

# Draft Final Report

## Dredge Sediment Disposal Site Analysis

Cassowary Coast Regional Council

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## ACKNOWLEDGEMENT OF COUNTRY

The Board and employees of Water Technology acknowledge and respect the Aboriginal and Torres Strait Islander Peoples as the Traditional Custodians of Country throughout Australia. We specifically acknowledge the Traditional Custodians of the land on which our offices reside and where we undertake our work.

We respect the knowledge, skills and lived experiences of Aboriginal and Torres Strait Islander Peoples, who we continue to learn from and collaborate with. We also extend our respect to all First Nations Peoples, their cultures and to their Elders, past and present.





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## ABBREVIATIONS

AEP	Annual Exceedance Probability (%)
AHD	Australian Height Datum. Unless specified otherwise, all datums are AHD in this report
ARI	Average Recurrence Interval (years)
BOM	Bureau of Meteorology
CCRC	Cassowary Coast Regional Council
DES	Department of Environment and Science
DSMF	Dredge Sediment Management Facility
EA	Environmental Authority
EPA	Erosion Prone Area (coastal erosion)
ERA	Environmentally Relevant Activity
GLC	Geosynthetic Clay Liner
GPS	Global Positioning System
HAT	Highest Astronomical Tide
Hs	Significant wave height
LAT	Lowest Astronomical Tide
LGA	Local Government Area
MHWN	Mean High Water Neaps
MHWS	Mean High Water Springs
MLWN	Mean Low Water Neaps
MLWS	Mean Low Water Springs
MSES	Matter of State Environmental Significance
MSL	Mean Sea Level
SLR	Sea Level Rise (coastal inundation)
STL	Storm Tide Level (coastal flooding)
Tp	Wave peak period modelled as Spectral Peak Period, i.e. Tmm,0-1
USACE	United States Army Corps of Engineers



## DEFINITIONS

This report has been developed with technical definitions specific to the review of dredge sediment disposal sites located on the coast.

Term	Definition
Astronomical Tide	The astronomical tide is the normal day-to-day rising and falling of ocean waters in response to the gravitational influences of the sun and the moon.
Coastal erosion	Erosion of the shoreline occurs due to wave breaking actions and loose soil. The erosive forces would often be concentrated on a perimeter bund erosion around the closed landfill site.
Coastal flooding	Episodic coastal flooding due to storm events and cyclone. Coastal flooding includes the effect of storm tide (storm surge plus astronomical tide), wave set-up and wave run-up and overtopping.
Coastal inundation	Long-term coastal inundation due to permanent tidal incursion of the Highest Astronomical Tide (HAT) seawater on land due to ongoing of sea level rise.
Overtopping	Overtopping discharge occurs as a result of waves running up the face of a structure. If wave run-up levels are high, enough water can reach and pass over the crest of the structure. The overtopping rate is a mean overtopping discharge, given in L/s per metre of defence, which is an average quantity of water passing over the crest during a storm event. Wave overtopping does not describe how many waves overtop the structure and how much water overtop for each wave. Individual wave overtopping flows may be up to 100 times larger than the average overtopping quantities.
Scour	Scouring is related to abrasion of surfaces due to hydraulic actions. Typically scour manifest over submerged area of the closed landfill cap.
Sea level rise	Sea level rise is defined by an increase of the mean water level due to an increase in the volume of water and thermal expansion of the oceans.
Significant wave height	The significant wave height ( $H_s$ ) is the average wave height (trough to crest) of the one-third largest waves.
Storm surge	Non-periodic variations from the astronomical tide are typically associated with the effect of wind on sea level. This increase in the ocean water level is caused by the severe atmospheric pressure gradients (barometric surge component) and the high wind shear induced on the surface of the ocean (wind setup component) by a severe storm or tropical cyclone. The storm surge magnitude depends upon several factors, such as the intensity of the storm, its overall physical size, the speed at which it moves, the direction of its approach to the coast, and the bathymetry and topography of the coastal zone.
Storm tide level	The storm tide level is the peak water level during a storm event, including storm surge and astronomical tide.
Wave peak period	The wave peak period ( $T_p$ ) is associated with the most energetic waves in the total wave spectrum at a specific point.
Wave set-up	The strong winds associated with severe storms generate waves. As these waves propagate into shallow coastal waters, they shoal and break as they interact with the seabed. The dissipation of wave energy during the wave-breaking process increases the water level shoreward of the wave breaking point; this effect is the wave setup. Wave set-up piles up of water against the shoreline because of breaking waves.



Term	Definition
Wave run-up	Wave run-up is the vertical height above the local still water level up to which incoming waves will rush when they encounter the land/sea interface. The level to which waves will run up a natural foreshore (or a structure) depends on the incident wave parameters as well as the porosity, slope, extent, and configuration of the land boundary. For example, the wave runup on a gently sloping beach differs from wave runup on a near-vertical concrete seawall. Wave run-up heights and levels also change on a wave-by-wave basis.

In this report, the following direction conventions have been used:

- Winds and waves: “coming from”
- Currents and sediment transport: “moving towards”



## 1 INTRODUCTION

Cassowary Coast Regional Council (CCRC) engaged Water Technology to review future maintenance dredging disposal site options for Port Hinchinbrook. Maintenance dredging is intended to improve coastal water access and safer boating launch and retrieval.

The study considers both short-term and long-term maintenance dredging requirements of navigation channels as well as boating access to the commercial and marina basin with a focus on public boat ramp infrastructure. Council seeks a coherent and sustainable vision for maintenance dredging options at Port Hinchinbrook, which can be scaled as private investment ebbs and flows in the region.

Port Hinchinbrook site features are shown in Figure 1-1, while potential dredged sediment disposal locations are shown in Figure 1-2.



Figure 1-1 Port Hinchinbrook Site



**Figure 1-2 Study Area**

Water Technology staff visited the site on the 12<sup>th</sup> of June 2023 and observed significant sedimentation in One Mile Creek Channel, the Marina Basin, and the Commercial Basin.

Figure 1-3 shows the entrance of the Port Hinchinbrook One Mile Creek Channel, which is covered with sediment on both sides of the channel, with a narrow channel remaining in the middle of the two breakwaters. The navigation aid is located on a muddy bank and is performing poorly from a safe navigation perspective.

Figure 1-4 shows the extent of siltation at the toe of the boat ramp. The soft sediment covering the boat ramp comprises silt and clay and exhibits a relatively high degree of cohesivity. The boat ramp cannot operate at low tide, which impedes Volunteer Marine Rescue (VMR) operations.



**Figure 1-3 Port Hinchinbrook Entrance**



**Figure 1-4 Port Hinchinbrook Boat Ramp**



Figure 1-5 shows the main existing dredge sediment disposal pond on Lot 170 and the associated drainage outlet. The pond is full and is covered by vegetation. Clay bunds around the pond are also covered by vegetation and are in poor condition. The site drains into a channel which discharges into the commercial basin. The drainage culvert structure is in good condition.



**Figure 1-5 Lot 170 and drainage outlet in Commercial Basin**



## 2 BACKGROUND

### 2.1 Overview

One Mile Creek Channel and the Port Hinchinbrook marina and commercial basins (“the estate”) were initially dredged via capital maintenance dredging in the early 1990s as part of the Port Hinchinbrook resort development.

Since then, maintenance dredging works have been carried out episodically rather than as a systematic, ongoing activity. The 1990s dredging permit only allowed cutter suction dredging, which requires a significant dewatering process. The 2011 Cyclone Yasi caused significant damage to the Marina, and maintenance dredging has been on hold since then. Significant siltation of the Port followed.

### 2.2 Sediment disposal sites

CCRC has developed a long list of potential dredge sediment disposal sites as part of the Council study - *Options assessment – Port Hinchinbrook Emergency Dredging* (2022). Ten disposal locations were selected for screening based on land availability.

Two additional sites have been designated for incorporation into this study south of *Site 1 – Lot 170* (the existing disposal location) and the Stony Creek foreshore. These additional sites were nominated as *Site 7 – Lot 7* and *Site 8 – Stony Creek*. This longlist of sites is extensive and has been considered to determine a preferred site to take forward for approvals, design and construction processes for a dredge sediment management facility. Aerial photography and topology for each site are shown in Appendix A and Appendix B respectively and Table 2-1 provides an overview of the ten sites considered.

Table 2-1 Site overview

ID	Reference	Lot/Plan	Lot Area (m <sup>2</sup> )	Tenure	Distance to dredging (m)
1	Lot 170	170SP177389	593,300	Freehold	900
2	Gravel Pit	58CWL353	453,000	Reserve	4,000
3	Gregory Street North	2C10469	124,000	Reserve	5,800
4	Attie Creek Road	3SP224412	240,400	Freehold	11,500
5	Cardwell Transfer Station	36CWL3491	76,660	Reserve	6,200
6	Tully Waste Facility	638CP881690	489,000	Reserve	49,500
7	Private Property	7RP732868	255,600	Freehold	3,000
8	Stony Creek	Unallocated State Land	unknown	varies	varies
9	Nearshore	Adjacent nearshore zone – Marine Park	unknown	varies	varies
10	Offshore	Offshore zone	unknown	varies	varies

### 2.3 Boat ramp relocation

A key reason for maintenance dredging is to improve safety and access at the Port Hinchinbrook boat ramp. Various alternative arrangements have been considered to reduce the volume of maintenance dredging and improve boating safety. The entrance of the One Mile Creek channel is relatively deep, typically with bed levels at approximately -2.0m AHD.



Oyster Point is located at the mouth of the One Mile Creek Channel entrance. The northern bank of Oyster Point is comprised mainly of vacant lots and some private properties. If those properties could be acquired on the northern side of the channel at Oyster Point, the area could be redeveloped into a boat ramp. The existing boat ramp site could then be sold as further commercial or residential space.

Such a boat ramp relocation would minimise ongoing maintenance dredging requirements and allow the boat ramp to remain functional, even during high siltation periods within the internal waterways of Port Hinchinbrook. The area is sufficiently large to redevelop a boat ramp and would be well sheltered from waves.

However, several constraints arise from such a boat ramp relocation:

- Local car traffic along Keith Williams Drive would increase significantly.
- There would likely be other costs and impacts arising from relocation of the boat ramp.
- While the boat ramp relocation would considerably reduce the sediment volume for boat ramp maintenance dredging, some maintenance dredging is likely to remain necessary.
- Crucially, the boat ramp relocation would not assist in carrying out maintenance dredging of the marina and commercial basins.

A key component of the overall project aims is for the development of a coherent and sustainable vision for maintenance dredging options of Port Hinchinbrook as a whole. Therefore, boat ramp relocation is considered insufficient to meet Council's objectives.



## 3 COASTAL PROCESSES

### 3.1 Tides

Astronomical Tides are the 'normal' rising and falling of the ocean in response to the gravitational influences of the moon, sun, and other astronomical bodies. These effects are predictable, and consequently, astronomical tide levels can be forecast with high confidence.

Tides at Cardwell are semi-diurnal in nature. Marine Safety Queensland (MSQ) tidal planes, extracted from the Queensland Tide Tables (QTT) 2023, are reproduced in **Table 3-1**.

**Table 3-1 Port Hinchinbrook – Cardwell Tidal Planes, 2023**

Tidal Plane	Level (m LAT)
Lowest Astronomical Tide	0.00
Mean Low Water Spring MLWS	0.90
Mean Low Water Neap MLWN	1.75
Australian Height Datum AHD	1.846
Mean Sea Level MSL	1.99
Mean High Water Neap MHWN	2.37
Mean High Water Spring MHWS	3.22
Highest Astronomical Tide	4.30

The level of the Permanent Survey Mark, PSM76290, is located on Cardwell Railway embankment (Bowen Street) at 6.667m AHD when surveyed originally the 16 March 1992. This PSM has a Reference Level of 8.513m LAT in the QTT 2023. This infers a net sea level rise of 0.144m in Cardwell since 1992, or a rate 4.5mm per year over the period 1992 to 2023.

Tidal predictions are computed based on astronomical influences only, without considering meteorological effects that influence ocean water levels. When meteorological conditions change significantly from the average, they can cause significant differences between predicted tides and actual sea level observations. The deviations from predicted astronomical tidal heights are often caused by strong or prolonged winds, and/or uncharacteristically high or low barometric pressures.

### 3.2 Climate Change

The Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4) of 2007 provided a range of global sea level rise projections. The Queensland Department of Environment and Science reviewed the AR4 report and adopted a sea level rise projection of +0.8 m above present-day levels by 2100 for coastal management purposes in Queensland.

The Queensland Coastal Hazard Technical Guide (Department of Environment and Heritage Protection, 2013) notes that this sea level rise allowance is broadly similar to the recommendation of the fifth Assessment Report (AR5) of 2014. The most recent IPCC assessment (AR6) was produced in 2022.

### 3.3 Storm Tides

Astronomical tides dominate coastal water levels in the study area. However, variations from the predicted tide level can occur due to meteorological events, particularly during storms when high wind and low atmospheric pressure contribute to increased sea levels. These variations are referred to as storm surges. The storm tide



is the total water level resulting from predicted astronomical tides plus the increase in the storm surge. Figure 3-1 illustrates the components of a storm tide event, including the nearshore wave processes contributing to coastal flooding.

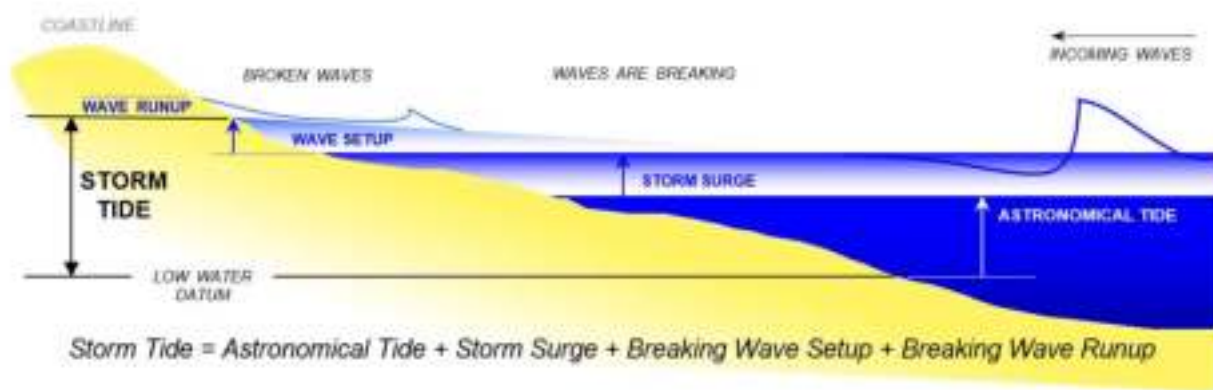


Figure 3-1 Storm Tide Components

The BMT WBM 2008 Cardwell Inundation Study modelled storm tide events at Port Hinchinbrook as (excluding sea level rise allowance) listed in Table 3-2.

Table 3-2 Port Hinchinbrook Storm Tide Levels (excluding Sea Level Rise) (BMT WBM, 2008)

Annual Exceedance Probability (AEP)	Peak Storm Tide Level (m AHD)	Peak Storm Tide Level (Inc. Wave Setup) (m AHD)	Peak Storm Tide Level (Inc. Wave Setup and runup potential) (m AHD)
1%	2.61	2.85	3.67
0.5%	3.05	3.30	4.21
0.2%	3.77	4.04	4.99
0.1%	4.21	4.49	5.44
0.01%	5.20	5.49	6.56

### 3.4 Waves

The BMT WBM 2008 Cardwell Inundation Study provides an update on coastal wave processes in Port Hinchinbrook. The significant wave height (offshore) is estimated at 2.33m for a 1% AEP event.

All terrestrial sites considered in this assessment are sufficiently far from the open coast to be effectively cut from day-to-day coastal processes, including wave action. Only the offshore sites are subject to direct wave actions, all the other sites are protected by mangroves or coastal vegetation.

However, extreme waves occurring during cyclonic conditions can reach the edges of the lower-lying sites. Even though most of the recognised sites are protected by natural buffers, it is plausible that these buffers will be affected during cyclones and overtime as climate changes and sea level rises. For low-lying and coastal sites, including Lot 170, consideration of extreme storms should be incorporated into the consideration of future dredge ponds and associated infrastructure design.



## 4 DREDGING PORT HINCHINBROOK

### 4.1 Proposed dredging work

Council considers two different types of dredging activities for Port Hinchinbrook:

- Maintenance dredging – removing sediment siltation within the harbour following the construction of the estate. The original design of the channel and the dredging carried out during the 1990s provided a navigation channel at -2.0m LAT, with 0.5m over dredging to allow for siltation, providing a design dredging depth of -2.5m LAT.
- Capital dredging – developing the site dredging works beyond the original design depth of -2.5m LAT. The latest designs considered by Council in 2020 were subject of an expression of interest for capital dredging works within the harbour and considered a deeper dredging depth, down to -3.86m LAT.

The latest maintenance dredging campaign dates from 2009.

Maintenance dredging requirements were initially estimated to be between 10,000m<sup>3</sup> and 25,000m<sup>3</sup> per year, which was necessary to maintain the estate's waterways. The 2009 Dredge Management Plan estimate revised this rate upward to be from 30,000m<sup>3</sup> to 50,000m<sup>3</sup> per year. This later estimate may be related to increased siltation rate allowances for exceptional works following tropical cyclone events.

Following a 2020 bathymetric survey, CCRC proposed a minimum maintenance dredging targeting 66,000m<sup>3</sup> of sediment deposits in the One Mile Creek Channel to improve access to the boat ramp. Such dredging would provide a uniform depth along One Mile Creek Channel of -2.0m AHD, or +0.14m LAT. While the -2.0m AHD channel depth remains tidally constrained, it would provide access during Spring Tides and dramatically improve boat ramp operation.

Based on the 2020 hydrographic survey, a sediment dredging volume of 132,476m<sup>3</sup> would need to be removed in the One Mile Creek Channel to provide a -2.0m Low Astronomical Tide (LAT) deep channel, restoring all tide access.

This study considers both maintenance dredging and capital dredging works for all areas of the estate's waterways, with an initial maintenance dredging of One Mile Creek Channel at -2.0m AHD for a target dredging volume of 66,000m<sup>3</sup>.

### 4.2 Dredge methodology

There are several ways to dredge the site and process of the dredge material:

- Mechanical dredging – such works are typically carried by excavator buckets, trucks, barge hoppers and barge bins. The work can be executed either “in the dry”, such as during the original construction of the estate, or in water. This process generates the least amount of material to process and smaller plumes during construction around the dredge bucket and from the overflow.
  - Dredging “in the dry” would require closure and dewatering of the harbour. Such a method reduces the volume of material to be processed and facilitates the logical effort required in handling the dredge sediments. The site is essentially developed similarly to an earthworks site and this approach is well-suited to contaminated sediment management.
  - Dredging with an excavator in water requires pontoons, an access ramp, or a wharf to transfer the material onshore. The barge may be set with bins that can be disposed of onshore at the dredge sediment management facility.
- Hydraulic dredging uses a cutter suction dredge which breaks down the soil and mixes it with seawater. The resulting slurry is pumped onshore for dewatering in sediment ponds. This operation generates a



large material volume, requiring significantly more space than mechanical dredging. Plumes are generated at the dredge cutting head and from the dewatering process.

- A combination of the two methodologies and other variants are possible, pending further investigation related to Acid Sulfate Soil (ASS) management and contractor equipment selection.

#### 4.3 Dredge sediments analysis

Early in 2023, a Sediment Analysis Plan (SAP) was prepared and followed by sediment sampling and testing to determine the quality of sediments in the One Mile Creek Channel. Recovery of sediment cores and samples was then completed in August 2023. Laboratory testing followed to determine the soil composition and contamination extent. The subsequent Sediment Sampling Investigation Report (SSIR) (SMEC, September 2023) details the sediment characteristics using the following guidelines:

- Decision tree and explanatory note for the assessment of tributyltin (TBT) in dredge spoil, Department of Agriculture, Water and the Environment, 2021)
- Department of the Environment, Water, Heritage and Arts, National Assessment Guidelines for Dredging 2009 (NAGD, 2009)
- Department of Science, Information Technology, Innovation and the Arts, Queensland Acid Sulfate Soil Technical Manual: Soil Management Guidelines v4.0 (2014) (DSITI, 2014)
- National Acid Sulfate Soils Guidance: Guidelines for the dredging of acid sulfate soil sediments and associated dredge spoil management (Commonwealth of Australia, 2018)
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (2013 Amendment) (NEPM, 2013)
- Per- and polyfluoroalkyl substances (PFAS) National Environmental Management Plan Draft 2.0 (NEMP). Heads of Environmental Protection Agencies (EPA) Australia and New Zealand (HEPA 2019).

The dredged sediment was sampled via vibrocore and focused on the One Mile Creek Channel for a 66,000m<sup>3</sup> maintenance dredging campaign, as discussed in Section 4 and shown in Figure 4-1,



Figure 4-1 Sediment investigation extent (SMEC, 2023)

The study concluded that:

- No contamination was identified above relevant criteria for land or ocean-based disposal except arsenic in one location at shallow depth. The arsenic concentration was below the adopted land-based criteria for disposal.
- Acid Sulfate Soil (ASS) was identified across the area and visual evidence of Monosulfidic Black Oozes (MBO) were found.

The SMEC report also made the following recommendations:

- Further testing of suspected MBO was recommended.
- ASS will require management as part of dredging activities and land-based reuse/disposal through appropriate management plans and dredging/disposal activities.
- Dredging of sediment and disposal/reuse will need to be undertaken within existing State/Federal approval frameworks as part of normal work.

This report did not provide the volume of ASS to treat, nor was the degree of treatment requirement specified. Such information will require additional work, including further laboratory testing and specific studies to prepare an Acid Sulfate Soil Management Plan (ASSMP).



#### 4.4 Dredging approvals

Dredging approvals are typically valid for a period of up to 10 years. The following requirements are likely to be triggered for the maintenance works:

- The proposed maintenance dredging will be an Environmentally Relevant Activity ERA 16(1)(b) dredging more than 10,000t but not more than 100,000t in a year, based on including both the removal of dredge sediments and land/sea-based disposal of dredge sediments.
- The development application would also be taken as an Environmental Authority (EA) application under section 115 of the Environmental Protection Act 1994.
- This ERA threshold is classified as a concurrence ERA under the Environmental Protection Regulation 2019 (EP Reg) and triggers a material change of use (MCU), requiring development approval under the Planning Act 2016.
  - Concurrence ERA - Any development application should respond to the latest version of SDAP State code 22
  - Tidal works - Any development application made should provide a response to the latest version of the SDAP State code 8.

Maintenance dredging activities will be delivered under a Dredge Management Plan (DMP), establishing parameters for meeting CCRC's legislative obligations and environmental objectives. The placement and management of the maintenance dredge material placement will be delivered under a site-specific Site Based Management Plan, which outlines mitigation measures for sustainably managing dredged resources.

#### 4.5 Sediment Disposal Option Overview

Eleven options have been considered for the dredge sediment disposal site analysis, as follows:

- **Options 1a and 1b** consist of developing a Dredge Sediment Management Facility (DSMF) on the Lot 170 SP177389. Development of the site would include an environmental offset area along the coast and at least two ponds to dewater dredge sediment and treat ASS on site. The works would include earthworks, new liners, groundwater perimeter drain, pumping and monitoring well, access road, drainage and revegetation. The outlet drain would be located in the commercial basin. Option 1a would carry out the works with a cutter suction dredge, while option 1b would use either dredging "in the dry" - following closure of the channel, or "in the wet" via a barge-mounted excavator.

All other options would be best delivered via mechanical dredging as pumping distances for dredge slurry are too large to reach those sites with a small cutter suction dredge. If the dredging is carried out by a hydraulic method, the volume of slurry would be best treated on Lot 170, prior to being transported to each site. This would increase costs significantly due to double handling of sediments.

- **Option 2** consists of developing a DSMF at the Council Gravel Pit on Lot 47 CW353. This site was found to be too steep to progress with a concept plan. Additionally, the receiving environment and groundwater upstream of Stony Creek is likely to be freshwater and generally not considered compatible with dredging disposal of contaminated marine sediments.
- **Option 3** envisages development of the DSMF at the Gregory Street North reserve Lot 2 C10469 site. Dewatering would be channelled to Menga Creek. This procedure could result in salt intrusion into the local water table. Significant infrastructure development works would be required to manage this risk and monitor and to control leachate release.
- Similarly, **Option 4**, developing the Quarry on Attie Creek Road, Lot 3 SP224412 is too steep to accommodate large dredging ponds either, which is broadly similar to Option 2.



- **Option 5** is to develop a DSMF at the Cardwell Transfer Station, Lot 36CWL3491. This site is relatively small but close to Port Hinchinbrook. This site has been identified for relocation in the CCRC Coastal Hazard Adaptation Strategy.
- **Option 6** is to develop a DSMF at the Tully Waste Management Facility, Lot 638CP881690. This site is large but is quite some distance from Port Hinchinbrook. Also, developing the ponds reduces the capacity of this landfill, which could have a detrimental impact on Council's solid waste strategy, forcing the development of a new landfill site earlier than anticipated. Most importantly, the risk of releasing large volumes of salt water into the freshwater environment at this location would require significant investment in leachate management.
- **Option 7** consists of developing private property along the Bruce Highway into a DSMF. The Lot 7 RP732868 was used as an example and several properties could be used in a similar way along the coast. The site would operate similarly to Option 1; however, pumping sediment from the Port Hinchinbrook estate to the site would be difficult with a small cutter suction dredge, so only mechanical dredging is likely to be possible for this site.
- **Option 8** consists of developing a DSMF in coastal waters, in the estuary of Stony Creek, on Unallocated State Land, in the Great Barrier Reef Marine Park. Such a development would require a levee, akin to a breakwater, to be built around the sediment pond's perimeter and sediment placement either underwater or in intertidal areas. The pond would be vegetated with mangroves and coastal vegetation to reuse the dredge sediments beneficially. Alternative options in the Port Hinchinbrook marina have been considered, but this site was too small.
- **Option 9** consists of releasing the sediment in a designated and suitable dredge disposal ground in Rockingham Bay, sufficiently far from the Cardwell beaches, by hopper barges. Proceeding with sediment release too close to shore would likely increase the siltation rate and harm the Hinchinbrook Passage environment and Cardwell beach amenities. While, such an operation may be envisaged for maintenance dredging work, the moratorium on dredged sediment dumping for capital works in the Great Barrier Reef Marine Park significantly reduces the ability to dredge the harbour deeper to provide a larger siltation allowance or access for deeper draft vessels. Obtaining approval for such an operation will be complex and trigger expensive and time-consuming monitoring, studies and environmental management processes and procedures, which are uncertain to proceed. As such, this option is unlikely to be feasible.
- **Option 10** consists of dumping the sediment in deep water off the Barrier Reef. This option is not feasible as it would be unsafe and expensive while requiring even more effort than Option 9 from a planning and environmental approval perspective. Such sediment disposal works would require a substantial number of shallow barge rotations through the Barrier Reef and access to open water. Access, visibility, wind, currents, and waves would substantially limit this operation. Such limits would impose substantial costs on marine operations. As such, this option is not feasible.

#### 4.6 Site Capacity Analysis

The potential capacity of a DSMF was estimated at each suitable site. The capacity of the DSMF should be as large as possible and typically at least 350,000m<sup>3</sup> to provide enough capacity for 10 years of dredged material placement at the site at an average rate of 35,000m<sup>3</sup> per year.

While this rate is based on previous dredge management plans and documents, it requires further study to be confirmed as the siltation rate range in previous studies was broad. The permit would be renewed for a further 10 years to provide a 20-year design life for the facility.

The configuration of each DSMF was investigated to understand the potential capacity for each suitable site. This assessment determined whether the site's possess adequate space for the proposed DSMF or if it necessitates excessive cut-fill operations or unreasonably high bund walls, particularly in scenarios involving steep slopes.

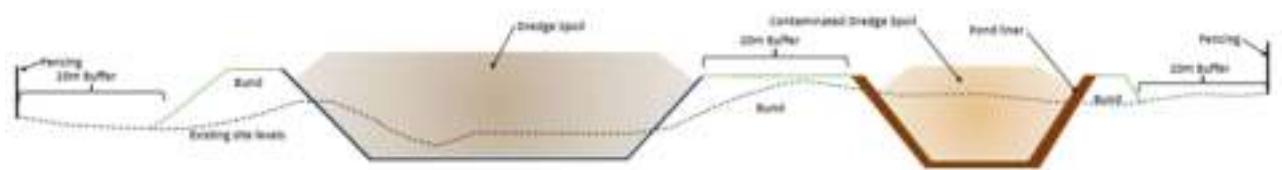


This high-level site capacity estimate is based on the following considerations:

- A 20-meter buffer around the entire site was incorporated for services and ancillary works such as transport, drainage, equipment, pump stations, etc.
- A 5-meter wide bund was integrated into the layout to allow for maintenance access and placement of material within each dredge sediment pond.
- The remainder of the site space would be utilised for additional dredge disposal ponds.
- Two dredge disposal ponds are incorporated into each site, as follows:
  - At least one pond for primary dredge disposal placement; and
  - A second pond with additional liner and water control systems (monitoring, pumping, etc.) for contaminated sediment placement and with a treatment of capacity of 20,000m<sup>3</sup>.
- A 20m buffer was incorporated between the two ponds for drainage and services.
- A site earthwork cut-fill balance was implemented to reduce costs.

A cross-sectional diagram of the layout of the sites is shown in Figure 4-2.

The results of this assessment were incorporated into the multi-criteria analysis scoring for economics and effectiveness.



**Figure 4-2 DSMF Concept**

An estimate of the required bund height was established from this assessment. An auxiliary pond, designed to accommodate around 20,000 m<sup>3</sup> of contaminated material (such as for the treatment of acid sulphate soils), was also factored into the layout, the design of this pond requires further ASS studies and a management plan.

Table 4-1 shows the resulting capacity of the dredge ponds and the bund height. Appendix D shows the extent of the bund facilities. The design life was estimated from an average dredged volume of 35,000m<sup>3</sup>/year.

**Table 4-1 DSMF Potential Capacity and Design Life**

ID	DSMF site	Capacity (m <sup>3</sup> )	Maximum bund height (m)	Potential design life (years)
1a	Lot 170	850,000	6	25
1b	Lot 170	850,000	6	25
2	Gravel Pit	5,000	N/A	N/A
3	Gregory Street North	330,000	13.5	10
4	Attie Creek Road	N/A	15	2
5	Cardwell Transfer Station	66,000	6	3



ID	DSMF site	Capacity (m <sup>3</sup> )	Maximum bund height (m)	Potential design life (years)
6	Tully Waste Facility	640,000	12.5	19
7	Private Property	180,000	6	5
8	Stony Creek	15,000	6	0.25

Quarries at the Gravel Pit and Attie Creek Road are located on a site too steep to accommodate the DSMF, as shown in Figure D-2 and D-4, in Appendix D. Out of this volumetric assessment, the DSMF on Lot 170 has the most capacity.

#### 4.7 Comparative Cost estimates

Capital costs and initial and maintenance dredging costs have been estimated for each project based on the Table 4-2 rates. These high-level rates are inclusive of direct and indirect costs.

**Table 4-2 High-level unit rates**

Activity	Rate	Unit
Dredging hydraulic	\$ 75	\$/m <sup>3</sup>
Dredging mechanical	\$ 50	\$/m <sup>3</sup>
Maritime transport /km	\$ 10	\$/m <sup>3</sup> /km
Road transport /km	\$ 15	\$/m <sup>3</sup> /km
Civil works	\$ 20	\$/m <sup>3</sup>
Pond lining and armouring	\$ 500	\$/m

A typically 50 to 100 per cent contingency has been applied to allow for scope creep (optimism bias), contingencies, risk treatment, and comparative estimates were prepared for each site. The capital costs include earthworks, the bund construction, liners, drainage and monitoring infrastructure. Table 4-3 summarises the range of comparative estimates for each option.

**Table 4-3 Comparative High-level cost ranges**

ID	DSMF site	Construction plant	DSMF Capital Costs, million \$	Initial Maintenance Dredging Cost, million \$	Routine Maintenance Dredging Cost, million \$	Lifecycle cost, million \$ per year
1 a	Lot 170	Marine	5 to 10	5 to 9	4 to 5	3 to 5
1 b	Lot 170	Land	5 to 10	5 to 6	2 to 4	2 to 4
2	Gravel Pit	Land	N/A	N/A	N/A	N/A
3	Gregory Street North	Land	3 to 4	10 to 15	5 to 10	5 to 10
4	Attie Creek Road	Land	N/A	N/A	N/A	N/A
5	Cardwell Transfer Station	Land	2 to 5	10 to 13	6 to 9	7 to 10
6	Tully Waste Facility	Land	3 to 5	50 to 70	25 to 35	25 to 35
7	Private Property	Land	3 to 4	20 to 25	10 to 15	10 to 15
8	Stony Creek	Mixed	5 to 7	5 to 10	3 to 5	20 to 30
9	Nearshore	Marine	N/A	10 to 15	N/A	N/A



I D	DSMF site	Construction plant	DSMF Capital Costs, million \$	Initial Maintenance Dredging Cost, million \$	Routine Maintenance Dredging Cost, million \$	Lifecycle cost, million \$ per year
1 0	Offshore	Marine	N/A	N/A	N/A	N/A

The accuracy of these costs estimates is of the order of +/- 50%, so the costing should be carefully considered when comparing options together for potential overlap.

Option 1b, which consists of developing a DSMF on Lot 170 and proceeding with the work via mechanical dredging, appears to be the most cost-effective in the long term, with annualised costs ranging from \$2 million to \$5 million, depending on the type of dredging works carried out.



## 5 MULTI-CRITERIA ANALYSIS

### 5.1 MCA methodology

The methodology applied for the Multi-Criteria Analysis (MCA) involved three activities:

- Determine Key themes
- Determine Key Performance Indicator
- Site comparison and results

A summary of each of these steps is provided below.

Critical considerations for each of the options regarding the feasibility of dredge disposal operations are further assessed in the multi-criteria analysis below – in particular, from an environmental value, effectiveness, government processes, social value and cost perspective.

### 5.2 Key themes

The basis of the MCA is ranking potential dredge sediment disposal sites against pre-determined 'themes' relevant to the project's decision-making process. A description of the themes identified for this project and the relevant criteria upon which these themes are assessed is provided in Table 5-1.

**Table 5-1 MCA themes and assessment criteria**

MCA Themes and Assessment Criteria	
1	<b>EFFECTIVENESS</b>
	<p>The effectiveness of the DSMF sites in addressing sediment disposal via a range of criteria. Consideration was given to maintenance and capital work for each DSMF site and uncertainties related to the dredging process.</p> <p>Assessment criteria:</p> <p><i>Longevity of design</i> – Consideration of design life under typical conditions</p> <p><i>Capacity</i> – the total volume of dredge sediment that could potentially be treated on-site</p>
2	<b>SOCIAL VALUES</b>
	<p>The local and extended community has expectations about dredged sediment management. An essential measure of the appropriateness of the proposed DSMF site is the degree to which the values held by the community can be preserved.</p> <p>Assessment criteria:</p> <p><i>Community amenity</i> – The degree to which the DSMF site meets with the community's expectation of what the local environment should be like, and/or the degree to which a DSMF site may detract from such expectations as the proposed DSMF site may have visual or social impacts, such as temporary or permanent interruption of the usage of community facilities.</p> <p><i>Public safety</i> – Consider if the DSMF site is reducing or increasing public safety as activities may generate hazards such as ASS leachate from dewatering, gas (odour), run-off, and groundwater contamination.</p>



MCA Themes and Assessment Criteria	
3	ENVIRONMENTAL VALUES
	<p>The impact or influence of a proposed DSMF site is a key consideration and generally relates to the degree to which a DSMF site may change conditions from BAU (perceived or otherwise defined). Impacts can occur to the environment and to the community.</p> <p>Assessment criteria:</p> <p><i>Biodiversity</i> – The degree to which the DSMF site may impact the existing environment and habitat, such as mangroves, and the opportunity for re-colonisation by endemic animal species.</p> <p><i>Receiving water</i> – The degree to which the DSMF site may impact marine biodiversity in the receiving environment, considering the benthic and pelagic species associated with the estuary, beach, intertidal flats and sub-tidal areas - the degree to which the DSMF site directly reduces the risk of leachate contaminating the waterways during release.</p>
4	ECONOMICS
	<p>Cost is a significant factor in any infrastructure project. Further, it is recognised that CCRC would likely manage the DSMF sites with only partial subsidies from the Queensland Government. Once completed, the works would still require operational management; capital cost is not the only consideration.</p> <p>Assessment criteria:</p> <p><i>Capital Cost</i> – In relative dollar terms, the up-front cost for establishment of the DSMF site, including material costs, site construction activities, and any environmental (or other) monitoring linked to the DSMF site</p> <p><i>Initial dredging cost</i> – The relative cost incurred to dredge the initial 66,000m<sup>3</sup> of sediment at the DSMF site.</p> <p><i>Maintenance Cost</i> – The relative cost incurred to dredge 35,000m<sup>3</sup> of sediment at the DSMF site.</p> <p><i>Lifecycle cost</i> – The regular cost implication of the managing the asset over its design life</p>

### 5.3 Key Performance Indicators (KPI's)

For each of the assessment criteria identified in Table 5-1, a qualitative or qualitative response measure (referred to as a KPI) was provided. KPI's are not intended to be all-encompassing or universal, but rather provide criteria indicative of particular opportunities or constraints for each component and theme.

The KPI's identified for the project are identified in Table 5-2 (indicated in italics) and provide the framework for the initial ranking of each design component.



**Table 5-2 Criteria themes and associated KPI's**

Themes			
Effectiveness	Social Value	Environmental Values	Economics
Longevity of design <i>Design working life (years)</i>	Community amenity <i>Existing land use</i>	Biodiversity <i>Matter of State Environmental Significance</i>	Capital Cost <i>estimated comparative cost, \$</i>
Capacity <i>The potential volume of sediment</i>	Public safety <i>Trucking distance</i>	Receiving water <i>Water salinity</i>	Initial 66,000m <sup>3</sup> Maintenance Dredging Works <i>(estimated comparative cost, \$)</i>
			Routine 35,000m <sup>3</sup> estimated comparative cost, \$
			Lifecycle cost <i>estimated averaged lifecycle cost \$/year</i>

Table E-1, in Appendix E, presents the KPI results.

## 5.4 Weightings

Recognising that each theme has varying influence or importance to the decision-making process, the weighting shown in Table 5-3 was applied to the MCA assessment.

**Table 5-3 Default theme weighting**

Theme	Weightings %
1: Effectiveness	25
2: Social Value	25
3: Environmental Values	25
4: Economics	25
Total score	100

A sensitivity analysis was undertaken to vary these weightings to determine how “robust” the assessment is and how alternative weightings may affect the findings. For instance, the project theme “Effectiveness” may be dominant from “Environmental Values” from an environmental conservation point of view.



## 5.5 Scoring

Using the MCA inputs listed above, each component was scored individually using the scoring convention in Table 5-4. The scoring process allows comparison of KPIs against project objectives and a consistent format is provided for input into the MCA data analysis. Status quo and the 'do nothing' approach were weighted as 0 in the proposed scoring scale. The use of "heavy" negative scoring allows penalising actions which may have detrimental effects.

**Table 5-4 Scoring convention**

Score	Description (from a decision-maker or stakeholder point of view)
-6	Against objective
-3	Fails objective
0	Does not apply or influence objective
1	Partially satisfies objective
2	Meets objective
3	Exceeds objective

## 5.6 MCA Analysis

The MCA scoring results of multiple stakeholders were tabulated and weighted to provide a final score for each DSMF site. These results were integrated to calculate a final ranking for each potential site. The results are presented in Table E-2, in Appendix E, and a summary is provided in Table 5-5.

**Table 5-5 Multi-Criteria Analysis Overview**

DSMF site	Effectiveness	Social	Environment	Economics	Weighted Total Score
Lot 170 – Option 1a	3	3	3	0	2.3
Lot 170 – Option 1b	3	3	3	3	2.6
Gravel Pit	-3.5	0.5	-2.5	-6	-2.9
Gregory Street North	2	-1	-3	-3	-0.9
Attie Creek Road	-3	-1.5	-4.5	-6	-3.8
Cardwell Transfer Station	0.5	1	-1.5	-3	-0.4
Tully Waste Facility	3	-2	-4.5	-6	-1.8
Private Property	1.5	-3	0	-3	-1.1
Stony Creek	-2	1.5	-1.5	-6	-0.9
Nearshore	2	-1.5	-3	-6	-2.1
Offshore	-2	-6	-4.5	-6	-4.6

Lot 170 has the only positive overall score, whichever is the dredging methodology (hydraulic or mechanical). All other options appear not to meet the objective of supporting development of a dredge sediment management facility.

Cardwell Transfer Station came second in the MCA assessment. This site is too small to handle regular maintenance dredging (or even capital dredging), therefore initial development costs for this site cannot be



distributed over several dredging campaigns. Additionally, a new Transfer Station may be required, and this would raise costs further.

## 5.7 Discussion

Lot 170 is the most suitable site for the following reasons:

- Lot 170 scored highest on the **Effectiveness** theme:
  - The site has the required space to construct an appropriately sized DSMF.
  - Most other sites are affected by being too small or having too much slope to size a DSMF appropriately.
  - Lot 170 has the capacity to treat a large volume of dredged sediment
  - Site redevelopment can allow long-term management of the One Mile Creek Channel, commercial basin and the marina basin
  - Looking forward, the dredge sediment would become a resource for future earthwork in the region. Council's climate change adaptation framework as described in the CCRC Coastal Hazard Adaptation Strategy will require a substantial amount of earthworks:
    - To build low earth bunds along the Cardwell foreshore; and
    - To raise levels of the Bruce Highway and North Coastal Rail line.
- Lot 170 scored the highest on the **Social** theme because it is close to the dredging site and is the only site historically used for dredged sediment management.
- Lot 170 scored the highest on the **Environmental** theme:
  - The site has no identified Matters of State Environmental Significance (MSES).
  - All other terrestrial sites have a range of MSES overlays.
  - Nearshore and offshore sites are also within Marine Park areas, so they scored poorly from an environmental perspective.
  - The environmental planning necessary to carry out the works requires updating rather than new documentation.
  - The receiving water environment for the dewatering process is the same as the dredged environment.
- Lot 170 scored the highest on the **Economic** theme because, for whichever dredging process is used, the site has long-term capacity and is likely to be the cheapest to use long-term.



## 6 RECOMMENDATIONS

This study considered a broad range of options to manage dredged sediment from the Port Hinchinbrook estate. Redeveloping Lot 170 SP177389 as a modern Dredge Sediment Management Facility is the preferred option arising from the multi-criteria assessment for effectiveness, social, environmental, and economic reasons.

An ASS management plan should be completed and the concept design of the DSMF progressed to prepare a budget for the works. This will require further access to the site.

Redevelopment of Lot 170 should occur in stages. The initial stage should consist of a main dredge pond and an ancillary ASS treatment facility suitable for One Mile Creek Channel initial dredging. This should significantly reduce the capital cost ranges indicated in Table 4-3.



