11 O'Connell River

REEF CATCHMENTS

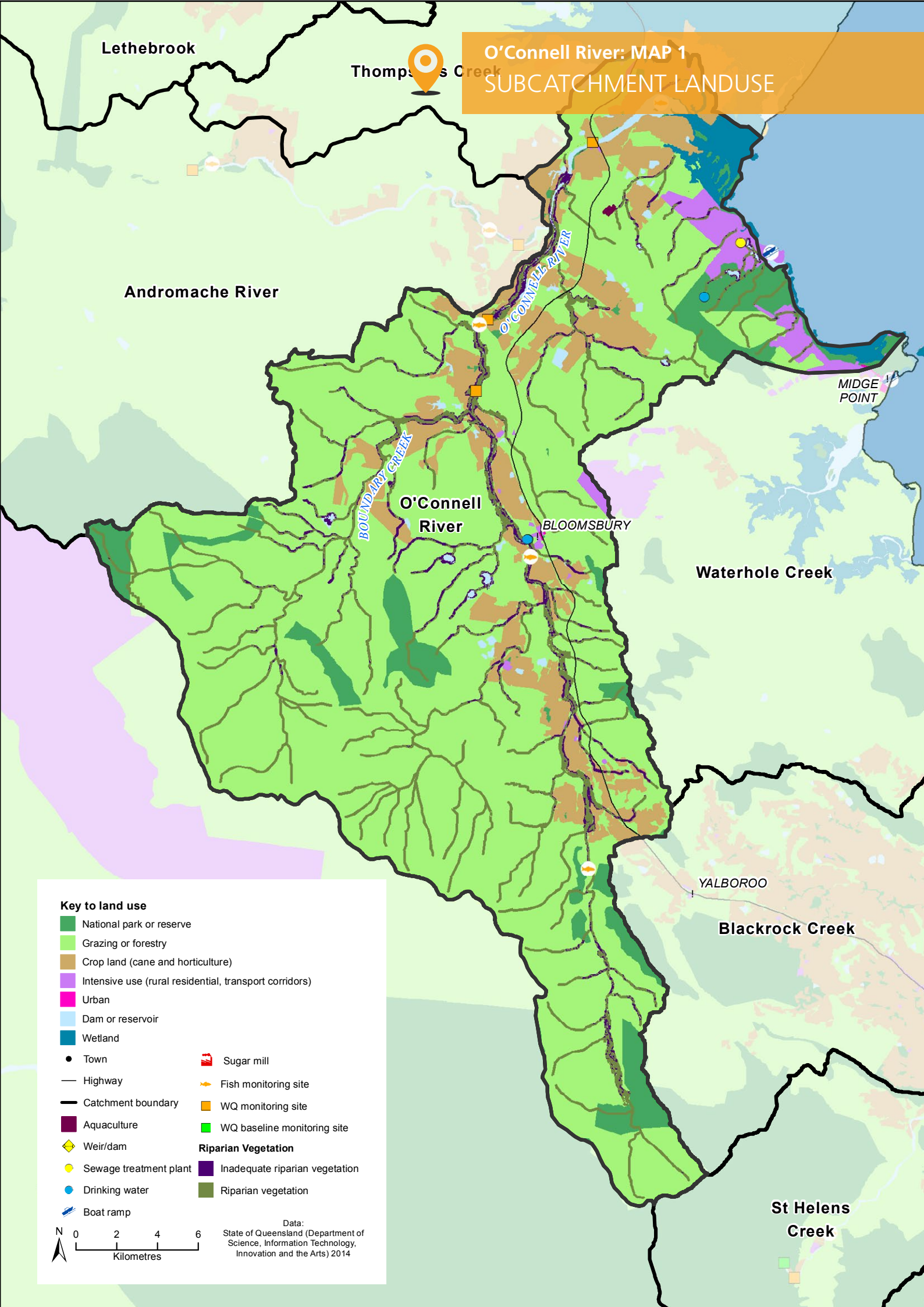
Healthy Waterways Alliance

Australian Government

WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

11 O'Connell River


O'Connell River: MAP 1
SUBCATCHMENT LANDUSE
Lethebrook
Thompsons Creek
Andromache River
O'CONNELL RIVER
MIDGE POINT
BOUNDARY CREEK
O'Connell River
BLOOMSBURY
Waterhole Creek
YALBOROO
Blackrock Creek
St Helens 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 2 4 6
Kilometres
Data:
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

