

4 Repulse Creek

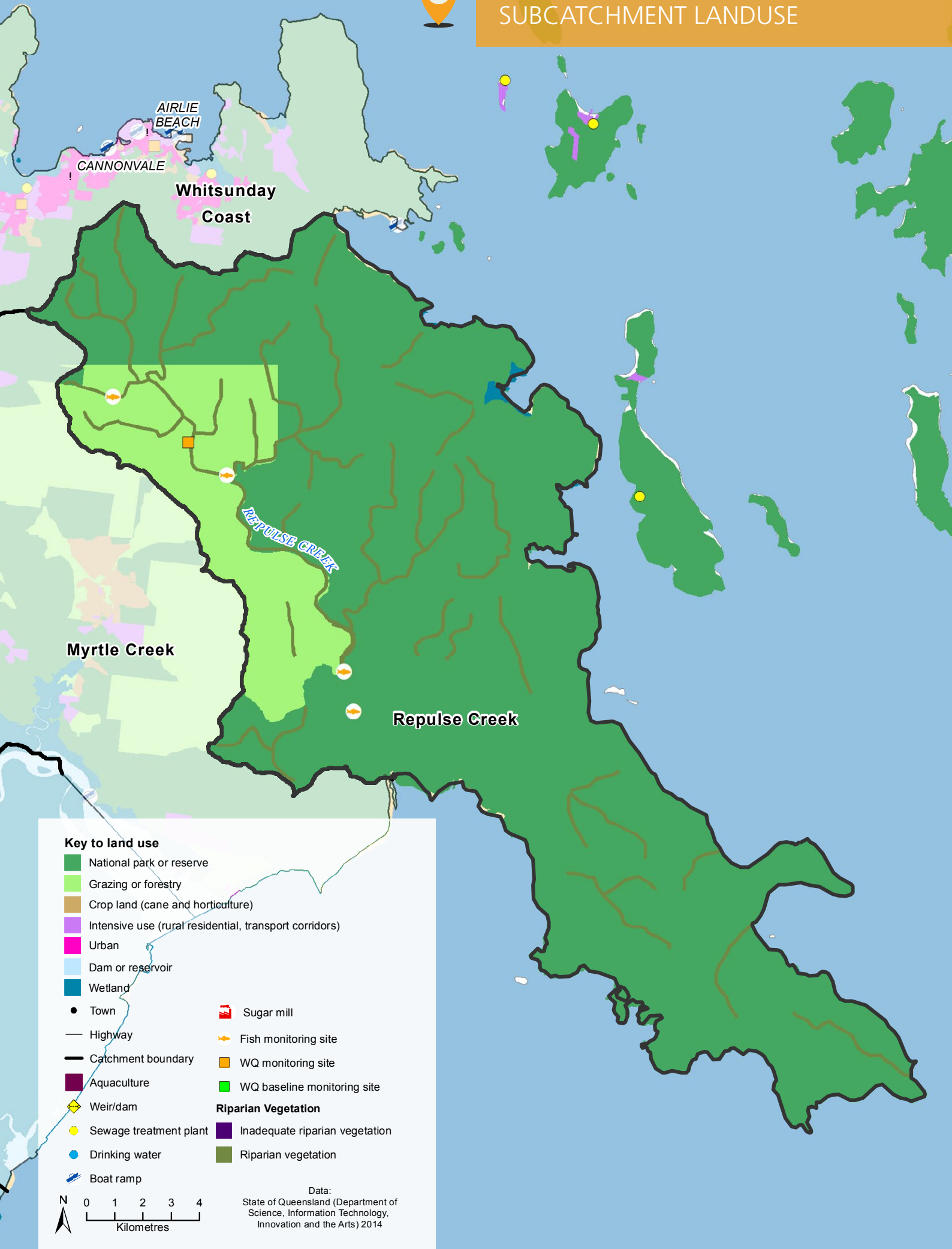


WATER QUALITY IMPROVEMENT PLAN 2014 - 2021

CATCHMENT MANAGEMENT AREA REPORT

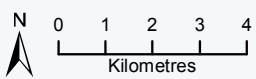
4 Repulse Creek





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



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

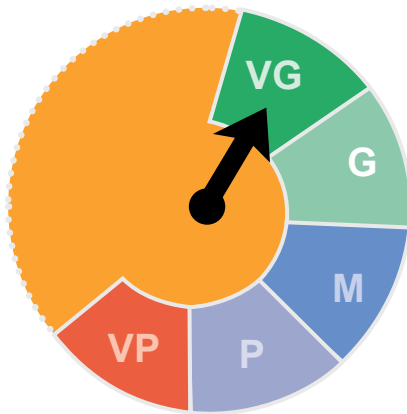
CATCHMENT MANAGEMENT AREA REPORT



Repulse Creek Ecosystem Health Rating

■ Very Good
 ■ Good
 ■ Moderate
 ■ Poor
 ■ Very Poor

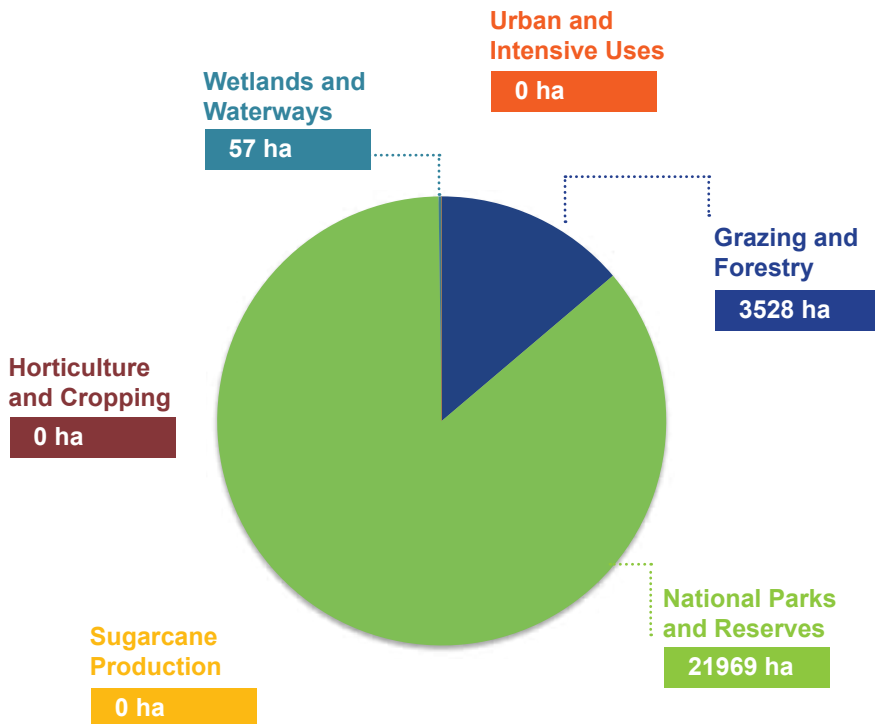
FRESHWATER
Ecosystem Health



VG

Repulse Creek **freshwater ecosystem** received an overall score of **Very Good**.

Total Area by Landuse



Repulse Creek catchment area is a relatively small catchment situated on the Whitsunday coastline. The catchment area is entirely surrounded by National Park and State Forest. Repulse Creek flows from the highlands of Dryander National Park into the Declared Fish Habitat and Dugong Protection Area of Repulse Bay. Overall, National Park protects 75% of the catchment area on the east adjoining the marine environment. The remaining 25% on the western boundary of the catchment is under grazing production.

Between 2007 and 2013 there have been efforts to improve grazing management practice. Continuing efforts will focus on maintaining the ecological health of Repulse Creek catchment for improved fish, seagrass and dugong habitat in Repulse Bay.