## APPENDIX A SITE OVERVIEW





Figure A-1 Site 1: Lot 170 Overview



Figure A-2 Site 2: Council Reserve – Gravel Pit Overview



Figure A-3 Site 3: Council Reserve – Gregory Street North Overview



Figure A-4 Site 4: Private Property – Quarry on Attie Creek Road Overview



Figure A-5 Site 5: Cardwell Transfer Station Overview



Figure A-6 Site 6: Tully Waste Facility Overview



Figure A-7 Site 7: Lot 7 Overview



Figure A-8 Site 8: Foreshore - Stony Creek Overview



## APPENDIX B SITE TOPOLOGY



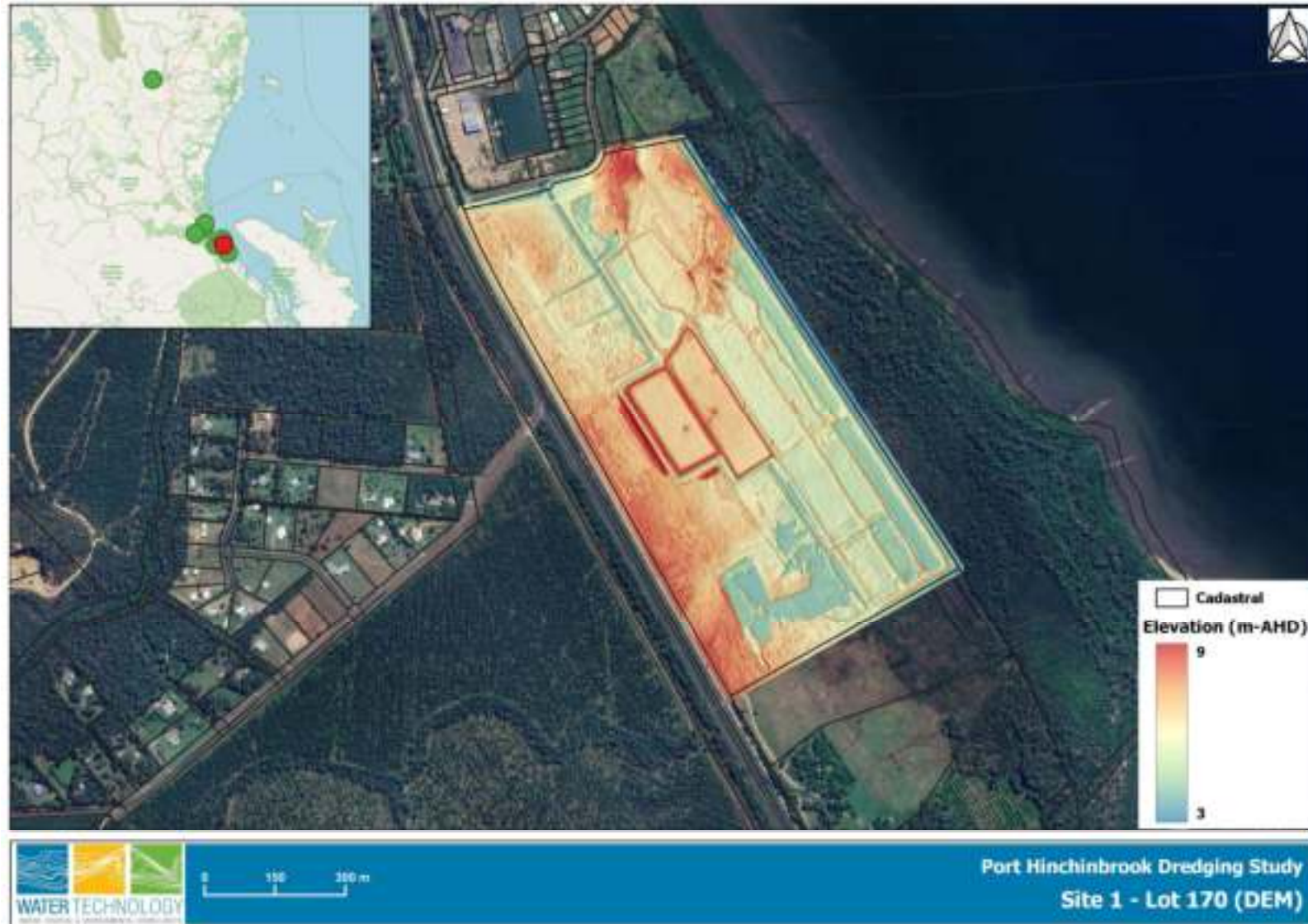


Figure B-1 Site 1: Lot 170 Elevation

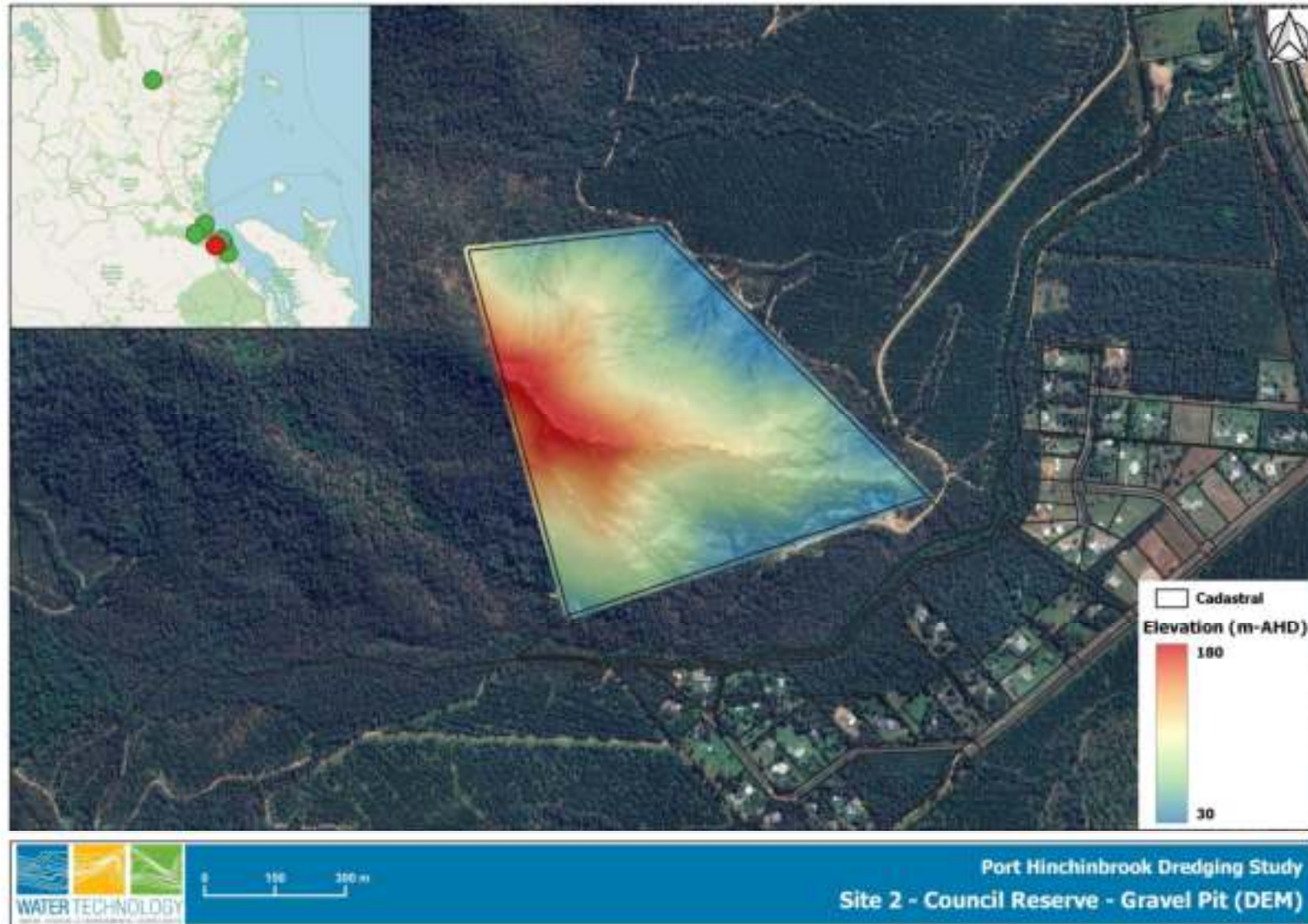


Figure B-2 Site 2: Council Reserve – Gravel Pit Elevation

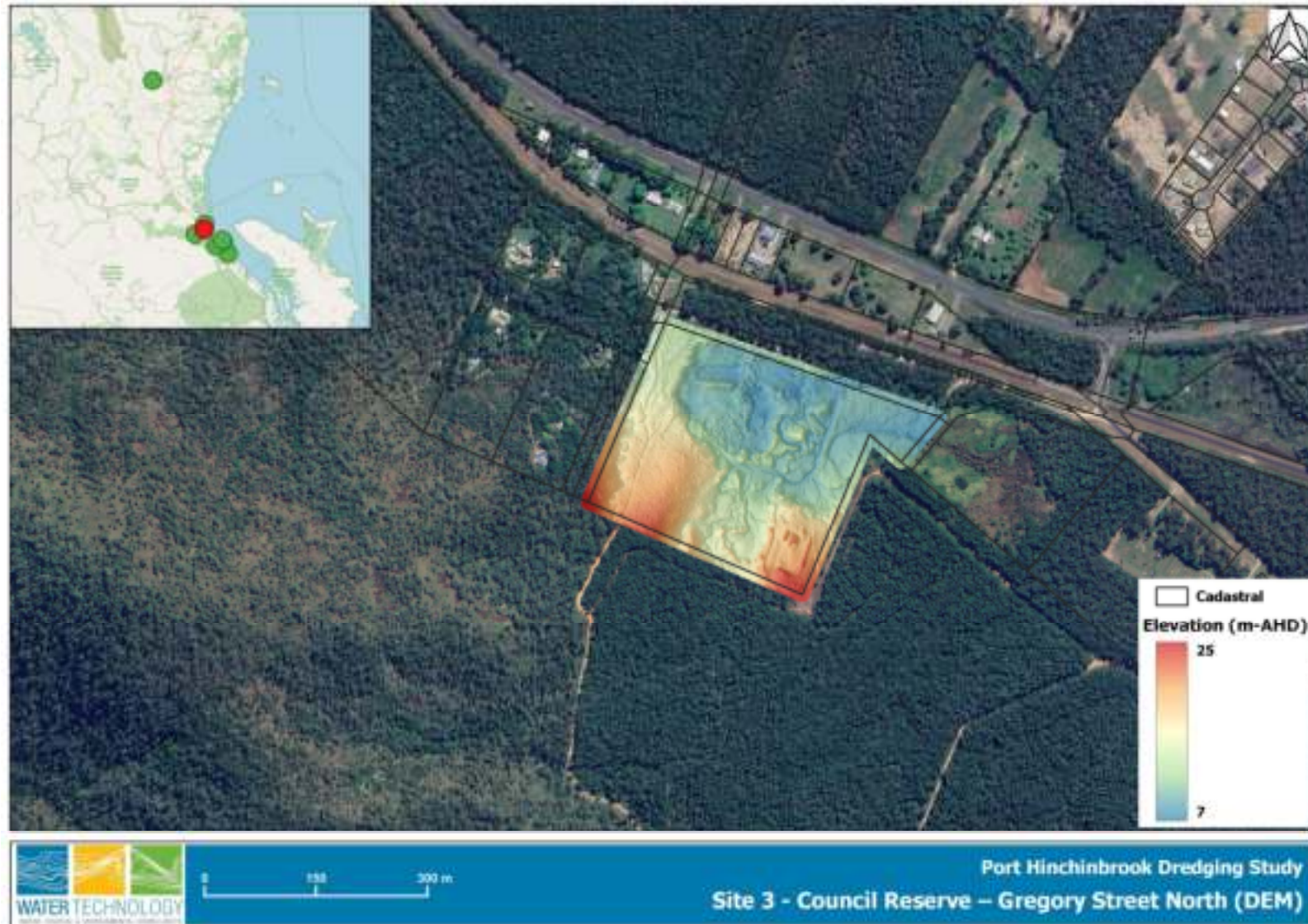


Figure B-3 Site 3: Council Reserve – Gregory Street North Elevation

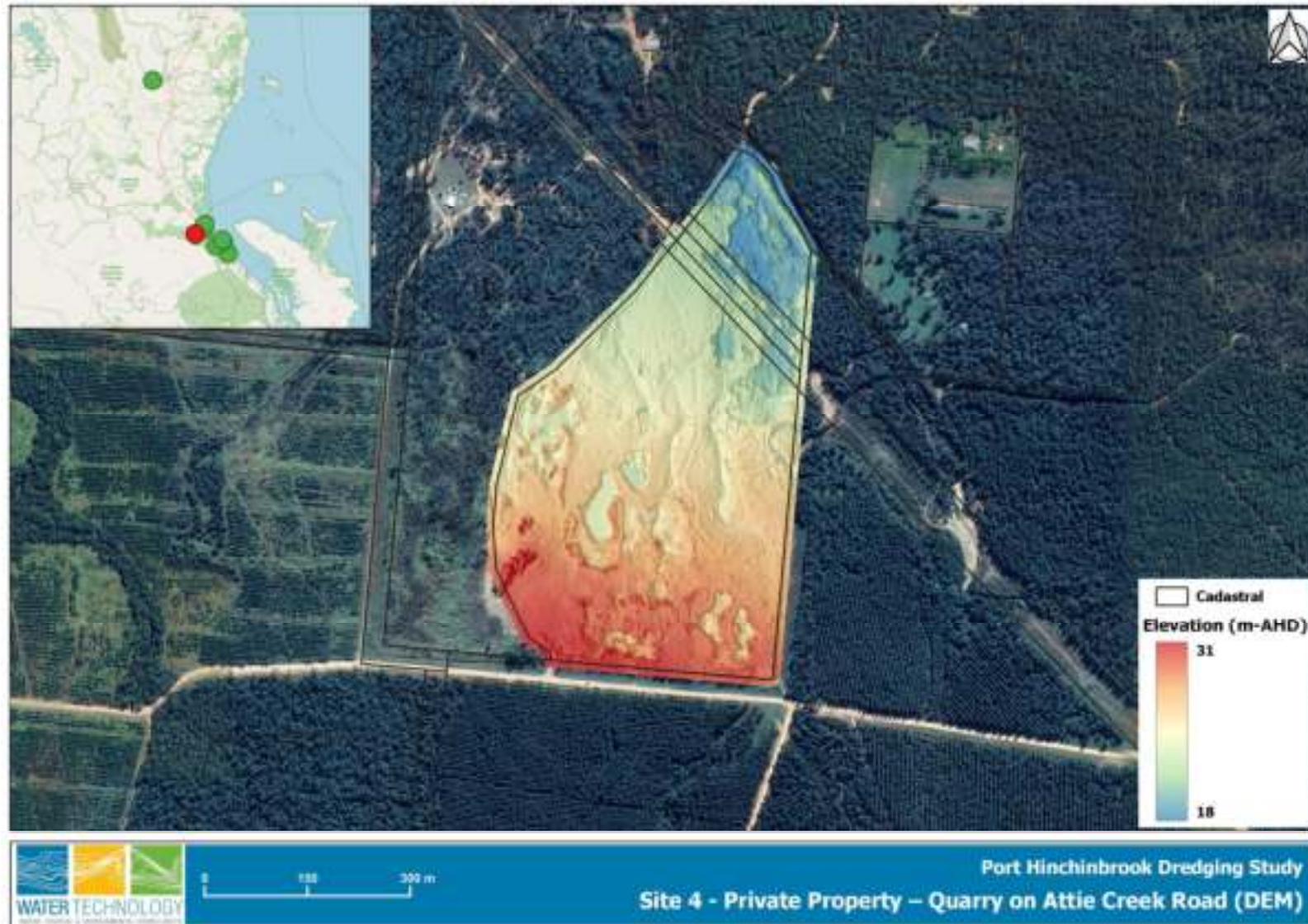


Figure B-4 Site 4: Private Property – Quarry on Attie Creek Road Elevation



Figure B-5 Site 5: Cardwell Transfer Station Elevation

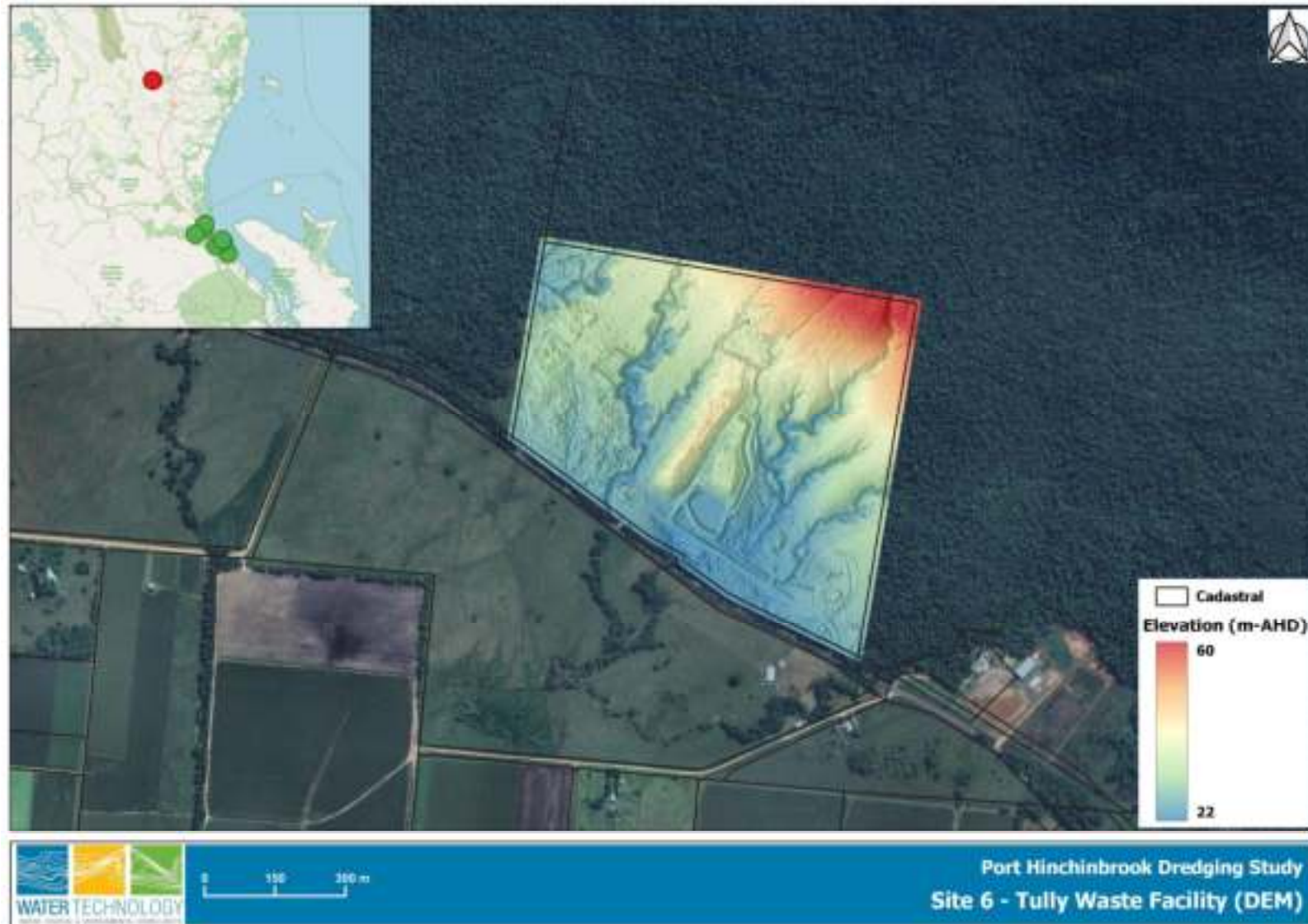


Figure B-6 Site 6: Tully Waste Facility Elevation



Figure B-7 Site 7: Lot 7 Elevation



Figure B-8 Site 8: Foreshore - Stony Elevation





## APPENDIX C MATTER OF STATE ENVIRONMENTAL SIGNIFICANCE



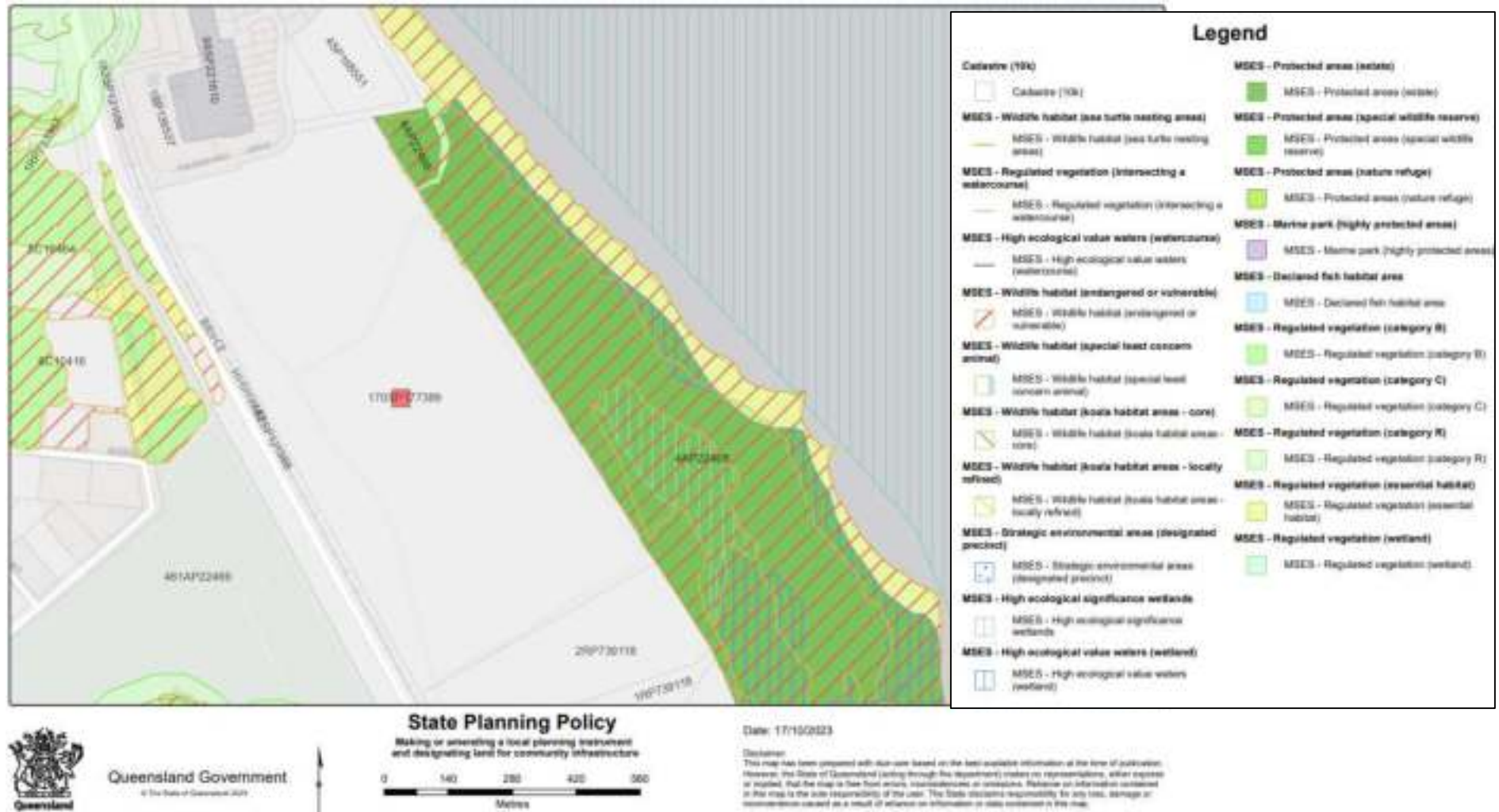


Figure C-1 Site 1 - Lot 170 (Existing disposal location) MSES summary

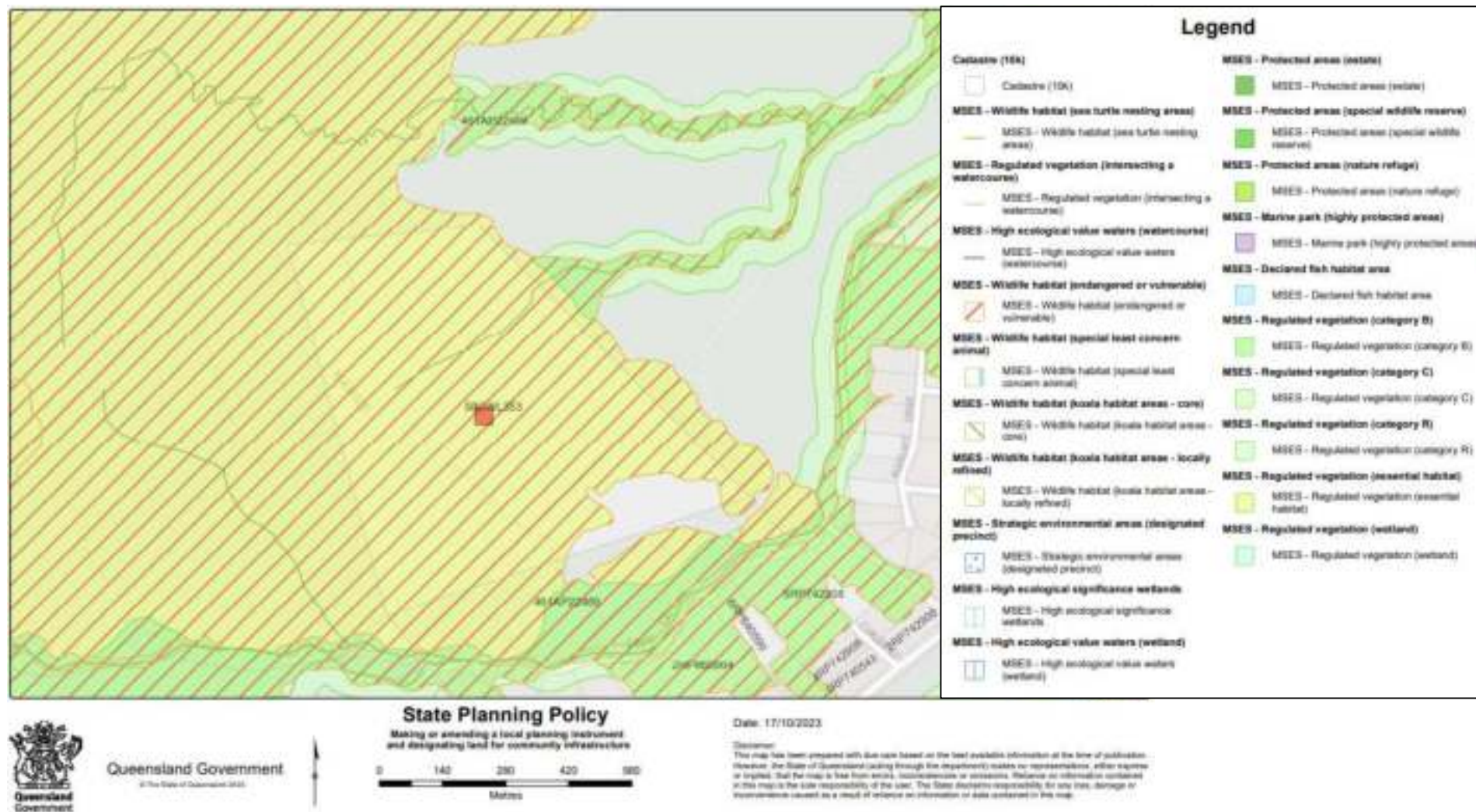


Figure C-2 Site 2 - Council Reserve - Gravel Pit MSES summary

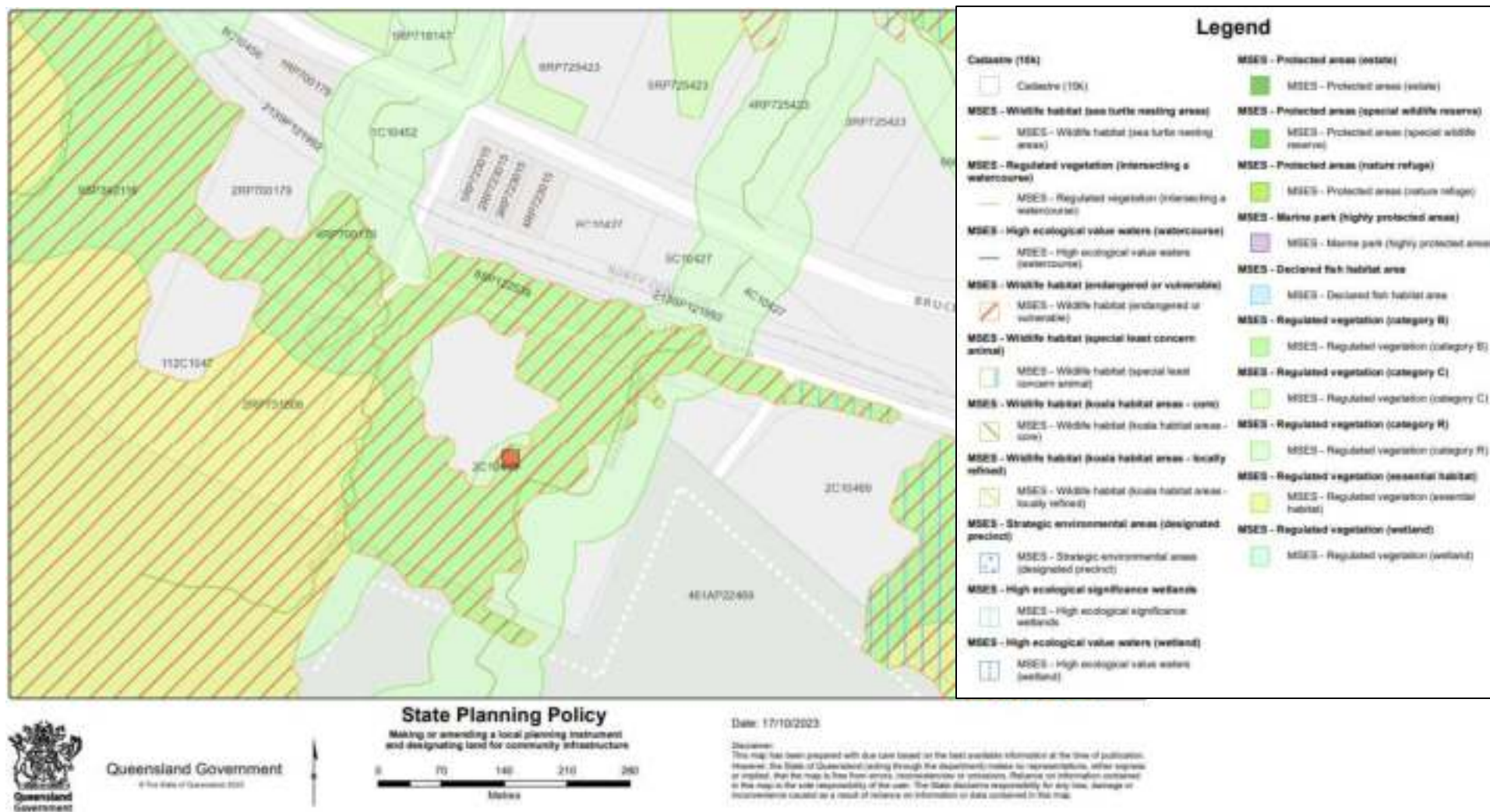


Figure C-3 Site 3 - Council Reserve – Gregory Street North MSES summary

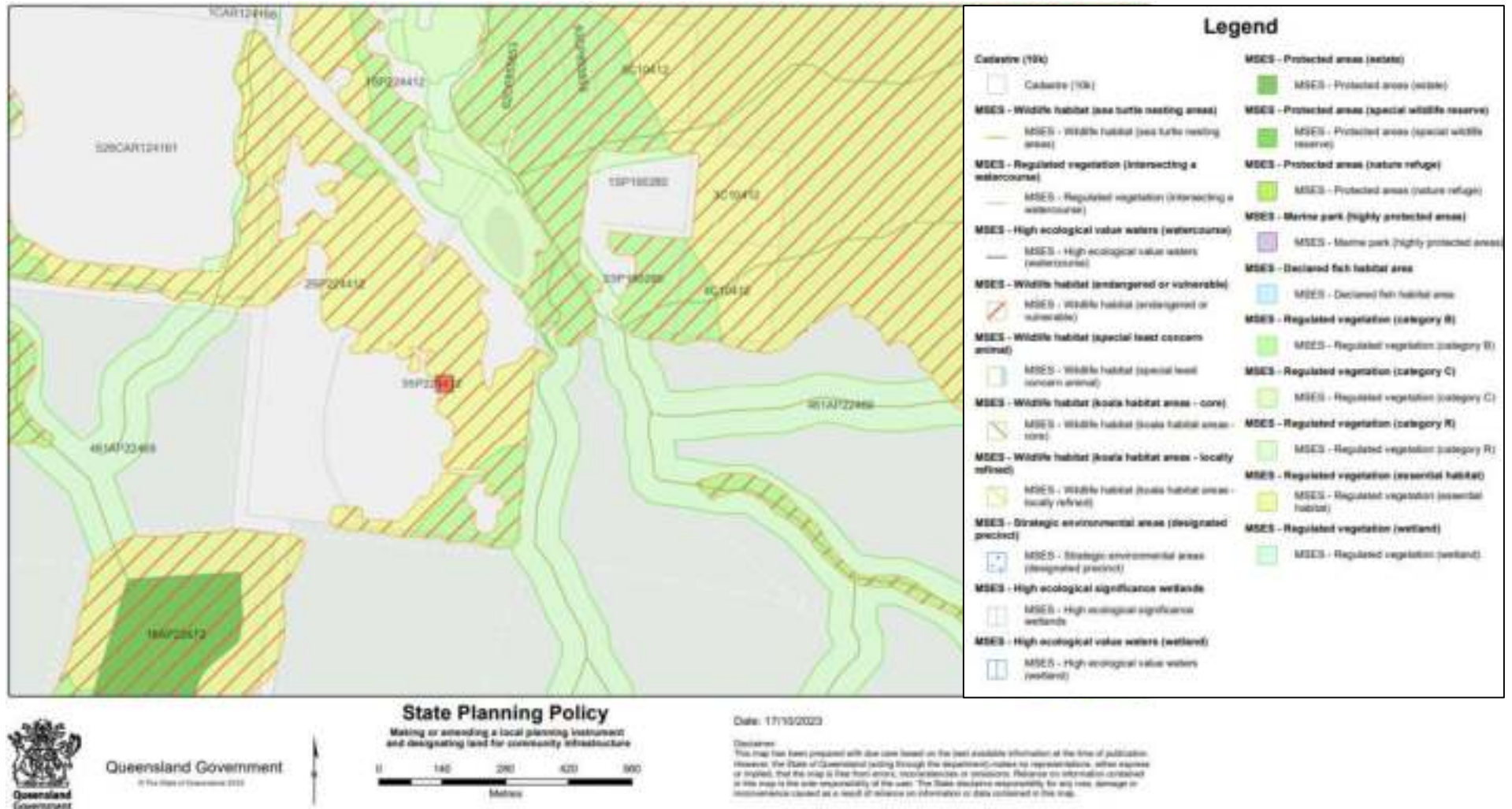


Figure C-4 Site 4 - Private Property – Quarry on Attie Creek Road MSES summary

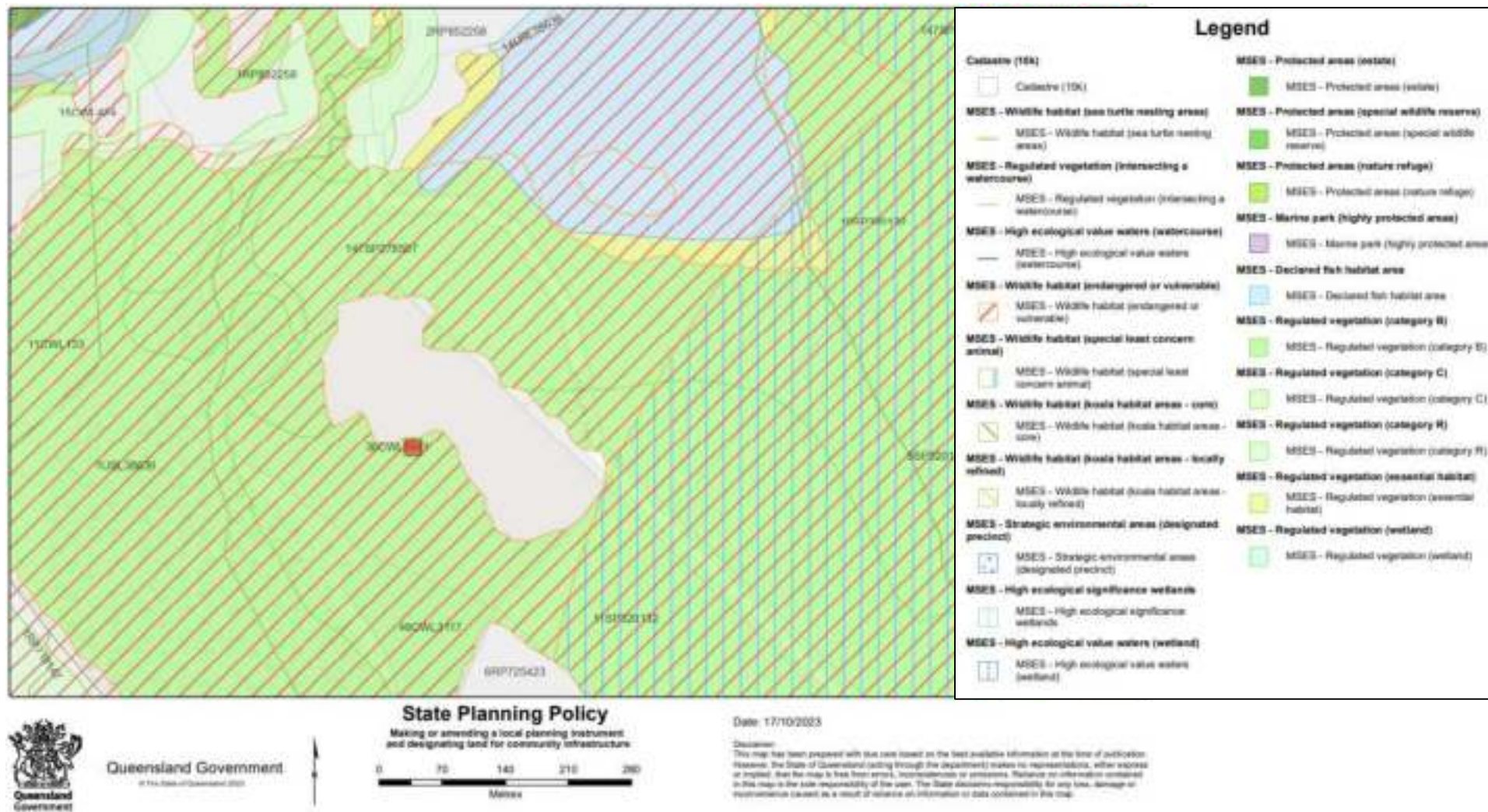


Figure C-5 Site 5 - Cardwell Transfer Station MSES summary

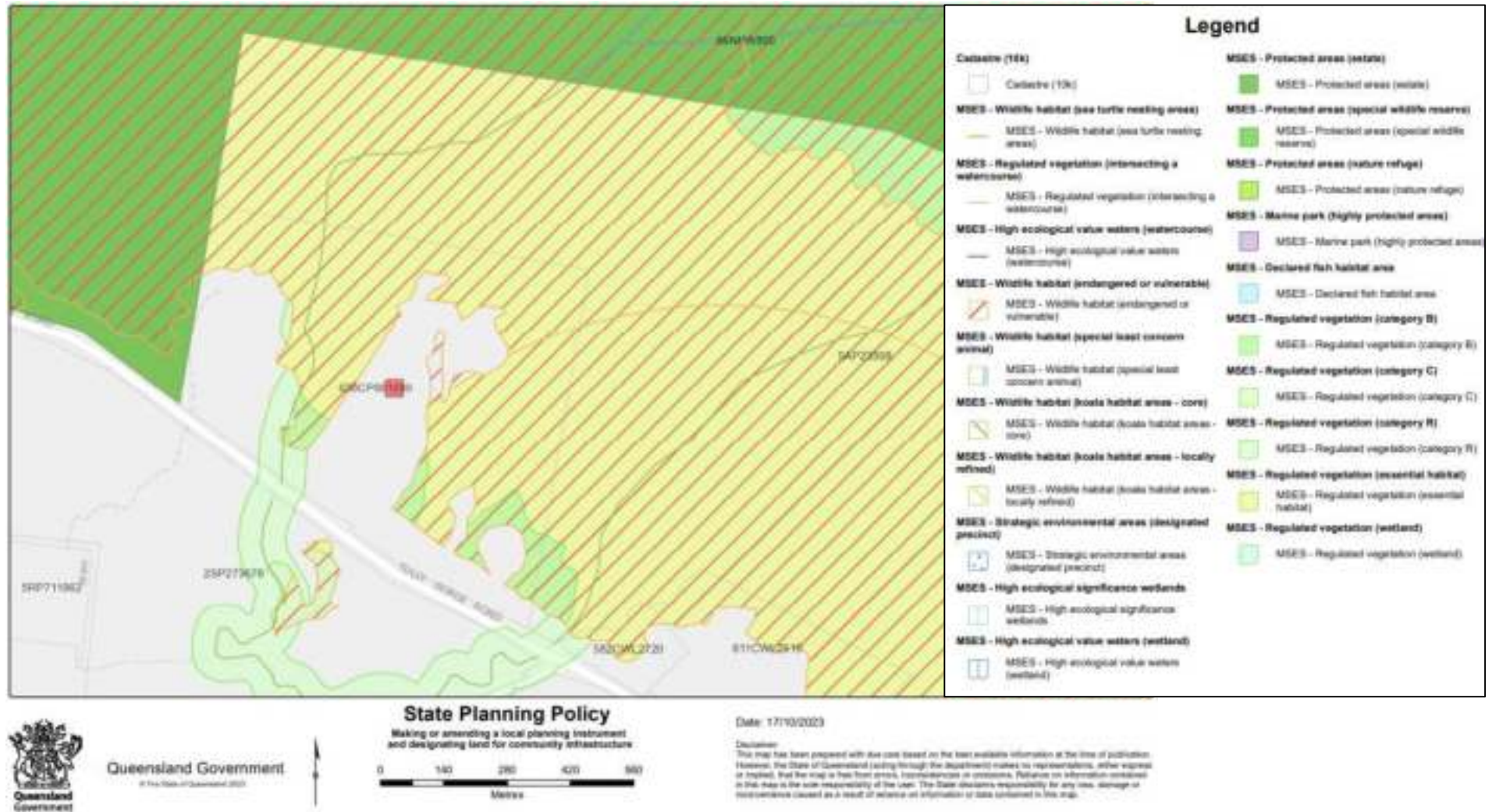


Figure C-6 Site 6 - Tully Waste Facility MSES summary

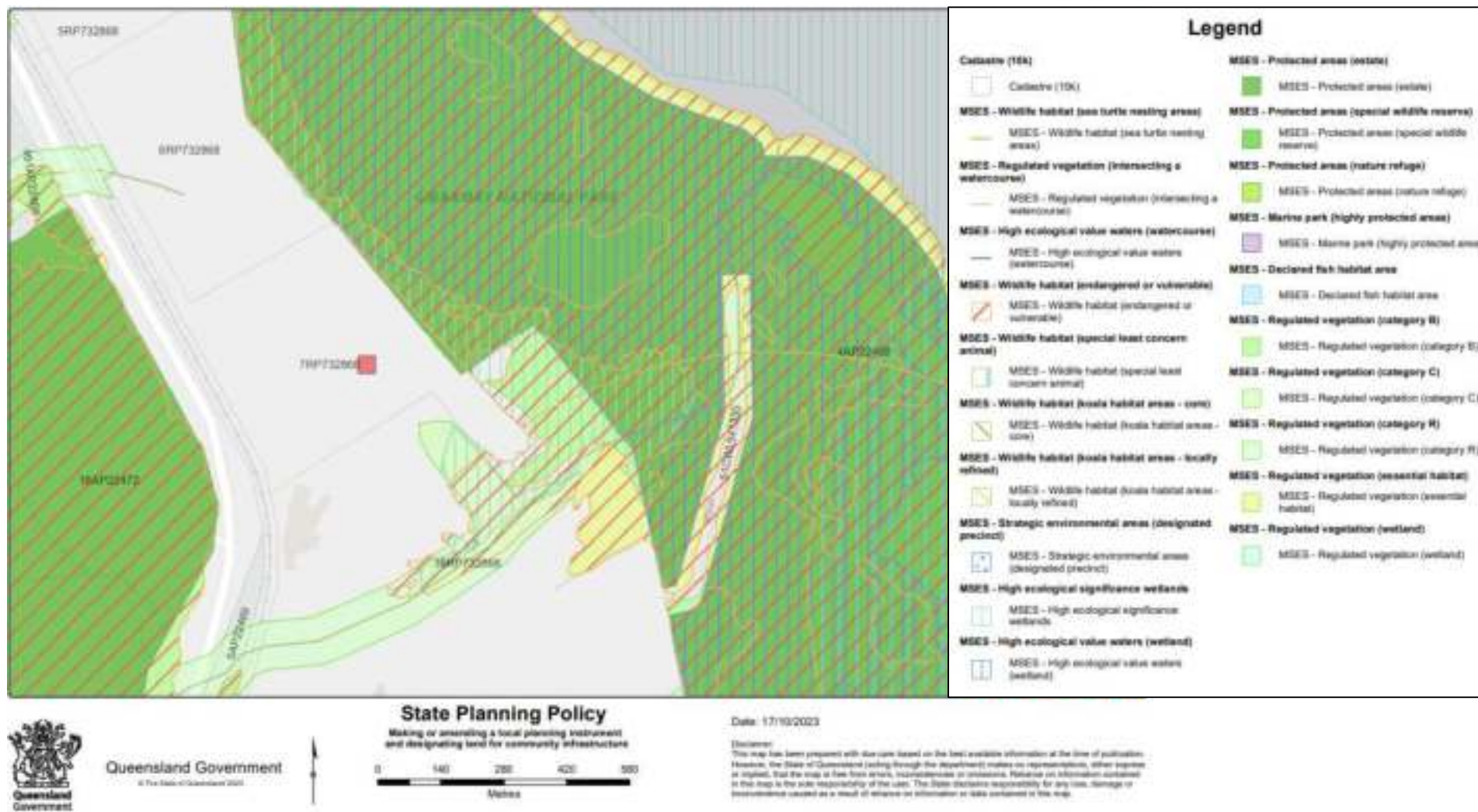


Figure C-7 Site 7 – Lot 7 MSES summary

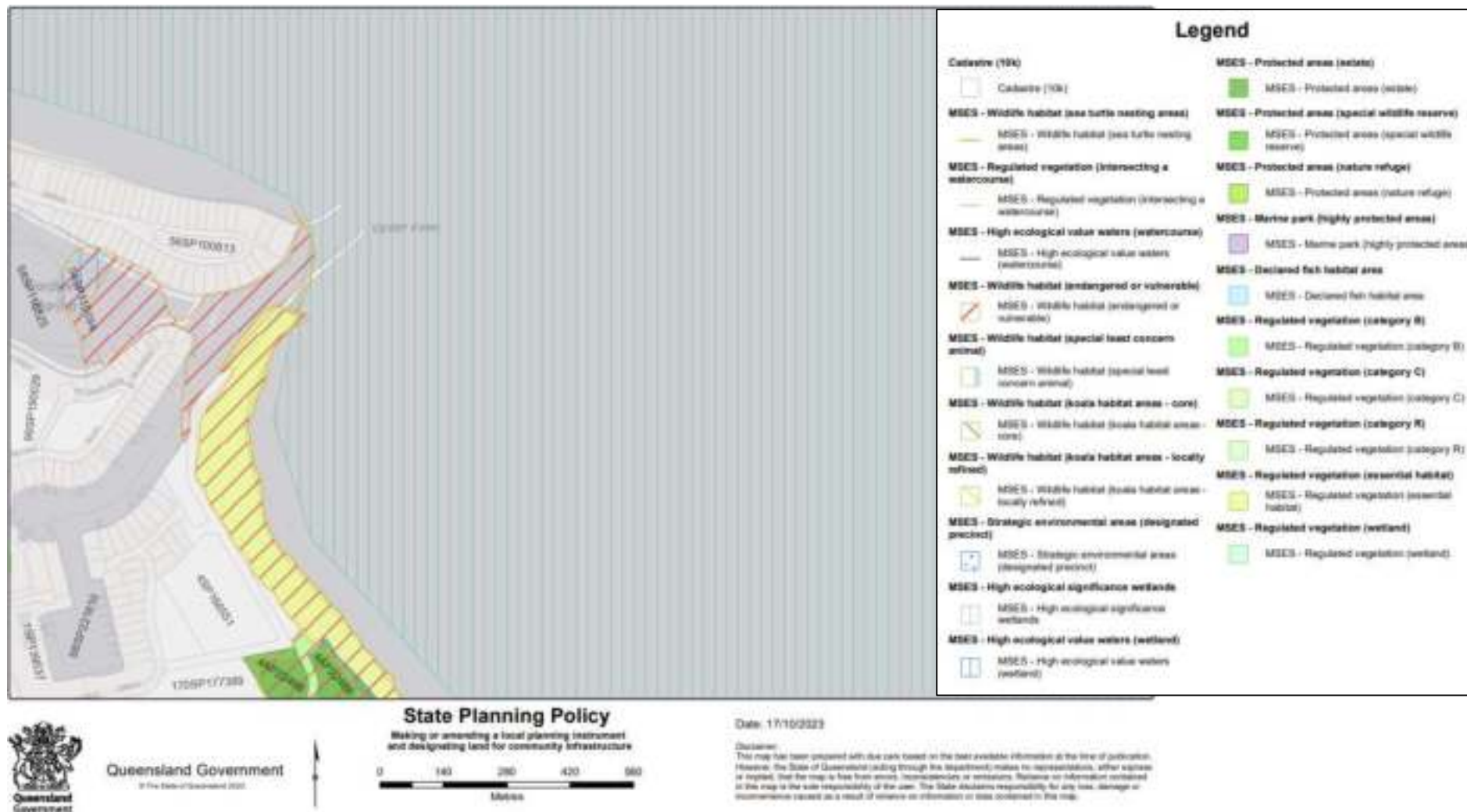


Figure C-8 Site 8 – Stony Creek MSES summary



Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 146.048598428 Latitude: -18.2905259122 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Please direct queries about these reports to: [Planning.Support@des.qld.gov.au](mailto:Planning.Support@des.qld.gov.au)