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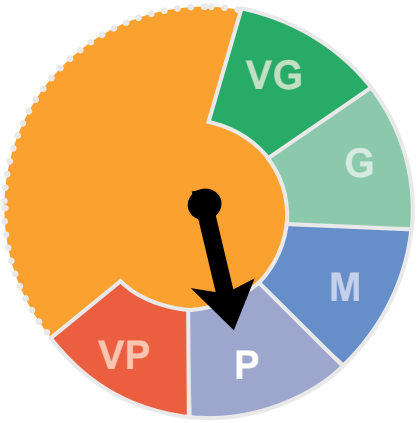
O'Connell River Ecosystem Health Rating

Very Good | Good | Moderate | Poor | Very Poor

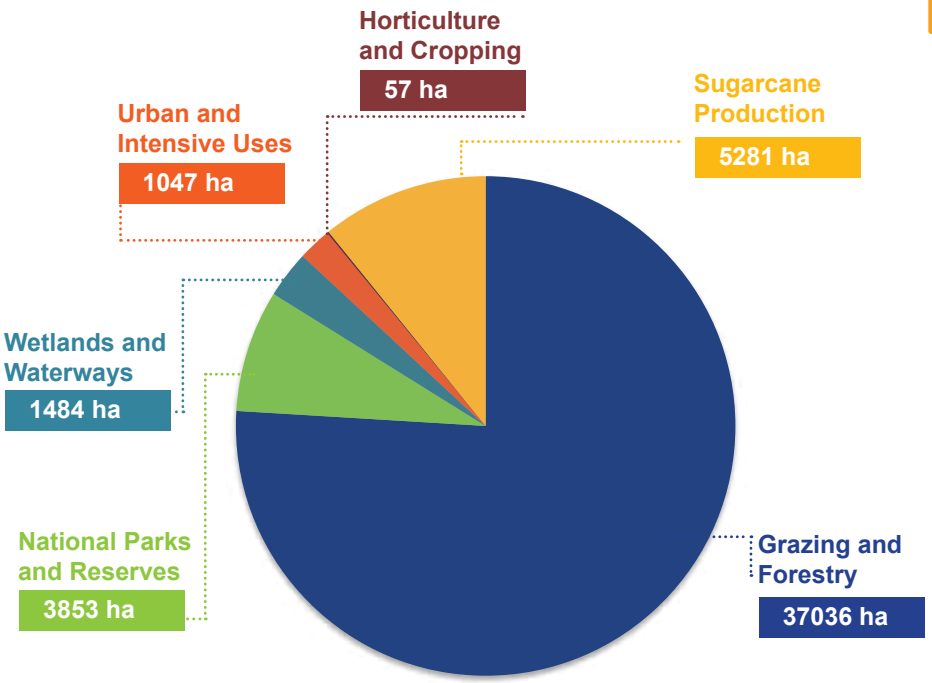


FRESHWATER
Ecosystem Health

P

The O'Connell River **freshwater ecosystem** received an overall score of **Poor.**

Total Area by Landuse



Total hectares O'Connell River

48758 ha

The O'Connell River is one of the largest rivers in the Mackay Whitsunday region. Cane and grazing production are the dominant land uses with small urban populations at Bloomsbury and Midge Point. In 2007, the water quality and ecological health ofthe O'Connell River was rated as low to moderate relative to other catchments in the Mackay Whitsunday region.

Grazing and sugar cane management practices that reduce particulate phosphorous loads are the highest priority for improving event water quality. Management practices that reduce other nutrients and residual herbicides are a moderate priority.

System repair actions for flow, instream habitat, riparian vegetation and mangroves and saltmarsh are the highest priority. A significant increase in investment towards active management and restoration of instream habitat and riparian vegetation is required to enable fish communities to gain the maximum benefits from the improvement in water quality.

