Water Quality Improvement Plan 2014 – 2021

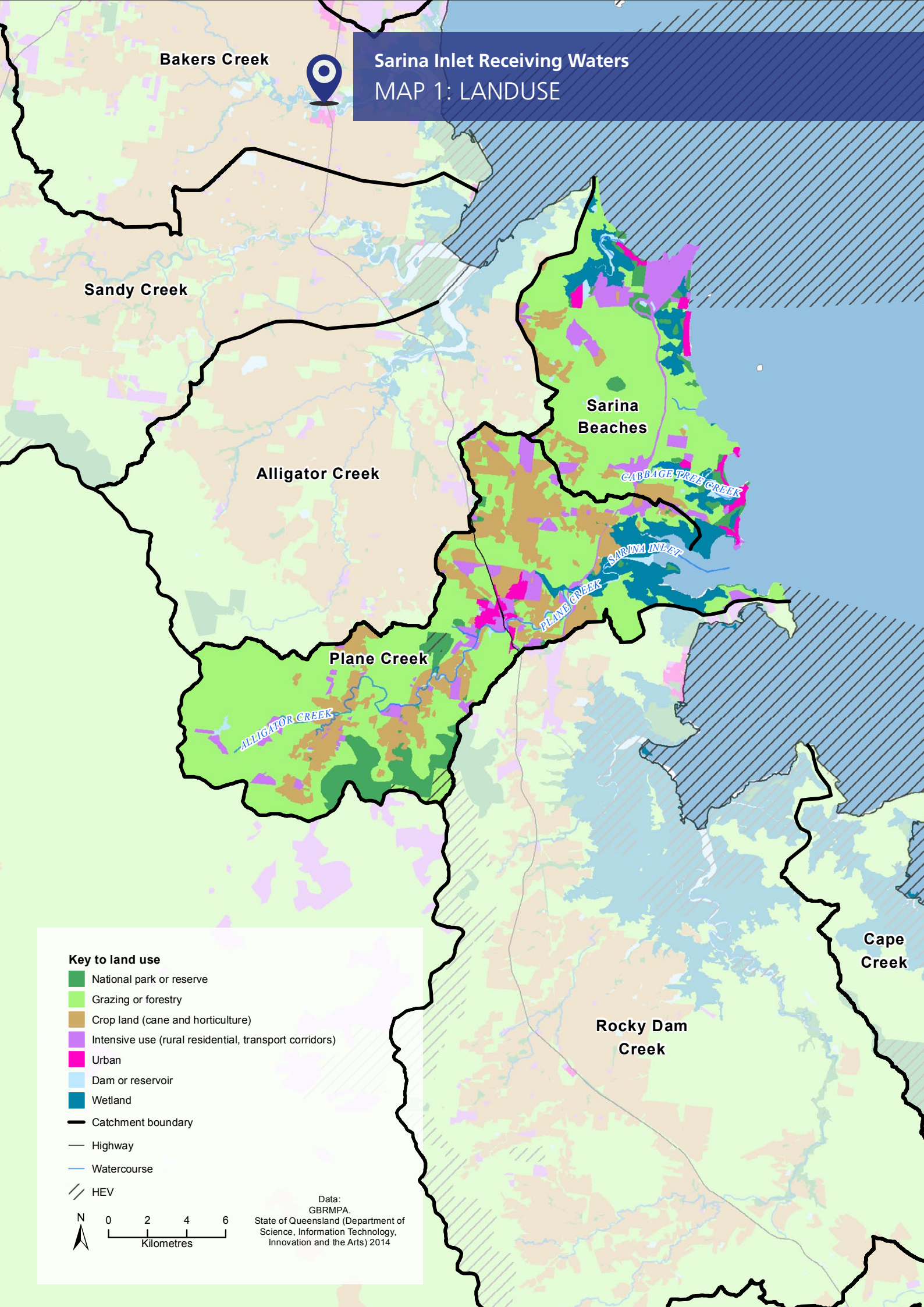
Sarina Inlet 2014

REEF CATCHMENTS

Healthy Waterways Alliance
MACKAY – WHITSUNDAY – ISAAC

Australian Government

Mackay | Whitsunday | Isaac


Sarina Inlet Receiving Waters
MAP 1: LANDUSE
Bakers Creek
Sandy Creek
Alligator Creek
Sarina Beaches
Plane Creek
Cape Creek
Rocky Dam Creek
CABBAGE TREE CREEK
SARINA INLET
PLANE CREEK
ALLIGATOR 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
N
0 2 4 6
Kilometres
Data:
GBRMPA.
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

Sarina Inlet 6

The Sarina Inlet receiving waters stretch from Freshwater Point north to Hay Point. The subcatchments draining into Sarina Inlet are Sarina Beaches and Plane Creek, which have high proportions of grazing and sugarcane landuses.