## Disclaimer

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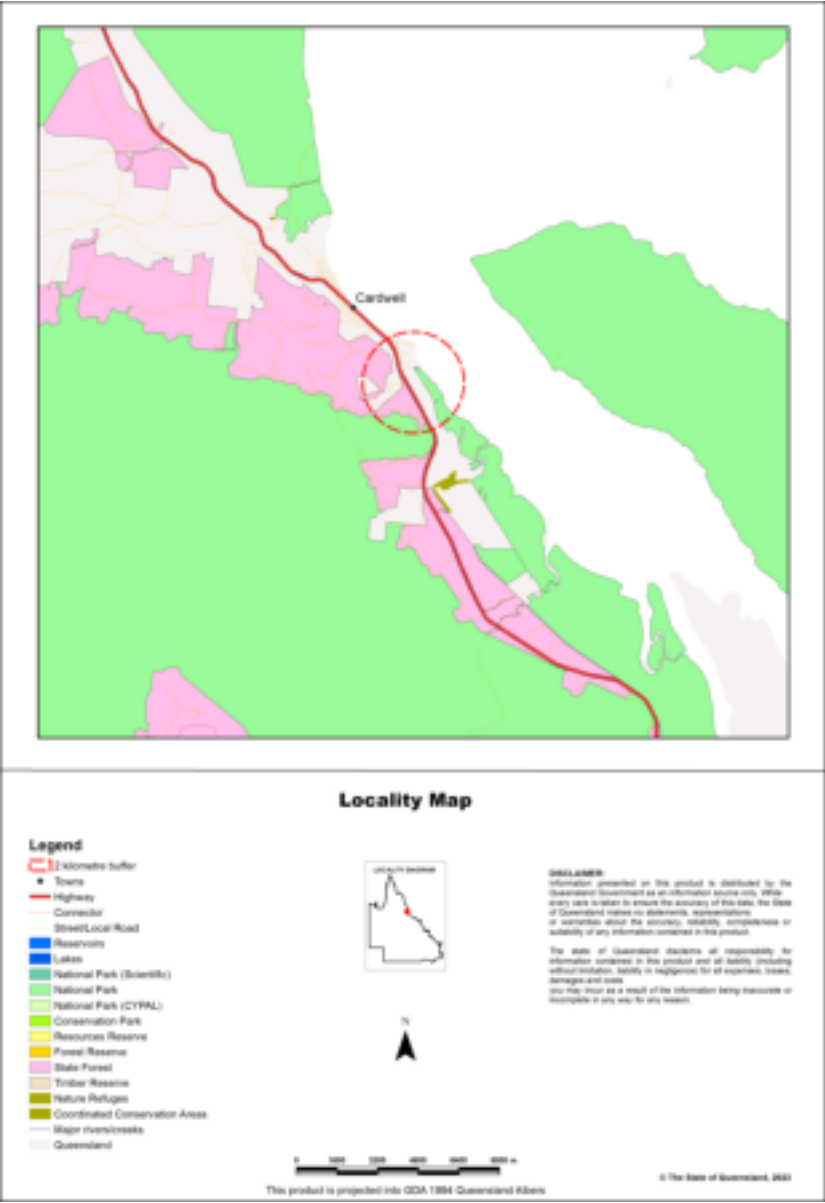
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 146.048598428 Latitude: -18.2905259122**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	184.38 ha	14.7%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	361.86 ha	28.8%
6a High Ecological Value (HEV) wetlands	57.76 ha	4.6%
6b High Ecological Value (HEV) waterways	1.7 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	375.51 ha	29.9%
7b Special least concern animals	14.28 ha	1.1%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	128.82 ha	10.3%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	4.93 ha	0.4%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	56.88 ha	4.5%
8d Regulated Vegetation - Essential habitat	360.81 ha	28.7%
8e Regulated Vegetation - intersecting a watercourse	13.9 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	40.56 ha	3.2%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

Estate name
Girramay National Park
Girringun National Park

1b. Protected Areas - nature refuges

(no results)

1c. Protected Areas - special wildlife reserves

(no results)

2. State Marine Parks - highly protected zones

(no results)

3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(no results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

## MSES - Species

### 7a. Threatened (endangered or vulnerable) wildlife

Values are present

### 7b. Special least concern animals

Values are present

### 7c i. Koala habitat area - core (SEQ)

Not applicable

### 7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

### 7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

### Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuaris johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

### Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y
<i>Pteropus conspicillatus</i>	spectacled flying-fox	E	E	

### Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Numenius phaeopus</i>	whimbrel	Y

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

*\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

*Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)*

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	rem_oc
7.3.25b	O-dom	rem_oc
7.2.3a	O-dom	rem_oc
7.2.9a	O-dom	rem_oc
7.1.2a	O-dom	rem_oc
7.3.6a	E-dom	rem_end
7.2.11g	O-dom	rem_oc

**8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)**

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.25b	O-dom	hvr_oc

**8c. Regulated Vegetation - Category R (GBR riverine regrowth)**

Regulated vegetation map category	Map number
R	8161

**8d. Regulated Vegetation - Essential habitat**

Values are present

**8e. Regulated Vegetation - intersecting a watercourse\*\***

A vegetation management watercourse is mapped as present

**8f. Regulated Vegetation - within 100m of a Vegetation Management wetland**

Regulated vegetation map category	Map number
B	8161
R	8161

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

**MSES - Offsets****9a. Legally secured offset areas - offset register areas**

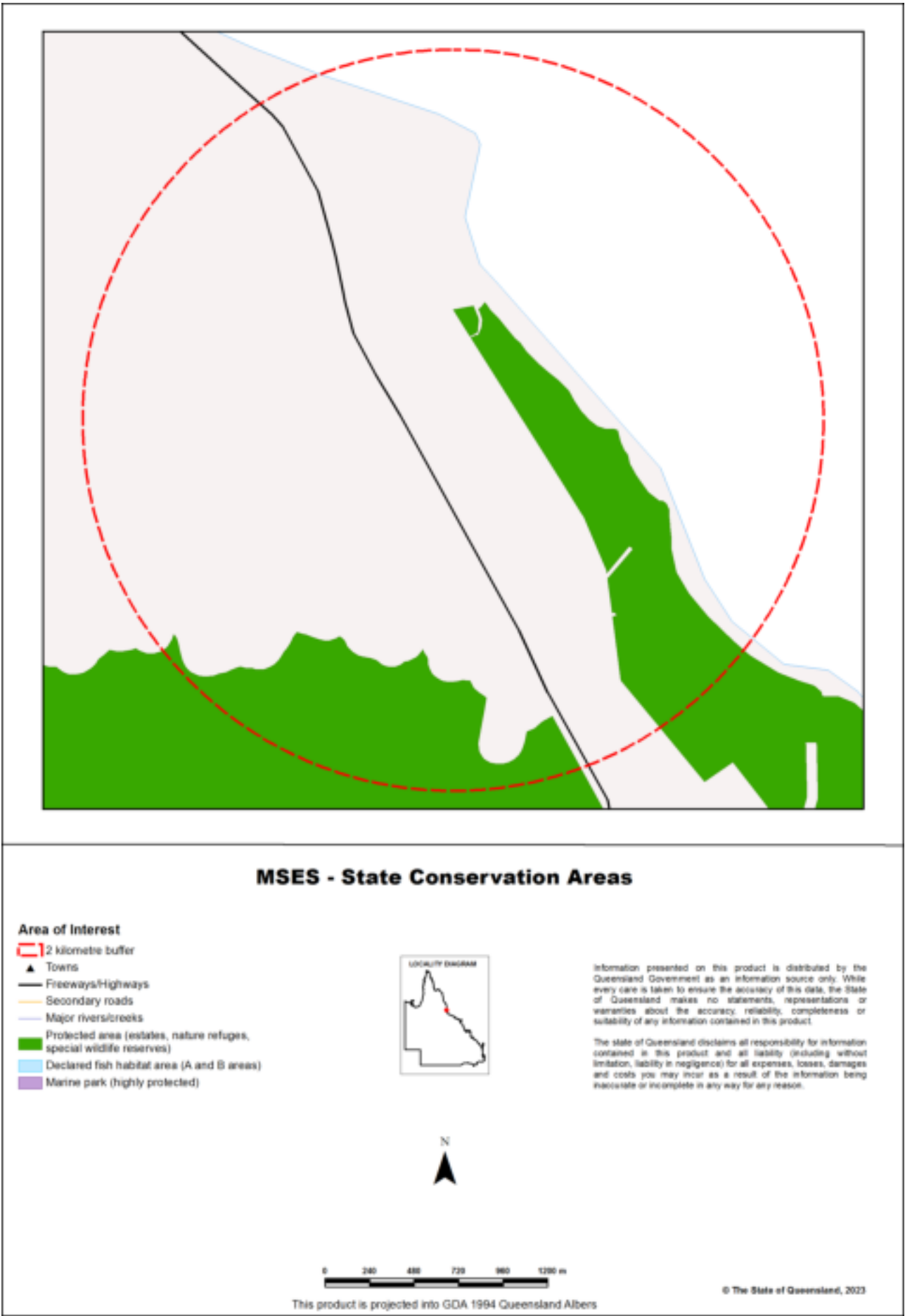
(no results)

**9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

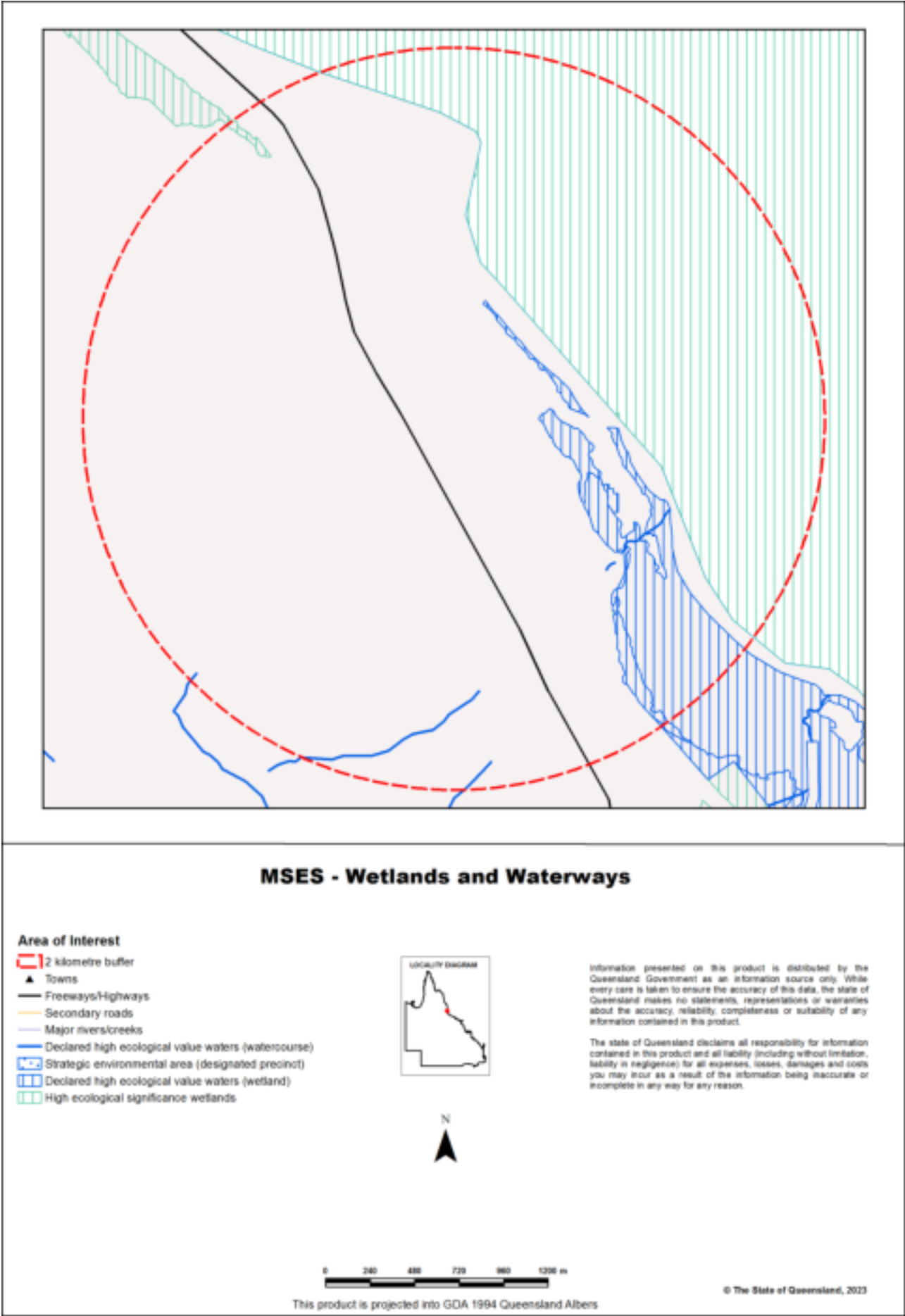
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

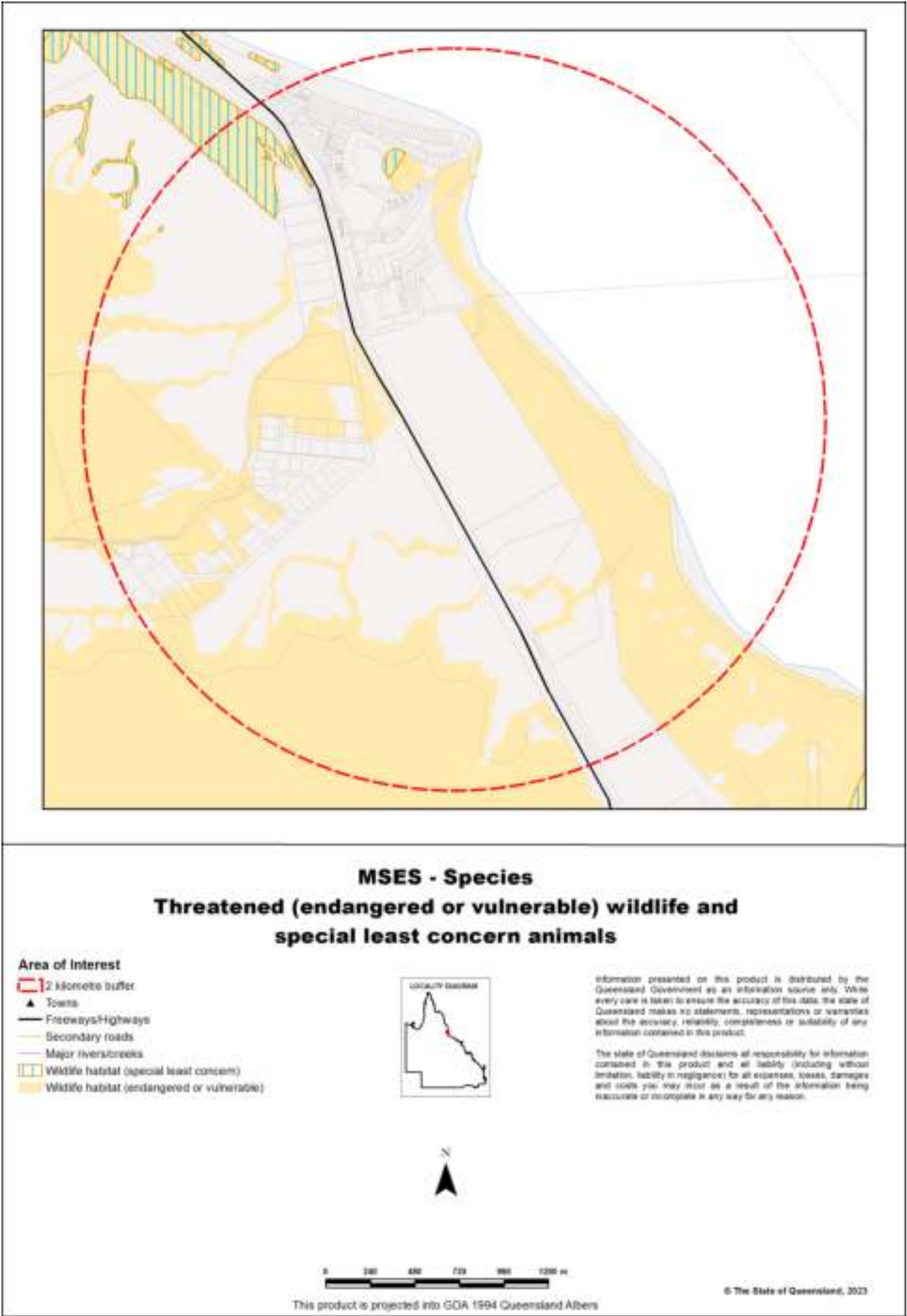
Map 1 - MSES - State Conservation Areas



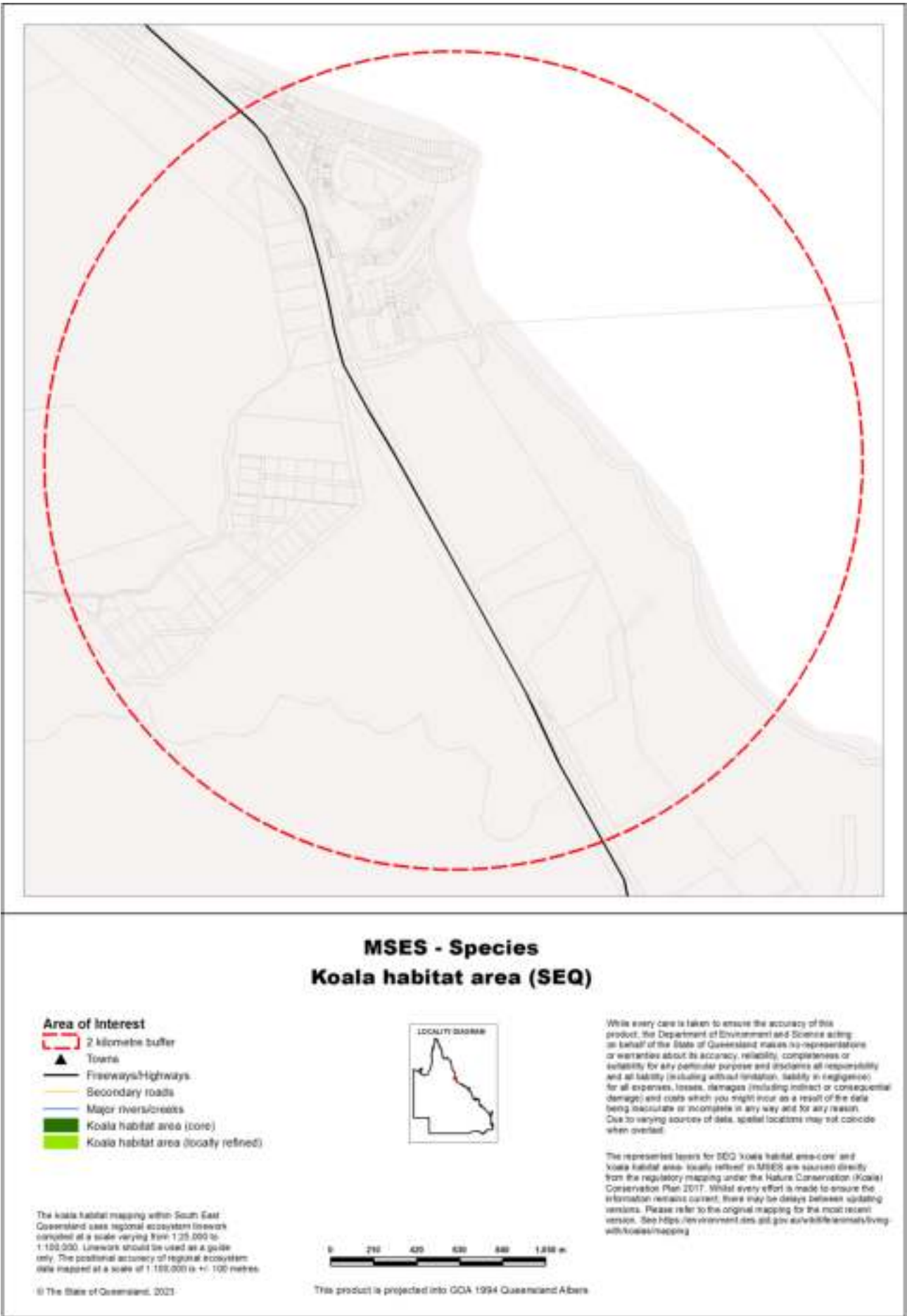
Map 2 - MSES - Wetlands and Waterways



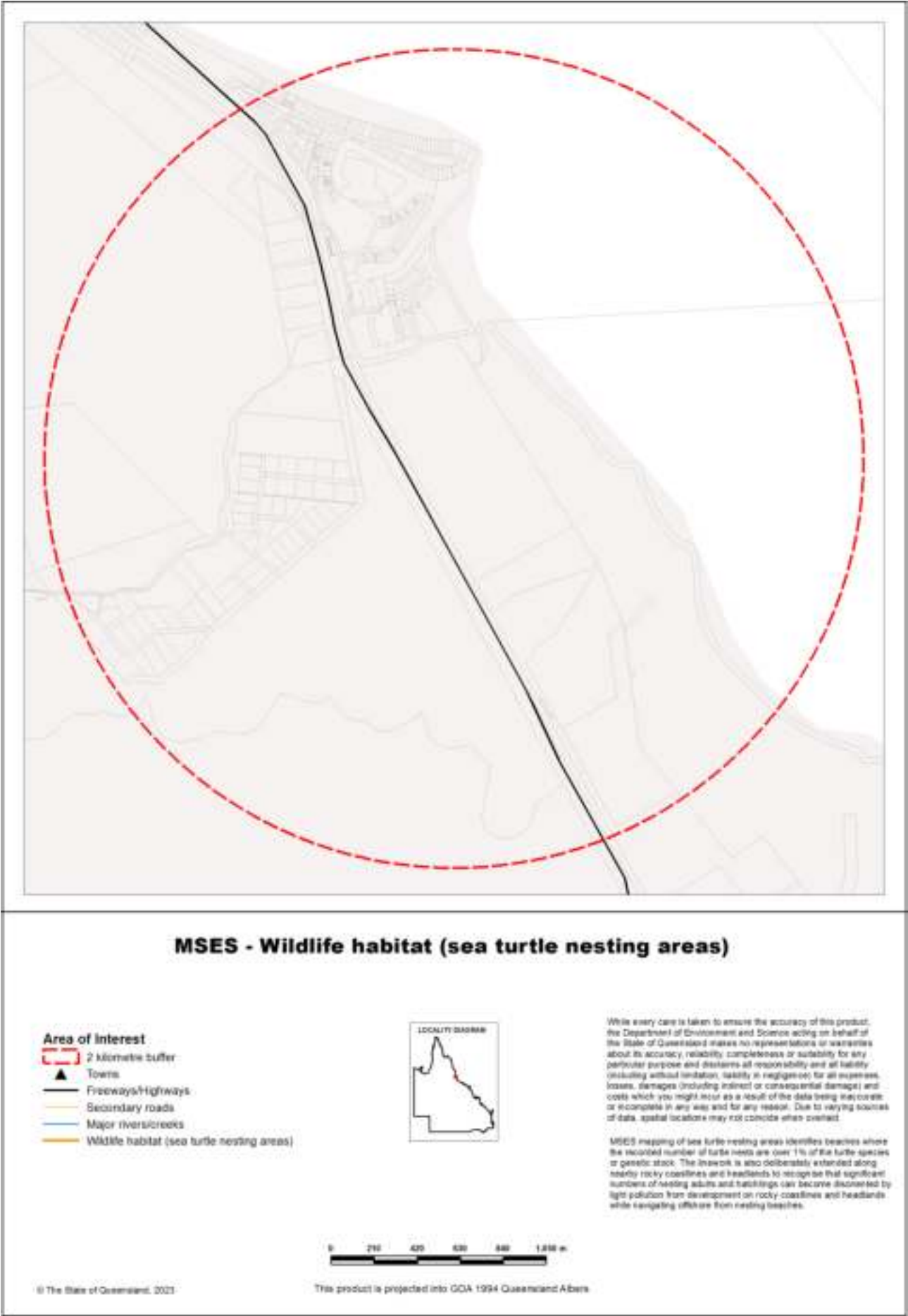
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



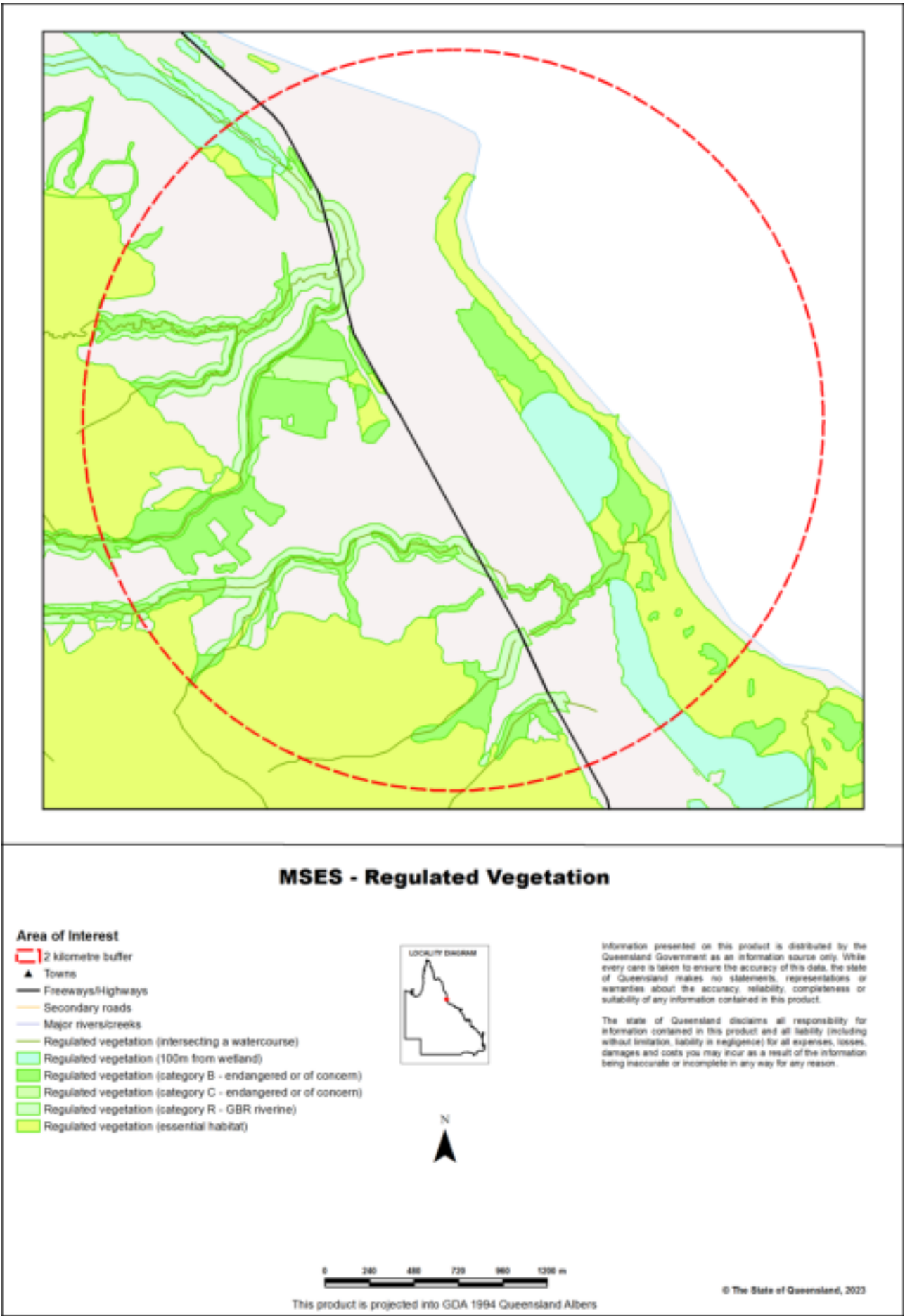
Map 3b - MSES - Species - Koala habitat area (SEQ)



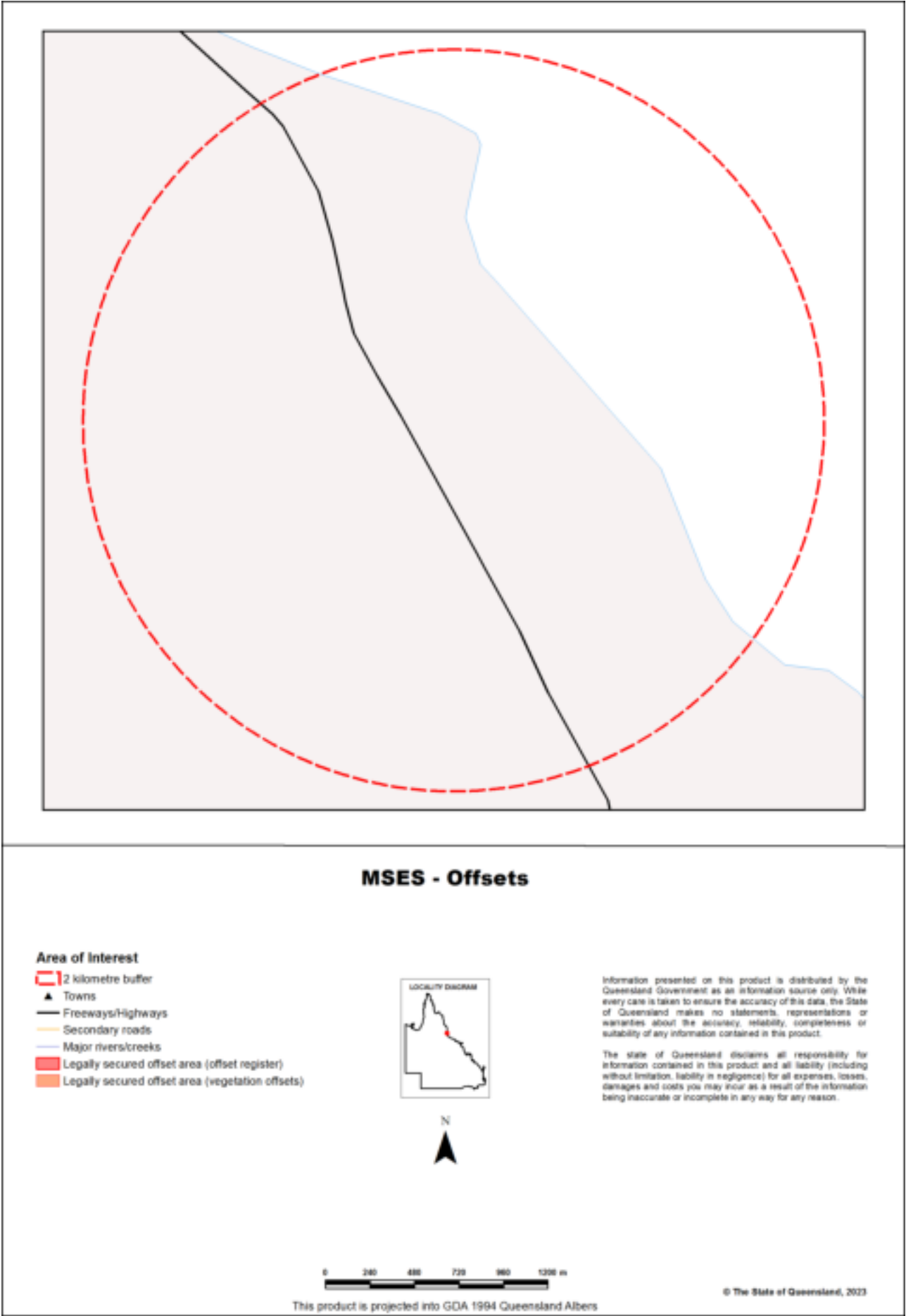
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 146.033404621 Latitude: -18.2924582118 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Please direct queries about these reports to: [Planning.Support@des.qld.gov.au](mailto:Planning.Support@des.qld.gov.au)

### Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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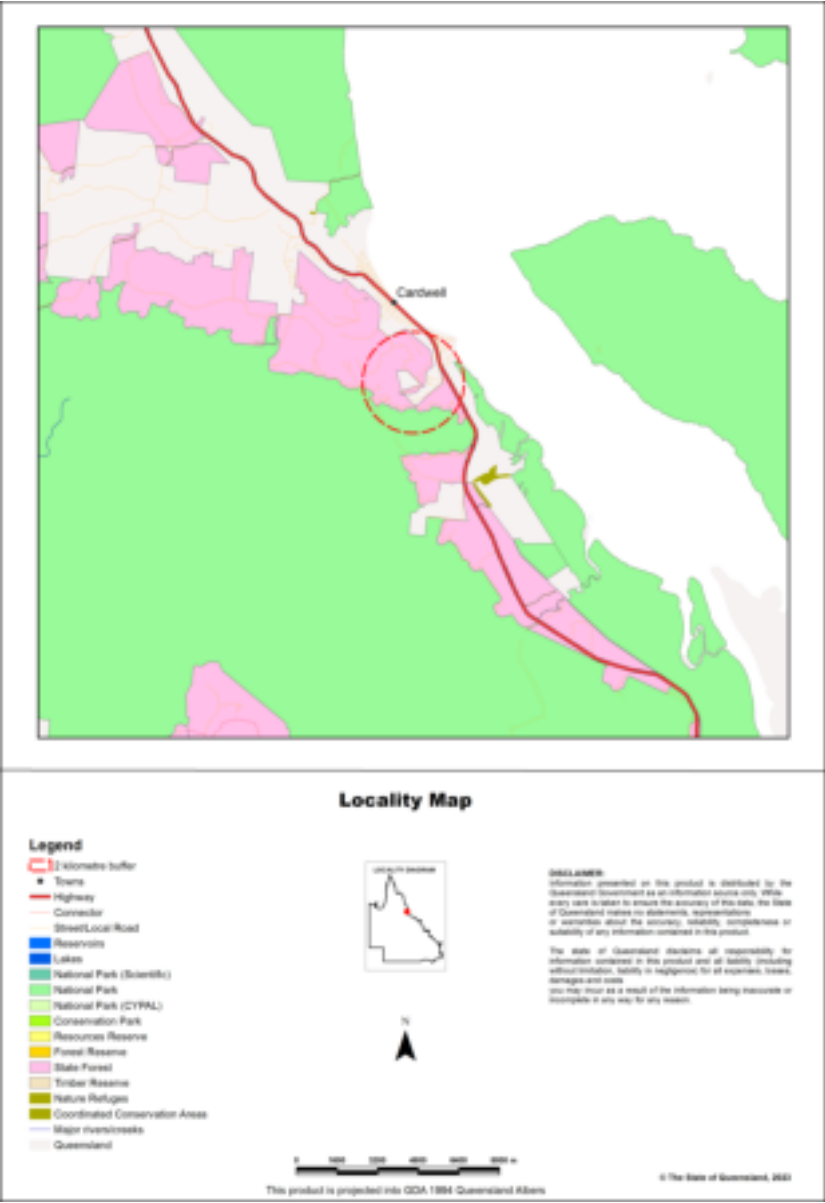
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 146.033404621 Latitude: -18.2924582118**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Kirrama - Hinchinbrook, Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	261.94 ha	20.8%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	7.69 ha	0.6%
6a High Ecological Value (HEV) wetlands	0.24 ha	0.0%
6b High Ecological Value (HEV) waterways	4.7 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	706.26 ha	56.2%
7b Special least concern animals	26.13 ha	2.1%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	152.58 ha	12.1%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	4.93 ha	0.4%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	72.31 ha	5.8%
8d Regulated Vegetation - Essential habitat	696.55 ha	55.4%
8e Regulated Vegetation - intersecting a watercourse	24.7 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	18.16 ha	1.4%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

Estate name
Girramay National Park
Girringun National Park

1b. Protected Areas - nature refuges

(no results)

1c. Protected Areas - special wildlife reserves

(no results)

2. State Marine Parks - highly protected zones

(no results)

3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(no results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

## MSES - Species

### 7a. Threatened (endangered or vulnerable) wildlife

Values are present

### 7b. Special least concern animals

Values are present

### 7c i. Koala habitat area - core (SEQ)

Not applicable

### 7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

### 7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

### Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuaris johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

### Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y
<i>Pteropus conspicillatus</i>	spectacled flying-fox	E	E	
<i>Limosa lapponica baueri</i>	Western Alaskan bar-tailed godwit	V	V	Y

### Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Numenius phaeopus</i>	whimbrel	Y
<i>Tringa nebularia</i>	common greenshank	Y

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	rem_oc
7.12.5b	O-dom	rem_oc
7.12.5a	O-dom	rem_oc
7.3.10a	O-dom	rem_oc
7.3.20a	O-dom	rem_oc

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.20b	O-dom	rem_oc
7.12.60b	O-dom	rem_oc
7.3.25b	O-dom	rem_oc
7.2.3a	O-dom	rem_oc

#### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.25b	O-dom	hvr_oc

#### 8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8161

#### 8d. Regulated Vegetation - Essential habitat

Values are present

#### 8e. Regulated Vegetation - intersecting a watercourse\*\*

A vegetation management watercourse is mapped as present

#### 8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
B	8161
R	8161

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

#### MSES - Offsets

##### 9a. Legally secured offset areas - offset register areas

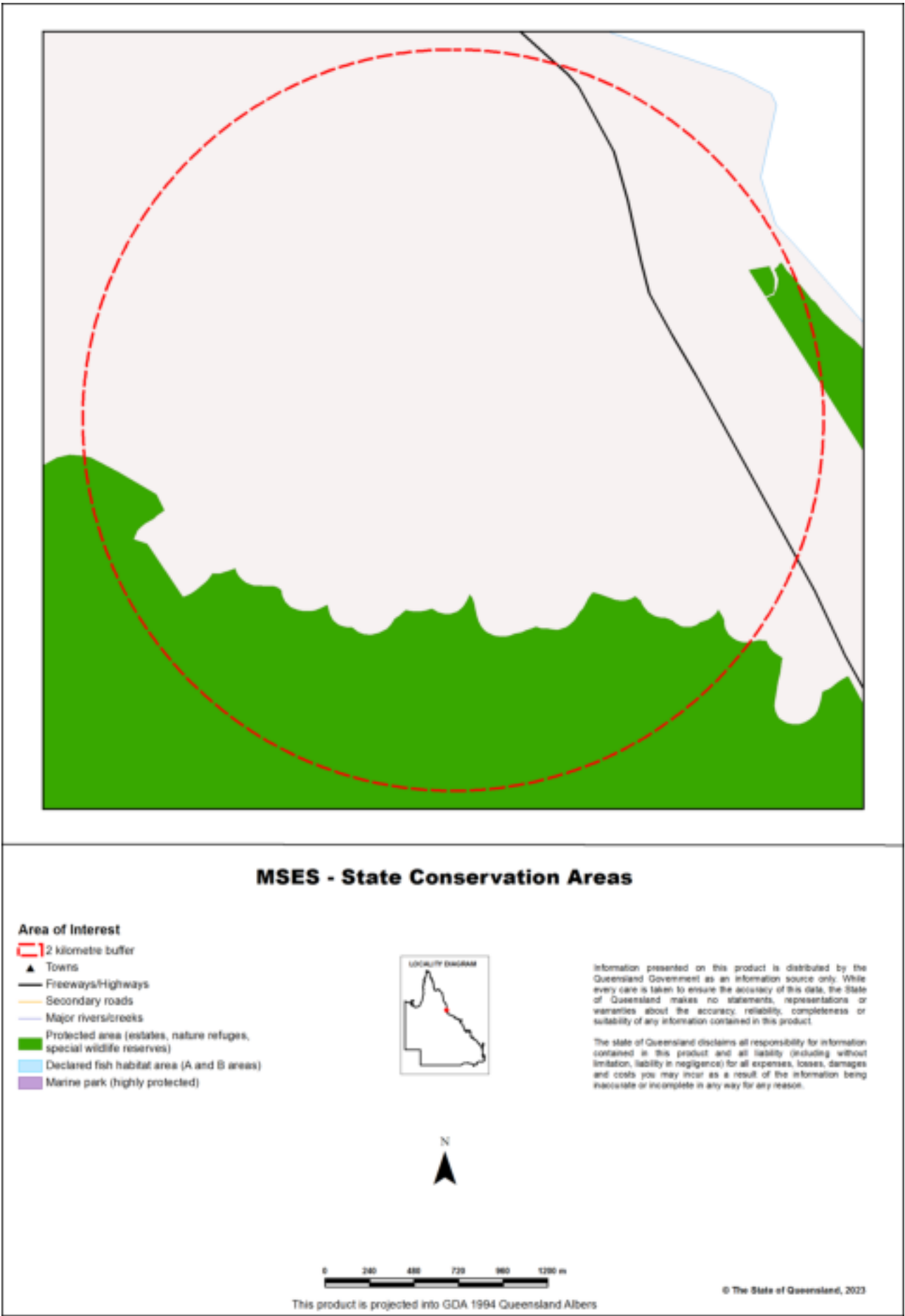
(no results)

##### 9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

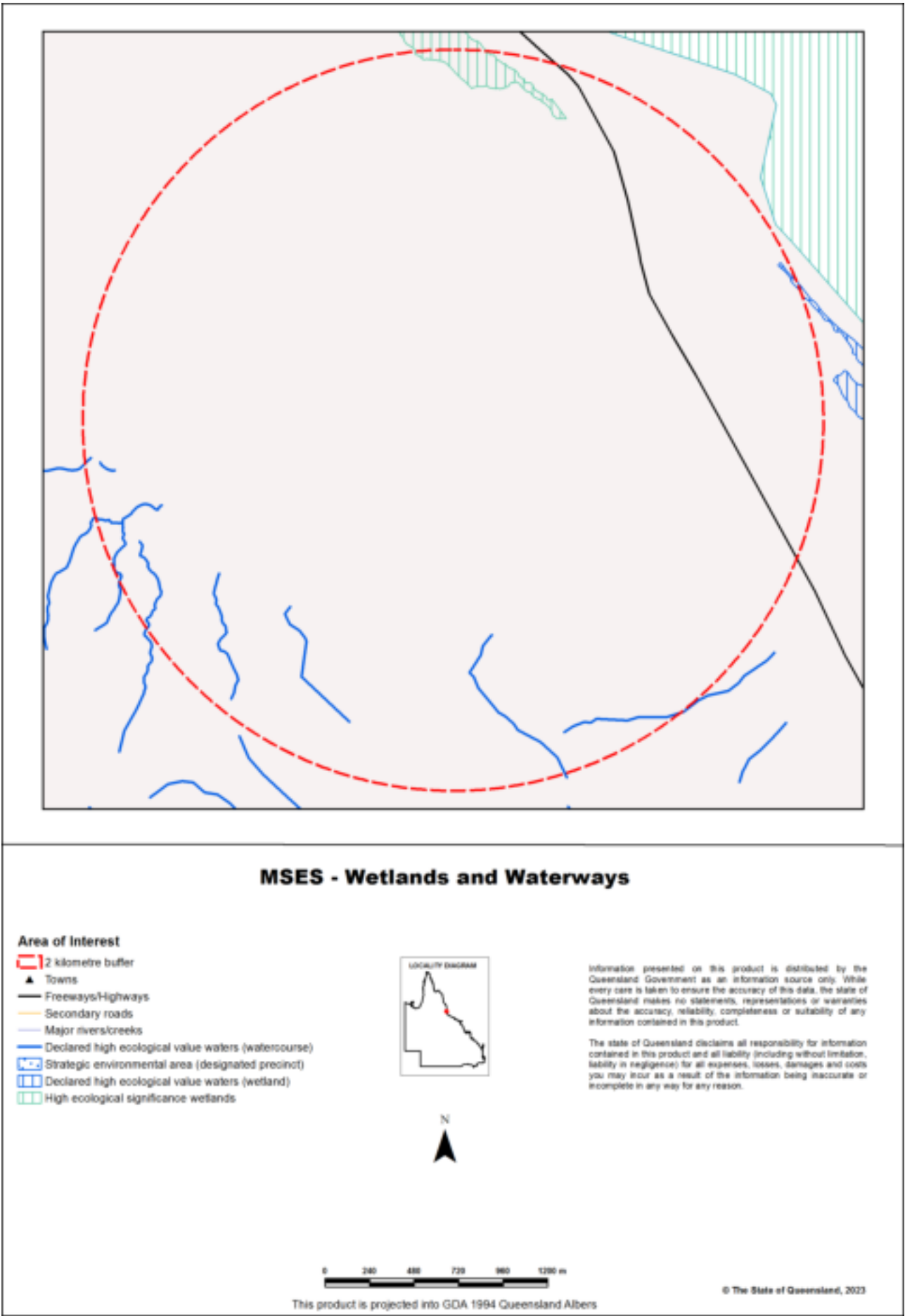
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

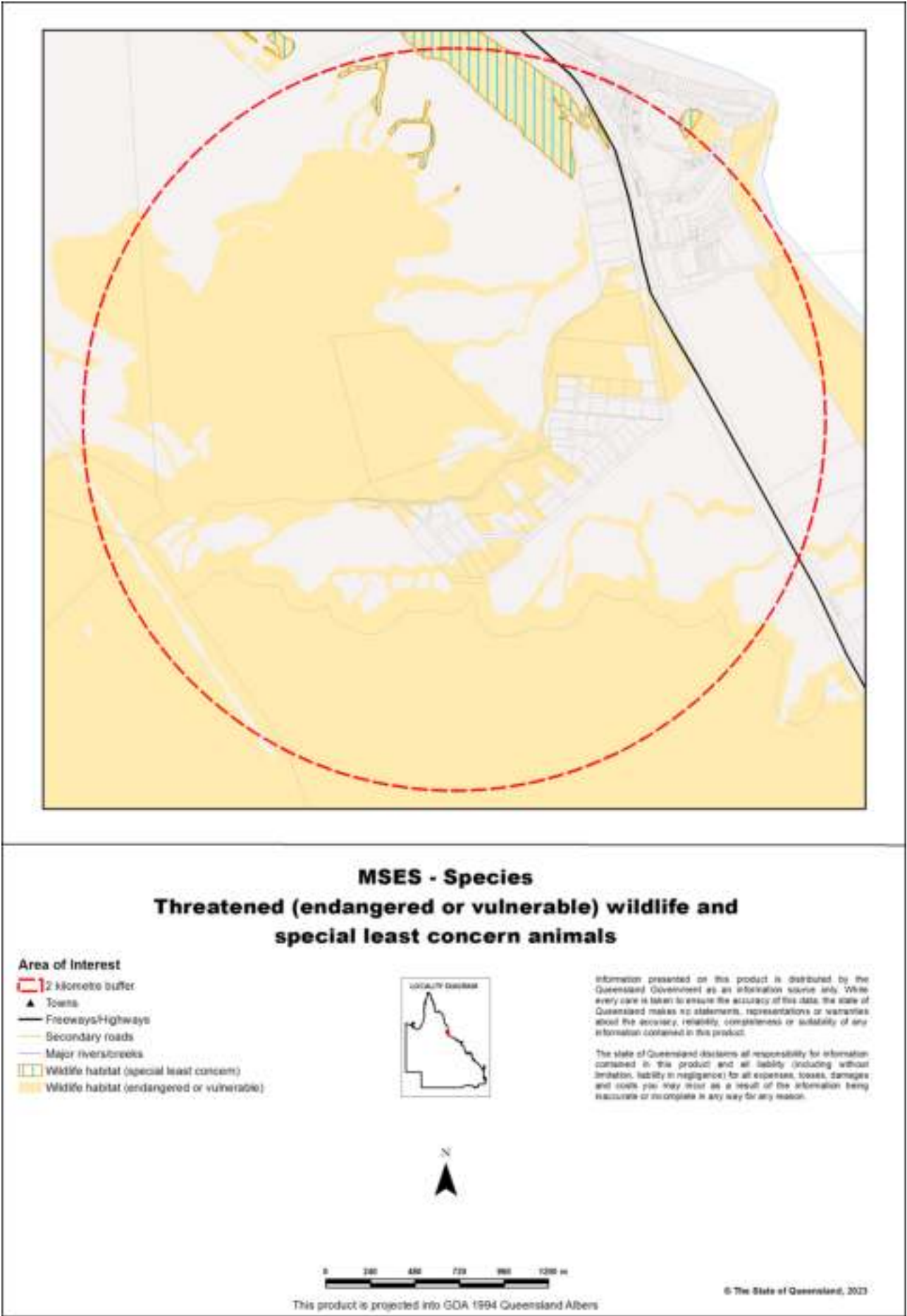
Map 1 - MSES - State Conservation Areas



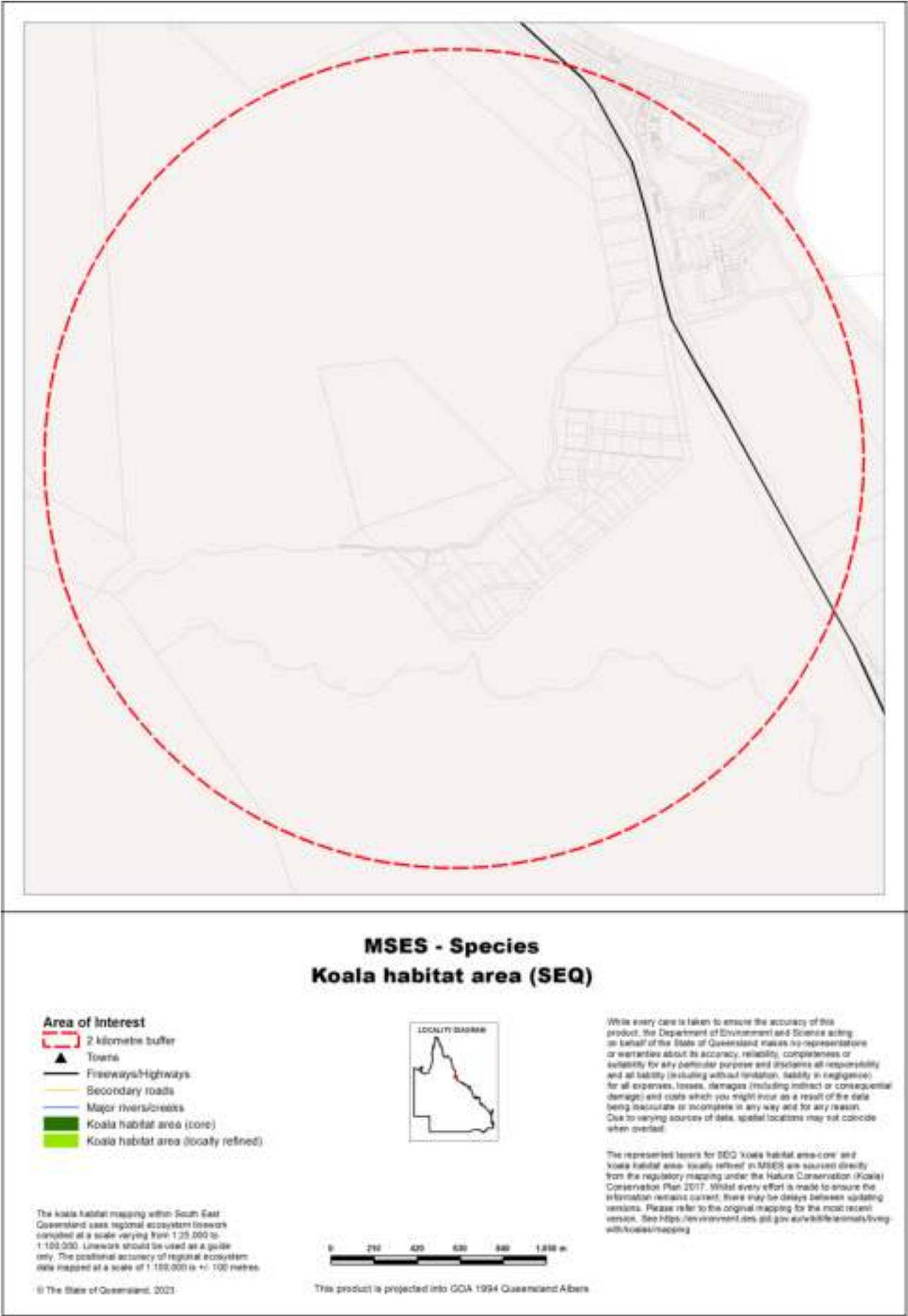
Map 2 - MSES - Wetlands and Waterways



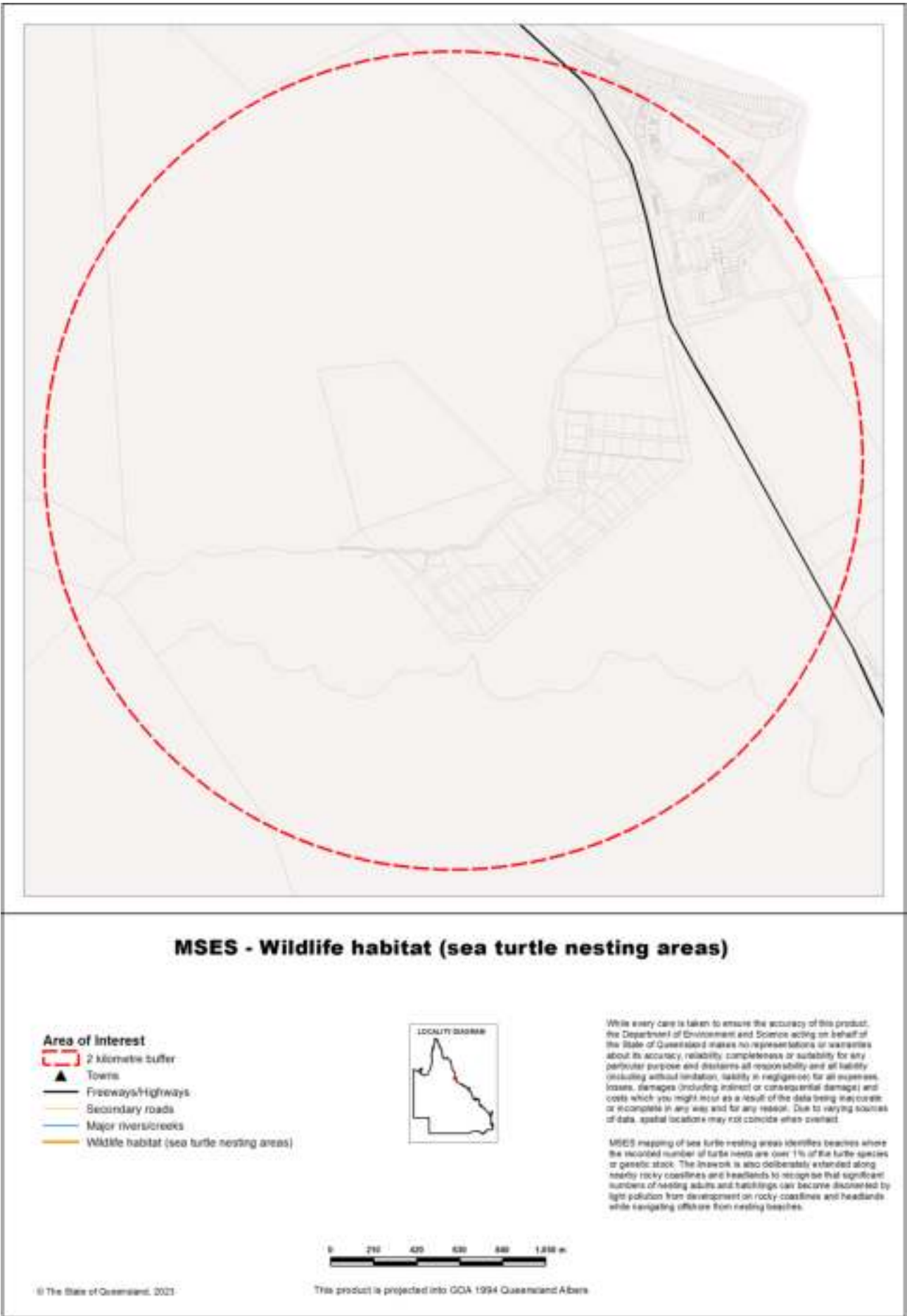
**Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**



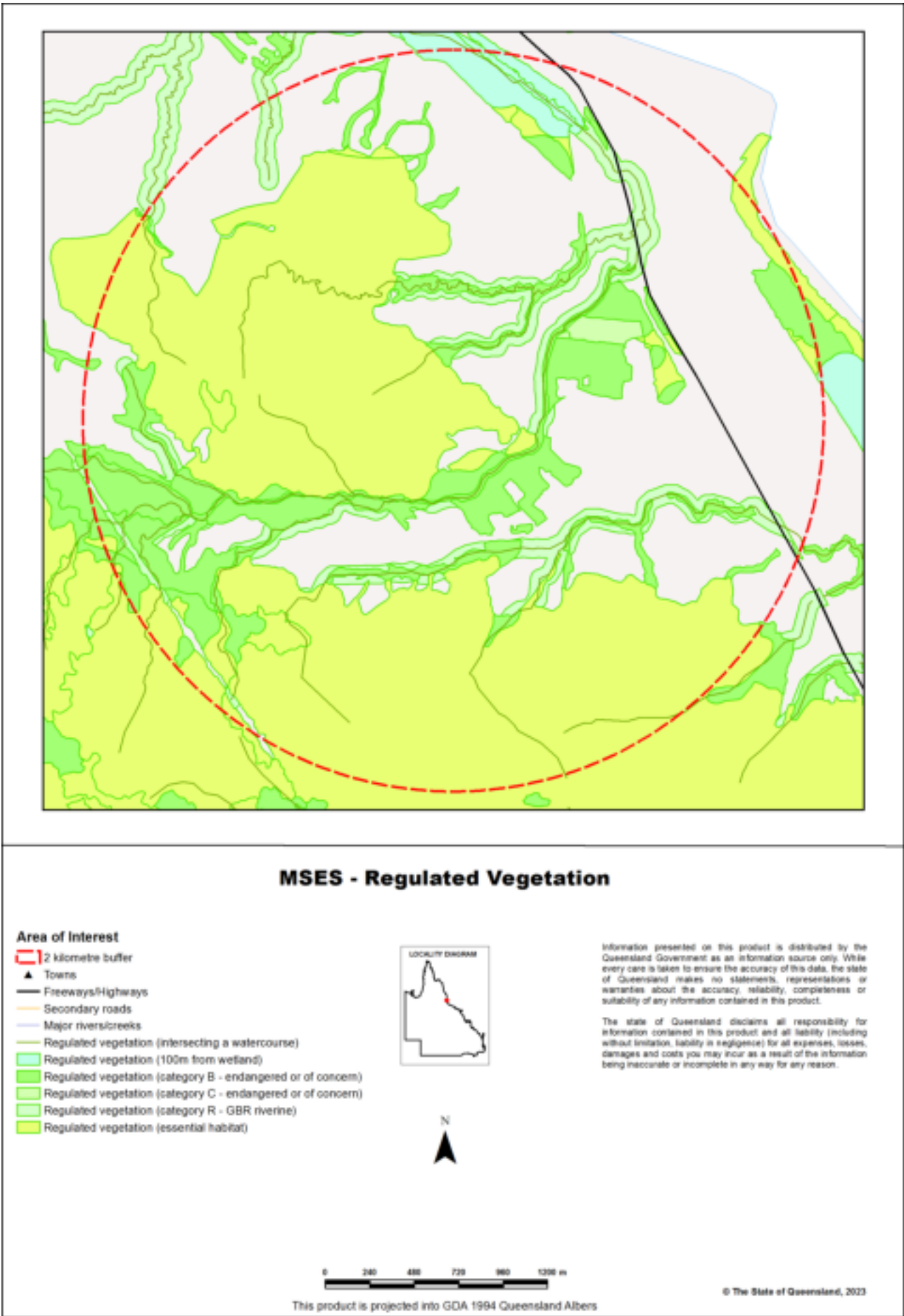
Map 3b - MSES - Species - Koala habitat area (SEQ)



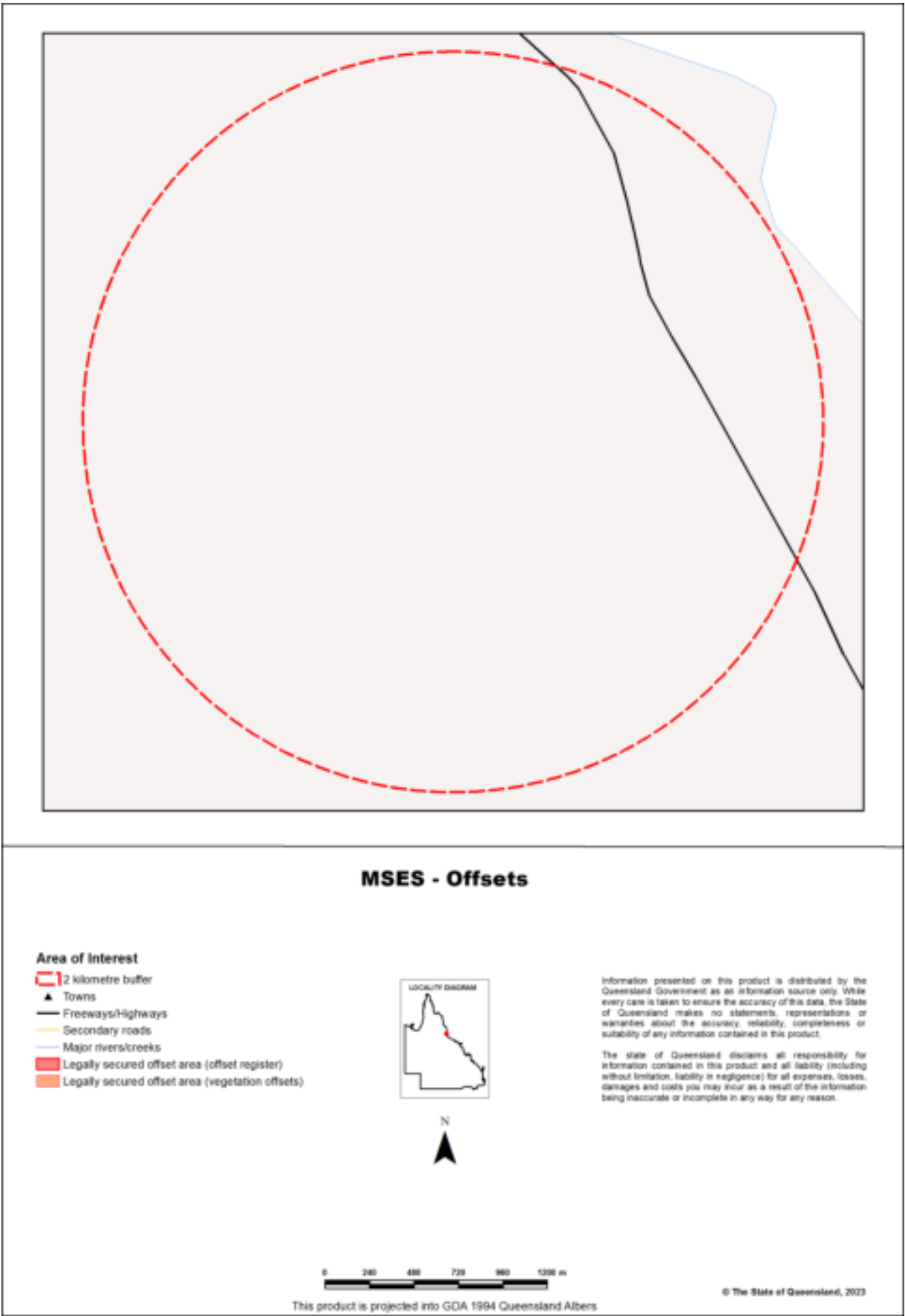
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 146.005960258 Latitude: -18.255293245 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Please direct queries about these reports to: [Planning.Support@des.qld.gov.au](mailto:Planning.Support@des.qld.gov.au)

### Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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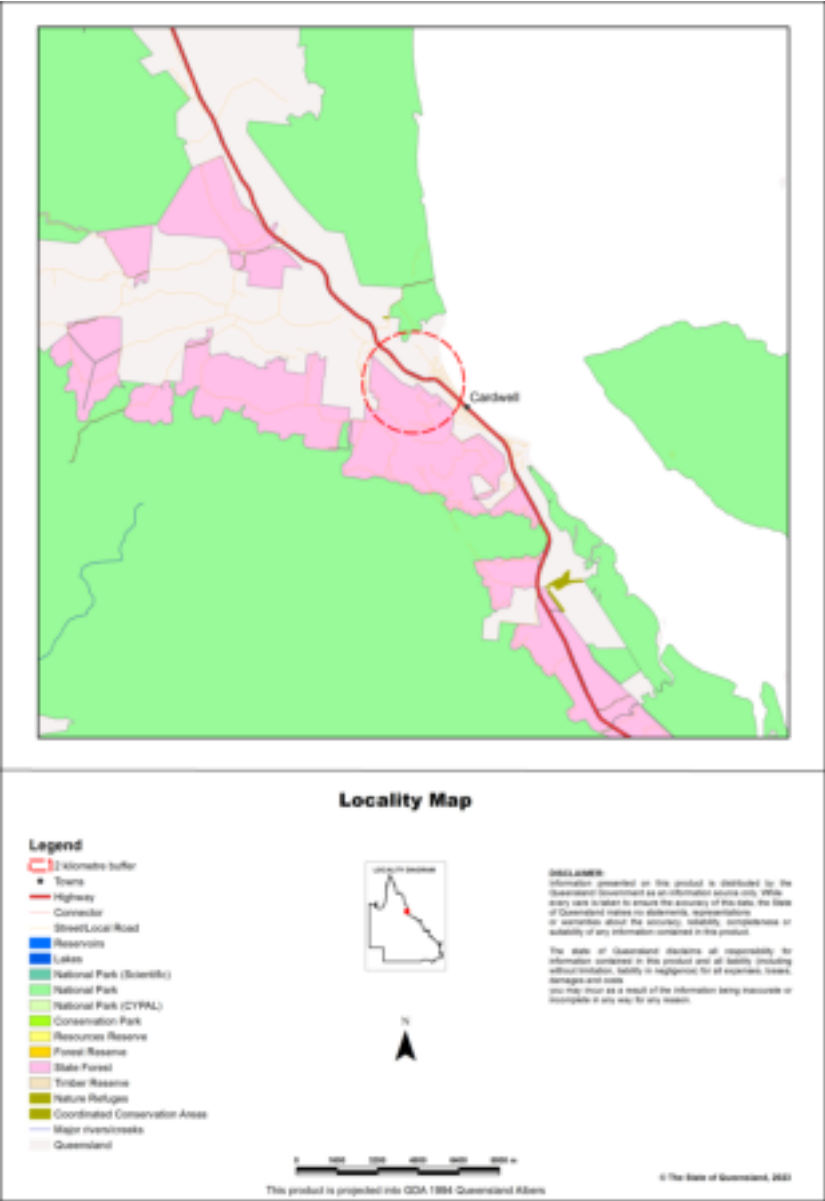
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 146.005960258 Latitude: -18.255293245**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	9.87 ha	0.8%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	33.21 ha	2.6%
3 Fish habitat areas (A and B areas)	71.89 ha	5.7%
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	106.28 ha	8.5%
6a High Ecological Value (HEV) wetlands	4.24 ha	0.3%
6b High Ecological Value (HEV) waterways	0.1 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	662.75 ha	52.7%
7b Special least concern animals	133.59 ha	10.6%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	198.94 ha	15.8%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	10.16 ha	0.8%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	108.05 ha	8.6%
8d Regulated Vegetation - Essential habitat	641.21 ha	51.0%
8e Regulated Vegetation - intersecting a watercourse	26.9 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	34.03 ha	2.7%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

## Additional Information with Respect to MSES Values Present

### MSES - State Conservation Areas

#### 1a. Protected Areas - estates

Estate name
Girramay National Park

#### 1b. Protected Areas - nature refuges

(no results)

#### 1c. Protected Areas - special wildlife reserves

(no results)

#### 2. State Marine Parks - highly protected zones

Marine Park Name	Zone
Great Barrier Reef Coast Marine Park	Conservation Park Zone

#### 3. Fish habitat areas (A and B areas)

Type	Type abbreviated	Declared plan link
Fish Habitat Area	FHAA	<a href="http://www.npsr.qld.gov.au/managing/pdf/meunga.pdf">http://www.npsr.qld.gov.au/managing/pdf/meunga.pdf</a>

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

### MSES - Wetlands and Waterways

#### 4. Strategic Environmental Areas (SEA)

(no results)

#### 5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

#### 6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

#### 6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

## MSES - Species

### 7a. Threatened (endangered or vulnerable) wildlife

Values are present

### 7b. Special least concern animals

Values are present

### 7c i. Koala habitat area - core (SEQ)

Not applicable

### 7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

### 7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

### Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuaris johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y
<i>Charadrius mongolus</i>	lesser sand plover	E	E	Y
<i>Charadrius leschenaultii</i>	greater sand plover	V	V	Y
<i>Limosa lapponica baueri</i>	Western Alaskan bar-tailed godwit	V	V	Y
<i>Numenius madagascariensis</i>	eastern curlew	E	CE	Y
<i>Pteropus conspicillatus</i>	spectacled flying-fox	E	E	

**Special least concern animal species records**

Scientific name	Common name	Migratory status
<i>Pandion cristatus</i>	eastern osprey	Y
<i>Actitis hypoleucos</i>	common sandpiper	Y
<i>Pluvialis fulva</i>	Pacific golden plover	Y
<i>Numenius phaeopus</i>	whimbrel	Y
<i>Tringa brevipes</i>	grey-tailed tattler	Y
<i>Calidris ruficollis</i>	red-necked stint	Y
<i>Tringa nebularia</i>	common greenshank	Y
<i>Xenus cinereus</i>	terek sandpiper	Y

**Shorebird habitat (critically endangered/endangered/vulnerable)**

Not applicable

**Shorebird habitat (special least concern)**

Not applicable

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

**MSES - Regulated Vegetation**

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

#### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.25b	O-dom	rem_oc
7.2.3c	O-dom	rem_oc
7.3.12b	E-dom	rem_end
7.3.21a	O-dom	rem_oc
7.12.25a	O-dom	rem_oc
7.2.4i	O-dom	rem_oc
7.1.3b	O-dom	rem_oc
7.2.3d	O-dom	rem_oc
7.12.5c	O-dom	rem_oc
7.3.12a	E-dom	rem_end
7.2.7a	O-dom	rem_oc
7.1.5	O-dom	rem_oc
7.2.8	O-dom	rem_oc
7.3.25a	O-dom	rem_oc
7.3.28a	O-dom	rem_oc

#### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.40	E-dom	hvr_end

#### 8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8161
R	8061

#### 8d. Regulated Vegetation - Essential habitat

Values are present

#### 8e. Regulated Vegetation - intersecting a watercourse\*\*

A vegetation management watercourse is mapped as present

#### 8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
B	8161

---

Regulated vegetation map category	Map number
R	8161
C	8161

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

### **MSES - Offsets**

#### **9a. Legally secured offset areas - offset register areas**

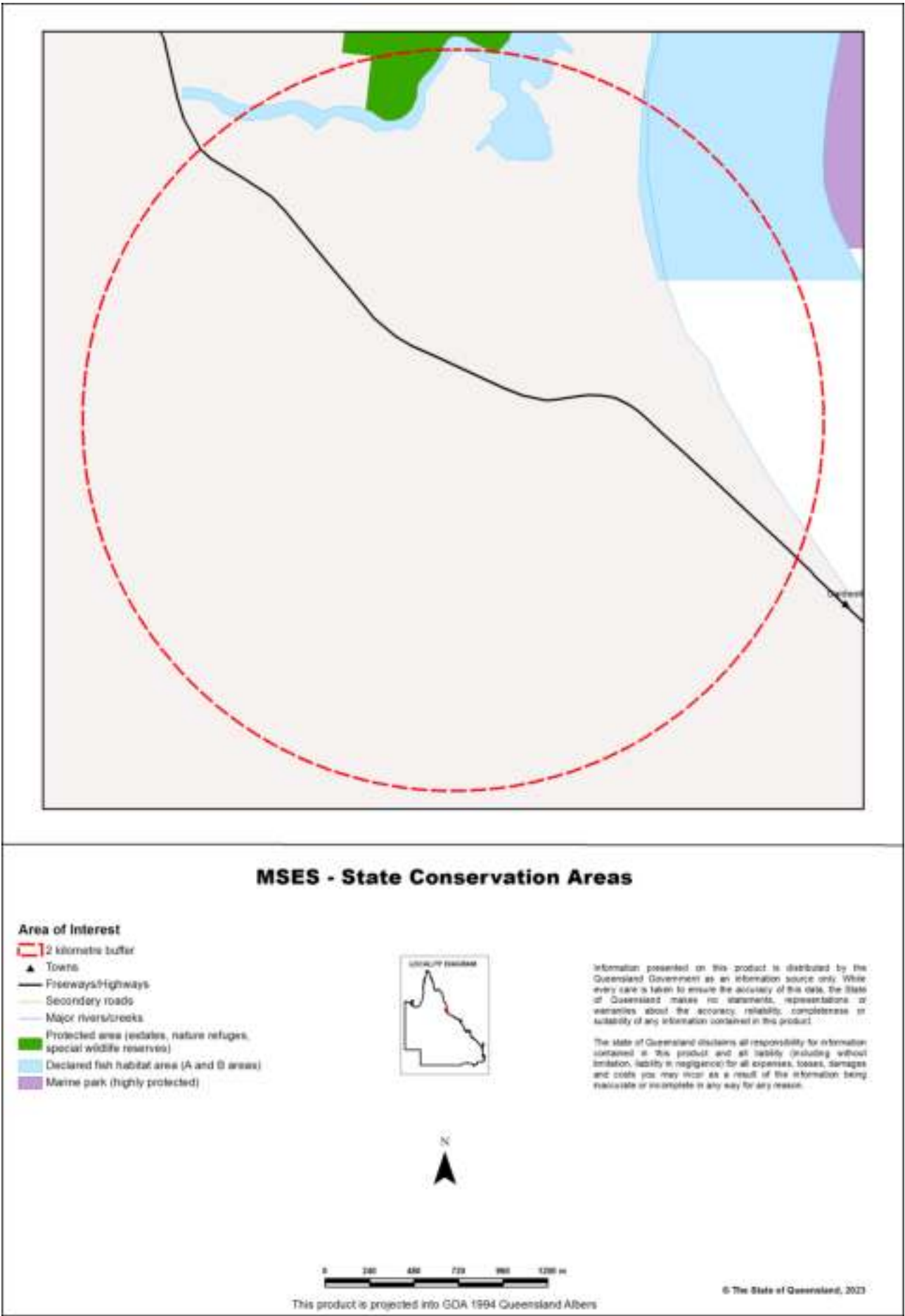
(no results)

#### **9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

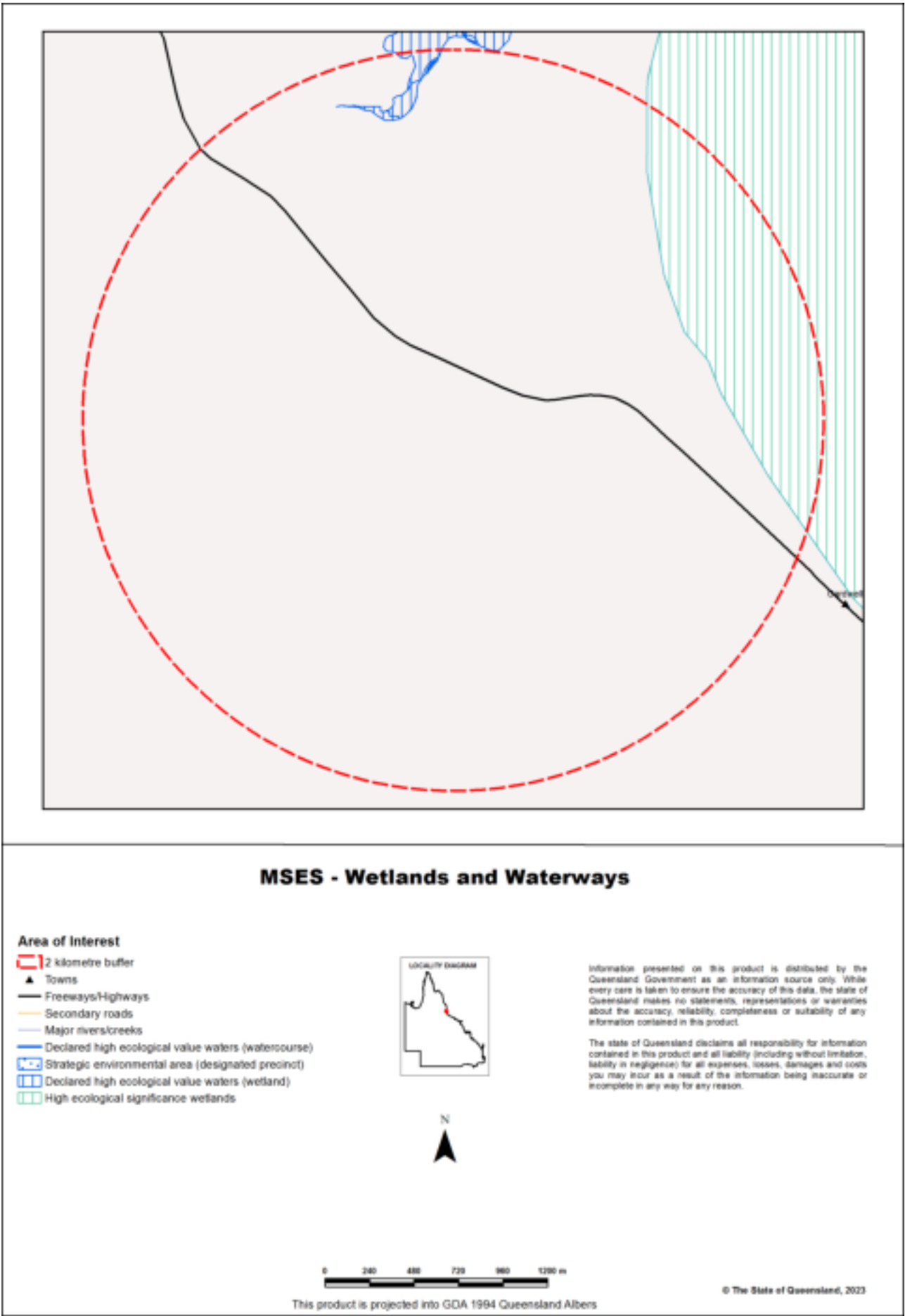
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