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

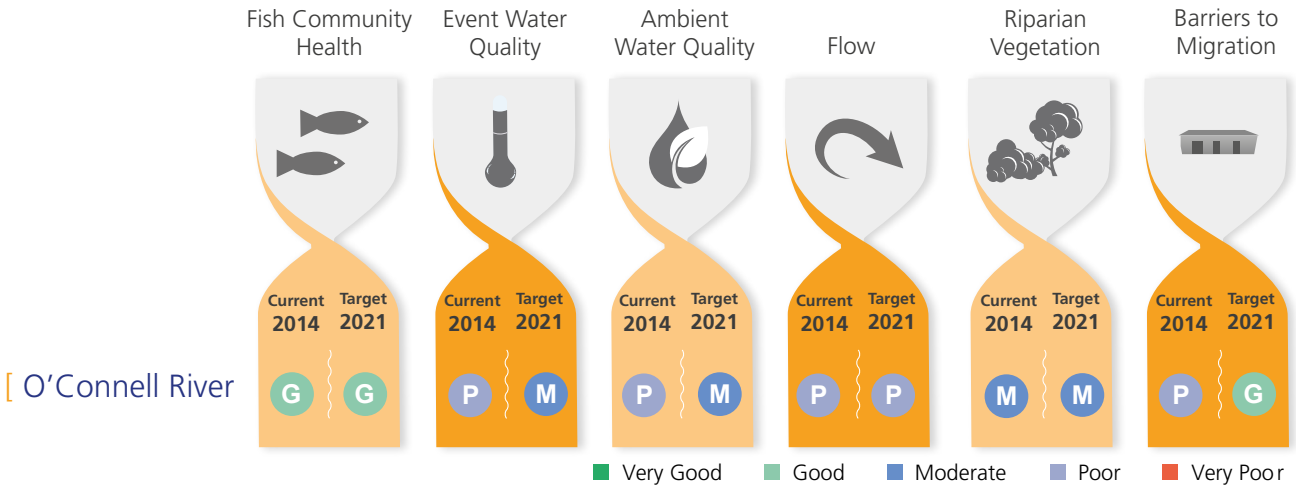


Table 1: OVERVIEW

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
O'CONNELL RIVER SUBCATCHMENT					
Dissolved Inorganic Nitrogen µg/L	326	300	300	HIGH	CIU
Particulate Nitrogen µg/L	361	311	311	V HIGH	CIUG
Filterable Reactive Phosphorus µg/L	40	37	30	HIGH	CIU
Particulate Phosphorus µg/L	124	107	70	V HIGH	CIUG
Total Suspended Sediment mg/L	154	133	133	V HIGH	CIUG
Ametryn µg/L	<LOD	<LOD	<LOD	LOW	CIU
Atrazine µg/L	0.04	0.04	0.04	LOW	CIU
Diuron µg/L	0.16	0.16	0.16	LOW	CIU
Hexazinone µg/L	0.02	0.02	0.02	LOW	CIU
Tebuthiuron µg/L	0.18	0.10	0.02	V HIGH	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
	O'Connell River			
Barriers **(number)**	16	2	M	$150,000
Riparian Vegetation Management **(hectares)**	3808 ha	23 ha	M	$288,000
Bank and bed stabilisation **(kilometres)**	n/a	0	L	$0
In-stream Habitat Works **(number)**	n/a	0	L	$0
			Total Cost =	$ 438,000

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	
O'CONNELL RIVER										
Cane & Horticulture	Soil	11%	12%	38%	38%	10%	10%	35%	45%	56
	Nutrient	12%	29%	36%	24%	5%	25%	40%	30%	220
	Herbicide	2%	3%	60%	36%	5%	5%	45%	45%	0
Grazing	Soil	25%	37%	33%	5%	15%	25%	55%	5%	1461

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	
O'CONNELL RIVER SUBCATCHMENT									
Diffuse Source Water Quality - DEVELOPMENT PLANNING AND CONSTRUCTION PHASE	20%	80%	0%	0%	0%	50%	40%	10%	746
Diffuse Source Water Quality - POST-CONSTRUCTION/ OPERATIONAL PHASE	15%	85%	0%	0%	0%	50%	40%	10%	746

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