Total hectares Repulse Creek

25554 ha

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

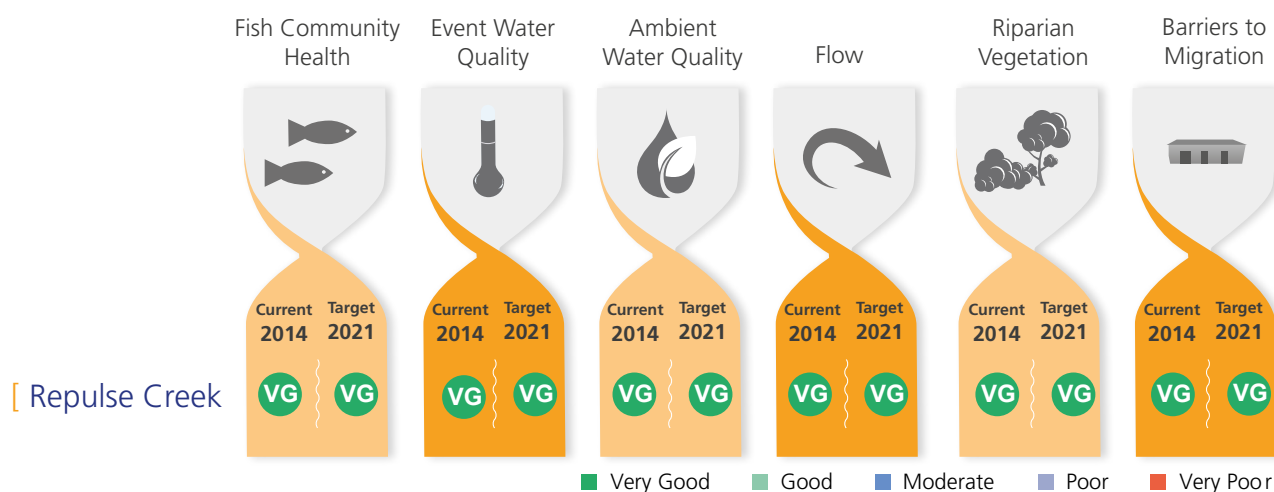


Table 1: OVERVIEW

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 |
|-------------------------------------|-------------------|-------------|----------------|--------|------------------|
| REPULSE CREEK SUB CATCHMENT | | | | | |
| Dissolved Inorganic Nitrogen µg/L | 256 | 256 | 256 | LOW | CIU |
| Particulate Nitrogen µg/L | 261 | 261 | 261 | LOW | CIUG |
| Filterable Reactive Phosphorus µg/L | 27 | 27 | 27 | LOW | CIU |
| Particulate Phosphorus µg/L | 31 | 31 | 31 | LOW | CIUG |
| Total Suspended Sediment mg/L | 8 | 8 | 8 | LOW | CIUG |
| Ametryn µg/L | <LOD | <LOD | <LOD | LOW | CIU |
| Atrazine µg/L | <LOD | <LOD | <LOD | LOW | CIU |
| Diuron µg/L | <LOD | <LOD | <LOD | LOW | CIU |
| Hexazinone µg/L | <LOD | <LOD | <LOD | LOW | CIU |
| Tebuthiuron µg/L | <LOD | <LOD | <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.

Table 3 | Action Targets - Ecosystem Health Management

L = Low, M = Moderate, H = High





| | | Condition 2014 | Planned Activities to 2021 | Effort | \$ Cost |
|---|---|----------------|----------------------------|--------|---------|
| Repulse Creek | | | | | |
| Barriers (number) |  | 0 | 0 | L | \$0 |
| Riparian Vegetation Management (hectares) |  | 1281.9 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 = \$0 | | | | | |

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.



The efforts and investment in management practice change and water quality improvement are focused on protecting and improving the waters of Repulse Bay and the Whitsunday Island, flagship landmarks for the Great Barrier Reef.

Grazing management practices that reduce nitrogen loads are the priority for improving event water quality and end of catchment loads to Repulse Bay. Activities that contribute to improvement in ecosystem health for Repulse Bay including seagrass bed condition and dugong population are also high priorities.

Activities that support improvements in fish community abundance and diversity are the ecosystem health priority. Systems Repair activities to improve flow in the catchment area of Repulse Bay will contribute to fish community improvements in Repulse Creek.

The catchment will continue as a sentinel reference site for regional water quality.