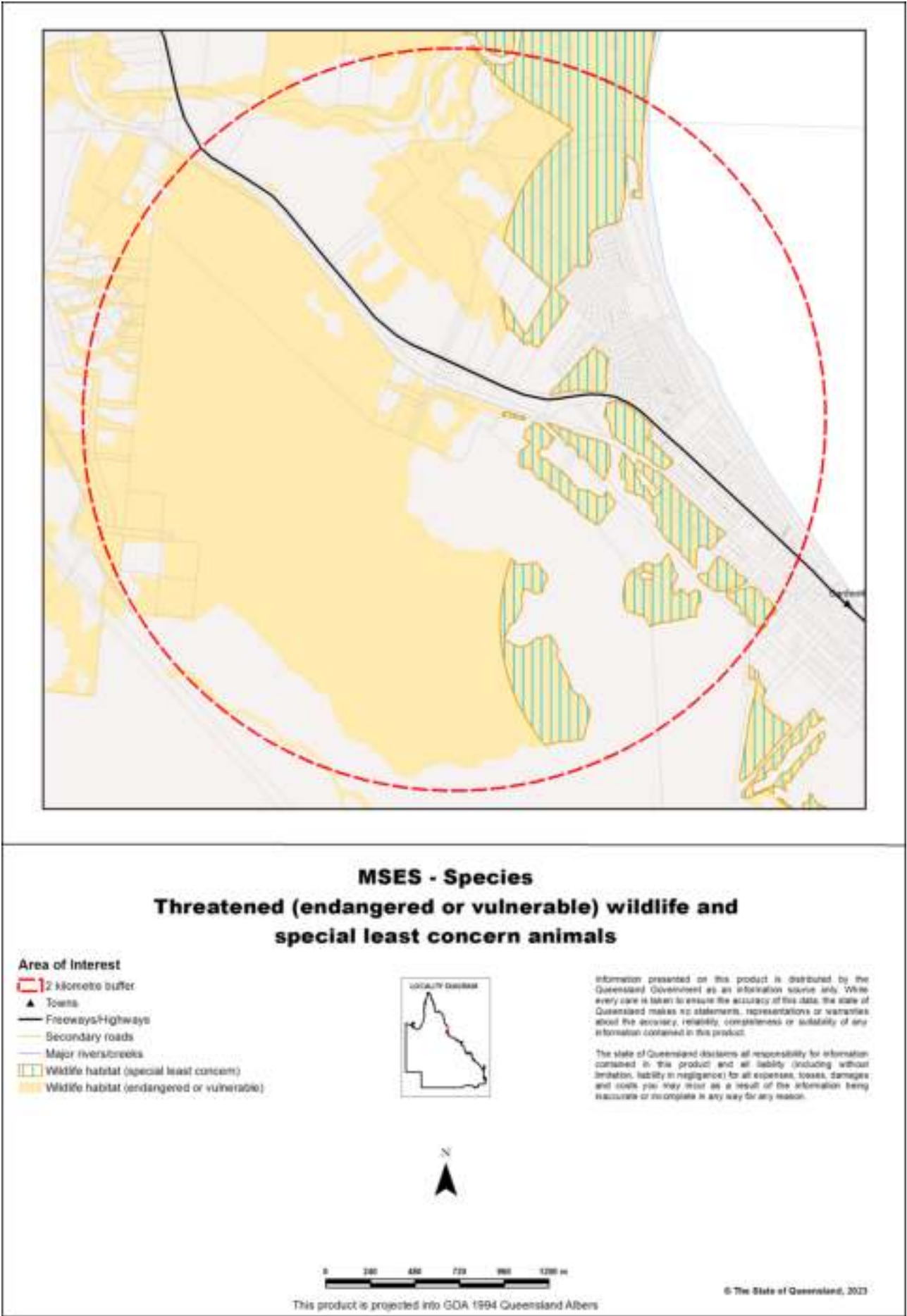
Map 1 - MSES - State Conservation Areas



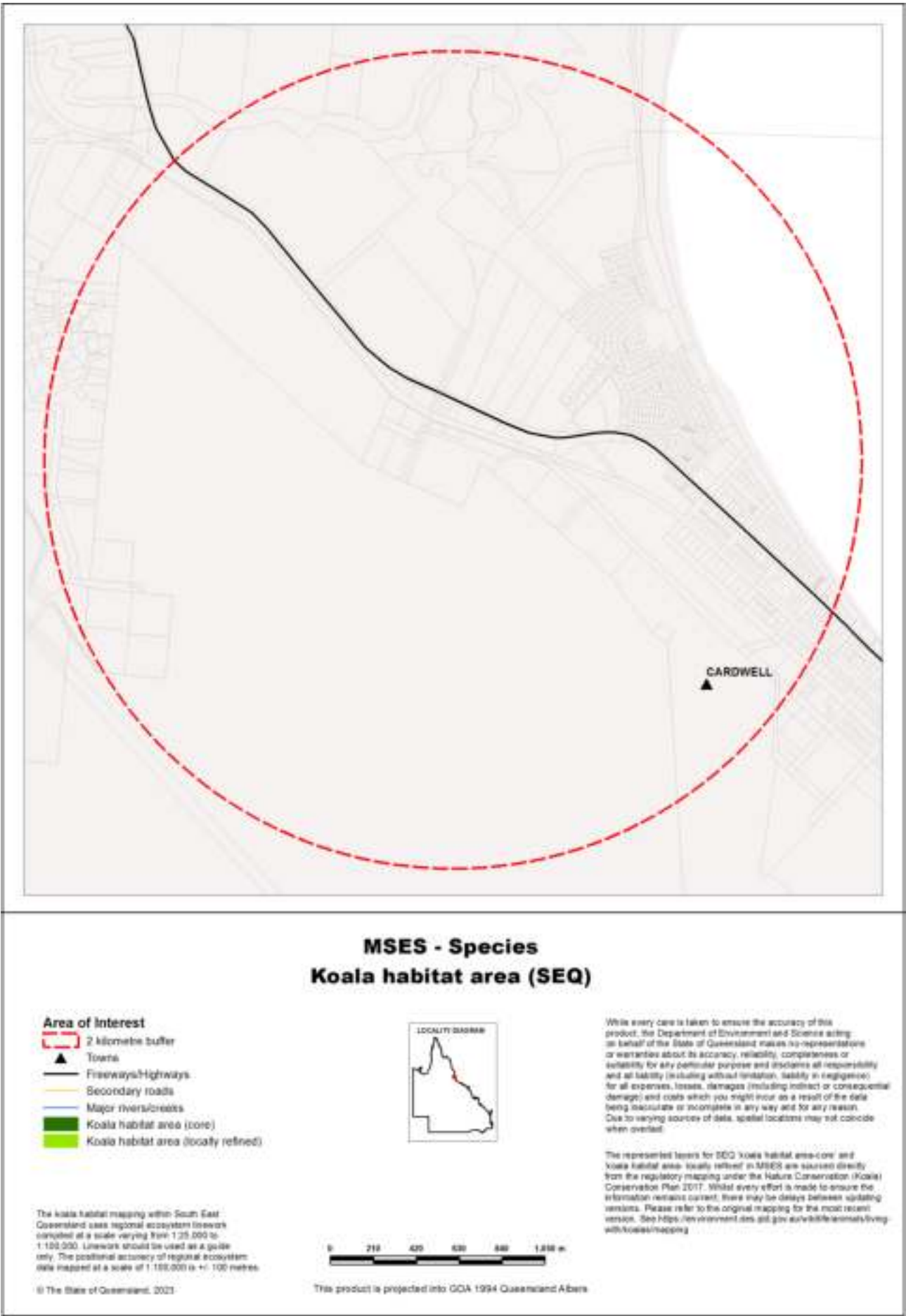
Map 2 - MSES - Wetlands and Waterways



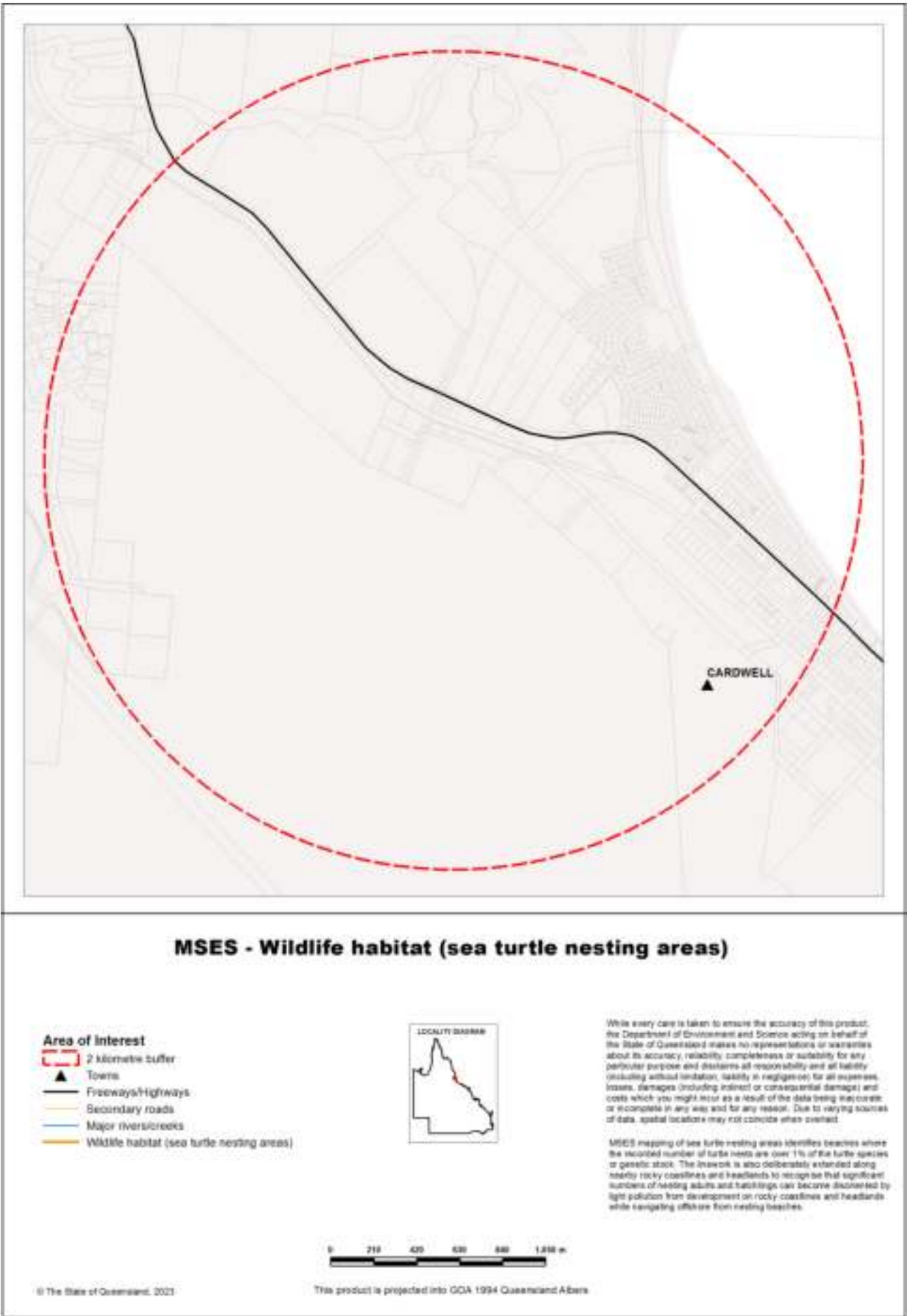
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



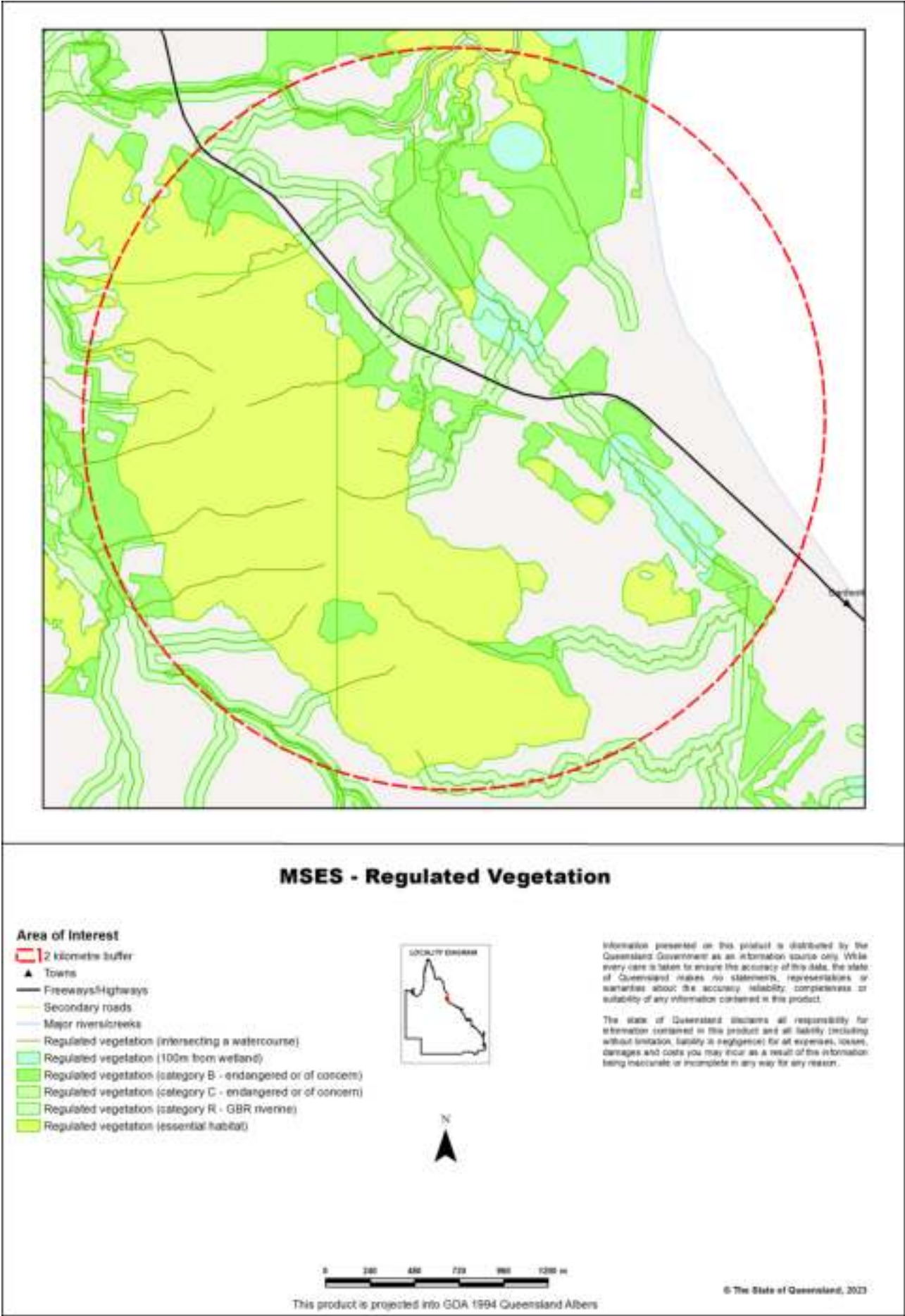
Map 3b - MSES - Species - Koala habitat area (SEQ)



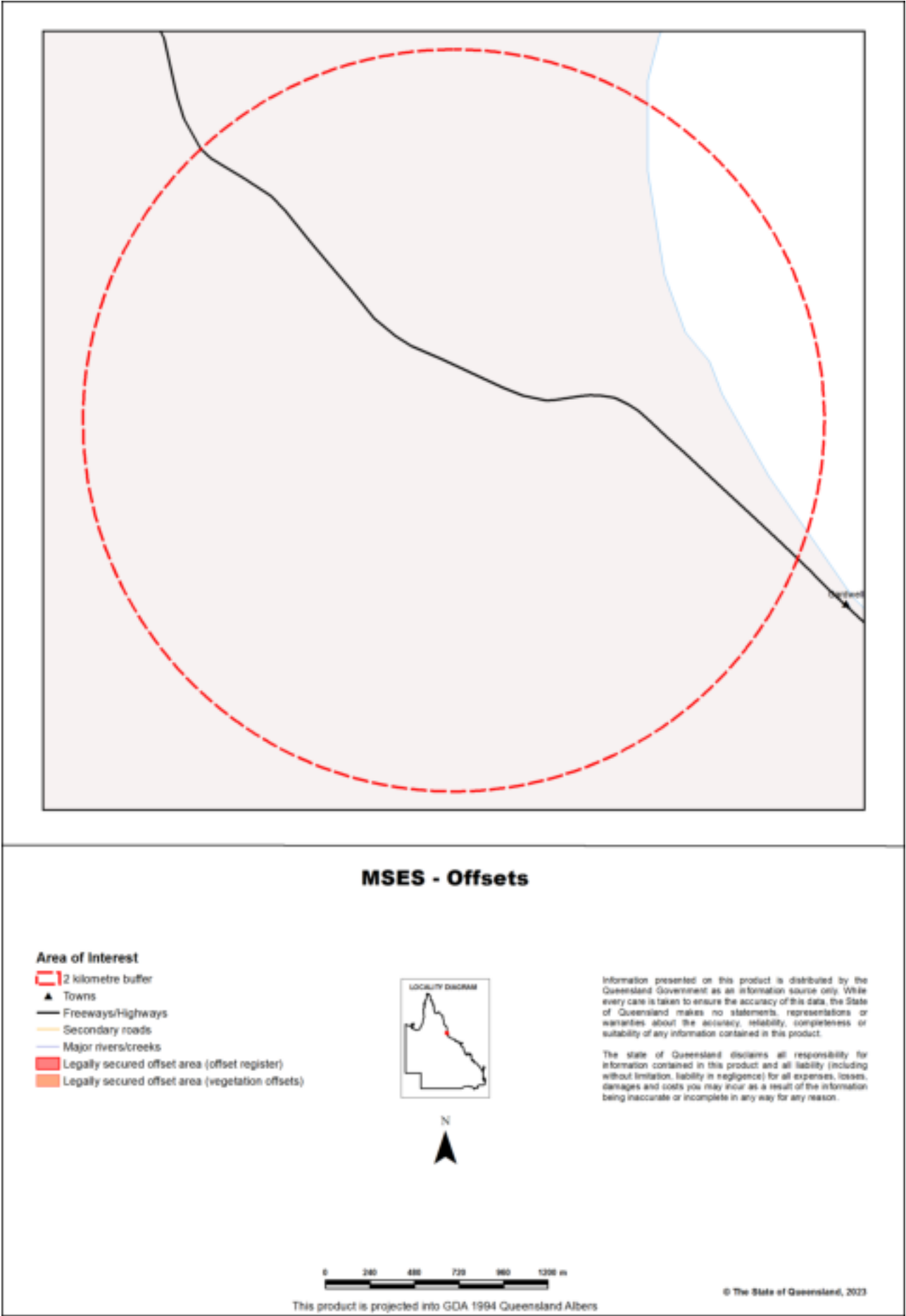
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



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Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 145.986369566 Latitude: -18.2659892073 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

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Figures in tables may be affected by rounding.

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The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

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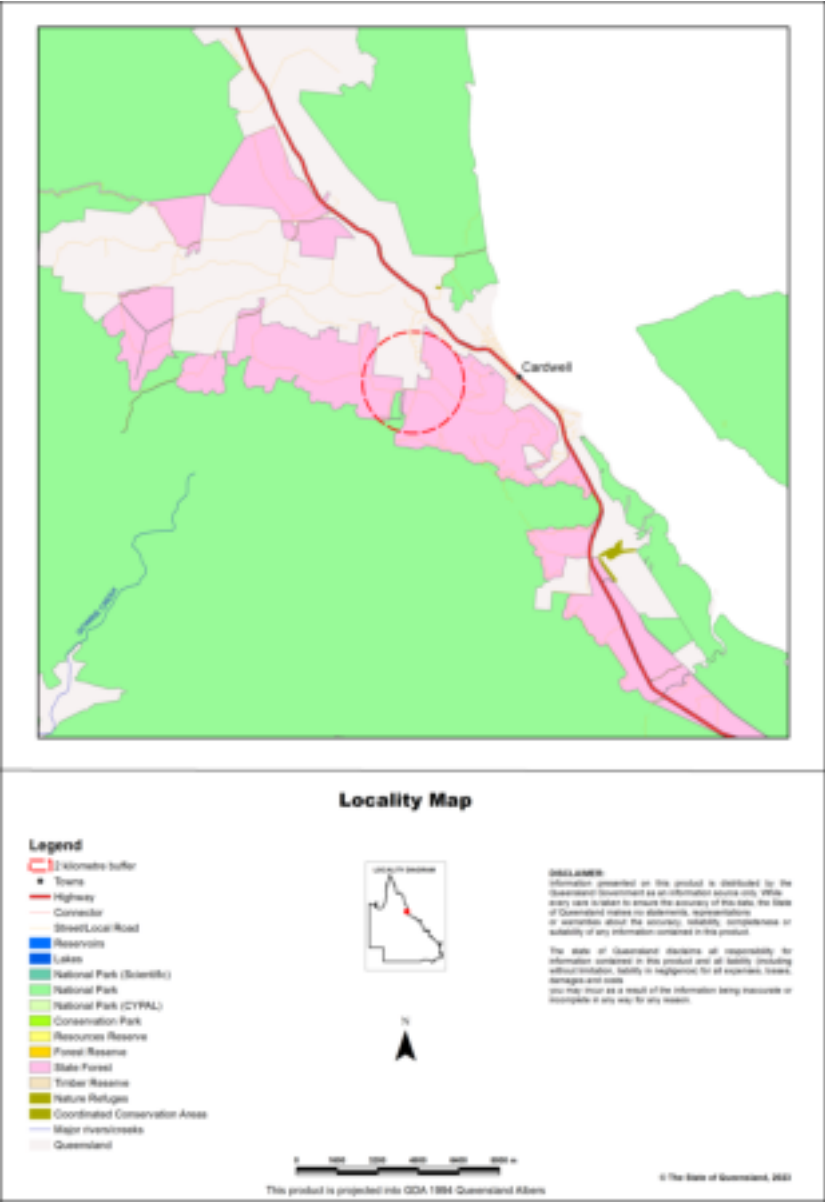
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 145.986369566 Latitude: -18.2659892073**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Kirrama - Hinchinbrook, Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	63.98 ha	5.1%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	0.0 ha	0.0 %
6a High Ecological Value (HEV) wetlands	0.0 ha	0.0 %
6b High Ecological Value (HEV) waterways	0.7 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	589.84 ha	46.9%
7b Special least concern animals	0.0 ha	0.0 %
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	240.29 ha	19.1%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	8.1 ha	0.6%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	106.23 ha	8.5%
8d Regulated Vegetation - Essential habitat	579.43 ha	46.1%
8e Regulated Vegetation - intersecting a watercourse	29.5 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	0.0 ha	0.0 %
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

Estate name
Girringun National Park

1b. Protected Areas - nature refuges

(no results)

1c. Protected Areas - special wildlife reserves

(no results)

2. State Marine Parks - highly protected zones

(no results)

3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(no results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

6a. Wetlands in High Ecological Value (HEV) waters

(no results)

6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species

**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

**7b. Special least concern animals**

Not applicable

**7c i. Koala habitat area - core (SEQ)**

Not applicable

**7c ii. Koala habitat area - locally refined (SEQ)**

Not applicable

**7d. Wildlife habitat (sea turtle nesting areas)**

Not applicable

**Threatened (endangered or vulnerable) wildlife habitat suitability models**

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y

**Special least concern animal species records**

(no results)

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

*\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

*Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)*

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.12.25a	O-dom	rem_oc
7.3.20a	O-dom	rem_oc
7.3.21a	O-dom	rem_oc
7.3.25b	O-dom	rem_oc
7.3.20b	O-dom	rem_oc
7.3.10a	O-dom	rem_oc
7.3.20k	O-dom	rem_oc
7.3.10b	O-dom	rem_oc
7.3.12a	E-dom	rem_end

### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.20b	O-dom	hvr_oc

**8c. Regulated Vegetation - Category R (GBR riverine regrowth)**

Regulated vegetation map category	Map number
R	8061
R	8161

**8d. Regulated Vegetation - Essential habitat**

Values are present

**8e. Regulated Vegetation - intersecting a watercourse\*\***

A vegetation management watercourse is mapped as present

**8f. Regulated Vegetation - within 100m of a Vegetation Management wetland**

Not applicable

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

**MSES - Offsets****9a. Legally secured offset areas - offset register areas**

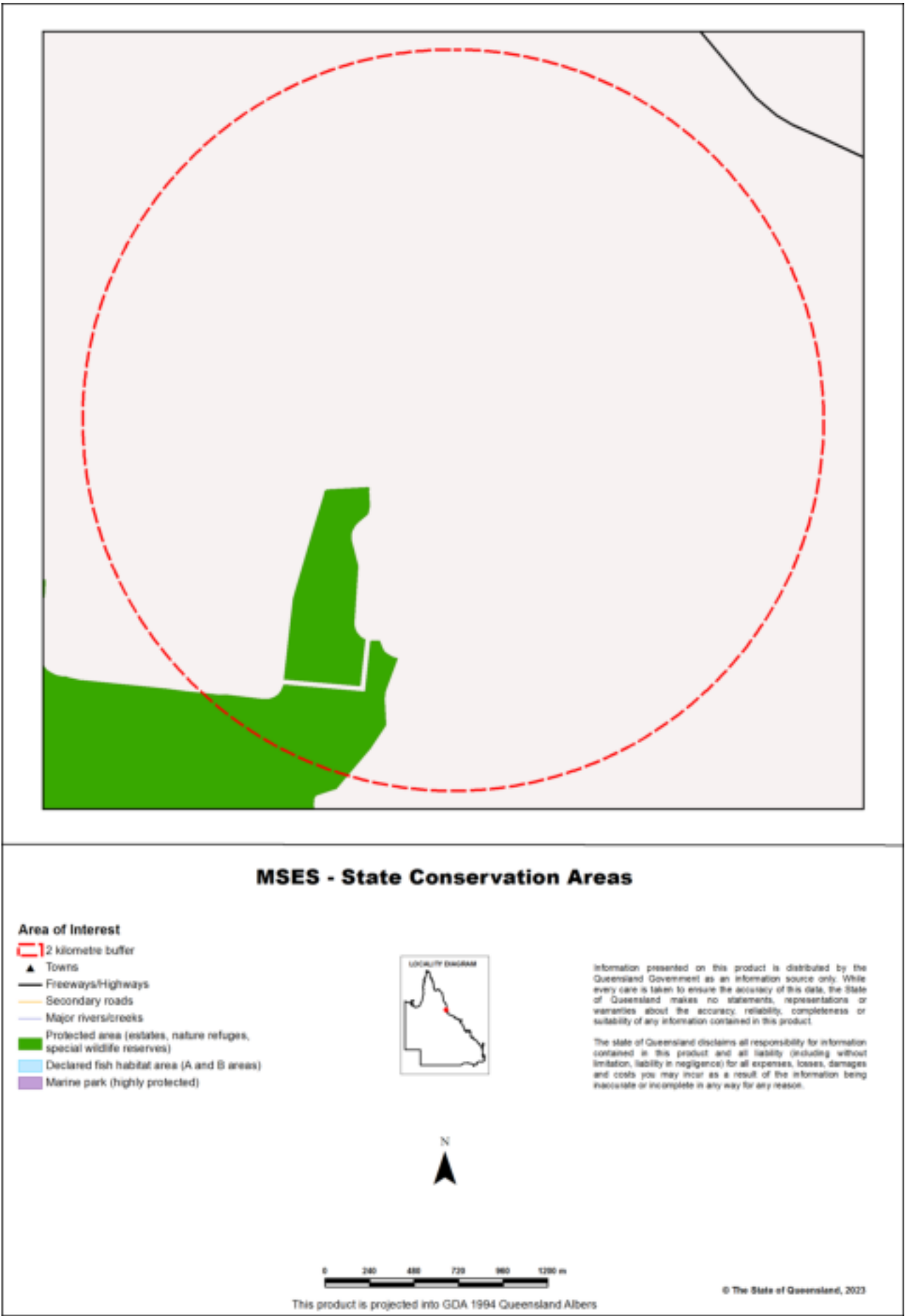
(no results)

**9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

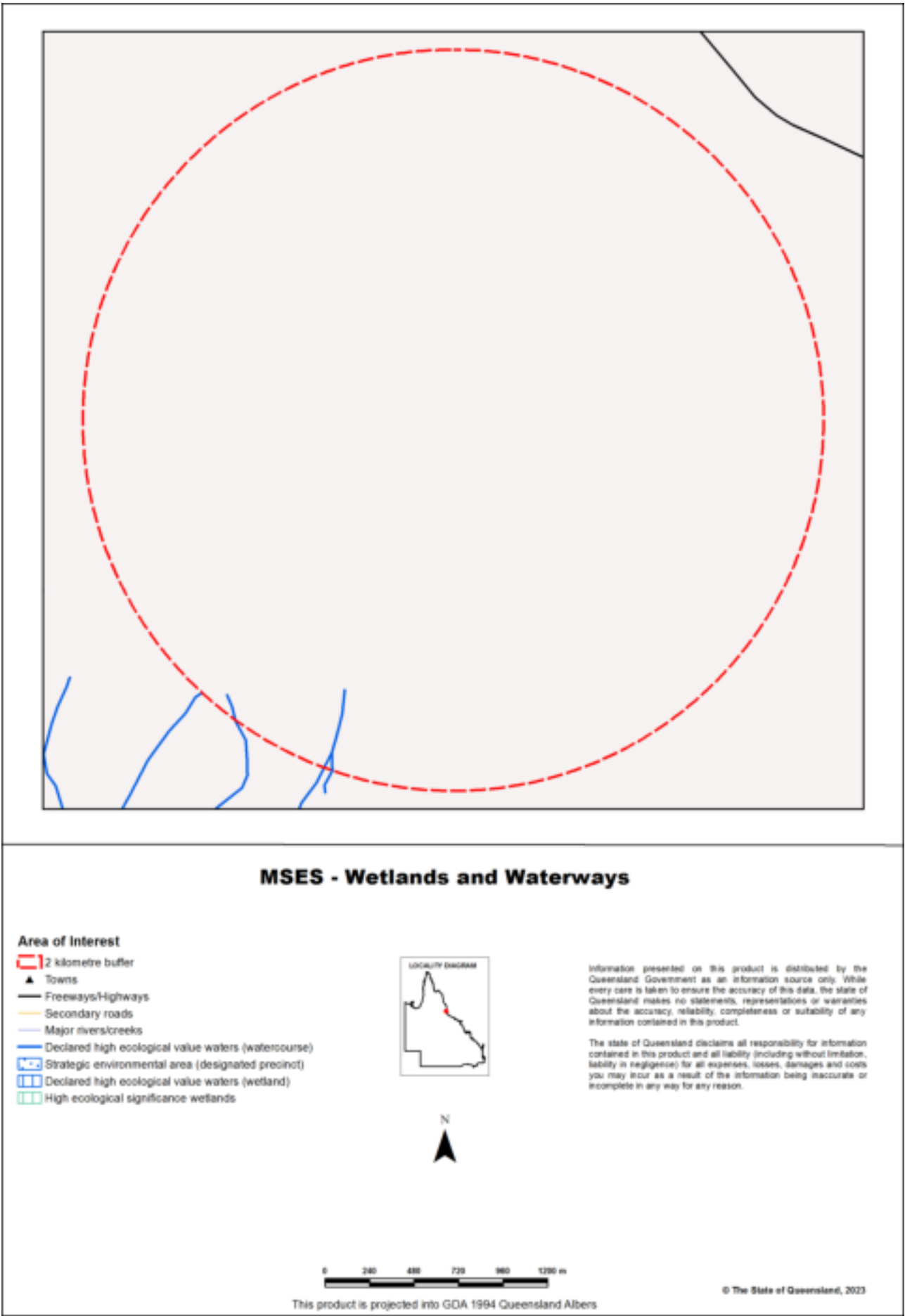
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

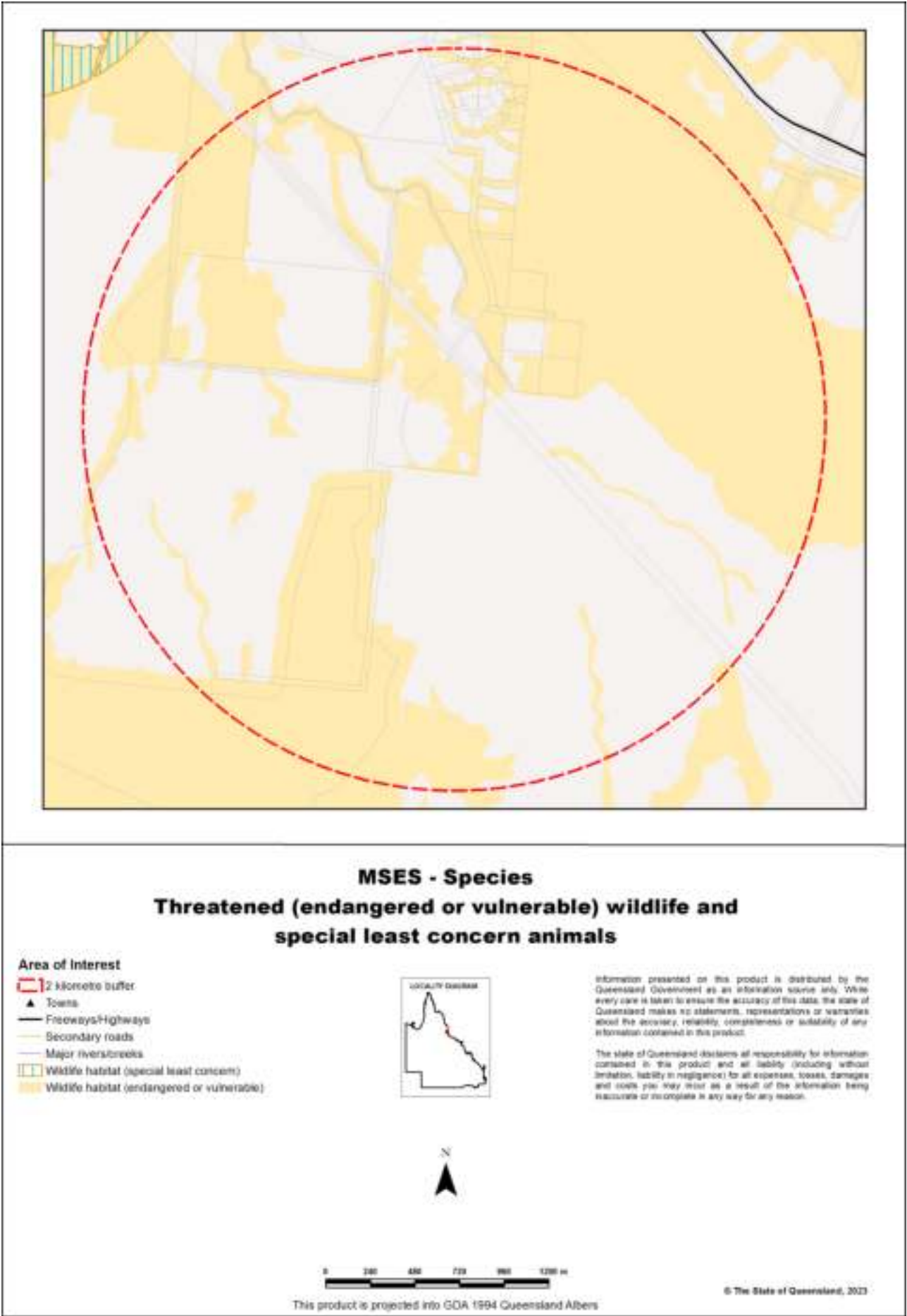
Map 1 - MSES - State Conservation Areas



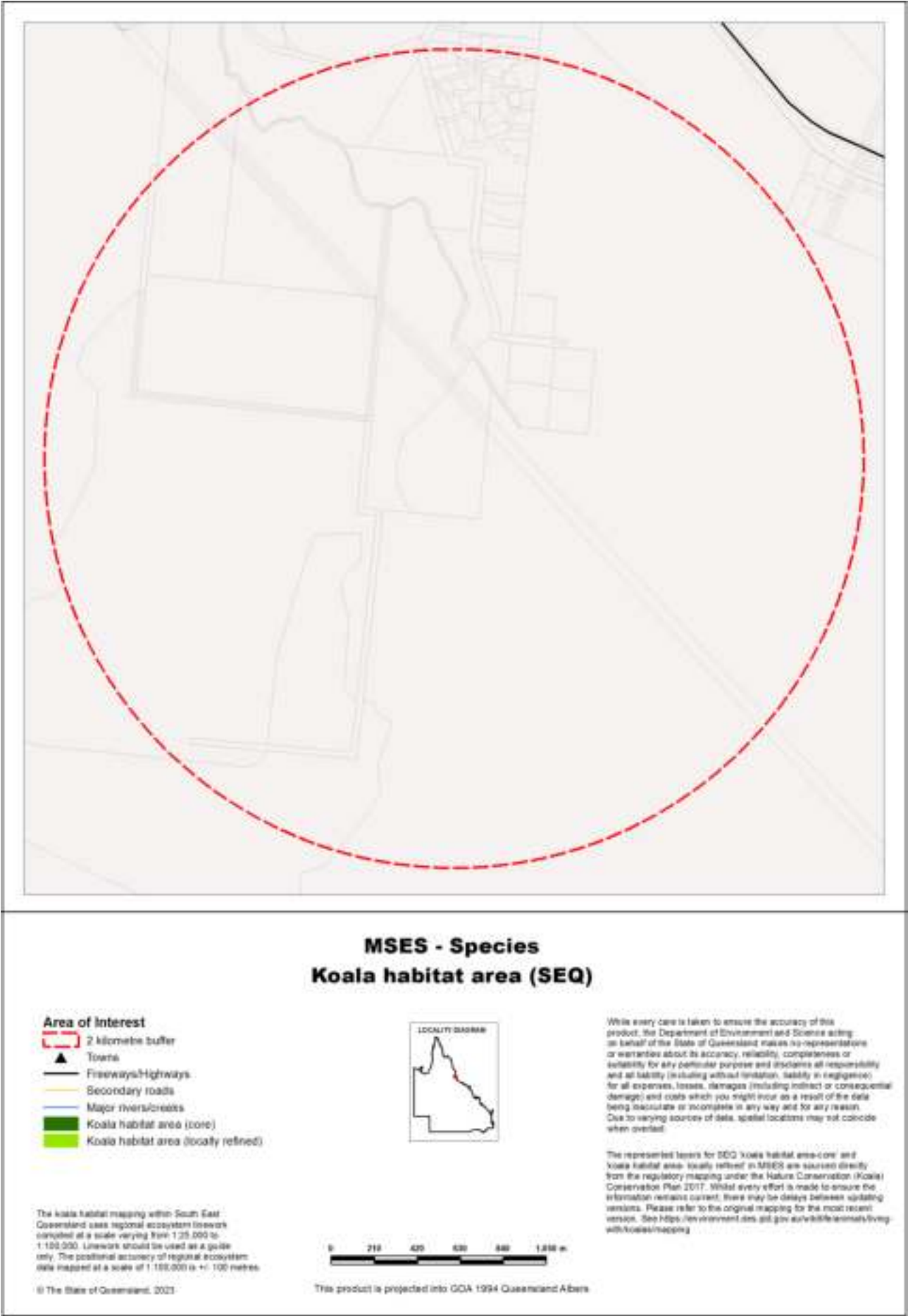
Map 2 - MSES - Wetlands and Waterways



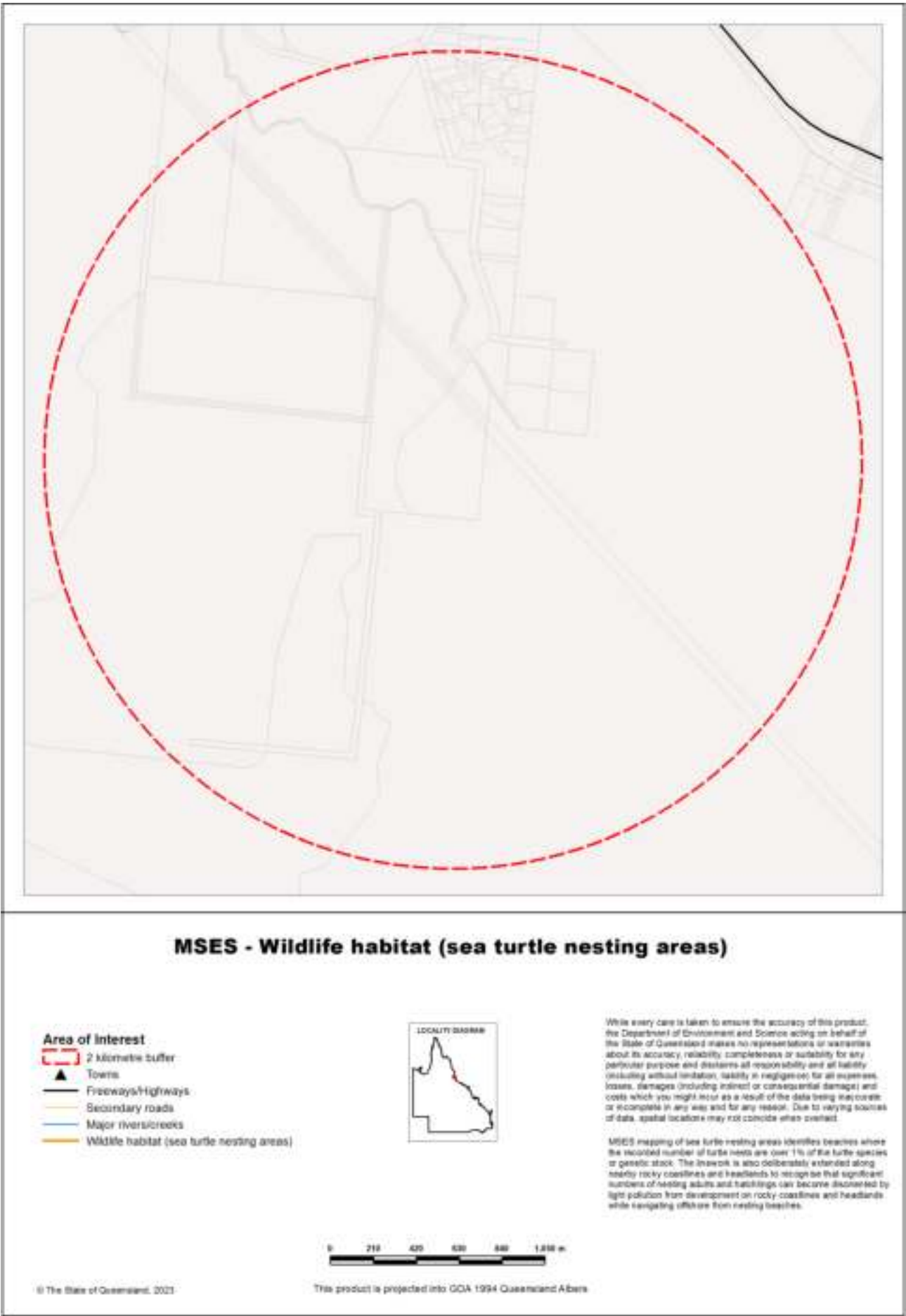
**Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**



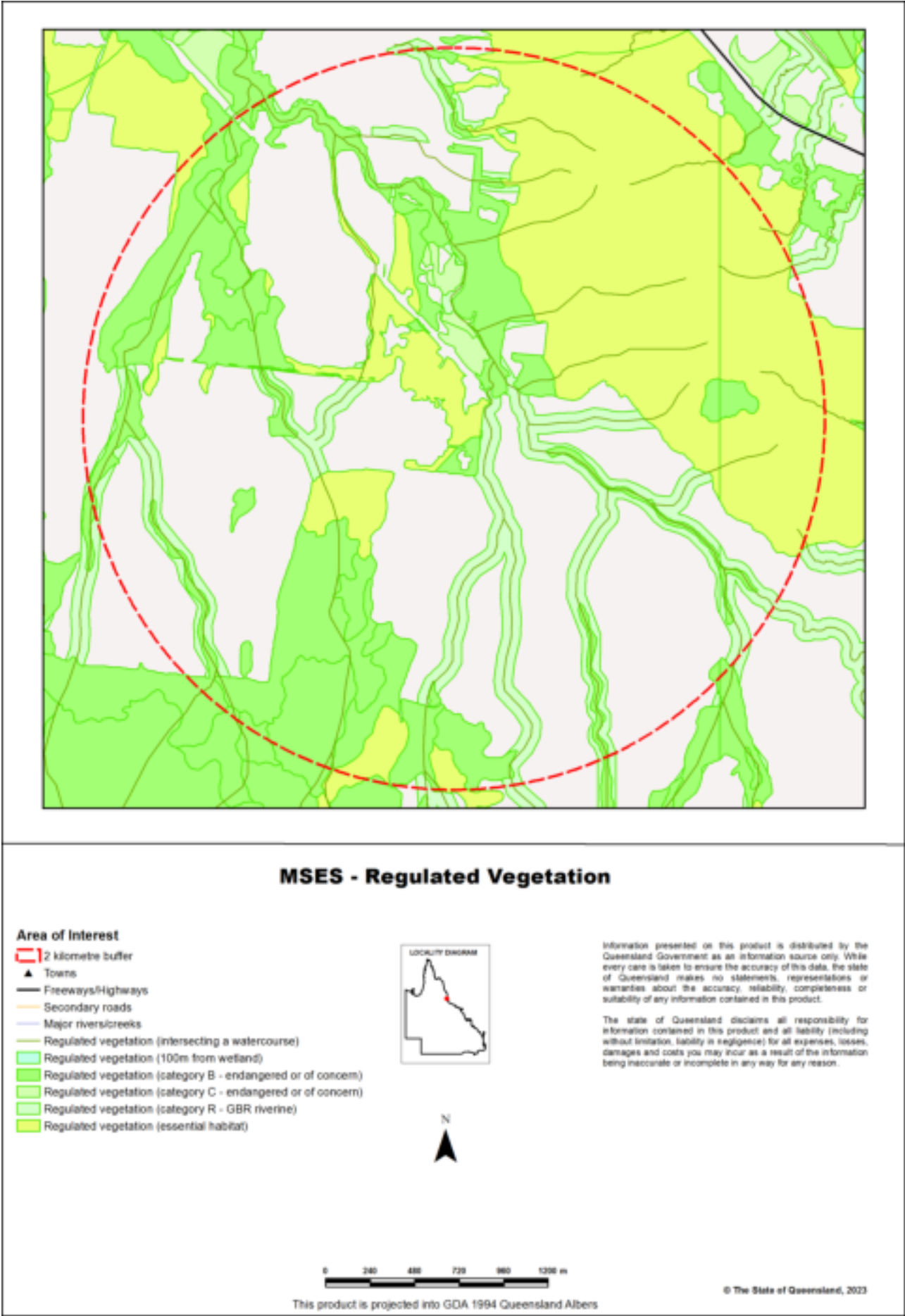
Map 3b - MSES - Species - Koala habitat area (SEQ)



