REEF CATCHMENTS

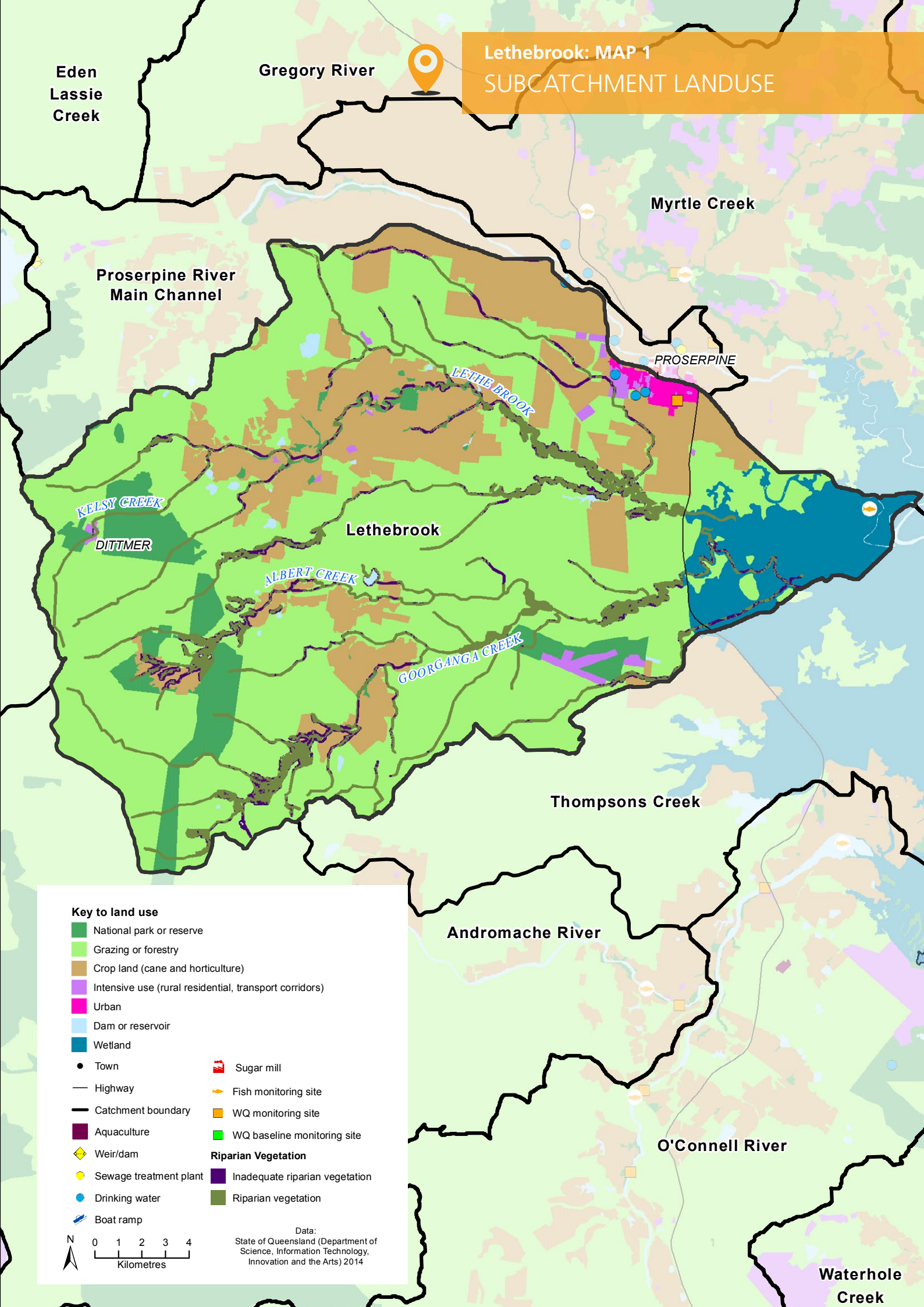
Healthy Waterways Alliance

Australian Government

WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

9 Lethebrook


Lethebrook: MAP 1
SUBCATCHMENT LANDUSE
Eden
Lassie
Creek
Gregory River
Myrtle Creek
Proserpine River
Main Channel
PROSERPINE
LETHE BROOK
KELSY CREEK
DITTMER
Lethebrook
ALBERT CREEK
GOORGANGA CREEK
Thompsons Creek
Andromache River
O'Connell River
Waterhole
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 4
Kilometres
Data:
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

