9 Lethebrook

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WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

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

> 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.



Action Targets: Ecosystem Health Management Table 3

L = Low, M = Moderate, H = High



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.

Event Freshwater Quality: Current Condition, Targets and Objectives Table 2

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< td=""><td><lod< td=""><td><lod< td=""><td>LOW</td><td>G</td></lod<></td></lod<></td></lod<>	<lod< td=""><td><lod< td=""><td>LOW</td><td>G</td></lod<></td></lod<>	<lod< td=""><td>LOW</td><td>G</td></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.

Agriculture ABCD Adoption Targets Table 4

Land Use		2014 Adoption %			2021 Adoption %				Total Cost			
		D	с	В	Α	D	С	В	А	\$ '000s		
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		

Urban Practice ABCD Adoption Targets Table 5



Further explanation of data is provided in that document www.reefcatchments.com/wqip



Table 3: OVERVIEW

This table presents the onground 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.