Urban centres within the subcatchments include Sarina and Hay Point, and the coastal villages of Sarina Beach, Campwin Beach, and Grasstree Beach.

The Port of Hay Point in one of the largest coal export ports in the world. The port is made up of two coal terminals, Dalrymple Bay Terminal and Hay Point Terminal, as well as connecting rail infrastructure. Other major industrial facilities of the area are Sarina Sugar Mill and Ethanol Distillery.

Current Condition Report

Freshwater/ Terrestrial

The receiving waters of Sarina Inlet have received an overall score of ***Moderate*** for the condition of the connected freshwater ecosystems. Both subcatchments received scores of ***Poor*** for event water quality, and ***Good*** for ambient water quality condition.

Both Plane Creek and the Sarina Beaches subcatchments received ecosystem health indicator scores of ***Moderate*** for fish community health and riparian vegetation. Sarina Beaches received a score of ***Good*** for flow, while Plane Creek received a ***Moderate***. Barriers to fish migration is a particular issue within both subcatchments (Plane Creek scored ***Very Poor*** and Sarina Beaches scored ***Poor***), where there are many significant barriers including major weirs located on Plane Creek.

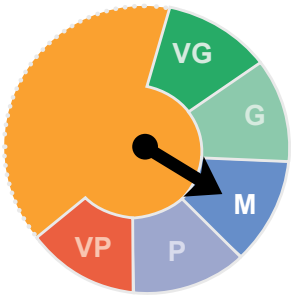
Marine

The receiving waters of Sarina Inlet received an overall condition score of ***Poor***. Poor event water quality has resulted in much of the receiving water area of Sarina Inlet being mapped as ***High*** risk by the Marine Risk Index.

The Sarina Inlet waters contain little coral, however of the coral that does exist 14% is in ***High*** risk. In contrast, 20% of the region's seagrass grows in the Sarina Inlet, and all of it is located in areas that have a ***High*** to ***Very High*** risk from water quality.

Ecosystem Health Rating

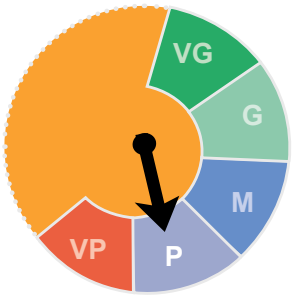
Very Good | Good | Moderate | Poor | Very Poor



FRESHWATER

Ecosystem Health

Sarina Inlet **freshwater ecosystems** received an overall score of **Moderate**.



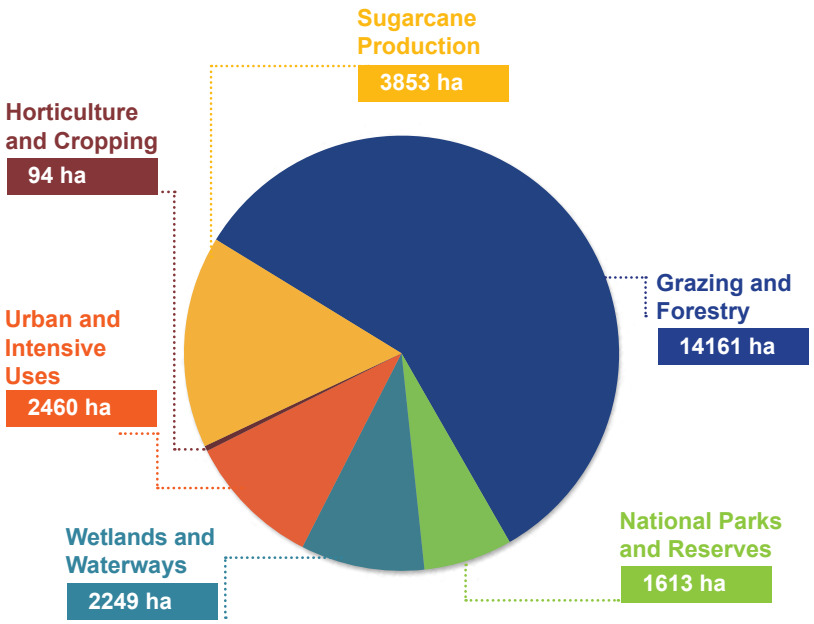
MARINE

Ecosystem Health

Sarina Inlet **marine ecosystems** received an overall score of **Poor**.

