

Water Quality Improvement Plan 2014 - 2021

Carmila Coast

2014



DRAFT

Mackay | Whitsunday | Isaac

Rocky Dam Creek



Carmila Coast Receiving Waters MAP 1: LANDUSE

Cape Creek

Marion Creek

MARION CREEK

Gillinbin Creek

W HILL CREEK

W HILL CREEK


West Hill Creek

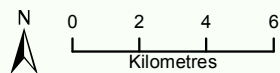
CARMILA CREEK

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
-  Catchment boundary
-  Highway
-  Watercourse
-  HEV



Data:
GBRMPA.
State of Queensland (Department of
Science, Information Technology,
Innovation and the Arts) 2014

Carmila Coast 8

The receiving waters of the Carmila Coast stretch approximately 50 km from just south of Clairview up to Notch Point. This section of coastline receives flows from five subcatchments, each with grazing as their major landuse, occupying over 55 000 ha in total.

Although the subcatchments contributing to the Carmila Coast have a very small proportion of Reserve and National Parks, large areas of High Ecological Value stretch unbroken down the subcatchments' western boundary. These HEV areas help make up the southern extent of the Clarke Connors Range.

The receiving waters of the Carmila Coast are particularly important in relation to coral, as approximately 42% of all coral existing in the Mackay Whitsunday region occurs within this receiving water.

Current Condition Report

Freshwater/ Terrestrial

Carmila Coast's freshwater ecosystems received an overall score of Moderate with fish community health, riparian vegetation, and flow receiving a condition score of **Moderate** or **Good** in all subcatchments.

Ambient water quality was **Good** for all subcatchments. Event water quality was the lowest scored ecosystem health indicator, with scores of **Moderate** for Gillinbin and Carmila Creek subcatchments, and **Very Poor** for Marion, West Hill, and Flaggy Rock Creek subcatchments. Major water quality pollutants of concern include dissolved inorganic nitrogen (DIN), particulate nitrogen (PN), filterable reactive phosphorus (FRP), total suspended solids (TSS) and diuron.

Fish passage in the area is impacted by barriers to fish movement scored as **Very Poor** for Carmila Creek, **Poor** in Marion and Flaggy Rock Creeks, **Good** in West Hill Creek and **Very Good** in Gillinbin Creek.

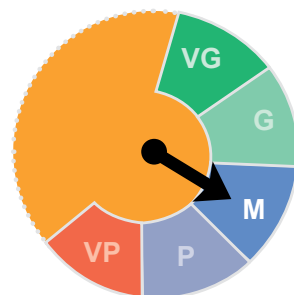
Marine

The receiving waters of the Carmila Coast have received an overall condition score of **Poor**. This is primarily due water quality entering the receiving waters with high levels of pollutants.

The Marine Risk Index has mapped the immediate Carmila Coastline to be at a **Moderate** risk with water beyond the immediate coastline at a **High** risk. The Marine Risk Index also maps 73% of coral and 68% of seagrass in the receiving waters in a **High** risk category because of the impact of water quality pollutants.

Ecosystem Health Rating

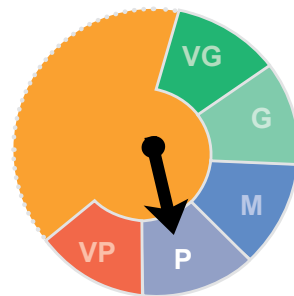
Very Good Good Moderate Poor Very Poor



FRESHWATER

Ecosystem Health

Carmila Coast freshwater ecosystems received an overall score of **Moderate**.



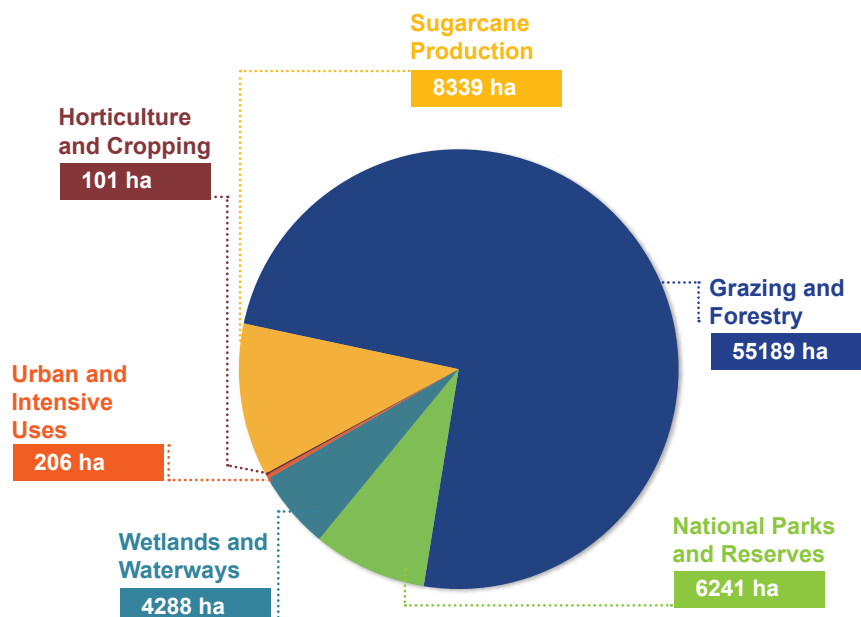
MARINE

Ecosystem Health

Carmila Coast marine ecosystems received an overall score of **Poor**.