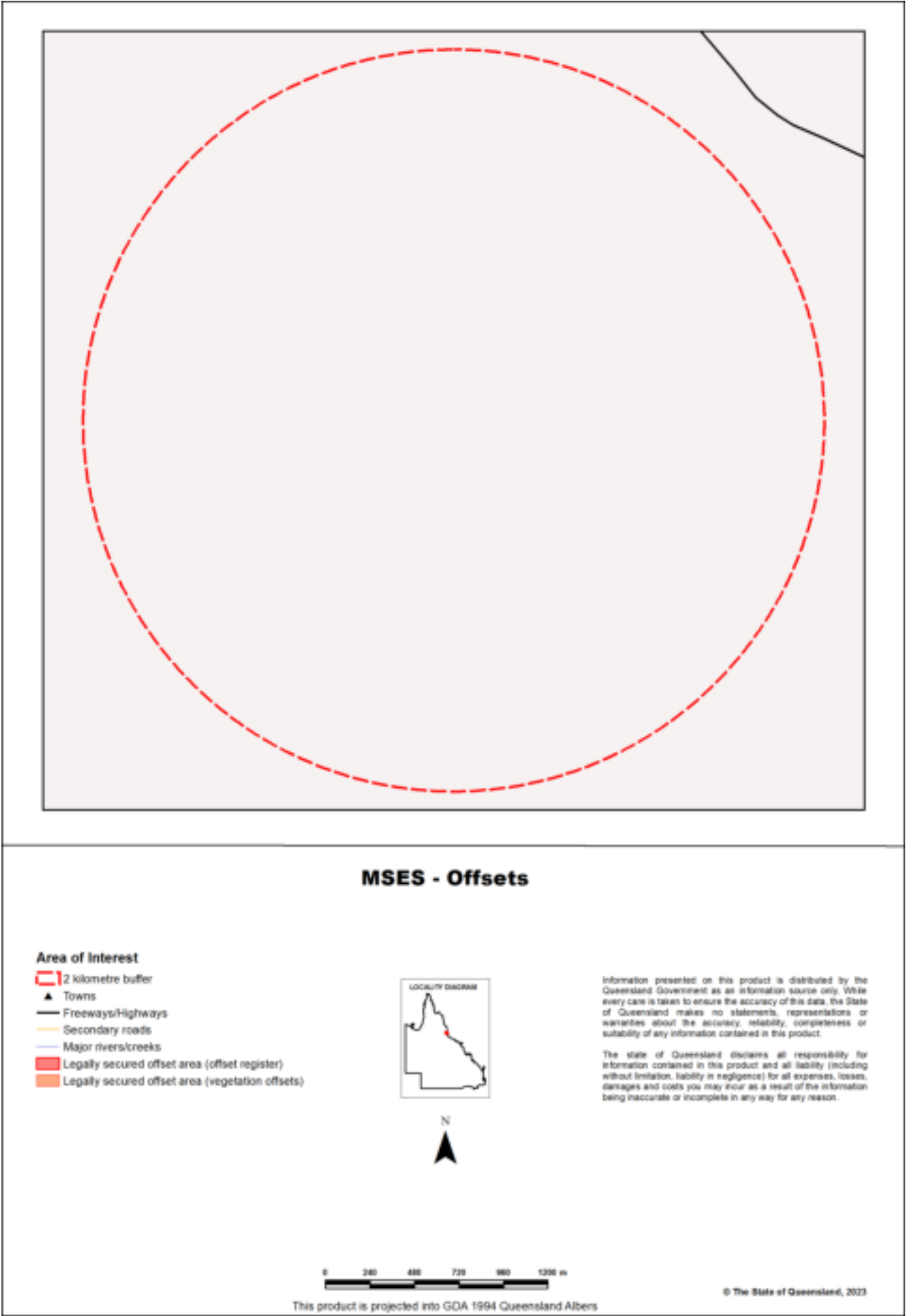
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

### Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



Department of Environment and Science

Environmental Reports

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For the selected area of interest

Longitude: 146.007215695 Latitude: -18.2446843154 with 2 kilometre radius

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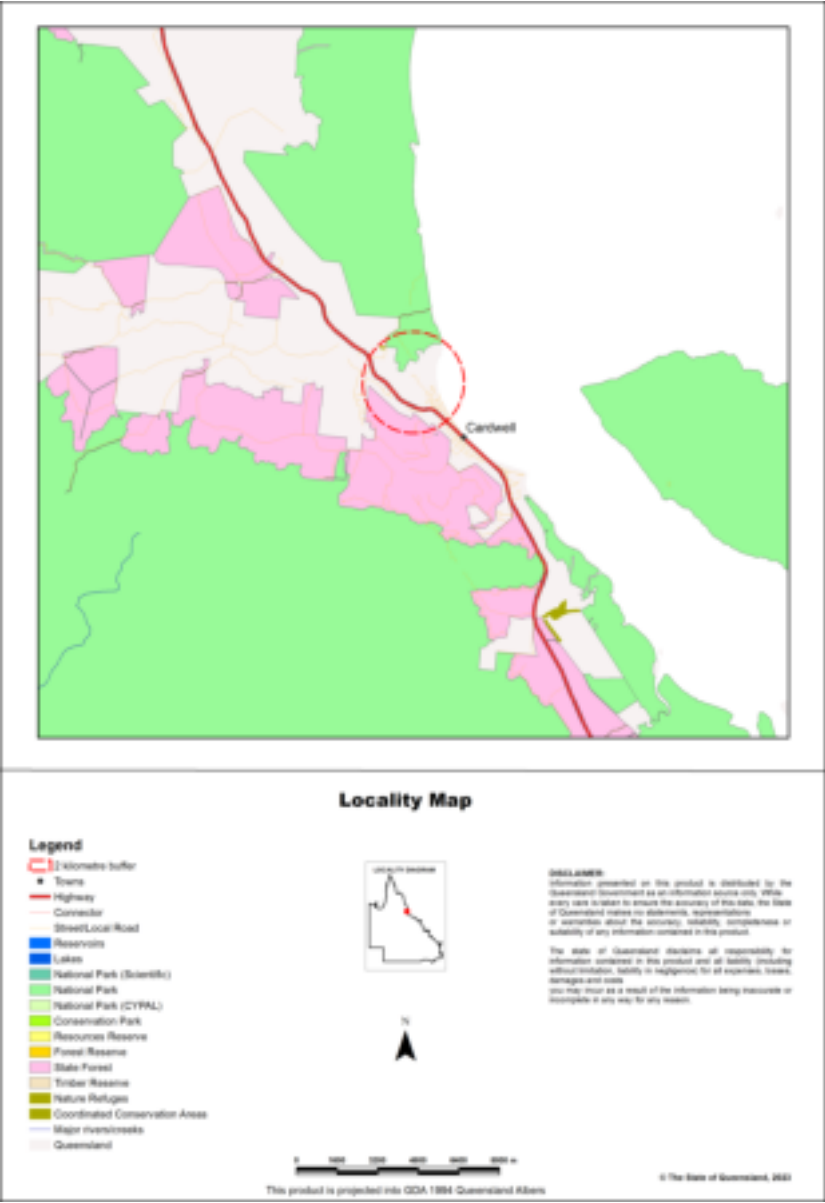
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### MSES Categories

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- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	167.54 ha	13.3%
1b Protected Areas- nature refuges	1.54 ha	0.1%
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	150.0 ha	11.9%
3 Fish habitat areas (A and B areas)	225.38 ha	17.9%
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	215.01 ha	17.1%
6a High Ecological Value (HEV) wetlands	106.09 ha	8.4%
6b High Ecological Value (HEV) waterways	3.1 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	669.33 ha	53.3%
7b Special least concern animals	239.82 ha	19.1%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	302.54 ha	24.1%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	11.35 ha	0.9%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	71.04 ha	5.7%
8d Regulated Vegetation - Essential habitat	640.98 ha	51.0%
8e Regulated Vegetation - intersecting a watercourse	22.3 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	105.32 ha	8.4%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

## Additional Information with Respect to MSES Values Present

### MSES - State Conservation Areas

#### 1a. Protected Areas - estates

Estate name
Girramay National Park

#### 1b. Protected Areas - nature refuges

Name
Melaleuca Nature Refuge

#### 1c. Protected Areas - special wildlife reserves

(no results)

### 2. State Marine Parks - highly protected zones

Marine Park Name	Zone
Great Barrier Reef Coast Marine Park	Conservation Park Zone

### 3. Fish habitat areas (A and B areas)

Type	Type abbreviated	Declared plan link
Fish Habitat Area	FHAA	<a href="http://www.npsr.qld.gov.au/managing/pdf/meunga.pdf">http://www.npsr.qld.gov.au/managing/pdf/meunga.pdf</a>

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

### MSES - Wetlands and Waterways

#### 4. Strategic Environmental Areas (SEA)

(no results)

#### 5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

#### 6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

#### 6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

## MSES - Species

### 7a. Threatened (endangered or vulnerable) wildlife

Values are present

### 7b. Special least concern animals

Values are present

### 7c i. Koala habitat area - core (SEQ)

Not applicable

### 7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

### 7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

### Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuarus johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

### Threatened (endangered or vulnerable) wildlife species records

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y
<i>Charadrius mongolus</i>	lesser sand plover	E	E	Y
<i>Charadrius leschenaultii</i>	greater sand plover	V	V	Y
<i>Limosa lapponica baueri</i>	Western Alaskan bar-tailed godwit	V	V	Y
<i>Numenius madagascariensis</i>	eastern curlew	E	CE	Y
<i>Acanthophis antarcticus</i>	common death adder	V		
<i>Pteropus conspicillatus</i>	spectacled flying-fox	E	E	

### Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Pandion cristatus</i>	eastern osprey	Y
<i>Actitis hypoleucos</i>	common sandpiper	Y
<i>Tachyglossus aculeatus</i>	short-beaked echidna	
<i>Pluvialis fulva</i>	Pacific golden plover	Y
<i>Numenius phaeopus</i>	whimbrel	Y
<i>Tringa brevipes</i>	grey-tailed tattler	Y
<i>Calidris ruficollis</i>	red-necked stint	Y
<i>Tringa nebularia</i>	common greenshank	Y
<i>Xenus cinereus</i>	terek sandpiper	Y

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.28a	O-dom	rem_oc
7.3.25a	O-dom	rem_oc
7.3.12b	E-dom	rem_end
7.2.3c	O-dom	rem_oc
7.2.8	O-dom	rem_oc
7.2.2a	O-dom	rem_oc
7.2.3d	O-dom	rem_oc
7.1.3b	O-dom	rem_oc
7.2.9a	O-dom	rem_oc
7.2.5a	O-dom	rem_oc
7.2.3a	O-dom	rem_oc
7.12.5c	O-dom	rem_oc
7.3.12a	E-dom	rem_end
7.2.4i	O-dom	rem_oc
7.3.21a	O-dom	rem_oc
7.2.7a	O-dom	rem_oc
7.1.5	O-dom	rem_oc

### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.40	E-dom	hvr_end
7.3.12b	E-dom	hvr_end
7.3.25a	O-dom	hvr_oc

### 8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8161
R	8061

### 8d. Regulated Vegetation - Essential habitat

Values are present

**8e. Regulated Vegetation - intersecting a watercourse\*\***

A vegetation management watercourse is mapped as present

**8f. Regulated Vegetation - within 100m of a Vegetation Management wetland**

Regulated vegetation map category	Map number
B	8161
R	8161
C	8161
B	8061

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

**MSES - Offsets**

**9a. Legally secured offset areas - offset register areas**

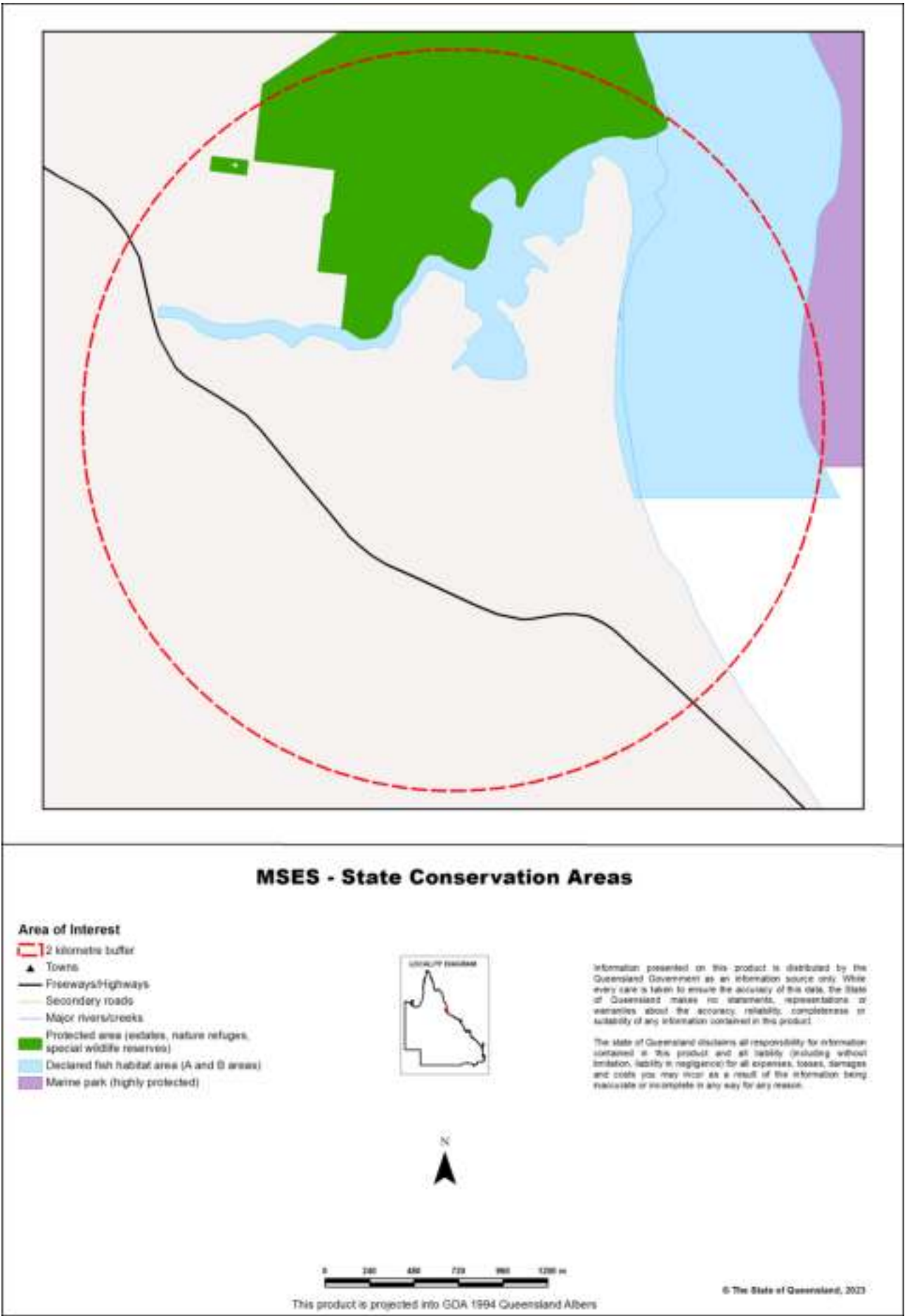
(no results)

**9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

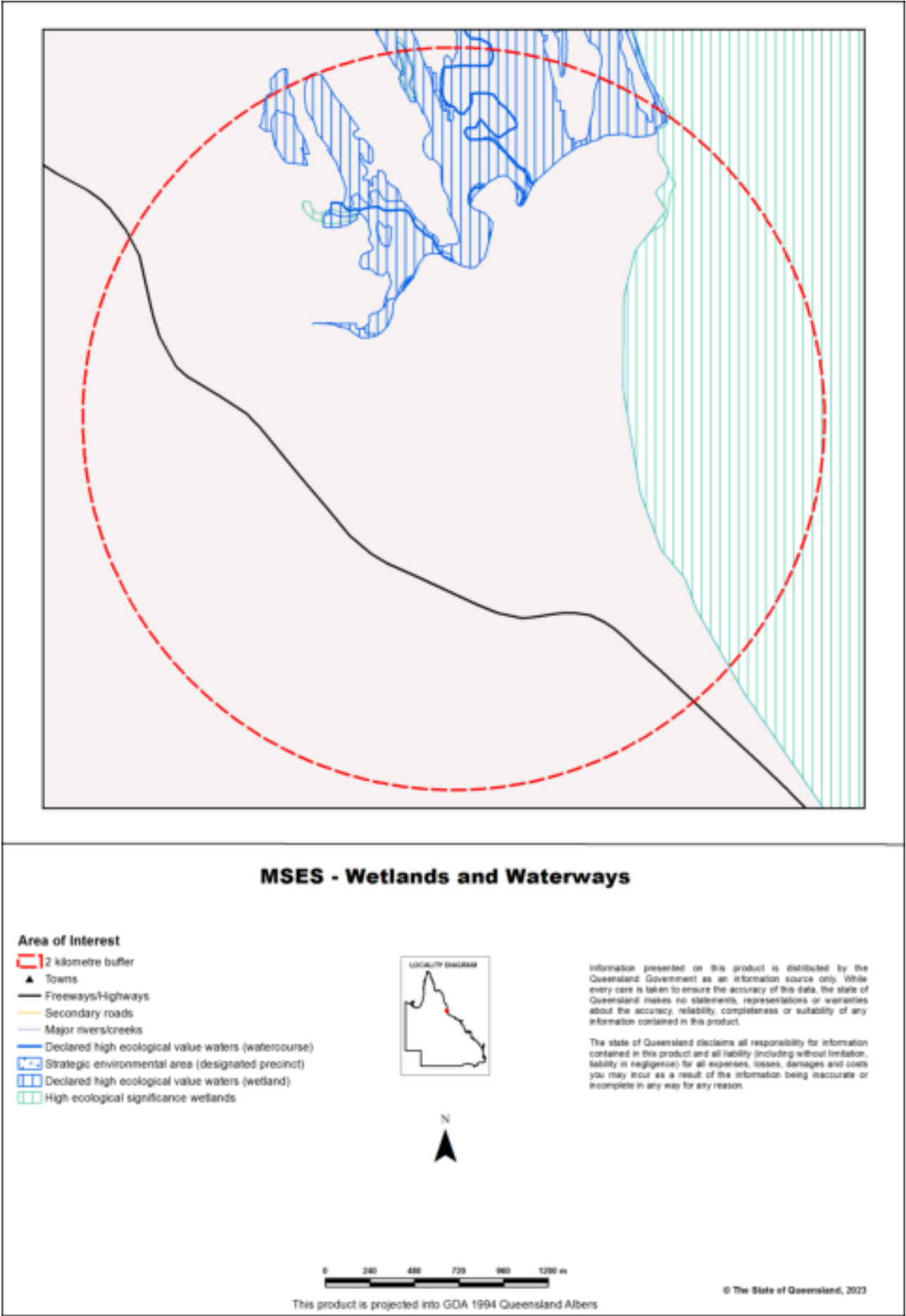
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

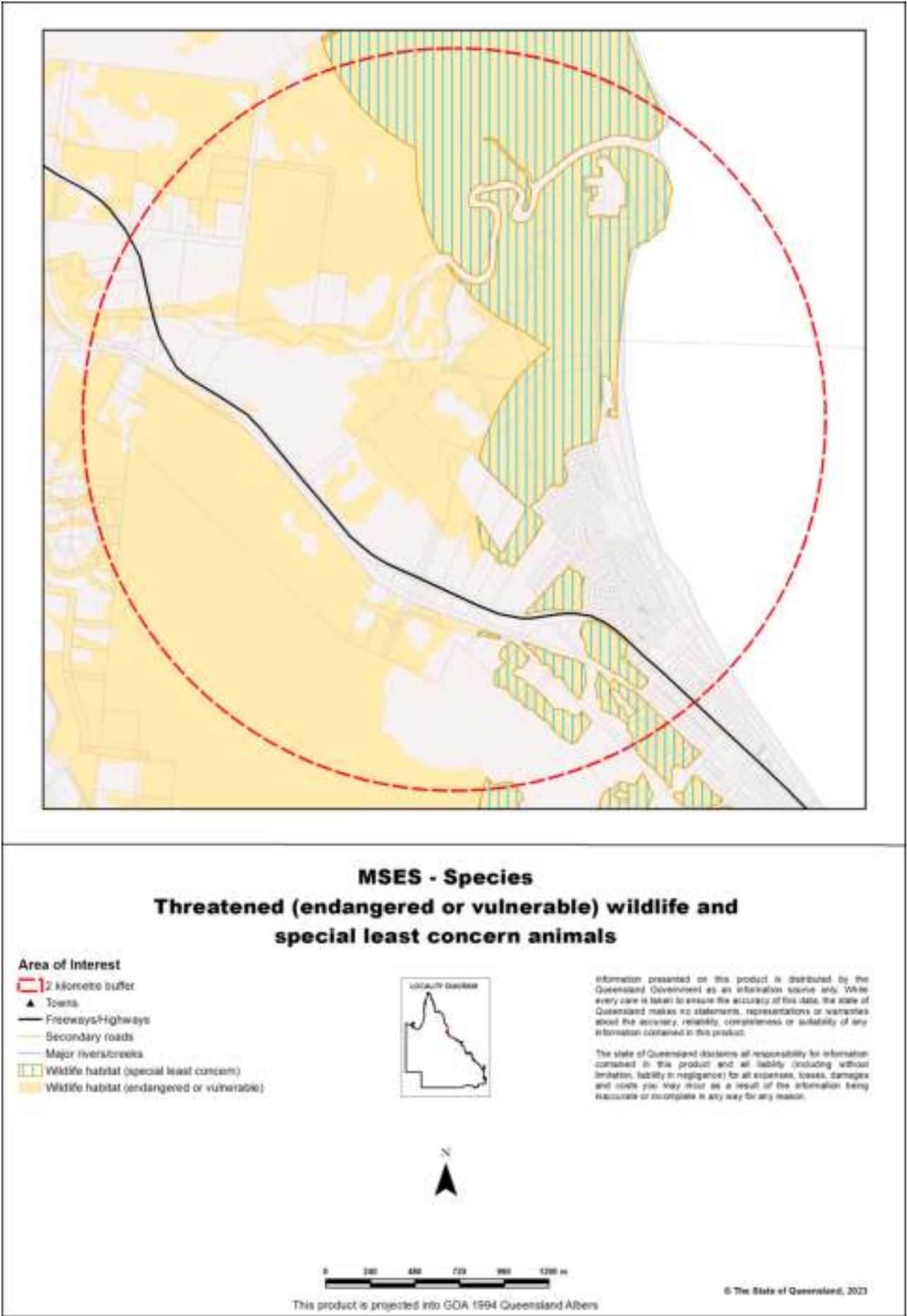
Map 1 - MSES - State Conservation Areas



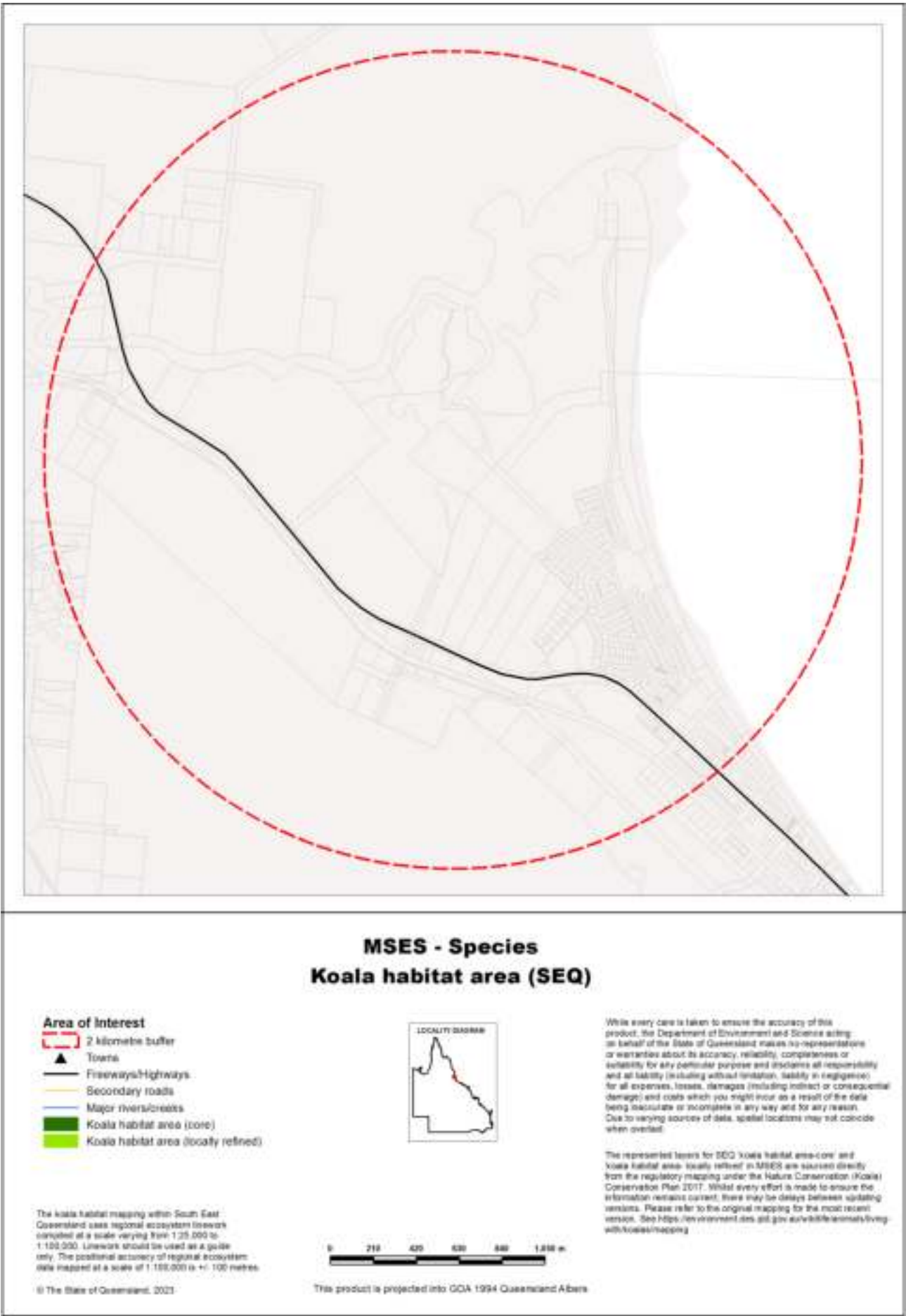
Map 2 - MSES - Wetlands and Waterways



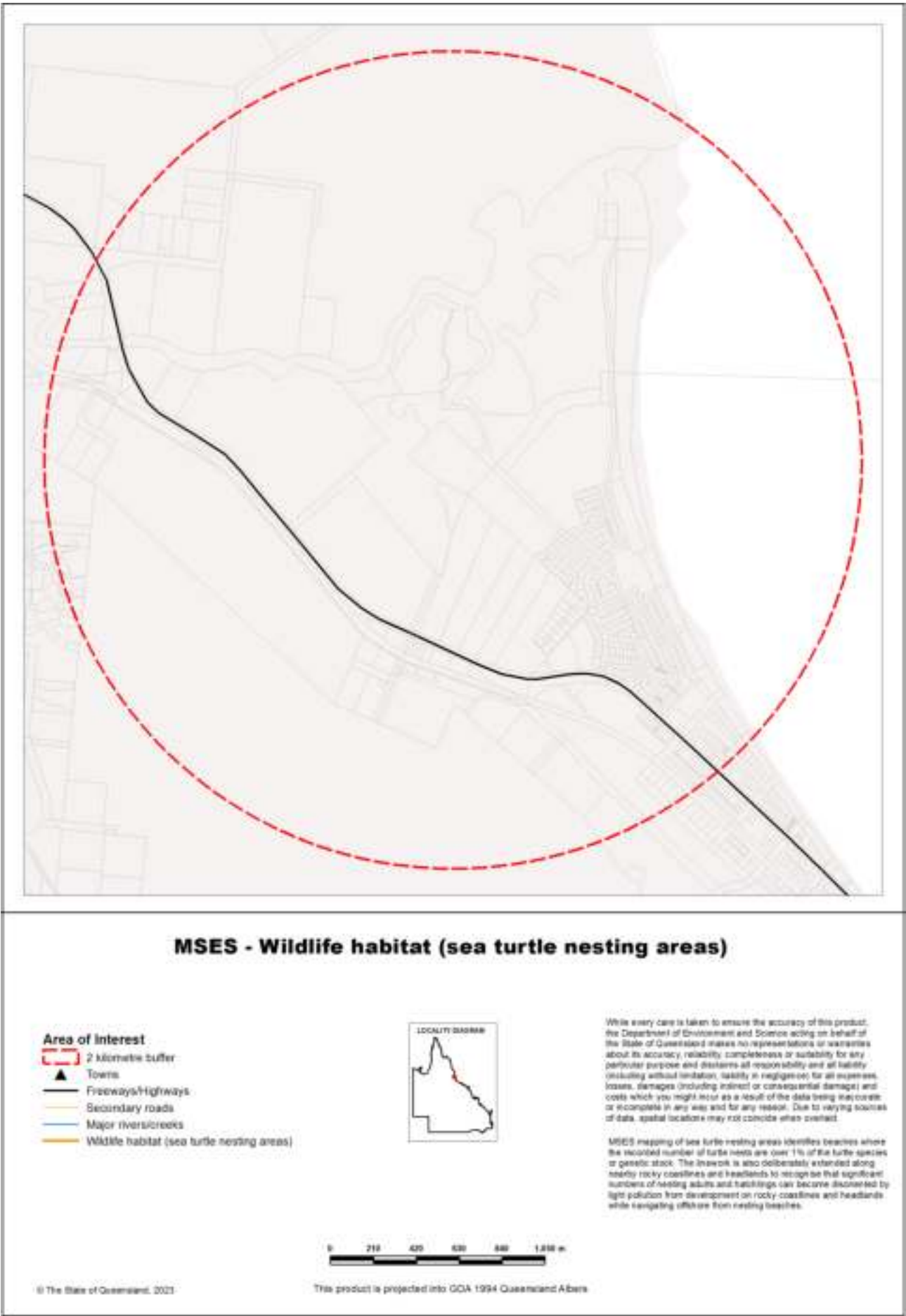
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



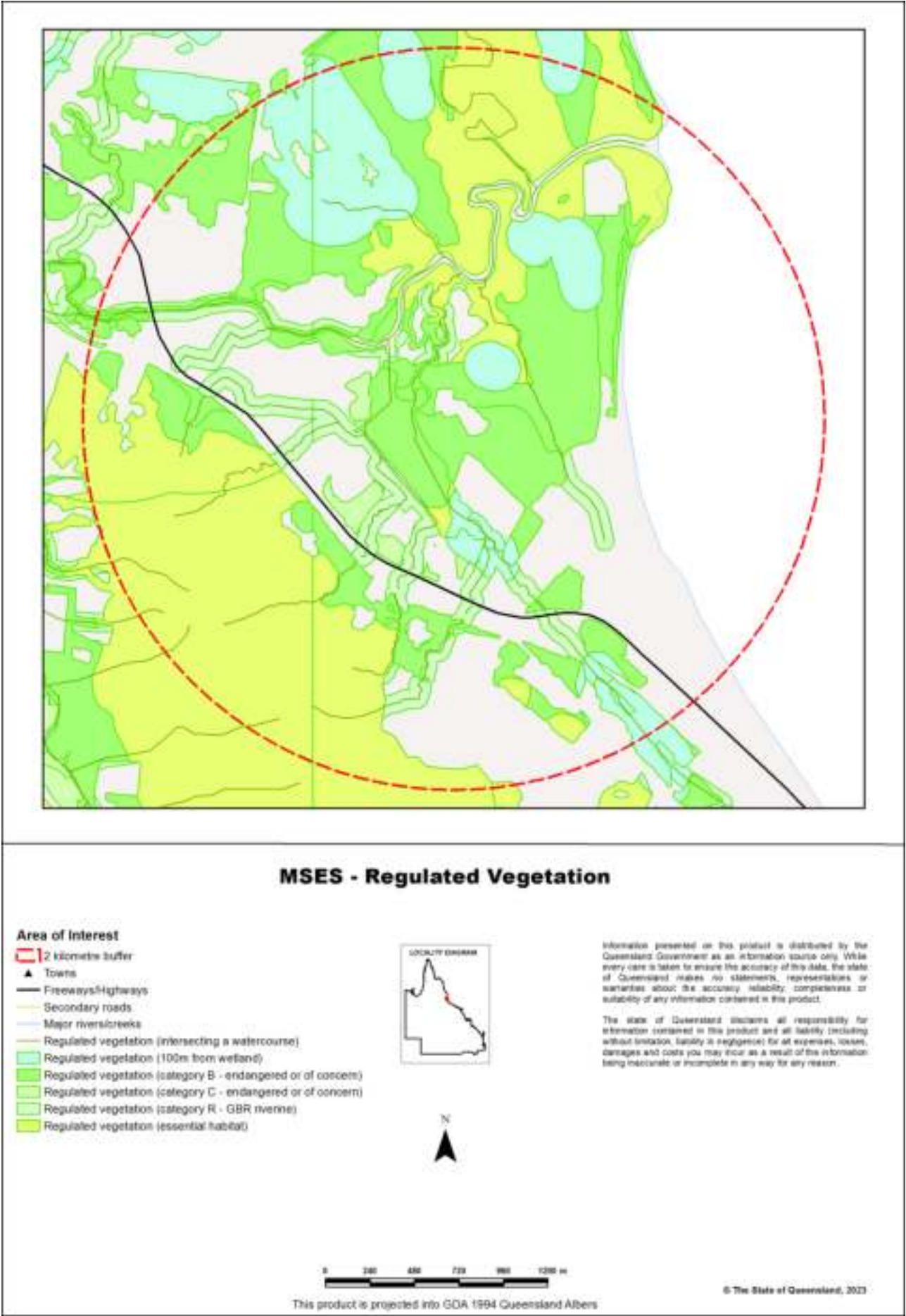
Map 3b - MSES - Species - Koala habitat area (SEQ)



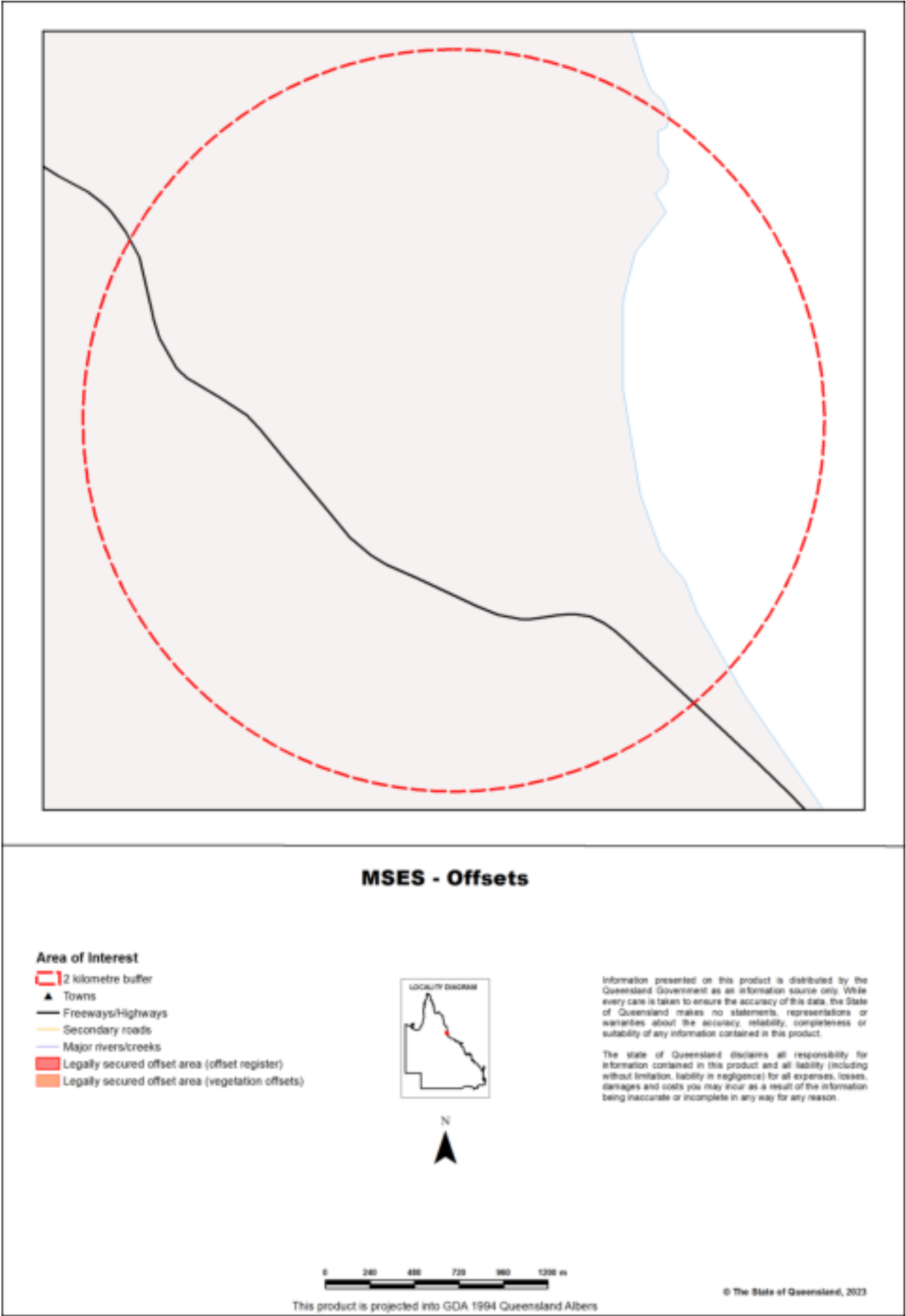
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

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## Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 145.893607704 Latitude: -17.9386196923 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

All area and area derived figures included in this report have been calculated via reprojecting relevant spatial features to Albers equal-area conic projection (central meridian = 146, datum Geocentric Datum of Australia 1994). As a result, area figures may differ slightly if calculated for the same features using a different co-ordinate system.

Figures in tables may be affected by rounding.

The matters of interest reported on in this document are based upon available state mapped datasets. Where the report indicates that a matter of interest is not present within the AOI (e.g. where area related calculations are equal to zero, or no values are listed), this may be due either to the fact that state mapping has not been undertaken for the AOI, that state mapping is incomplete for the AOI, or that no values have been identified within the site.

The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

Please direct queries about these reports to: [Planning.Support@des.qld.gov.au](mailto:Planning.Support@des.qld.gov.au)

### Disclaimer

Whilst every care is taken to ensure the accuracy of the information provided in this report, the Queensland Government makes no representations or warranties about its accuracy, reliability, completeness, or suitability, for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage) and costs which the user may incur as a consequence of the information being inaccurate or incomplete in any way and for any reason.