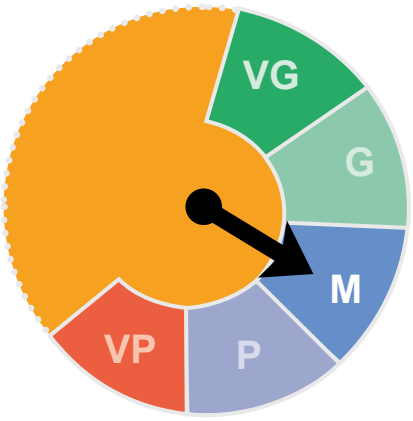
CATCHMENT MANAGEMENT AREA REPORT

9 Lethebrook

Lethebrook Ecosystem Health Rating

Very Good | Good | Moderate | Poor | Very Poor

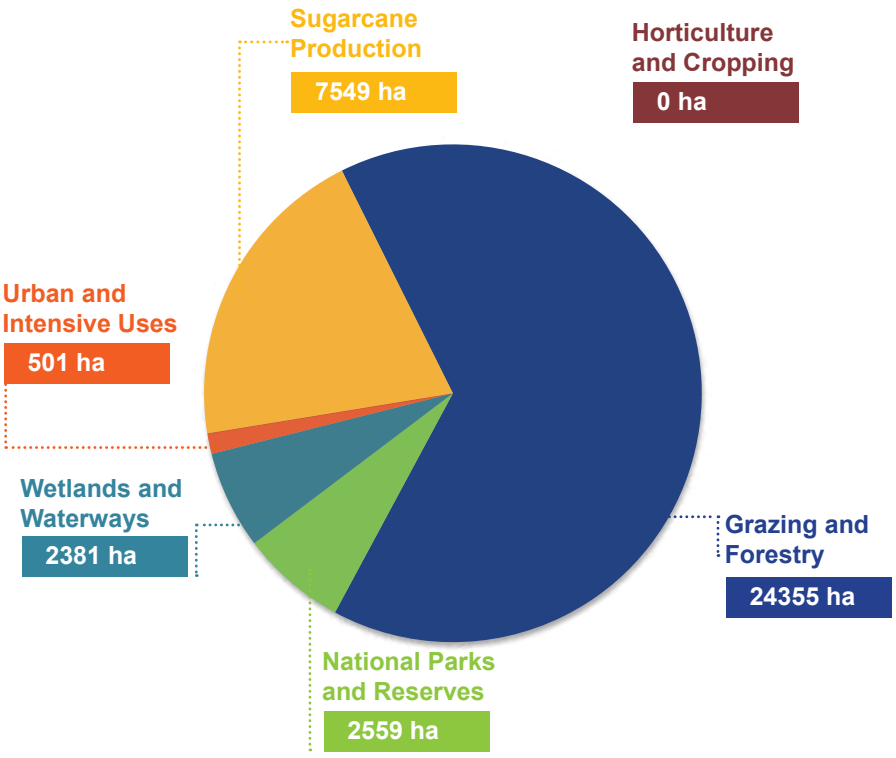
FRESHWATER
Ecosystem Health



M

The Lethebrook **freshwater ecosystem** received an overall score of **Moderate.**

Total Area by Landuse



Total hectares Lethebrook

37345 ha

The Lethebrook catchment area is bounded by the High Ecological Value country of the Clarke Connor Range to the west and the Nationally Significant Goorganga Plains Wetland Complex to the east. The coastal plain between supports extensive grazing lands on 65% of the catchment and cane production across 18% of the catchment.

Between 2007 and 2013, there has been significant efforts by local farmers to improve management practices for improved water quality.

Grazing and cane management practices that reduce phosphorus and nitrogen loads in the Lethe Brook catchment area are the highest priority for continued improvement of event water quality. Management practices that reduce other nutrients and residual herbicides also remain a priority. System repair actions that improve flow in wetland areas and restoration of mangrove and saltmarsh to support fishery nurseries as well as the removal of instream barriers are highest priority. Restoration of instream habitat to support improved bed and bank staibility are also important future activities to improve the ecological condition of the catchment.