P3

Subcatchments Total Area by Landuse



Total hectares Sarina Inlet Receiving Waters

24430 ha

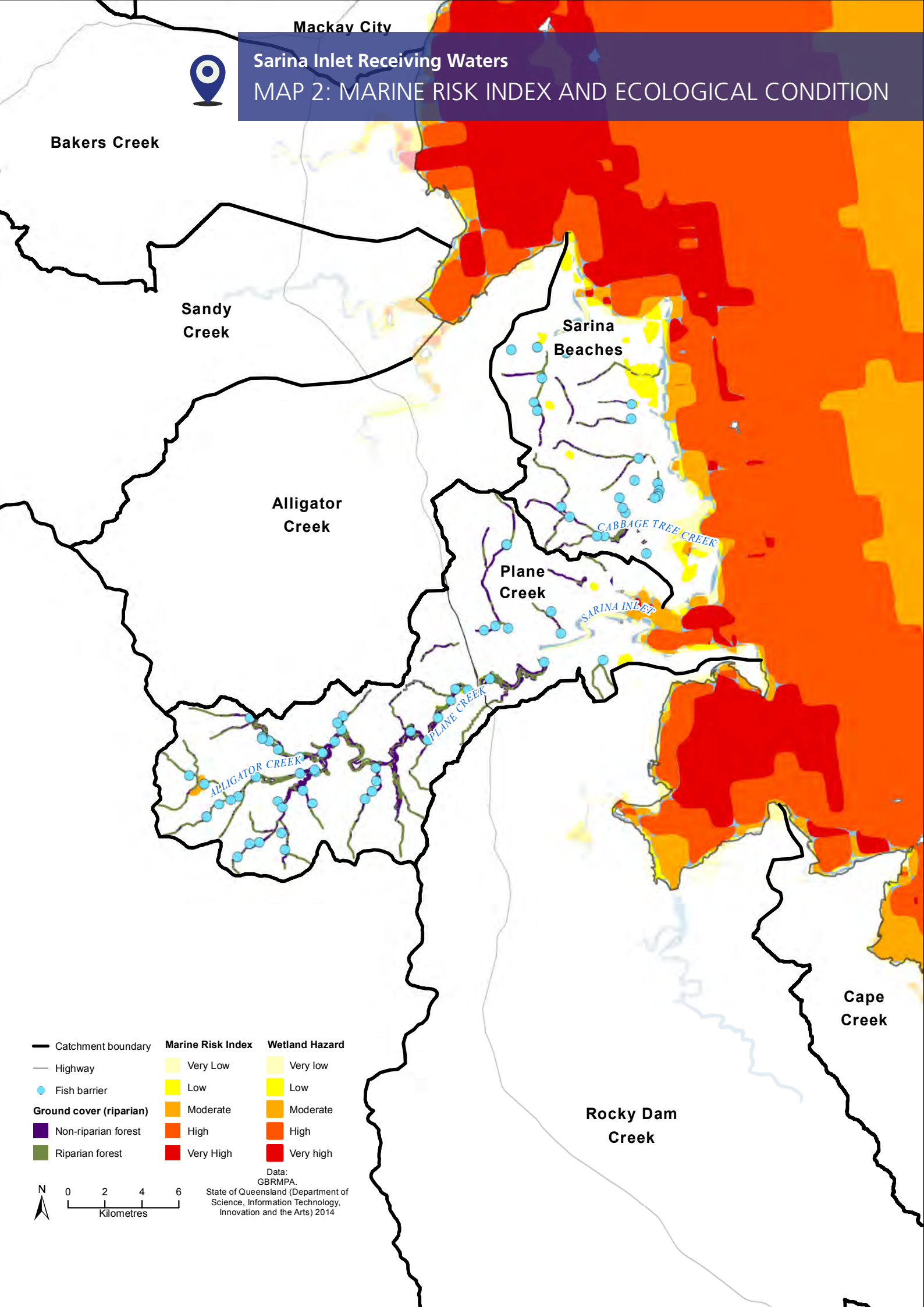

Mackay City
Sarina Inlet Receiving Waters
MAP 2: MARINE RISK INDEX AND ECOLOGICAL CONDITION
Bakers Creek
Sandy Creek
Sarina Beaches
Alligator Creek
CABBAGE TREE CREEK
Plane Creek
SARINA INLET
PLANE CREEK
ALLIGATOR CREEK
Cape Creek
Rocky Dam Creek
Catchment boundary
Highway