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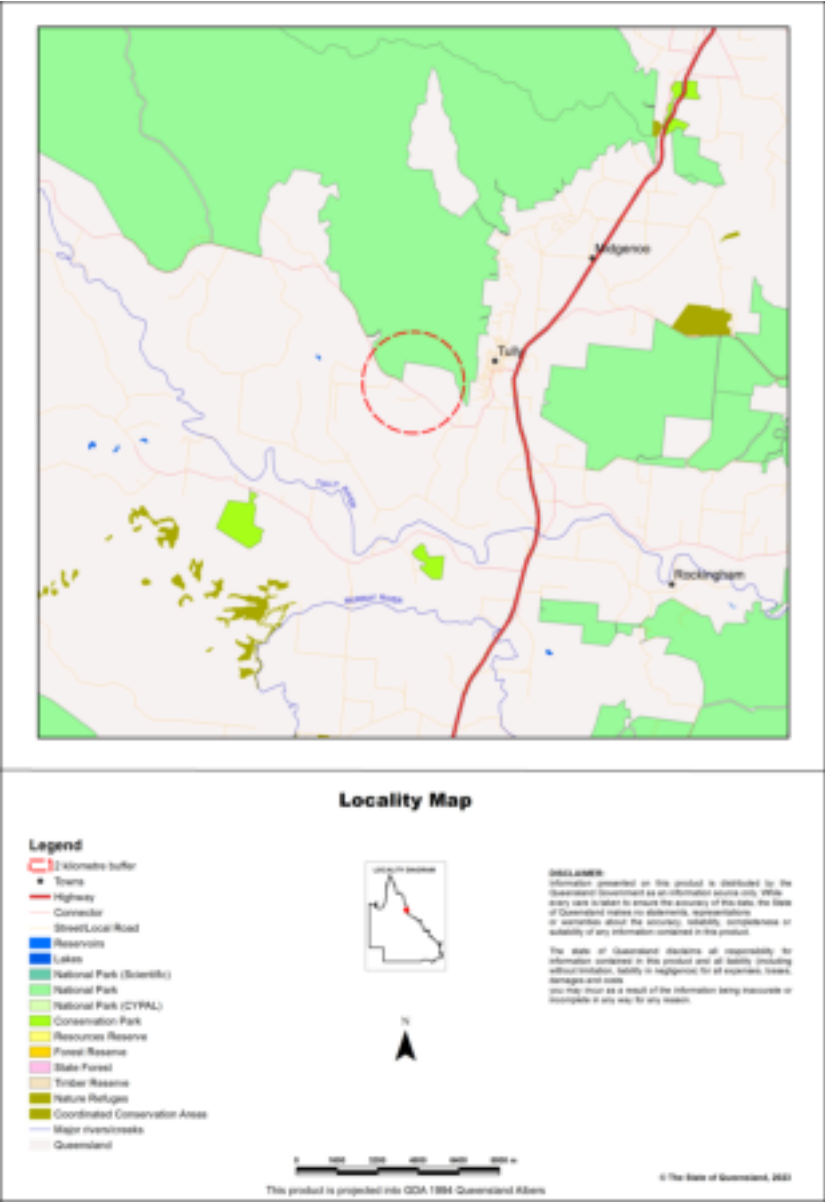
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## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 145.893607704 Latitude: -17.9386196923**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Tully, Bellenden Ker - Lamb
Catchment(s)	Tully



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	425.84 ha	33.9%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	0.0 ha	0.0 %
6a High Ecological Value (HEV) wetlands	0.0 ha	0.0 %
6b High Ecological Value (HEV) waterways	8.9 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	677.12 ha	53.9%
7b Special least concern animals	0.0 ha	0.0 %
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	148.47 ha	11.8%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	1.28 ha	0.1%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	62.5 ha	5.0%
8d Regulated Vegetation - Essential habitat	676.69 ha	53.9%
8e Regulated Vegetation - intersecting a watercourse	18.9 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	1.85 ha	0.1%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

## Additional Information with Respect to MSES Values Present

### MSES - State Conservation Areas

#### 1a. Protected Areas - estates

Estate name
Tully Gorge National Park

#### 1b. Protected Areas - nature refuges

(no results)

#### 1c. Protected Areas - special wildlife reserves

(no results)

#### 2. State Marine Parks - highly protected zones

(no results)

#### 3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

### MSES - Wetlands and Waterways

#### 4. Strategic Environmental Areas (SEA)

(no results)

#### 5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

(no results)

#### 6a. Wetlands in High Ecological Value (HEV) waters

(no results)

#### 6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

### MSES - Species

**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

**7b. Special least concern animals**

Not applicable

**7c i. Koala habitat area - core (SEQ)**

Not applicable

**7c ii. Koala habitat area - locally refined (SEQ)**

Not applicable

**7d. Wildlife habitat (sea turtle nesting areas)**

Not applicable

**Threatened (endangered or vulnerable) wildlife habitat suitability models**

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarius casuarius johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkerfrog	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Litoria rheocola</i>	common mistfrog	E		

**Special least concern animal species records**

(no results)

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

*\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL). Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)*

*Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)*

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.20b	O-dom	rem_oc
7.3.7b	E-dom	rem_end
7.12.48	O-dom	rem_oc
7.12.9	O-dom	rem_oc
7.12.5f	O-dom	rem_oc
7.12.37a	O-dom	rem_oc
7.12.5b	O-dom	rem_oc
7.12.5a	O-dom	rem_oc
7.12.12a	O-dom	rem_oc
7.3.10a	O-dom	rem_oc

### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.20b	O-dom	hvr_oc

**8c. Regulated Vegetation - Category R (GBR riverine regrowth)**

Regulated vegetation map category	Map number
R	8062

**8d. Regulated Vegetation - Essential habitat**

Values are present

**8e. Regulated Vegetation - intersecting a watercourse\*\***

A vegetation management watercourse is mapped as present

**8f. Regulated Vegetation - within 100m of a Vegetation Management wetland**

Regulated vegetation map category	Map number
B	8062

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

**MSES - Offsets****9a. Legally secured offset areas - offset register areas**

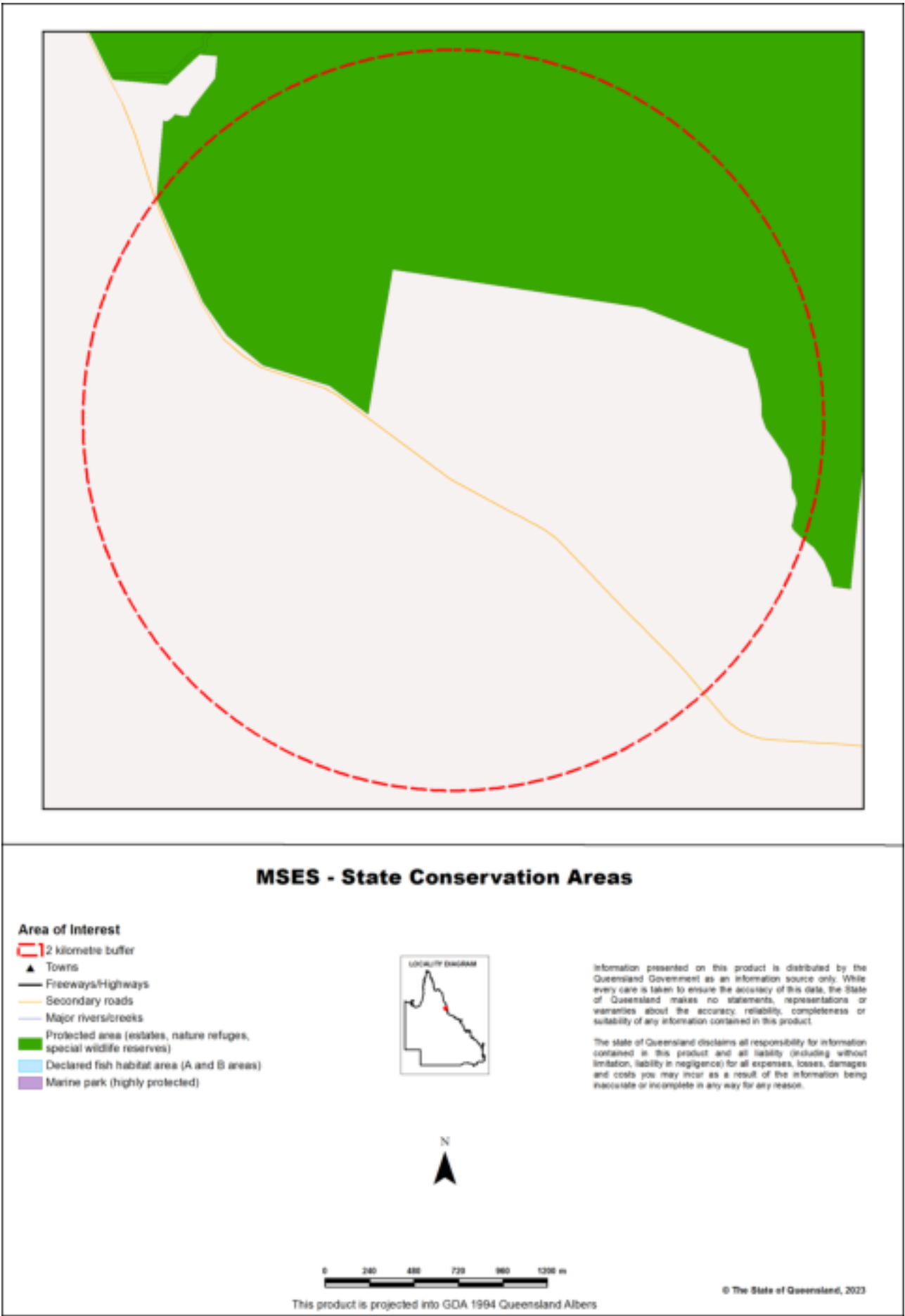
(no results)

**9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

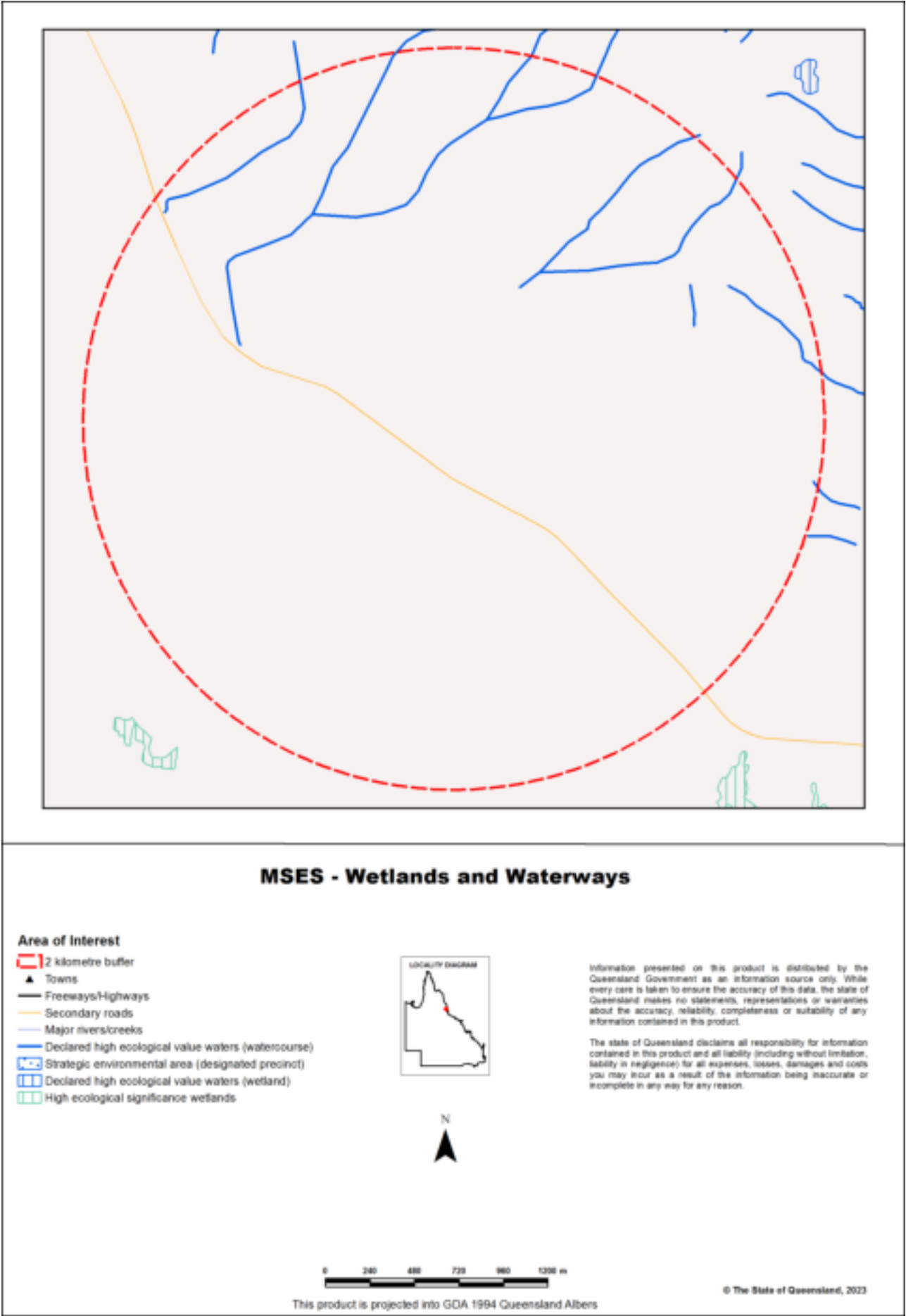
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

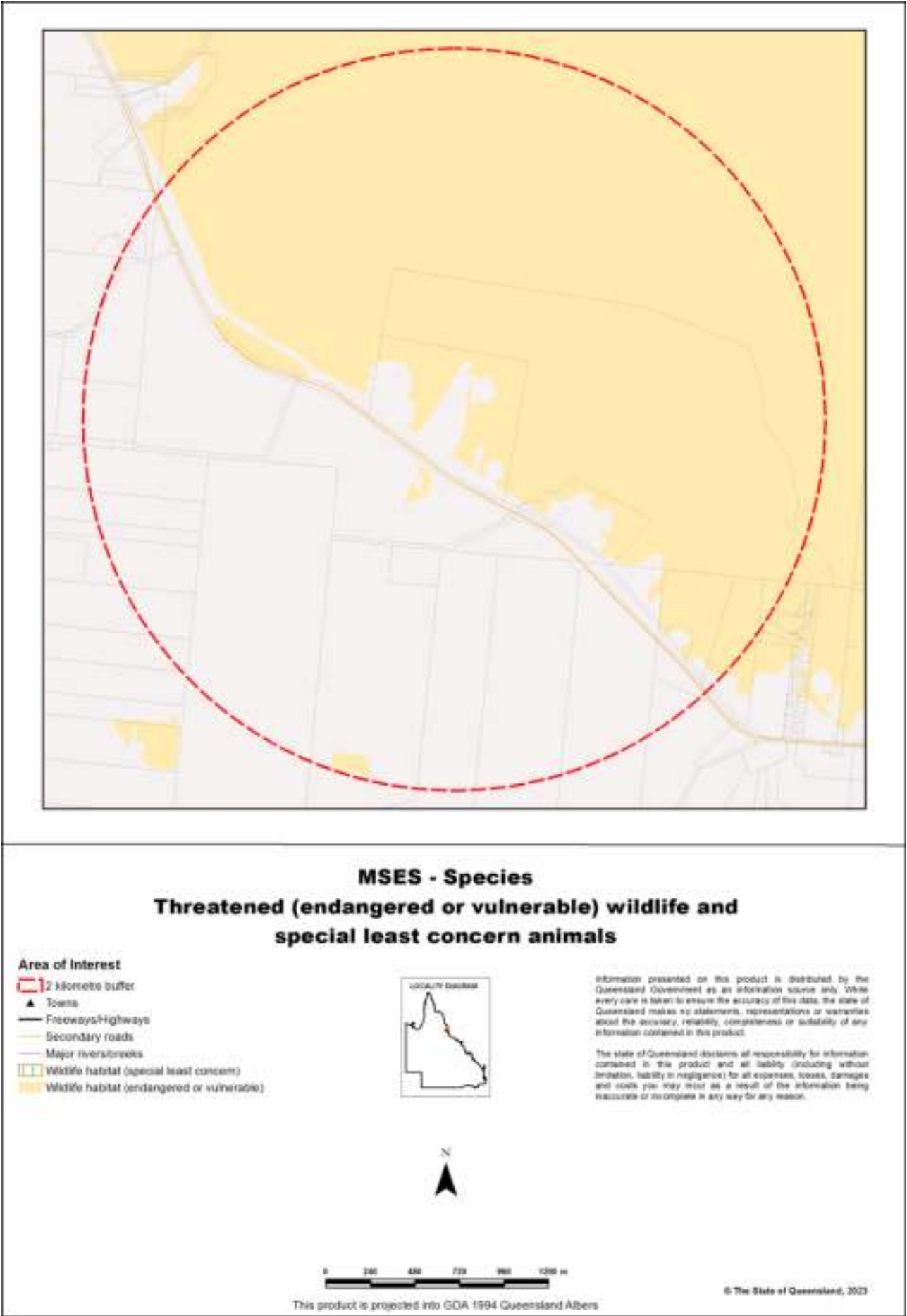
Map 1 - MSES - State Conservation Areas



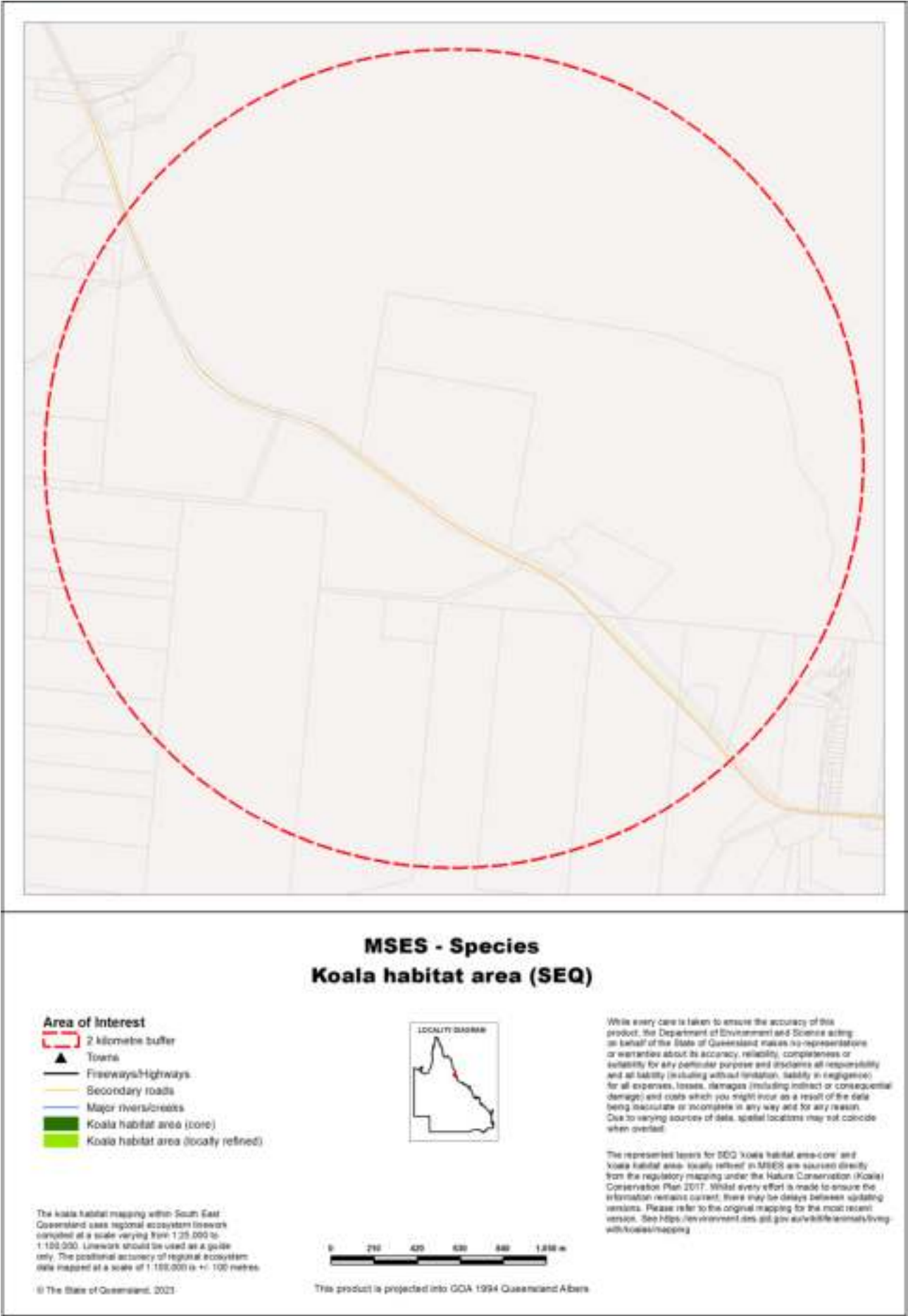
Map 2 - MSES - Wetlands and Waterways



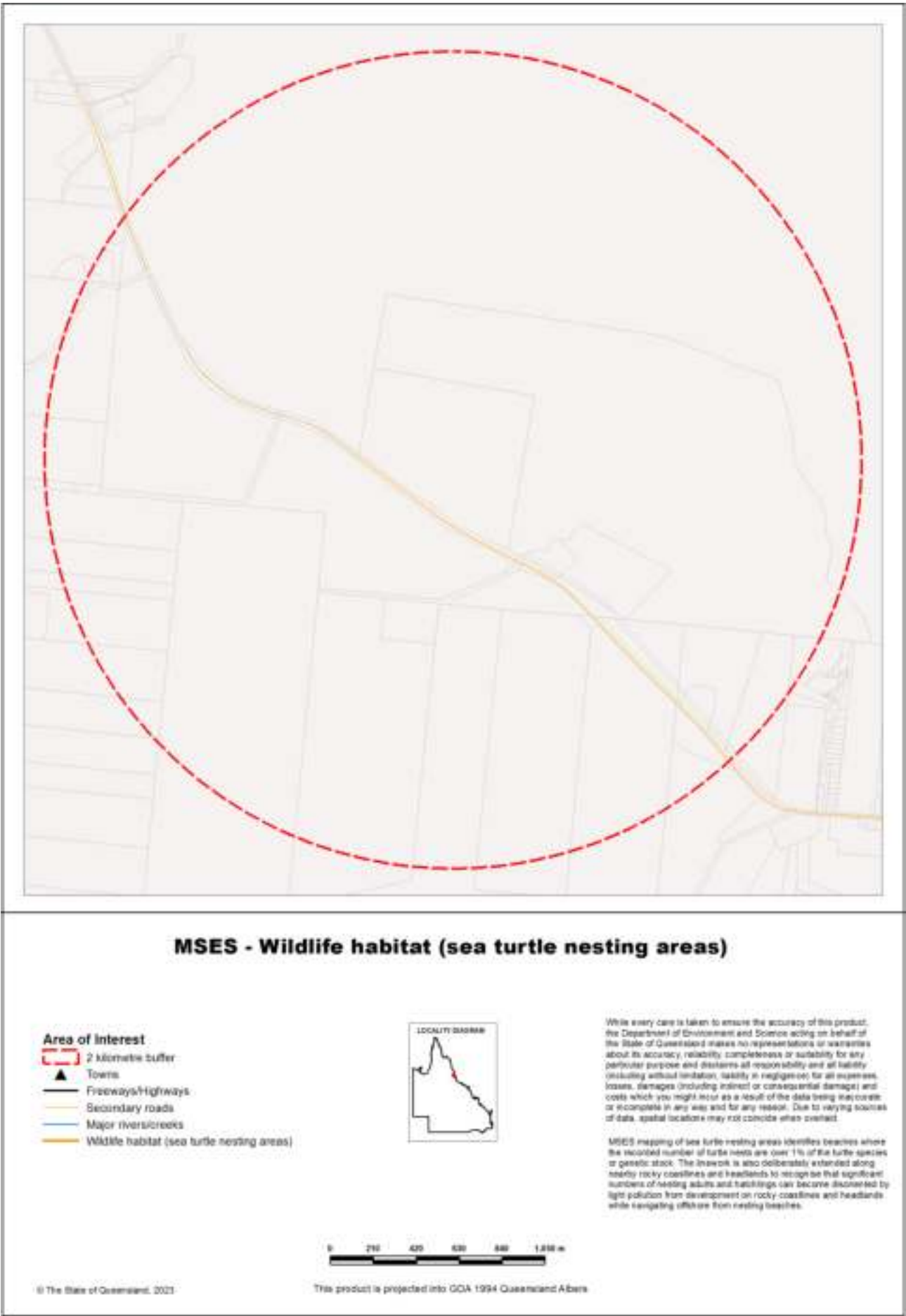
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



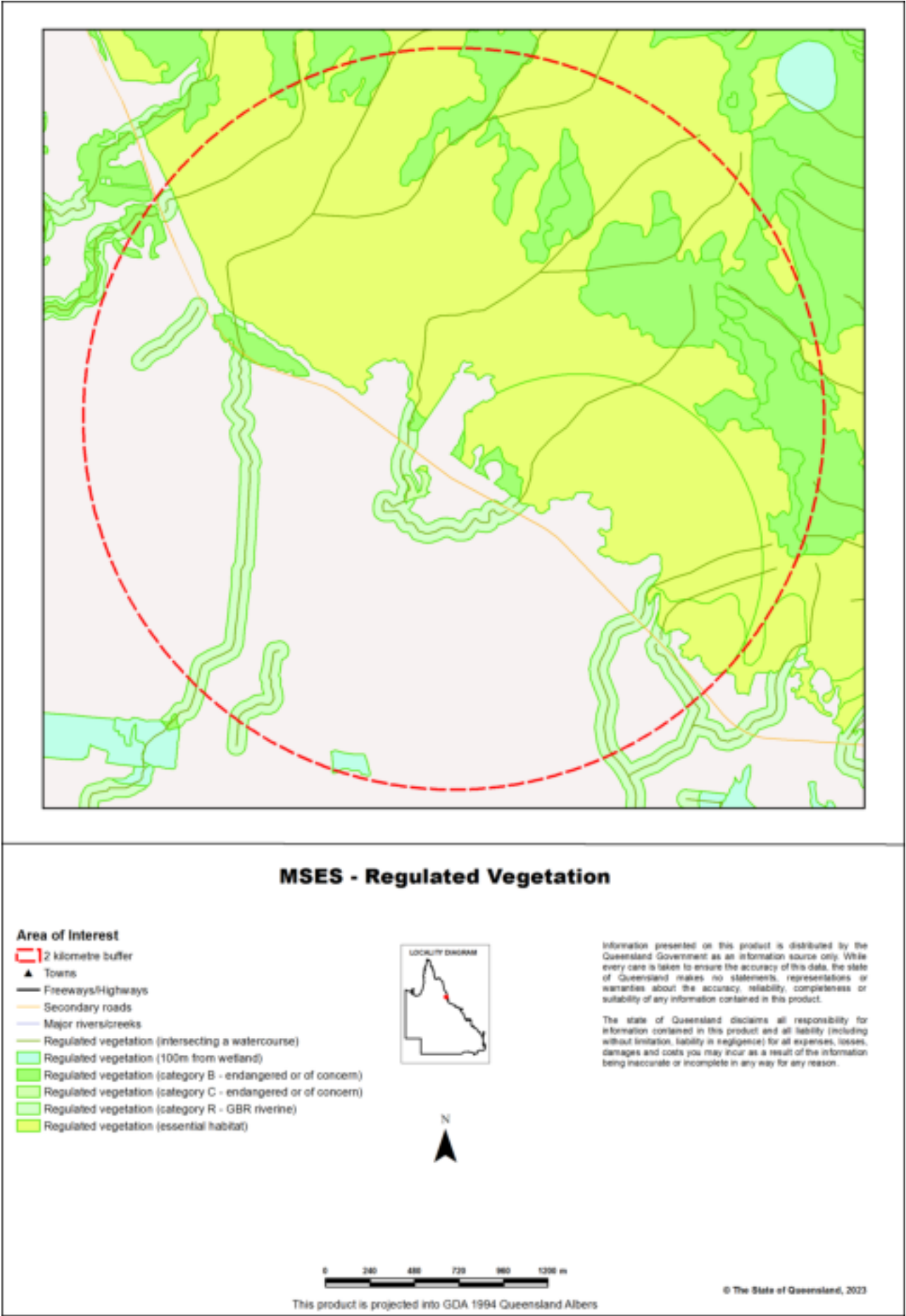
Map 3b - MSES - Species - Koala habitat area (SEQ)



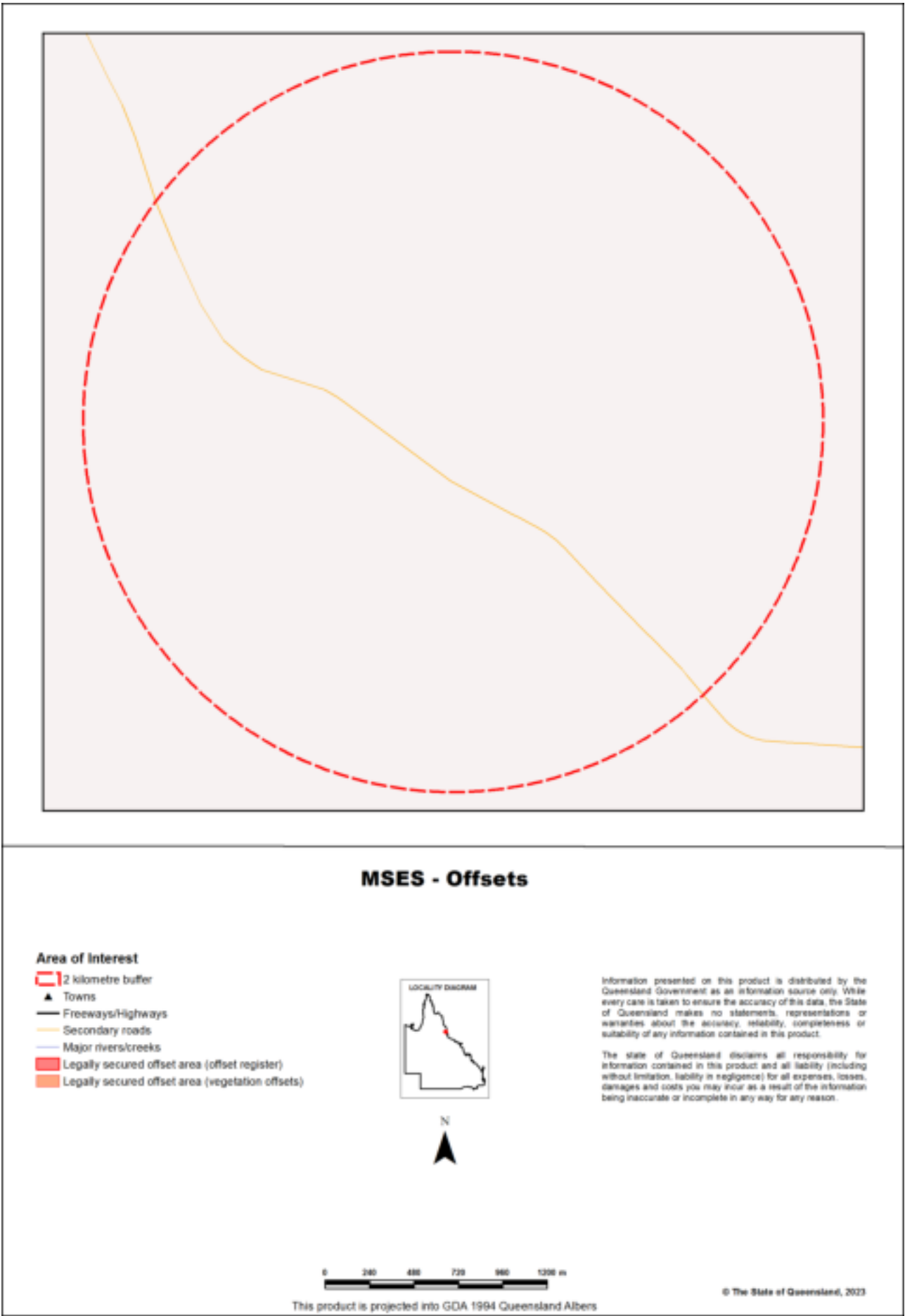
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

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## Appendix 2 - Source Data

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- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

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MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
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Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

### Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
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EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

Longitude: 146.058531807 Latitude: -18.3074509338 with 2 kilometre radius

## Environmental Reports - General Information

The Environmental Reports portal provides for the assessment of selected matters of interest relevant to a user specified location, or area of interest (AOI). All area and derivative figures are relevant to the extent of matters of interest contained within the AOI unless otherwise stated. Please note, if a user selects an AOI via the "central coordinates" option, the resulting assessment area encompasses an area extending for a 2km radius from the point of interest.

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The information presented in this report should be considered as a guide only and field survey may be required to validate values on the ground.

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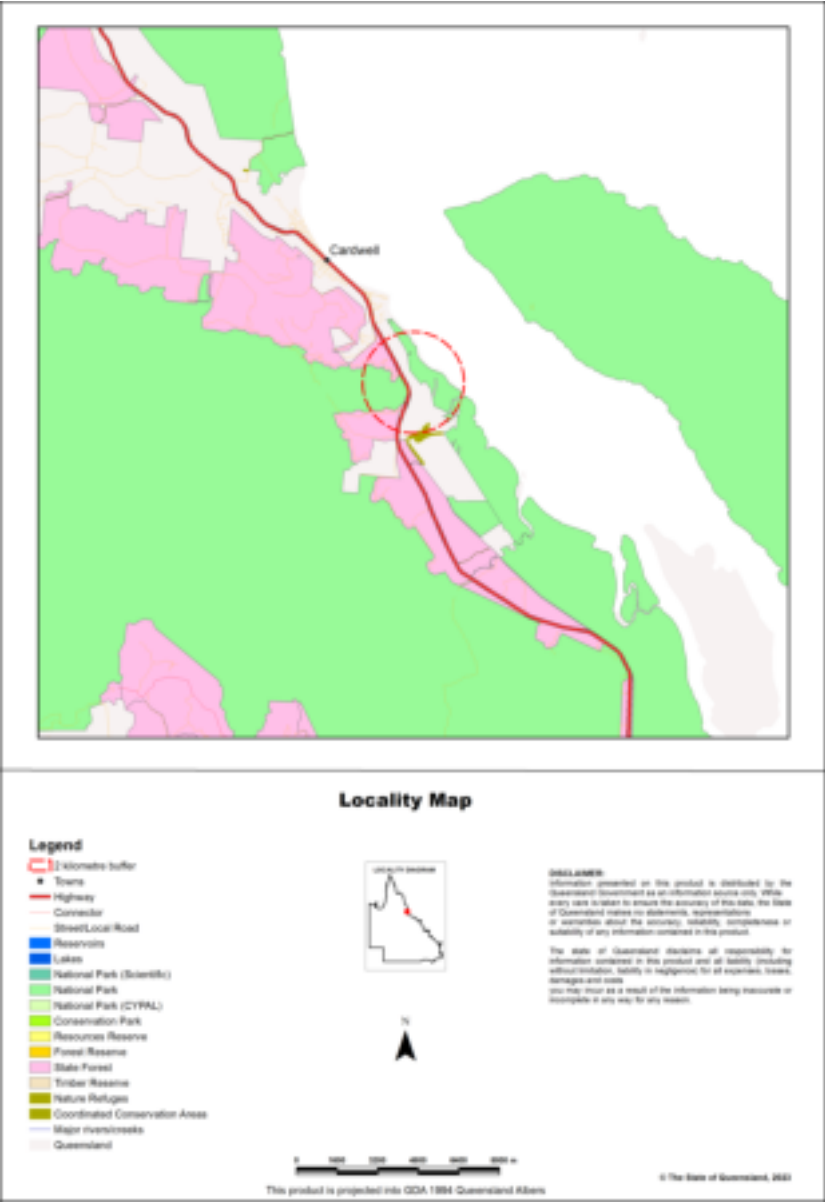
    Appendix 3 - Acronyms and Abbreviations . . . . . 21

## Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

**Table 1: Summary table, details for AOI Longitude: 146.058531807 Latitude: -18.3074509338**

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	475.04 ha	37.8%
1b Protected Areas- nature refuges	8.49 ha	0.7%
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	247.58 ha	19.7%
6a High Ecological Value (HEV) wetlands	182.68 ha	14.5%
6b High Ecological Value (HEV) waterways	5.5 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	625.52 ha	49.8%
7b Special least concern animals	82.44 ha	6.6%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	203.23 ha	16.2%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	9.34 ha	0.7%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	29.98 ha	2.4%
8d Regulated Vegetation - Essential habitat	571.83 ha	45.5%
8e Regulated Vegetation - intersecting a watercourse	17.5 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	64.54 ha	5.1%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

Estate name
Girramay National Park
Girringun National Park

1b. Protected Areas - nature refuges

Name
Seafarm Nature Refuge

1c. Protected Areas - special wildlife reserves

(no results)

2. State Marine Parks - highly protected zones

(no results)

3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(no results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

## MSES - Species

### 7a. Threatened (endangered or vulnerable) wildlife

Values are present

### 7b. Special least concern animals

Values are present

### 7c i. Koala habitat area - core (SEQ)

Not applicable

### 7c ii. Koala habitat area - locally refined (SEQ)

Not applicable

### 7d. Wildlife habitat (sea turtle nesting areas)

Not applicable

### Threatened (endangered or vulnerable) wildlife habitat suitability models

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuaris johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Myrmecodia beccarii</i>		V	V	
<i>Comesperma praecelesum</i>		V		
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y
<i>Corunastylis tecta</i>	Cardwell midge orchid	E	E	

**Special least concern animal species records**

Scientific name	Common name	Migratory status
<i>Numenius phaeopus</i>	whimbrel	Y

**Shorebird habitat (critically endangered/endangered/vulnerable)**

Not applicable

**Shorebird habitat (special least concern)**

Not applicable

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

**MSES - Regulated Vegetation**

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

**8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)**

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.2.9a	O-dom	rem_oc
7.1.2a	O-dom	rem_oc
7.3.21a	O-dom	rem_oc
7.2.3a	O-dom	rem_oc

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.25b	O-dom	rem_oc
7.3.44	E-dom	rem_end
7.3.6a	E-dom	rem_end
7.2.11g	O-dom	rem_oc
7.2.11a	O-dom	rem_oc
7.2.7a	O-dom	rem_oc
7.2.8	O-dom	rem_oc
7.3.12b	E-dom	rem_end
7.3.25a	O-dom	rem_oc
7.3.12a	E-dom	rem_end

#### 8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.6a	E-dom	hvr_end
7.3.21a	O-dom	hvr_oc

#### 8c. Regulated Vegetation - Category R (GBR riverine regrowth)

Regulated vegetation map category	Map number
R	8161

#### 8d. Regulated Vegetation - Essential habitat

Values are present

#### 8e. Regulated Vegetation - intersecting a watercourse\*\*

A vegetation management watercourse is mapped as present

#### 8f. Regulated Vegetation - within 100m of a Vegetation Management wetland

Regulated vegetation map category	Map number
R	8161
B	8161
C	8161

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

#### MSES - Offsets

##### 9a. Legally secured offset areas - offset register areas

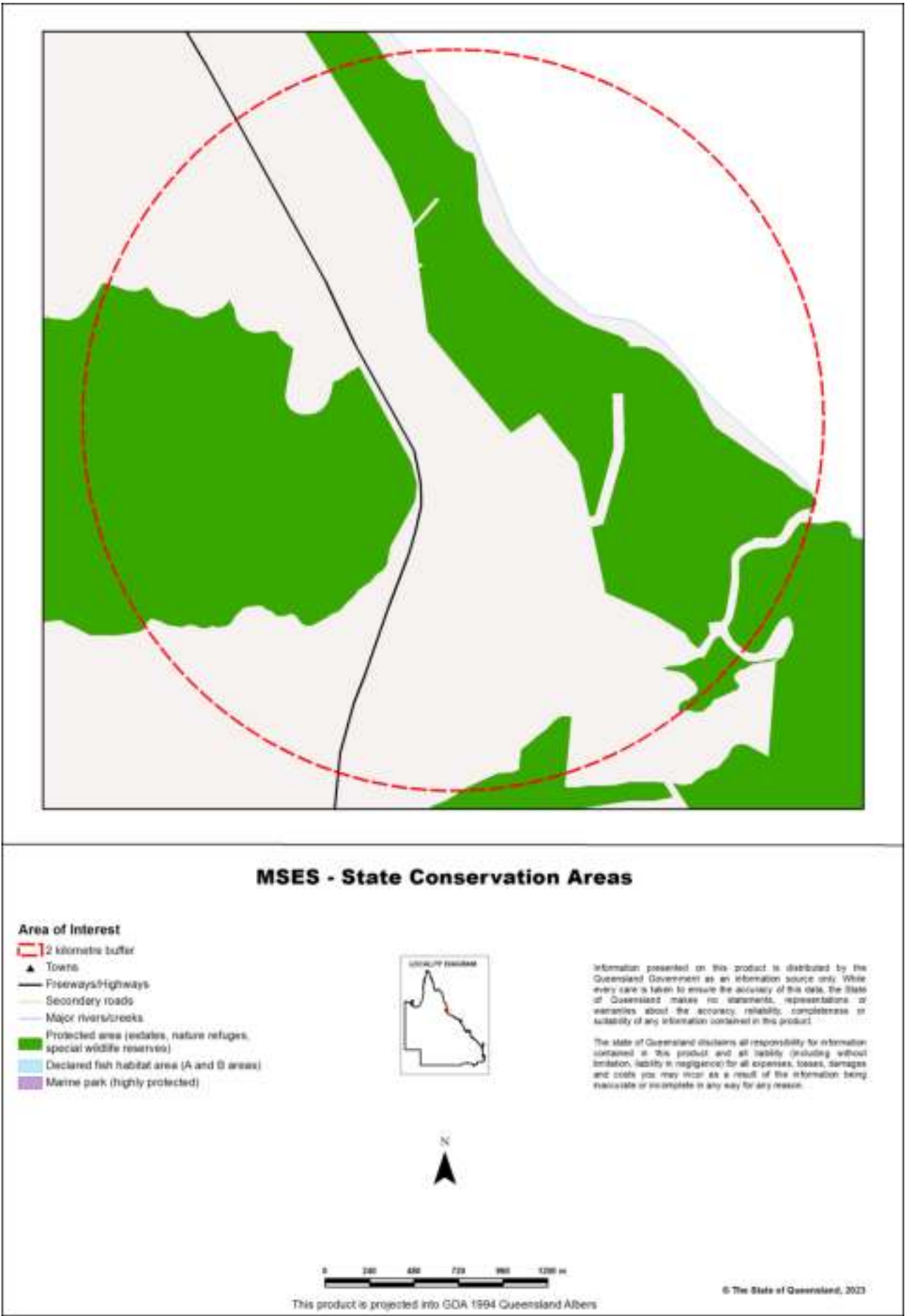
(no results)

##### 9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation

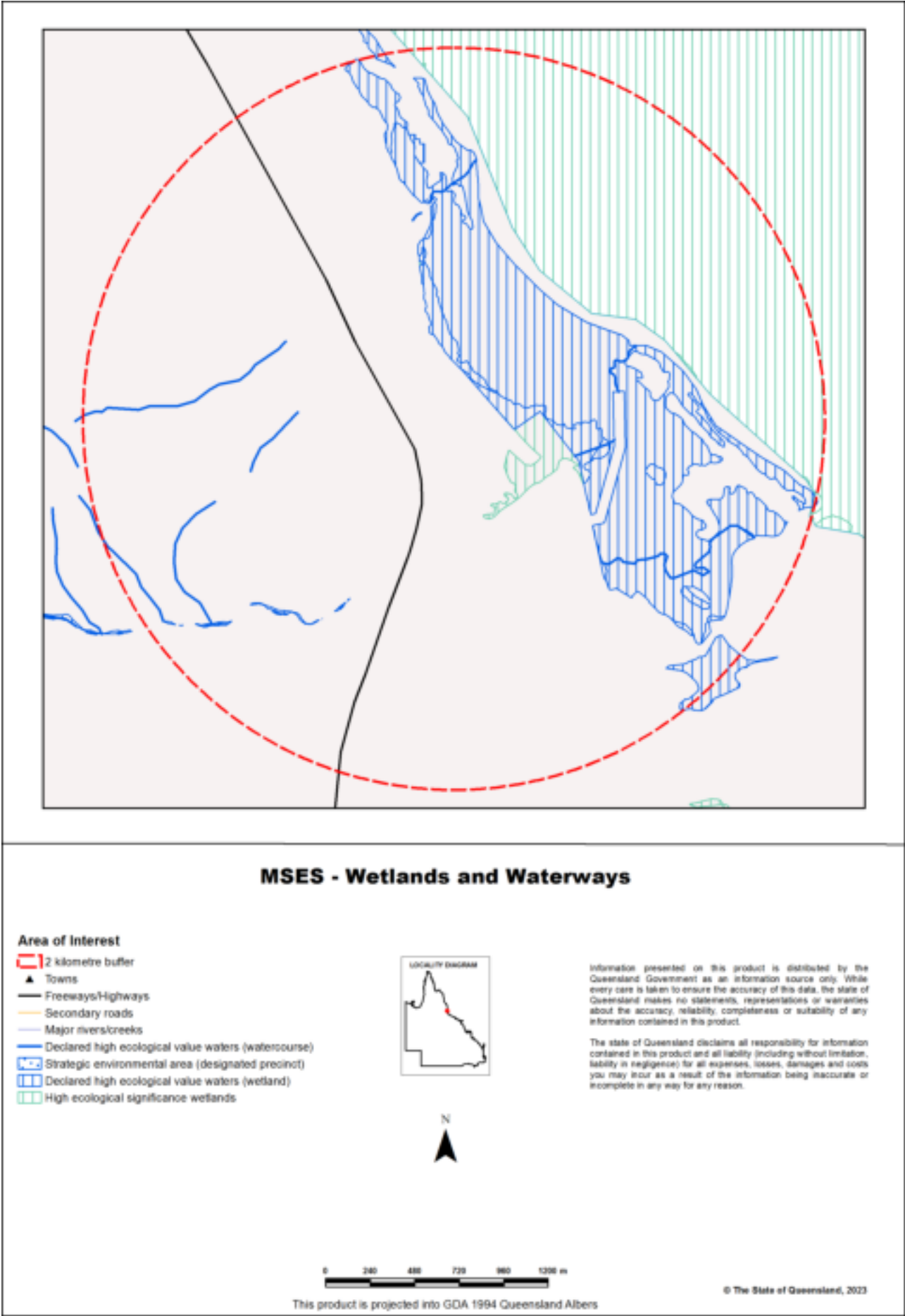
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