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

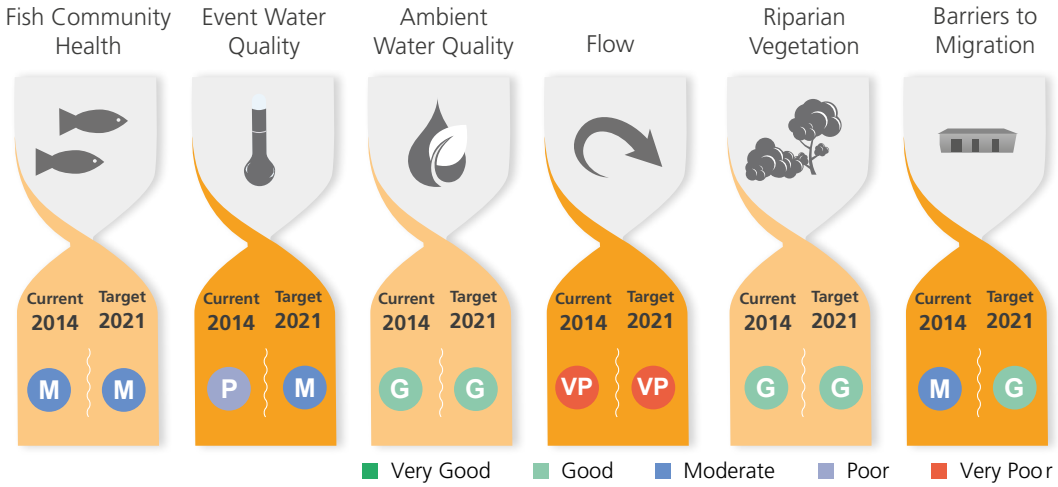


Table 1: OVERVIEW

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
LETHE BROOK SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	463	413	300	HIGH	CIU
Particulate Nitrogen µg/L	120	120	120	LOW	CIUG
Filterable Reactive Phosphorus µg/L	39	35	30	MEDIUM	CIU
Particulate Phosphorus µg/L	28	28	28	LOW	CIUG
Total Suspended Sediment mg/L	38	38	38	LOW	CIUG
Ametryn µg/L	0.05	0.04	0.04	HIGH	CIU
Atrazine µg/L	0.23	0.21	0.21	HIGH	CIU
Diuron µg/L	0.75	0.66	0.30	HIGH	CIU
Hexazinone µg/L	0.28	0.25	0.20	HIGH	CIU
Tebuthiuron µg/L	<LOD	<LOD	<LOD	LOW	G

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
Lethebrook				
Barriers **(number)**	13	3	M	$150,000
Riparian Vegetation Management **(hectares)**	2833 ha	0	L	$0
Bank and bed stabilisation **(kilometres)**	n/a	0	L	$0
In-stream Habitat Works **(number)**	n/a	0	L	$0
			Total Cost =	**$150,000**

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 and 5: 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	
LETHEBROOK										
Cane & Horticulture	Soil	11%	26%	34%	28%	10%	25%	30%	35%	46
	Nutrient	12%	27%	56%	5%	5%	20%	70%	5%	419
	Herbicide	12%	29%	29%	30%	10%	25%	30%	35%	168
Grazing	Soil	25%	39%	31%	5%	25%	35%	35%	5%	0

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

Table 5 Urban Practice ABCD Adoption Targets

Land Use		2014 Adoption %				2021 Adoption %				Total Cost $ '000s
		D	C	B	A	D	C	B	A	
LETHE BROOK SUBCATCHMENT										
Diffuse Source Water Quality - DEVELOPMENT PLANNING AND CONSTRUCTION PHASE		20%	80%	0%	0%	0%	50%	40%	10%	357
Diffuse Source Water Quality - POST-CONSTRUCTION/ OPERATIONAL PHASE		15%	85%	0%	0%	0%	50%	40%	10%	357

D Dated practices **C** Conventional practices **B** Best practices **A** Aspirational