Fish barrier
Ground cover (riparian)
Non-riparian forest
Riparian forest
Marine Risk Index
Very Low
Low
Moderate
High
Very High
Wetland Hazard
Very low
Low
Moderate
High
Very high
N
0 2 4 6
Kilometres
Data:
GBRMPA.
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

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

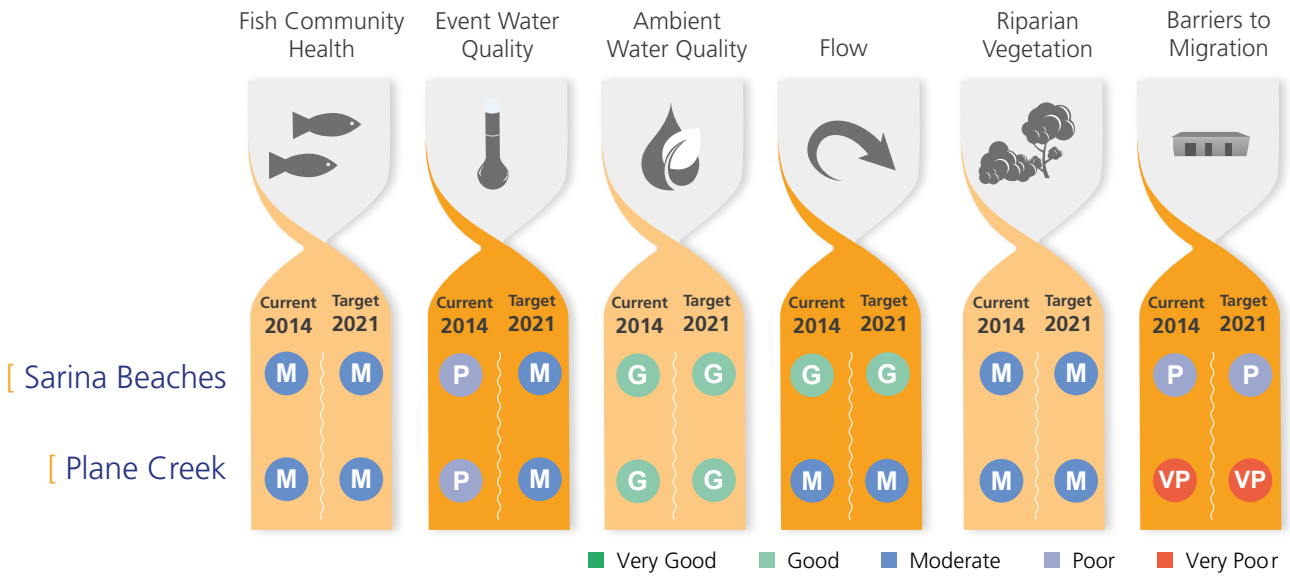
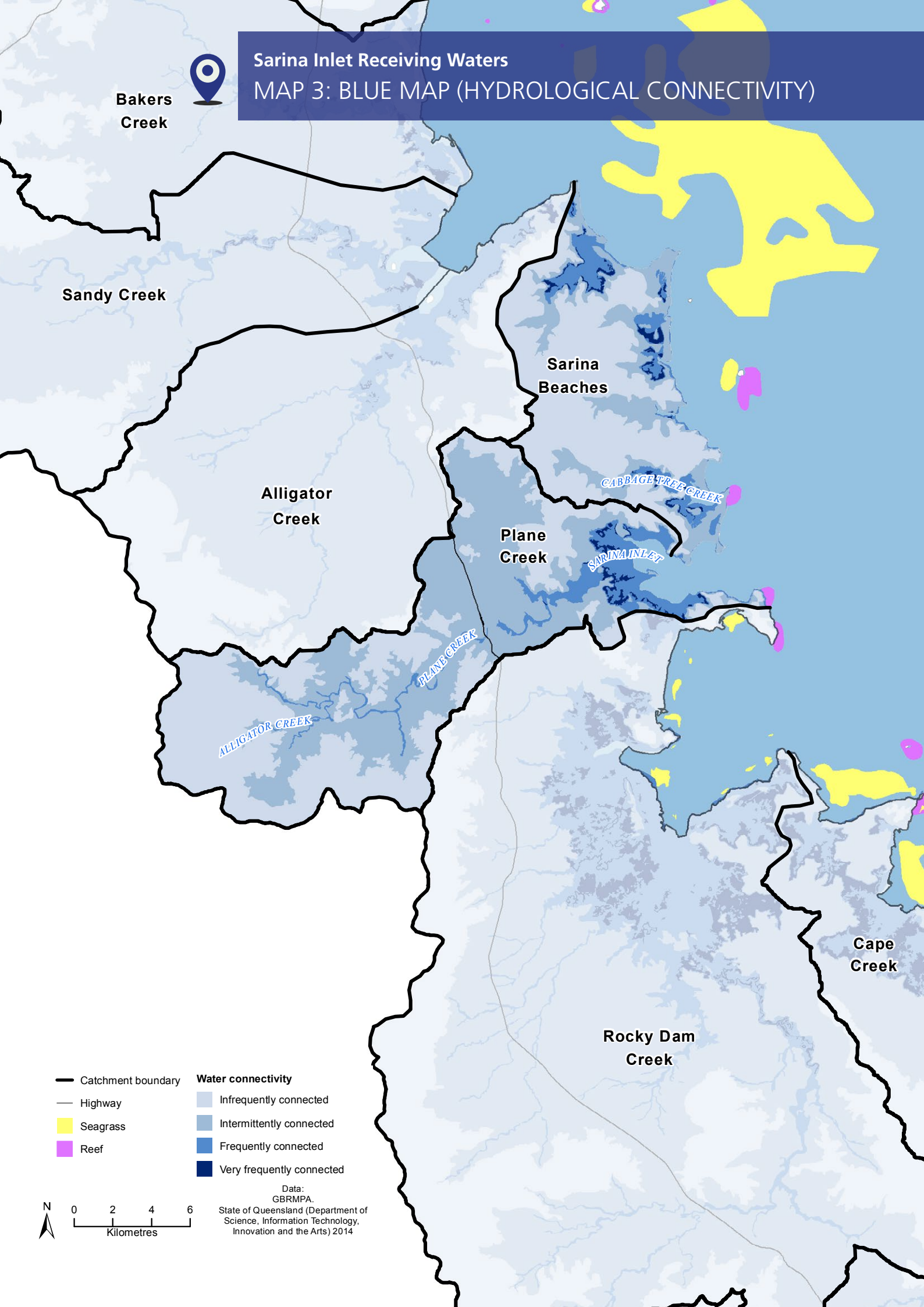


