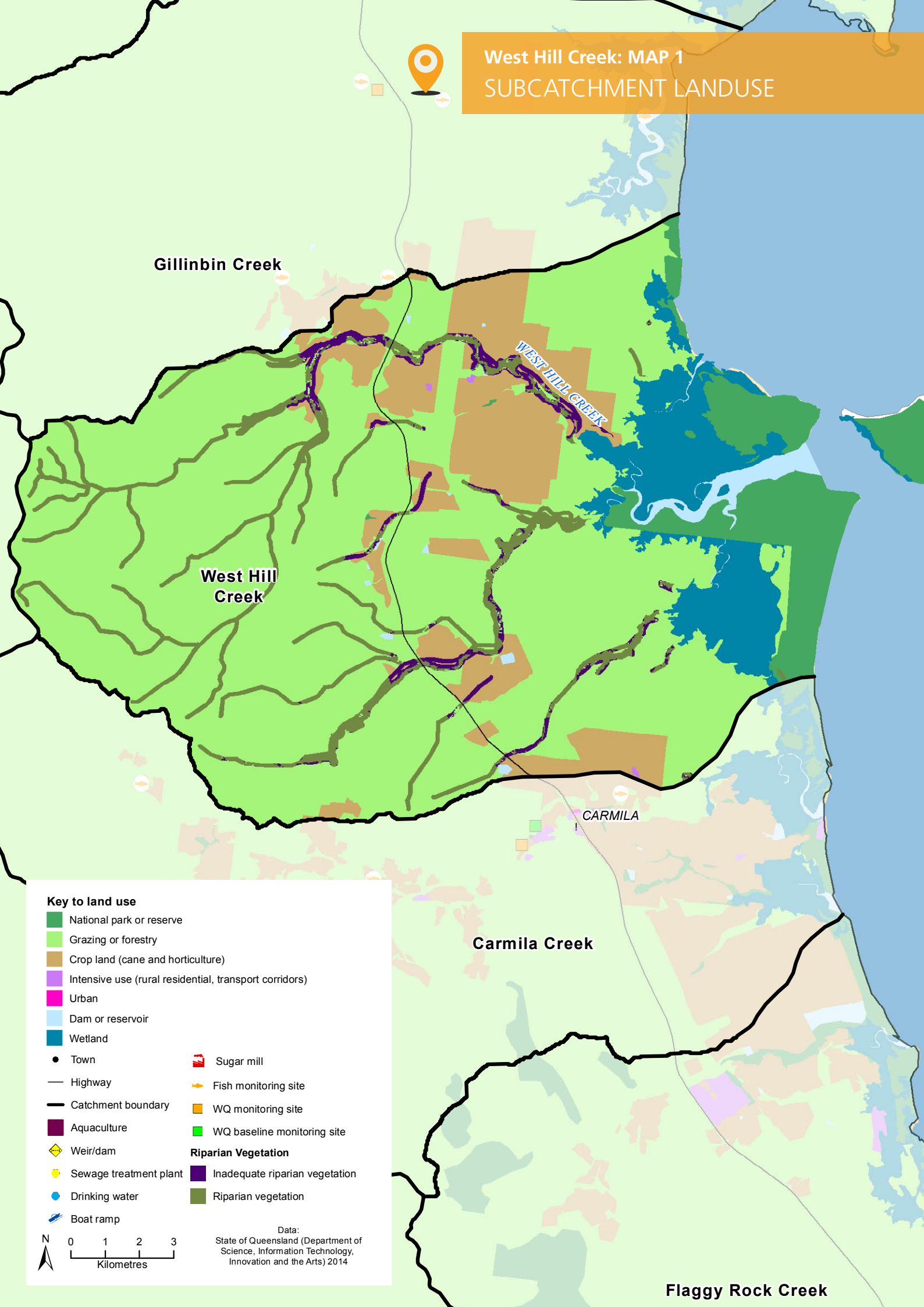
Healthy Waterways Alliance

Australian Government

WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

31 West Hill Creek

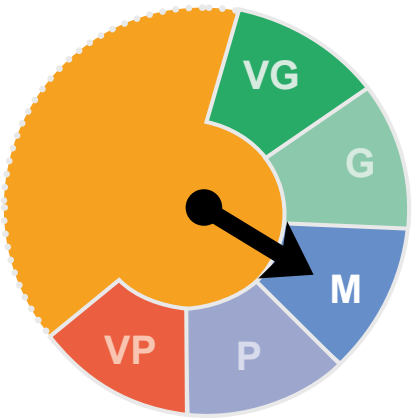

West Hill Creek: MAP 1
SUBCATCHMENT LANDUSE
Gillinbin Creek
WEST HILL CREEK
West Hill Creek
CARMILA
Carmila Creek
Flaggy Rock Creek
Key to land use
National park or reserve
Grazing or forestry
Crop land (cane and horticulture)
Intensive use (rural residential, transport corridors)
Urban
Dam or reservoir
Wetland
Town
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

31 West Hill Creek

West Hill Creek Ecosystem Health Rating

Very Good | Good | Moderate | Poor | Very Poor



FRESHWATER
Ecosystem Health

M

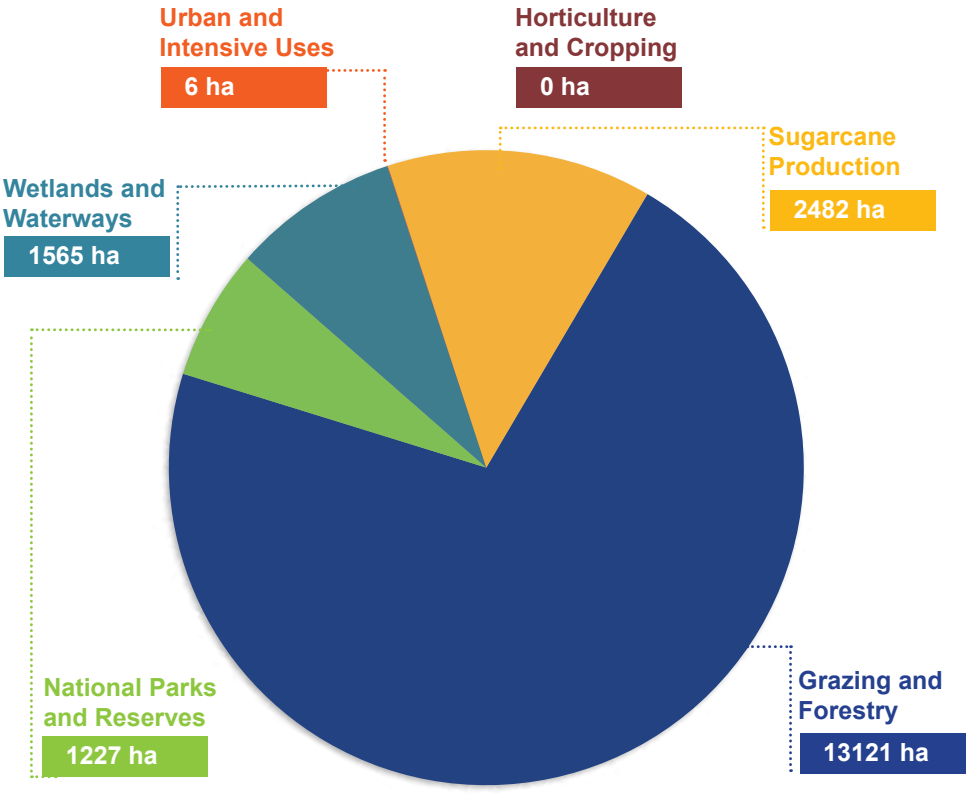
The West Hill Creek **freshwater ecosystem** received an overall score of **Moderate.**

West Hill Creek catchment drains from the lower slopes of the Clarke Range through the coastal plane to enter the Great Barrier Reef lagoon in the High Ecological Value Declared Fish Habitat Area and Dugong Protection Area between Yarrwonga Point and West Hill Island. These inshore waters support regionally significant seagrass beds that are critical to sustaining local dugong and turtle populations. The catchment area also supports nationally important wetlands that are part of West Hill National Park. Extensive clearing for agricultural production has the capacity to impact on the hydrology of the wetlands and water quality, as well as impacting on fish community abundance and diversity. At present 75% of the catchment is utilised for grazing and 12% under cane production.