P3

Subcatchments Total Area by Landuse



Total hectares Carmila Coast Receiving Waters

74363 ha

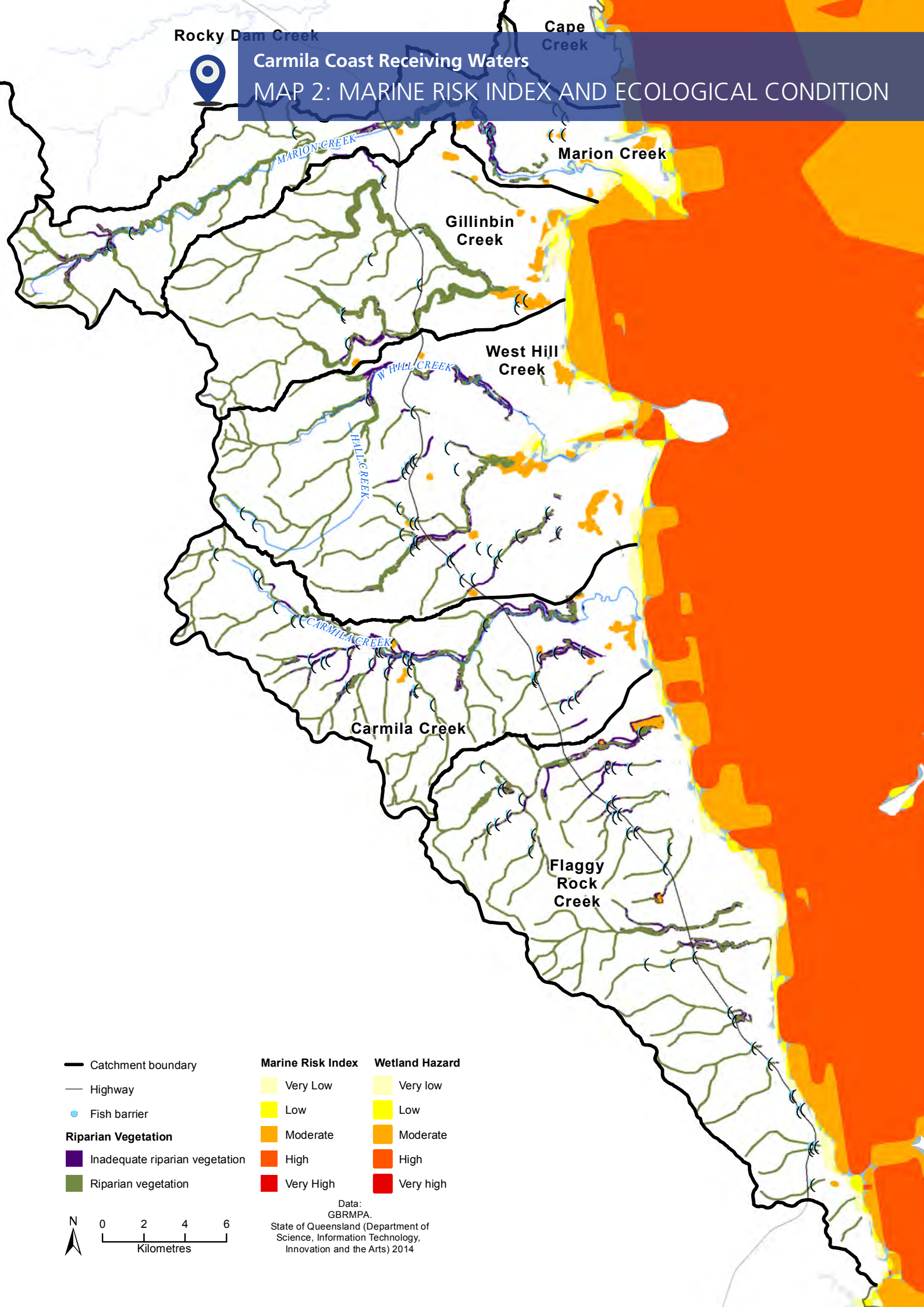
Rocky Dam Creek

Cape Creek



Carmila Coast Receiving Waters

MAP 2: MARINE RISK INDEX AND ECOLOGICAL CONDITION



— Catchment boundary

— Highway

• Fish barrier

Riparian Vegetation

■ Inadequate riparian vegetation

■ Riparian vegetation

Marine Risk Index

■ Very Low

■ Low

■ Moderate

■ High

■ Very High

Wetland Hazard

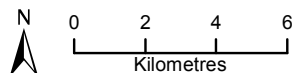
■ Very low

■ Low

■ Moderate

■ High

■ Very high



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Ecosystem HEALTH]