Table 2: OVERVIEW

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

	Very High	High	Moderate	Low	Very Low
[Wetlands %	0%	0%	6%	94%	0%
[Coral %	0%	14%	35%	45%	7%
[Seagrass %	17%	83%	0%	0%	0%


Sarina Inlet Receiving Waters
MAP 3: BLUE MAP (HYDROLOGICAL CONNECTIVITY)
Bakers Creek
Sandy Creek
Alligator Creek
Sarina Beaches
Plane Creek
CABBAGE TREE CREEK
SARINA INLET
PLANE CREEK
ALLIGATOR CREEK
Cape Creek
Rocky Dam Creek
Catchment boundary
Highway
Seagrass
Reef
Water connectivity
Infrequently connected
Intermittently connected
Frequently connected
Very frequently connected
N
0 2 4 6
Kilometres
Data:
GBRMPA.
State of Queensland (Department of Science, Information Technology, Innovation and the Arts) 2014

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 (5414 ha)
- Target grazing in forests (3147 ha)
- Target rainforests (663 ha)
- Target rural residential (588 ha)
- Target irrigated sugar (637 ha)

Intermittently Connected areas

- Target grazing in forests (929 ha)
- Target grazing (3249 ha)
- Target irrigated sugar (3120 ha)
- Target intensive uses (1278 ha)

Frequently Connected areas

To improve ecological processes in frequently connected areas:

- Target 135 ha grazing
- Target 49 ha ponded pastures
- Target 48 ha irrigated sugar
- Target grazing in forests (55 ha) and rainforests (39 ha)

Very Frequently Connected areas

- Target 247 ha ponded pastures

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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