Management practices that reduce atrazine and diuron loads continue to be a priority for cane production. Grazing management activities that reduce nitrogen and phosphorus loads for event water quality will be addressed through improved grazing management practices.

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 West Hill Creek

18401 ha

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

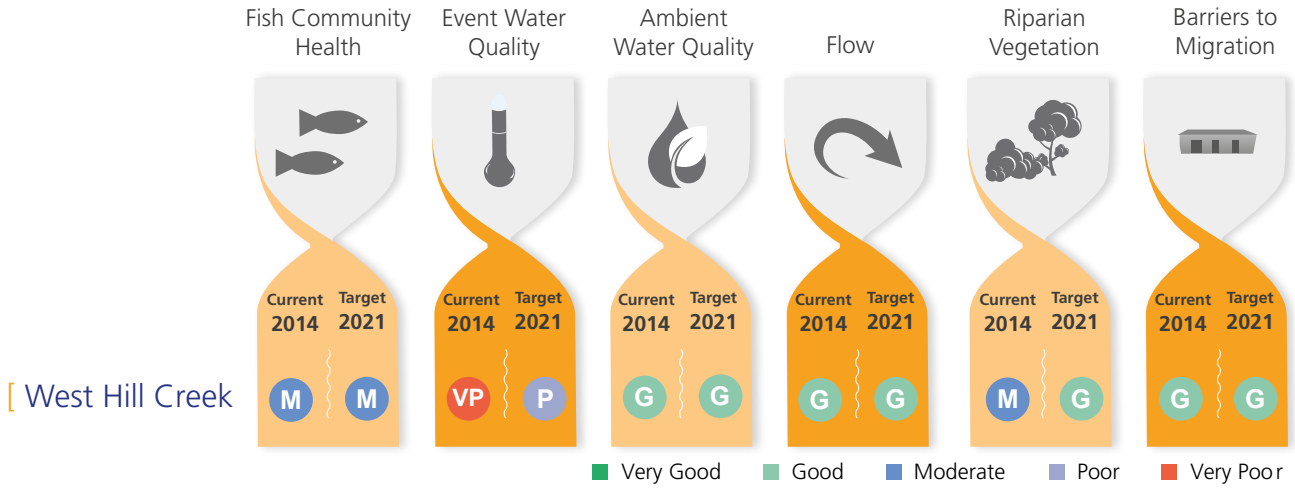


Table 1: OVERVIEW

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
WEST HILL CREEK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	398	359	300	HIGH	CIU
Particulate Nitrogen µg/L	779	477	340	V HIGH	CIUG
Filterable Reactive Phosphorus µg/L	41	38	30	HIGH	CIU
Particulate Phosphorus µg/L	285	174	70	V HIGH	CIUG
Total Suspended Sediment mg/L	156	94	94	V HIGH	CIUG
Ametryn µg/L	<LOD	<LOD	<LOD	LOW	CIU
Atrazine µg/L	0.20	0.17	0.17	HIGH	CIU
Diuron µg/L	0.66	0.54	0.20	HIGH	CIU
Hexazinone µg/L	0.24	0.20	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
		West Hill Creek			
Barriers **(number)**		5	0	L	$0
Riparian Vegetation Management **(hectares)**		1136 ha	17 ha	H	$213,000
Bank and bed stabilisation **(kilometres)**		n/a	7	H	$754,000
In-stream Habitat Works **(number)**		n/a	3	H	$37,740
				Total Cost = $ 1,004,740	

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	
WEST HILL CREEK SUB CATCHMENT										
Cane & Horticulture	Soil	18%	31%	46%	5%	5%	10%	80%	5%	230
	Nutrient	14%	30%	51%	5%	5%	10%	80%	5%	276
	Herbicide	20%	33%	43%	5%	15%	25%	55%	5%	120
Grazing	Soil	25%	40%	30%	5%	10%	15%	70%	5%	793

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