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

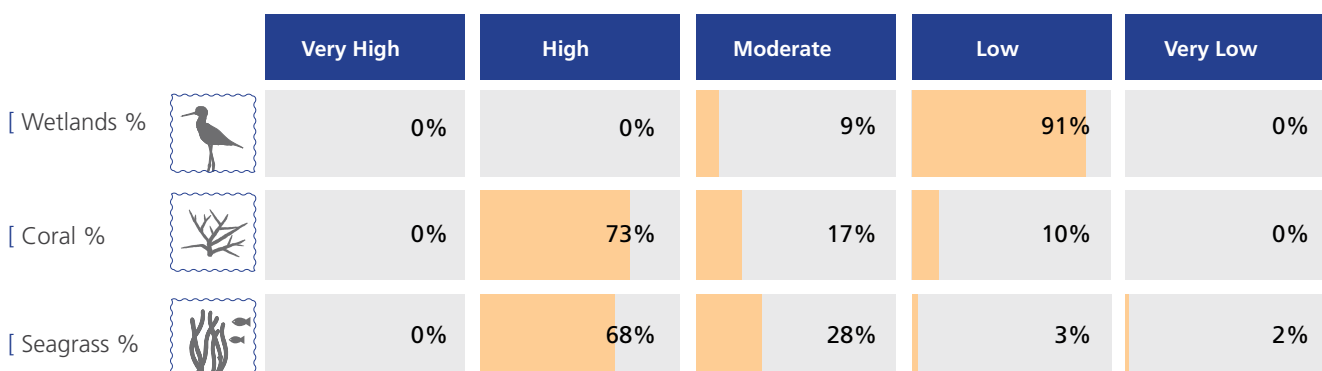


P5]

Table 2: OVERVIEW

This table displays the total area (as a percentage) of wetlands, coral, and seagrass that exist within each risk category. The risk categories represent the presence of land-based pollutants of greatest risk, ranging from Very Low Risk to Very High Risk.

Table 2 [Marine Risk and Wetland Hazard



Rocky Dam Creek

Cape Creek



Carmila Coast Receiving Waters

MAP 3: BLUE MAP (HYDROLOGICAL CONNECTIVITY)

Marion Creek

MARION CREEK

Gillinbin Creek

W HILL CREEK

HILL CREEK

West Hill Creek

CARMILA CREEK

CARMILA CREEK

Carmila Creek

Flaggy Rock Creek

— Catchment boundary

— Highway

■ Seagrass

■ Reef

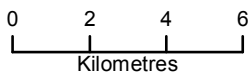
Water connectivity

■ Infrequently connected

■ Intermittently connected

■ Frequently connected

■ Very frequently connected



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Key Area Targets (corresponding with Blue Map)

The hydrological connectivity shown on the Blue Map is used to prioritise activities for best ecosystem outcomes. The below details the target activities for areas of differing levels of connectivity.

Infrequently Connected areas

- Target grazing in forests (10,808 ha)
- Target heathlands (5068 ha)
- Target rainforests (2343 ha) and forest forestry (3557 ha)
- Target grazing modified pastures (1486 ha)

Intermittently Connected areas

- Target grazing forests (9013 ha),
- Target woodlands (2650 ha) and heathlands (1086 ha)
- Target irrigated sugar (8149 ha)
- Target grazing pastures (10,836 ha)

Frequently Connected areas

To improve ecological processes in frequently connected areas:

- Target grazing woodlands (1020 ha)
- Target forests (196 ha)
- Target rainforests (170 ha)
- Target grazing pastures (206 ha) and ponded pastures (188 ha)

Very Frequently Connected areas

- Target ponded pastures (670 ha)
- Grazing woodlands (57 ha) and rainforests (15 ha)

MAP DATA SOURCES PROVIDED BY:

STATE OF QUEENSLAND (DEPARTMENT OF SCIENCE, INFORMATION TECHNOLOGY, INNOVATION AND THE ARTS) 2014, GREAT BARRIER PARK MARINE AUTHORITY, MACKAY REGIONAL COUNCIL, ISAAC REGIONAL COUNCIL AND WHITSUNDAY REGIONAL COUNCIL.

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