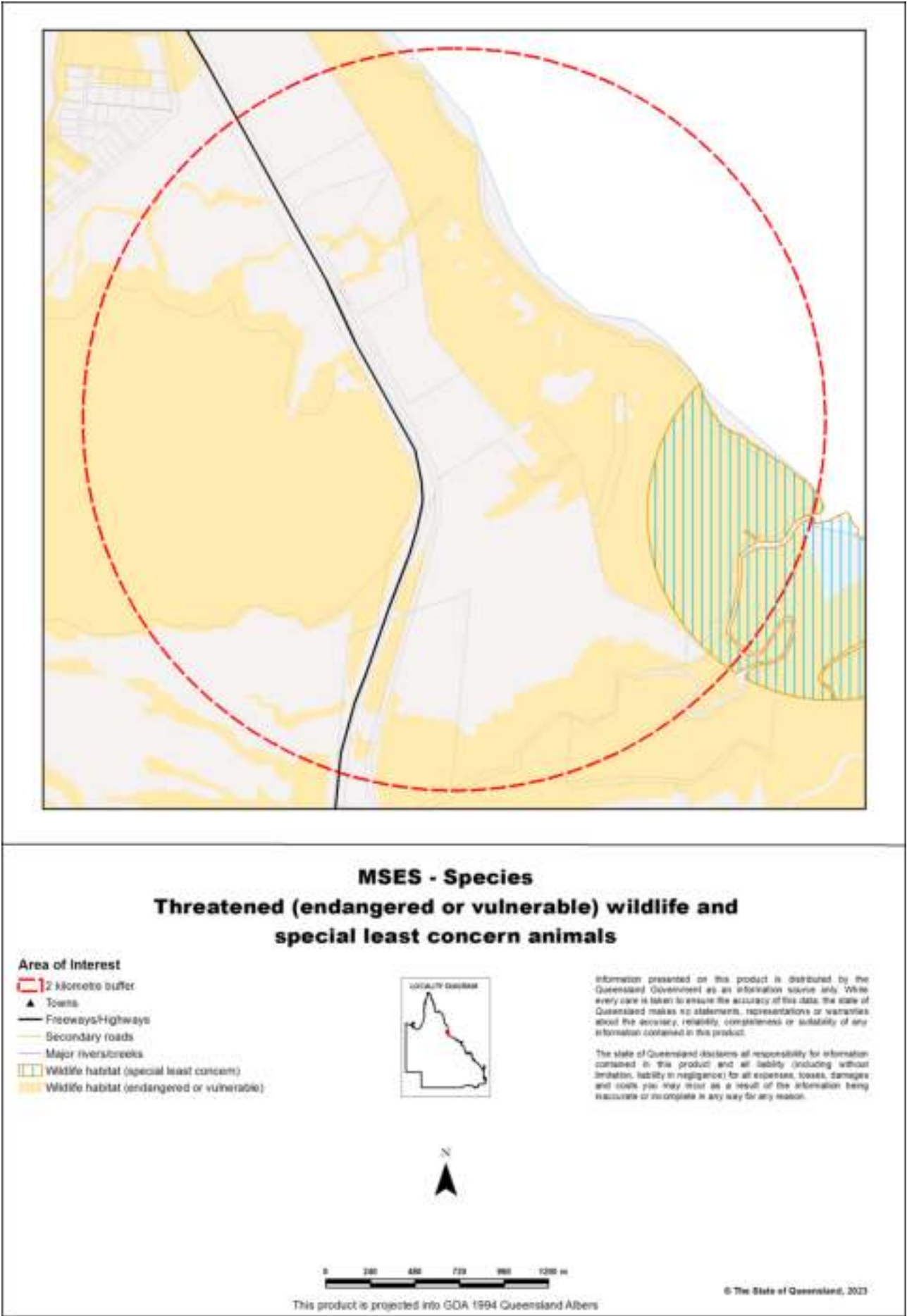
Map 1 - MSES - State Conservation Areas



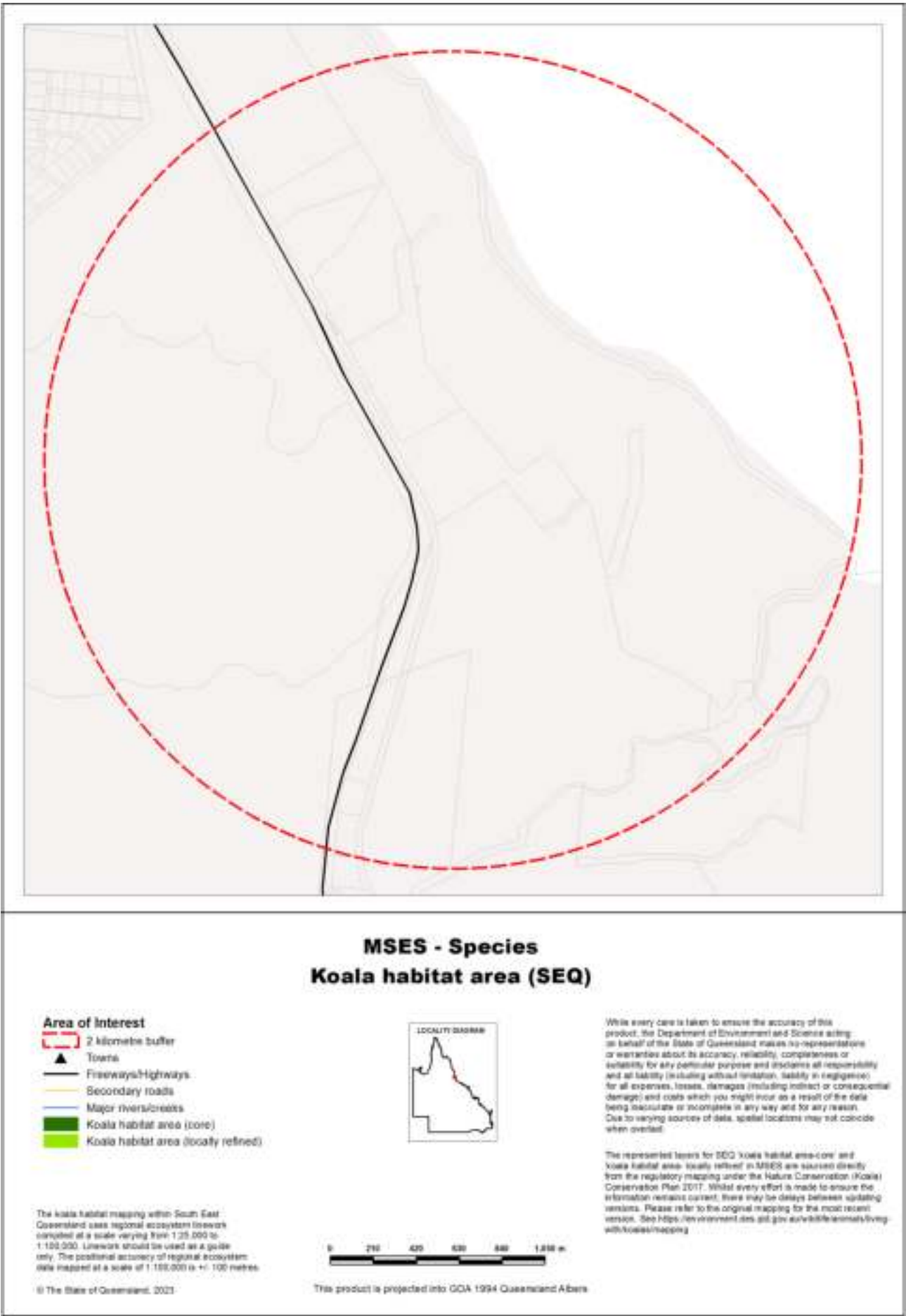
Map 2 - MSES - Wetlands and Waterways



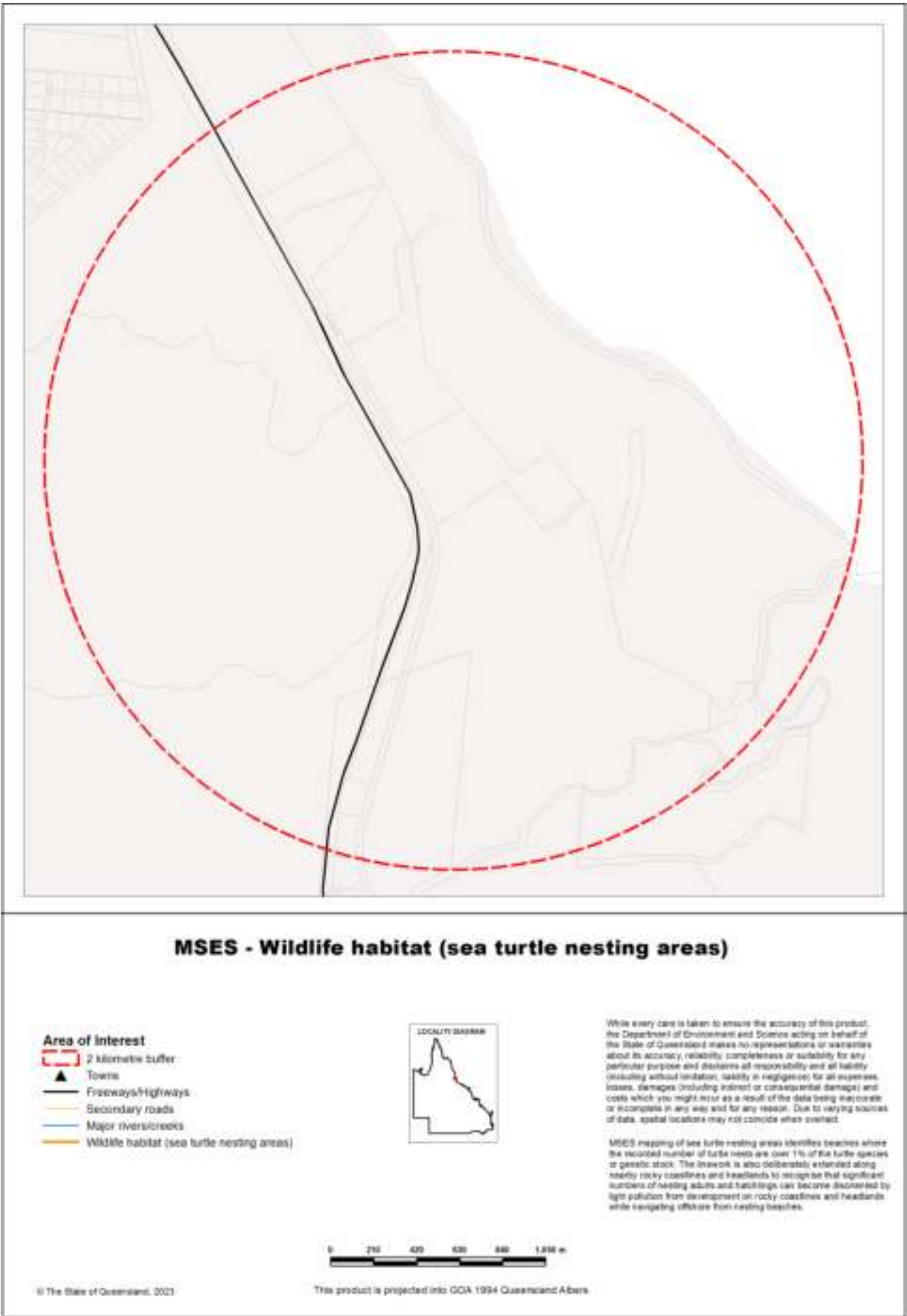
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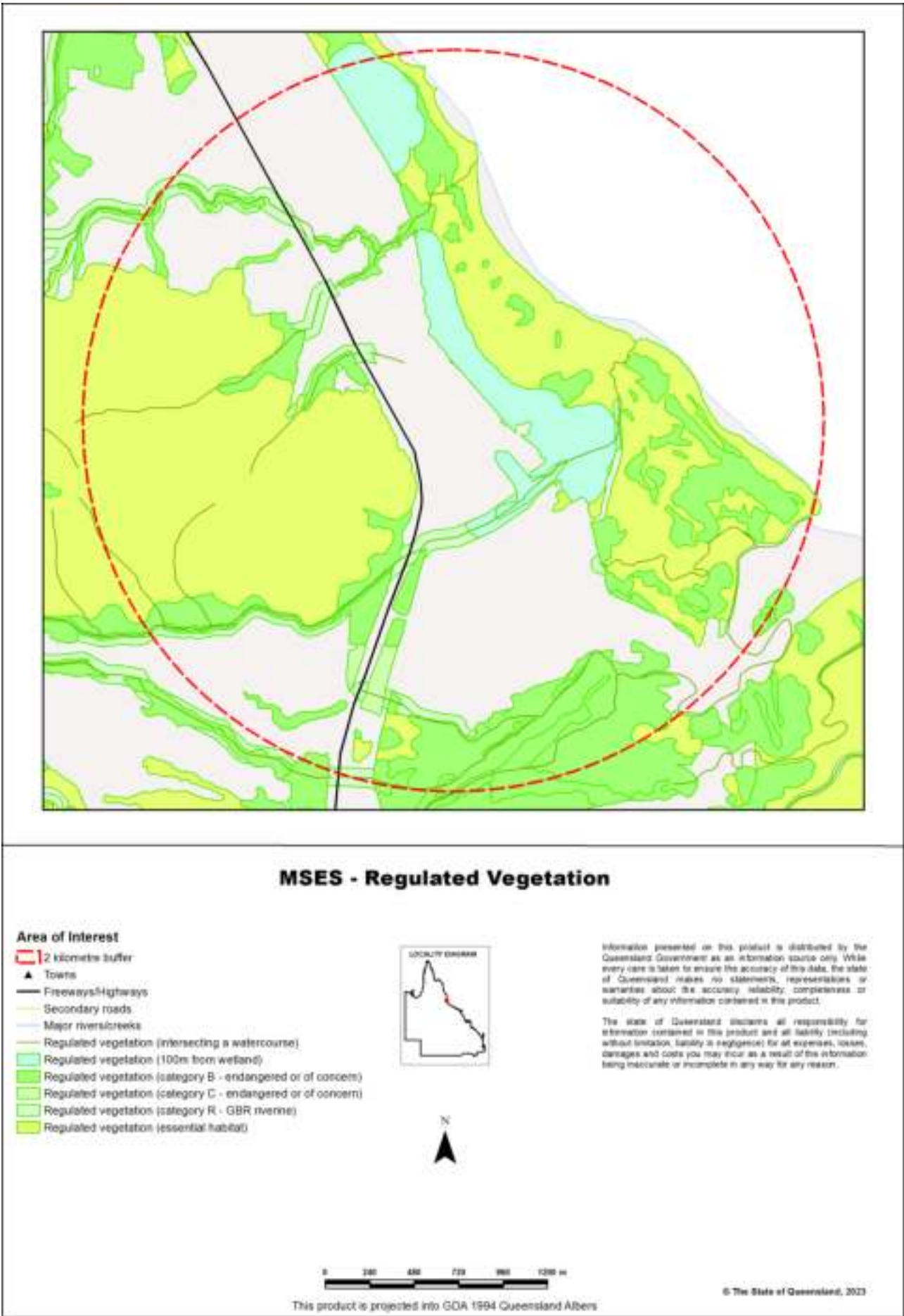
Map 3b - MSES - Species - Koala habitat area (SEQ)



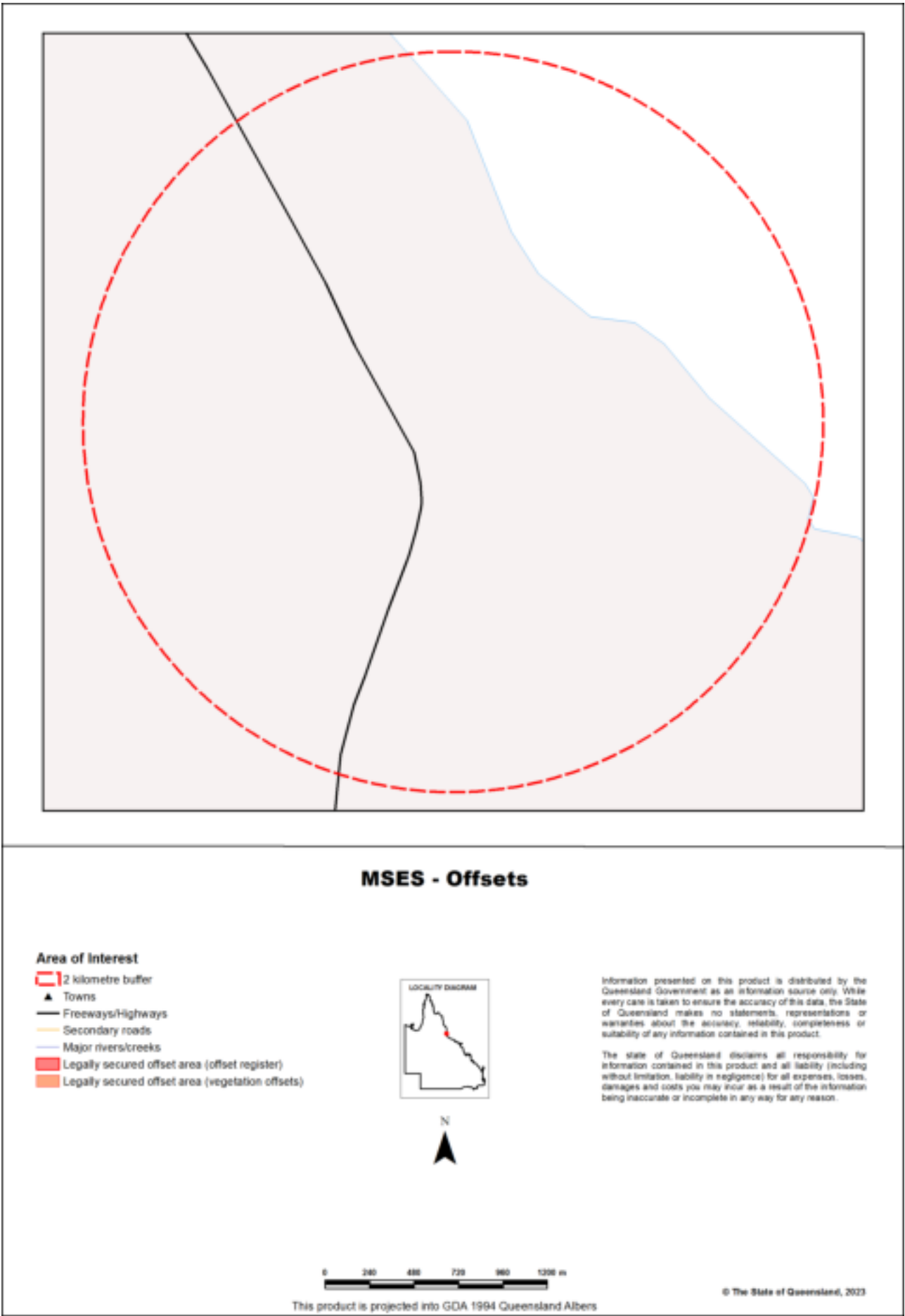
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



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Department of Environment and Science

Environmental Reports

## **Matters of State Environmental Significance**

For the selected area of interest

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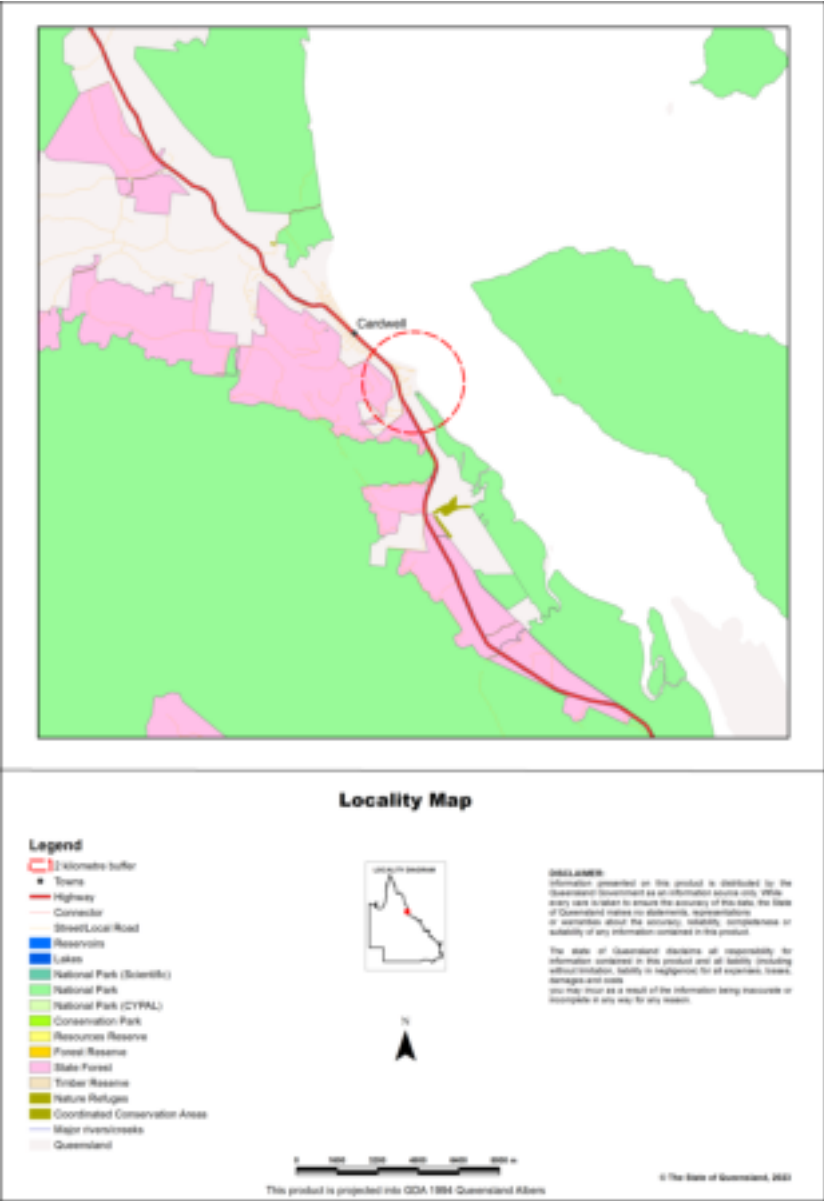
    Appendix 3 - Acronyms and Abbreviations . . . . . 20

Assessment Area Details

The following table provides an overview of the area of interest (AOI) with respect to selected topographic and environmental values.

Table 1: Summary table, details for AOI Longitude: 146.048258654 Latitude: -18.2814994493

Size (ha)	1,256.55
Local Government(s)	Cassowary Coast Regional
Bioregion(s)	Wet Tropics
Subregion(s)	Tully
Catchment(s)	Murray



## Matters of State Environmental Significance (MSES)

### MSES Categories

Queensland's State Planning Policy (SPP) includes a biodiversity State interest that states:

'The sustainable, long-term conservation of biodiversity is supported. Significant impacts on matters of national or state environmental significance are avoided, or where this cannot be reasonably achieved; impacts are minimised and residual impacts offset.'

The MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The SPP defines matters of state environmental significance as:

- Protected areas (including all classes of protected area except coordinated conservation areas) under the *Nature Conservation Act 1992* ;
- Marine parks and land within a 'marine national park', 'conservation park', 'scientific research', 'preservation' or 'buffer' zone under the *Marine Parks Act 2004* ;
- Areas within declared fish habitat areas that are management A areas or management B areas under the Fisheries Regulation 2008;
- Threatened wildlife under the *Nature Conservation Act 1992* and special least concern animals under the Nature Conservation (Wildlife) Regulation 2006;
- Regulated vegetation under the *Vegetation Management Act 1999* that is:
  - Category B areas on the regulated vegetation management map, that are 'endangered' or 'of concern' regional ecosystems;
  - Category C areas on the regulated vegetation management map that are 'endangered' or 'of concern' regional ecosystems;
  - Category R areas on the regulated vegetation management map;
  - Regional ecosystems that intersect with watercourses identified on the vegetation management watercourse and drainage feature map;
  - Regional ecosystems that intersect with wetlands identified on the vegetation management wetlands map;
- Strategic Environmental Areas under the *Regional Planning Interests Act 2014* ;
- Wetlands in a wetland protection area of wetlands of high ecological significance shown on the Map of Queensland Wetland Environmental Values under the Environment Protection Regulation 2019;
- Wetlands and watercourses in high ecological value waters defined in the Environmental Protection (Water) Policy 2009, schedule 2;
- Legally secured offset areas.

## MSES Values Present

The MSES values that are present in the area of interest are summarised in the table below:

**Table 2: Summary of MSES present within the AOI**

1a Protected Areas- estates	47.72 ha	3.8%
1b Protected Areas- nature refuges	0.0 ha	0.0 %
1c Protected Areas- special wildlife reserves	0.0 ha	0.0 %
2 State Marine Parks- highly protected zones	0.0 ha	0.0 %
3 Fish habitat areas (A and B areas)	0.0 ha	0.0 %
4 Strategic Environmental Areas (SEA)	0.0 ha	0.0 %
5 High Ecological Significance wetlands on the map of Referable Wetlands	622.81 ha	49.6%
6a High Ecological Value (HEV) wetlands	17.55 ha	1.4%
6b High Ecological Value (HEV) waterways	0.4 km	Not applicable
7a Threatened (endangered or vulnerable) wildlife	192.68 ha	15.3%
7b Special least concern animals	35.38 ha	2.8%
7c i Koala habitat area - core (SEQ)	0.0 ha	0.0 %
7c ii Koala habitat area - locally refined (SEQ)	0.0 ha	0.0 %
7d Sea turtle nesting areas	0.0 km	Not applicable
8a Regulated Vegetation - Endangered/Of concern in Category B (remnant)	92.78 ha	7.4%
8b Regulated Vegetation - Endangered/Of concern in Category C (regrowth)	4.93 ha	0.4%
8c Regulated Vegetation - Category R (GBR riverine regrowth)	44.18 ha	3.5%
8d Regulated Vegetation - Essential habitat	176.3 ha	14.0%
8e Regulated Vegetation - intersecting a watercourse	9.1 km	Not applicable
8f Regulated Vegetation - within 100m of a Vegetation Management Wetland	46.09 ha	3.7%
9a Legally secured offset areas- offset register areas	0.0 ha	0.0 %
9b Legally secured offset areas- vegetation offsets through a Property Map of Assessable Vegetation	0.0 ha	0.0 %

Additional Information with Respect to MSES Values Present

MSES - State Conservation Areas

1a. Protected Areas - estates

Estate name
Girramay National Park

1b. Protected Areas - nature refuges

(no results)

1c. Protected Areas - special wildlife reserves

(no results)

2. State Marine Parks - highly protected zones

(no results)

3. Fish habitat areas (A and B areas)

(no results)

Refer to **Map 1 - MSES - State Conservation Areas** for an overview of the relevant MSES.

MSES - Wetlands and Waterways

4. Strategic Environmental Areas (SEA)

(no results)

5. High Ecological Significance wetlands on the Map of Queensland Wetland Environmental Values

Natural wetlands that are 'High Ecological Significance' (HES) on the Map of Queensland Wetland Environmental Values are present.

6a. Wetlands in High Ecological Value (HEV) waters

Natural wetlands that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

6b. Waterways in High Ecological Value (HEV) waters

Natural waterways that occur in HEV (maintain) freshwater and estuarine areas under the Environmental Protection (water) Policy are present.

Refer to **Map 2 - MSES - Wetlands and Waterways** for an overview of the relevant MSES.

MSES - Species

**7a. Threatened (endangered or vulnerable) wildlife**

Values are present

**7b. Special least concern animals**

Values are present

**7c i. Koala habitat area - core (SEQ)**

Not applicable

**7c ii. Koala habitat area - locally refined (SEQ)**

Not applicable

**7d. Wildlife habitat (sea turtle nesting areas)**

Not applicable

**Threatened (endangered or vulnerable) wildlife habitat suitability models**

Species	Common name	NCA status	Presence
<i>Boronia keysii</i>		V	None
<i>Calyptrorhynchus lathamii</i>	Glossy black cockatoo	V	None
<i>Casuarus casuaris johnsonii</i>	Sthn population cassowary	E	Core
<i>Crinia tinnula</i>	Wallum froglet	V	None
<i>Denisonia maculata</i>	Ornamental snake	V	None
<i>Litoria freycineti</i>	Wallum rocketfrog	V	None
<i>Litoria olongburensis</i>	Wallum sedgefrog	V	None
<i>Macadamia integrifolia</i>		V	None
<i>Macadamia ternifolia</i>		V	None
<i>Macadamia tetraphylla</i>		V	None
<i>Melaleuca irbyana</i>		E	None
<i>Petaurus gracilis</i>	Mahogany Glider	E	Core
<i>Petrogale persephone</i>	Proserpine rock-wallaby	E	None
<i>Pezoporus wallicus wallicus</i>	Eastern ground parrot	V	None
<i>Phascolarctos cinereus</i>	Koala - outside SEQ*	E	None
<i>Taudactylus pleione</i>	Kroombit tinkertoad	E	None
<i>Xeromys myoides</i>	Water Mouse	V	None

\*For koala model, this includes areas outside SEQ. Check 7c SEQ koala habitat for presence/absence.

**Threatened (endangered or vulnerable) wildlife species records**

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Crocodylus porosus</i>	estuarine crocodile	V		Y

Scientific name	Common name	NCA status	EPBC status	Migratory status
<i>Pteropus conspicillatus</i>	spectacled flying-fox	E	E	
<i>Limosa lapponica baueri</i>	Western Alaskan bar-tailed godwit	V	V	Y

### Special least concern animal species records

Scientific name	Common name	Migratory status
<i>Numenius phaeopus</i>	whimbrel	Y
<i>Tringa nebularia</i>	common greenshank	Y

### Shorebird habitat (critically endangered/endangered/vulnerable)

Not applicable

### Shorebird habitat (special least concern)

Not applicable

\*Nature Conservation Act 1992 (NCA) Status- Endangered (E), Vulnerable (V) or Special Least Concern Animal (SL).  
Environment Protection and Biodiversity Conservation Act 1999 (EPBC) status: Critically Endangered (CE) Endangered (E), Vulnerable (V)

Migratory status (M) - China and Australia Migratory Bird Agreement (C), Japan and Australia Migratory Bird Agreement (J), Republic of Korea and Australia Migratory Bird Agreement (R), Bonn Migratory Convention (B), Eastern Flyway (E)

To request a species list for an area, or search for a species profile, access Wildlife Online at:

<https://www.qld.gov.au/environment/plants-animals/species-list/>

Refer to **Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals**, **Map 3b - MSES - Species - Koala habitat area (SEQ)** and **Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)** for an overview of the relevant MSES.

## MSES - Regulated Vegetation

For further information relating to regional ecosystems in general, go to:

<https://www.qld.gov.au/environment/plants-animals/plants/ecosystems/>

For a more detailed description of a particular regional ecosystem, access the regional ecosystem search page at:

<https://environment.ehp.qld.gov.au/regional-ecosystems/>

### 8a. Regulated Vegetation - Endangered/Of concern in Category B (remnant)

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	rem_oc
7.3.25b	O-dom	rem_oc
7.2.3a	O-dom	rem_oc
7.2.8	O-dom	rem_oc
7.2.9a	O-dom	rem_oc
7.2.11g	O-dom	rem_oc

**8b. Regulated Vegetation - Endangered/Of concern in Category C (regrowth)**

Regional ecosystem	Vegetation management polygon	Vegetation management status
7.3.21a	O-dom	hvr_oc
7.3.25b	O-dom	hvr_oc

**8c. Regulated Vegetation - Category R (GBR riverine regrowth)**

Regulated vegetation map category	Map number
R	8161

**8d. Regulated Vegetation - Essential habitat**

Values are present

**8e. Regulated Vegetation - intersecting a watercourse\*\***

A vegetation management watercourse is mapped as present

**8f. Regulated Vegetation - within 100m of a Vegetation Management wetland**

Regulated vegetation map category	Map number
B	8161
R	8161

Refer to **Map 4 - MSES - Regulated Vegetation** for an overview of the relevant MSES.

**MSES - Offsets****9a. Legally secured offset areas - offset register areas**

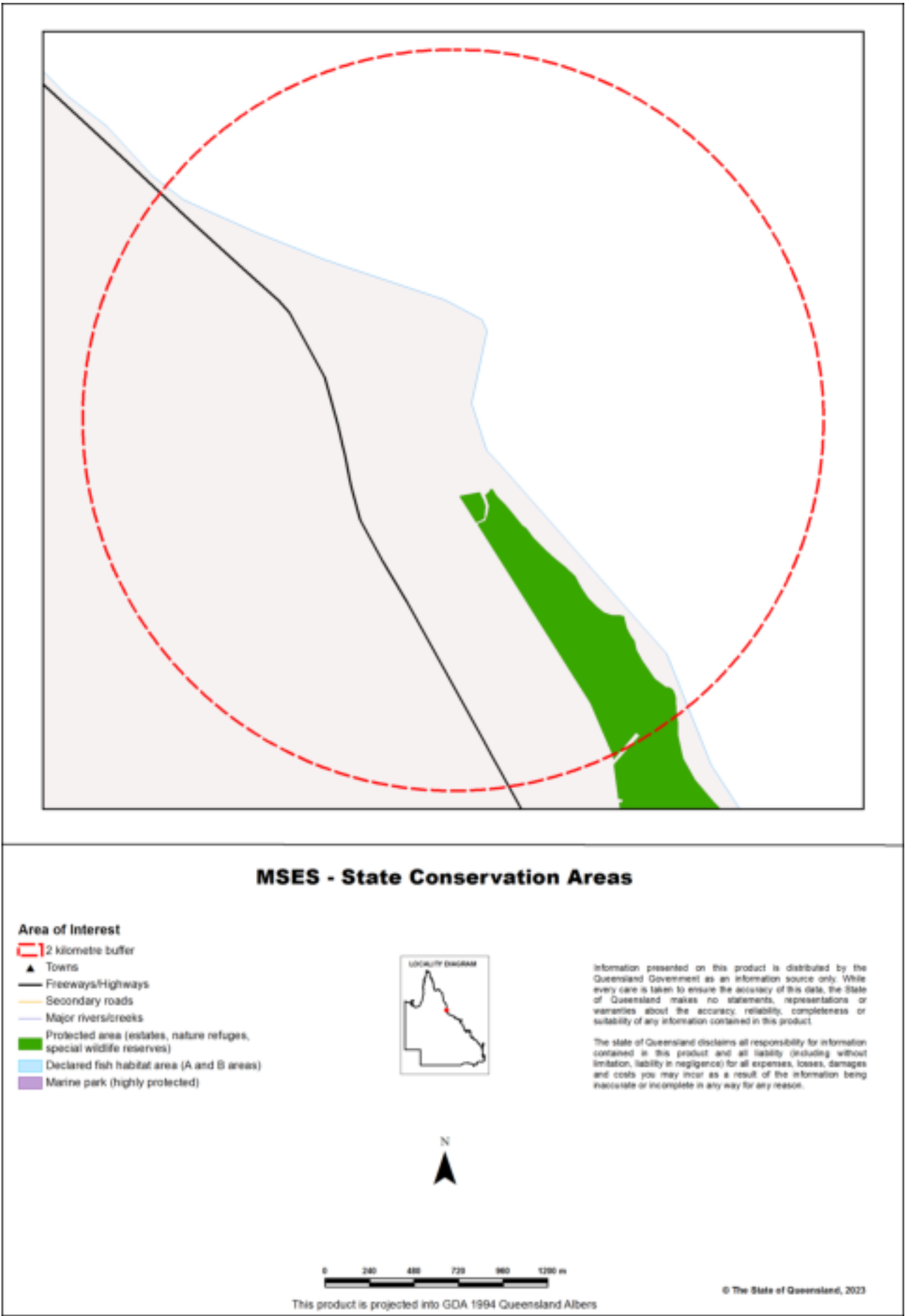
(no results)

**9b. Legally secured offset areas - vegetation offsets through a Property Map of Assessable Vegetation**

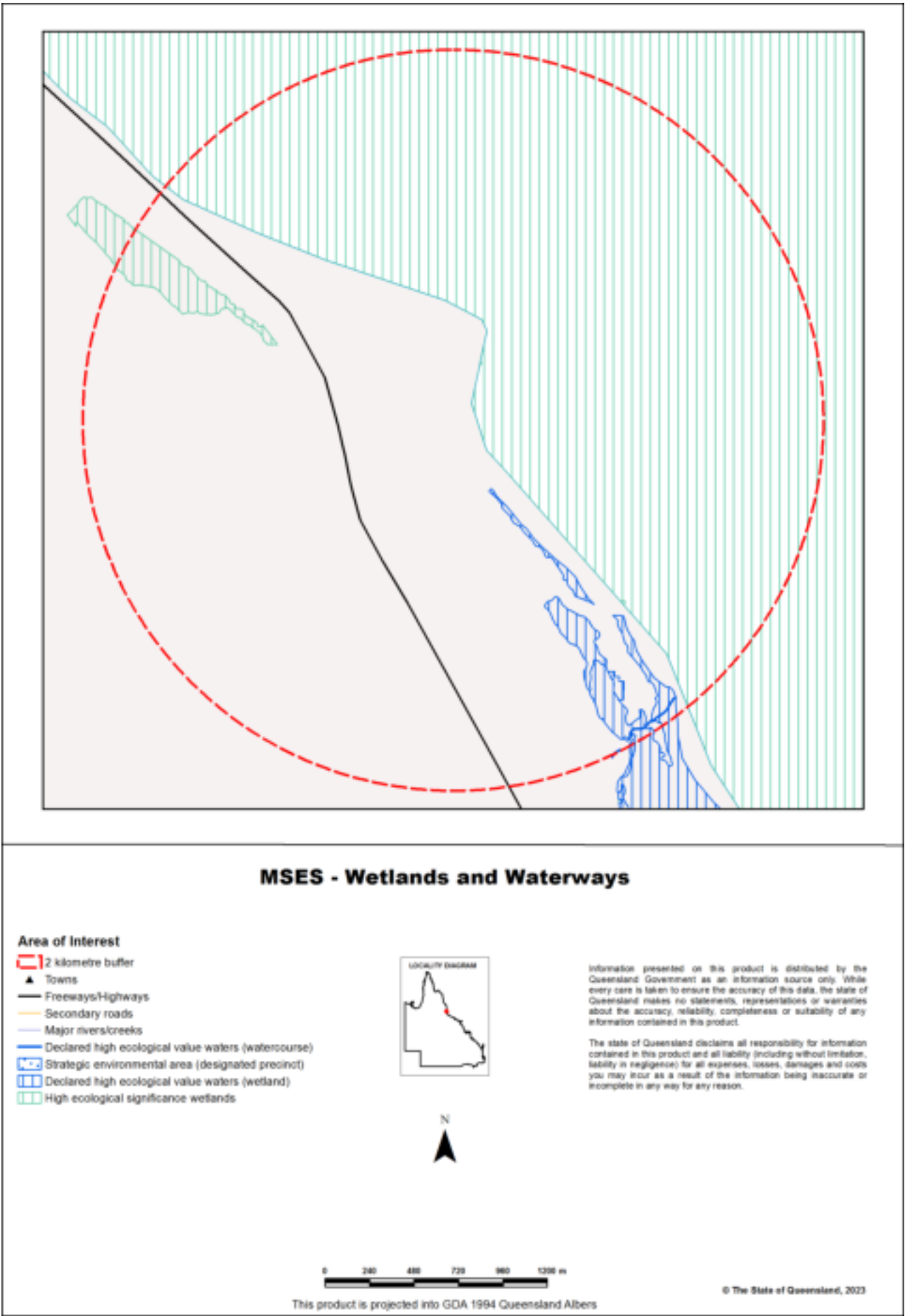
(no results)

Refer to **Map 5 - MSES - Offset Areas** for an overview of the relevant MSES.

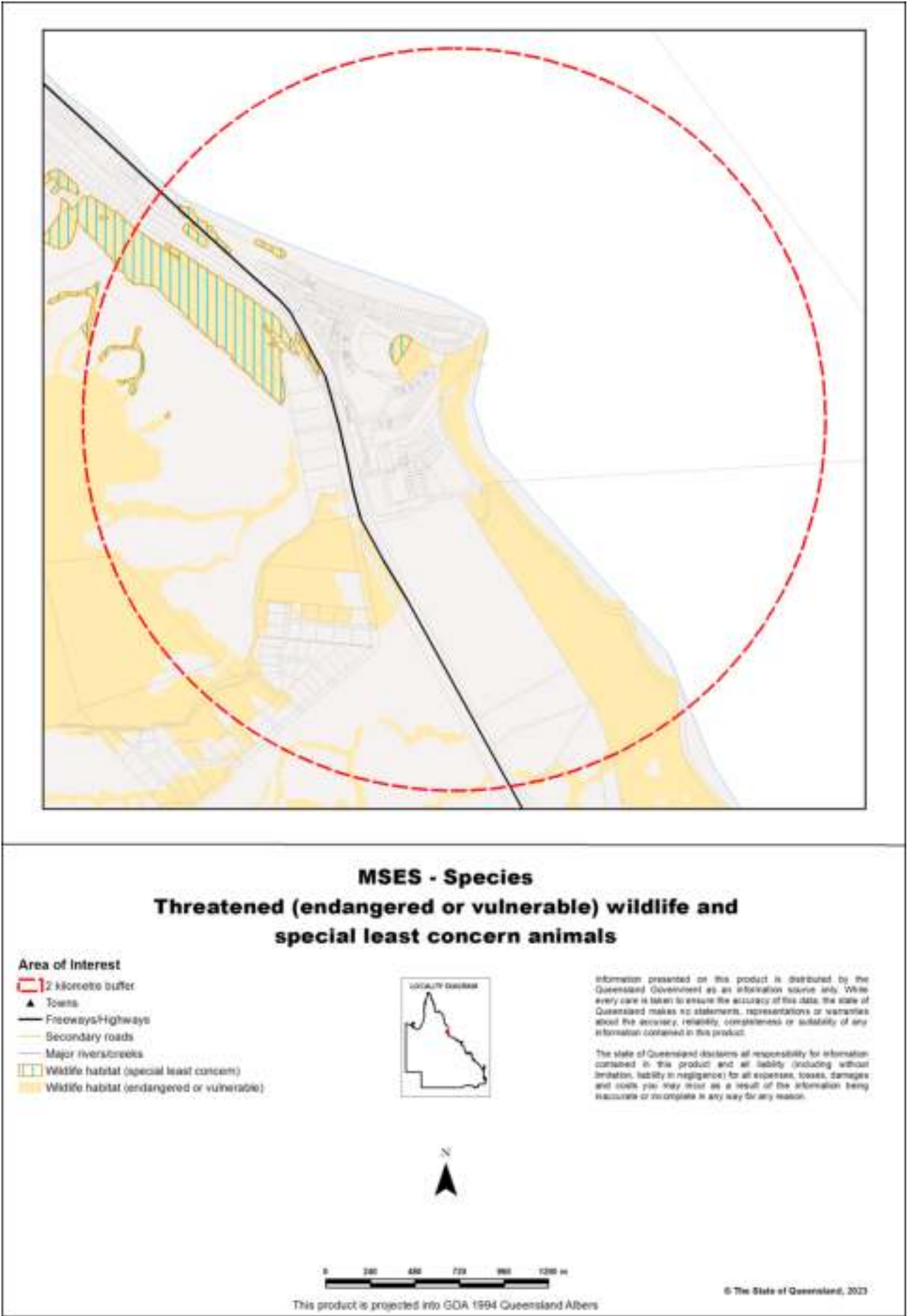
Map 1 - MSES - State Conservation Areas



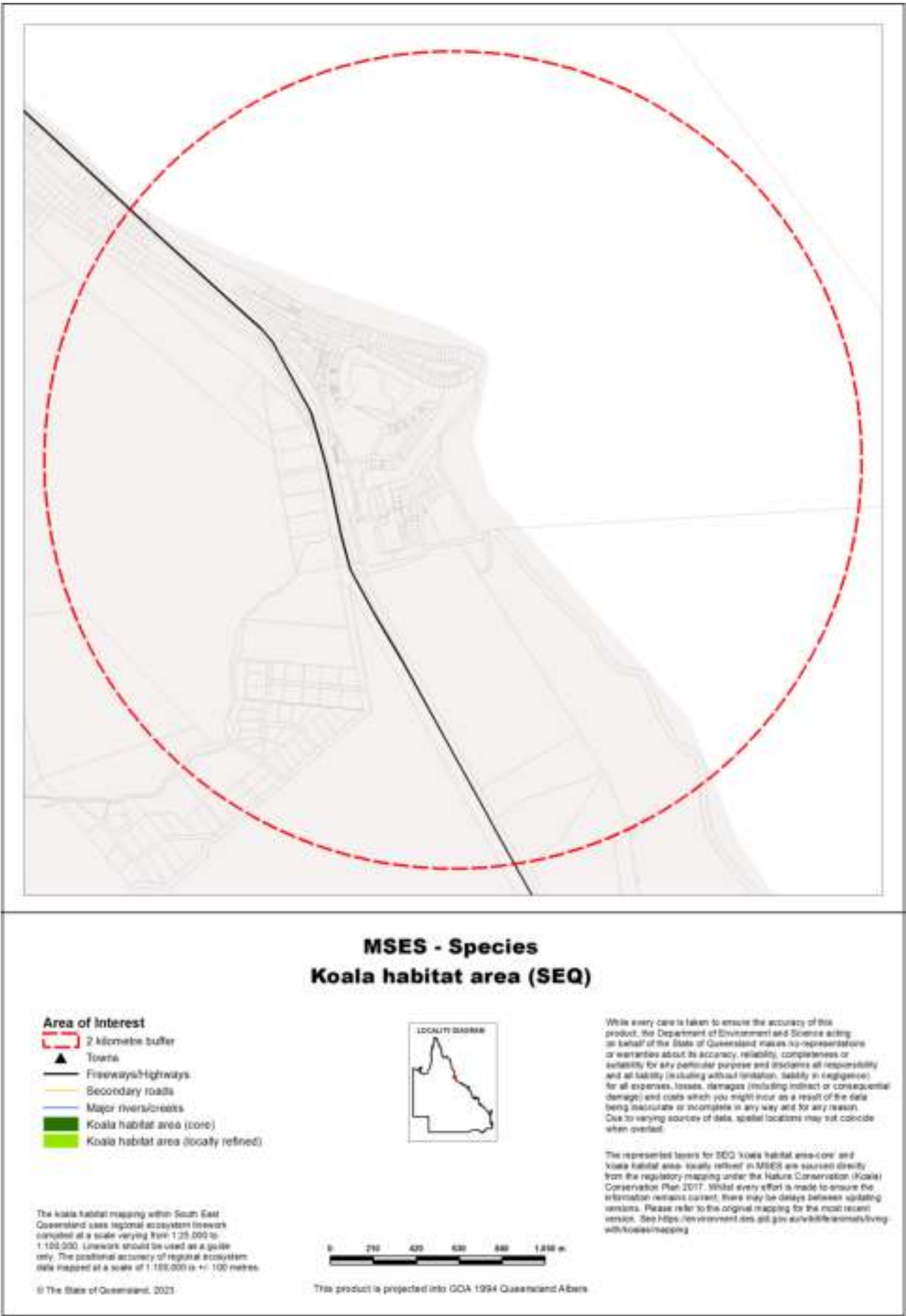
Map 2 - MSES - Wetlands and Waterways



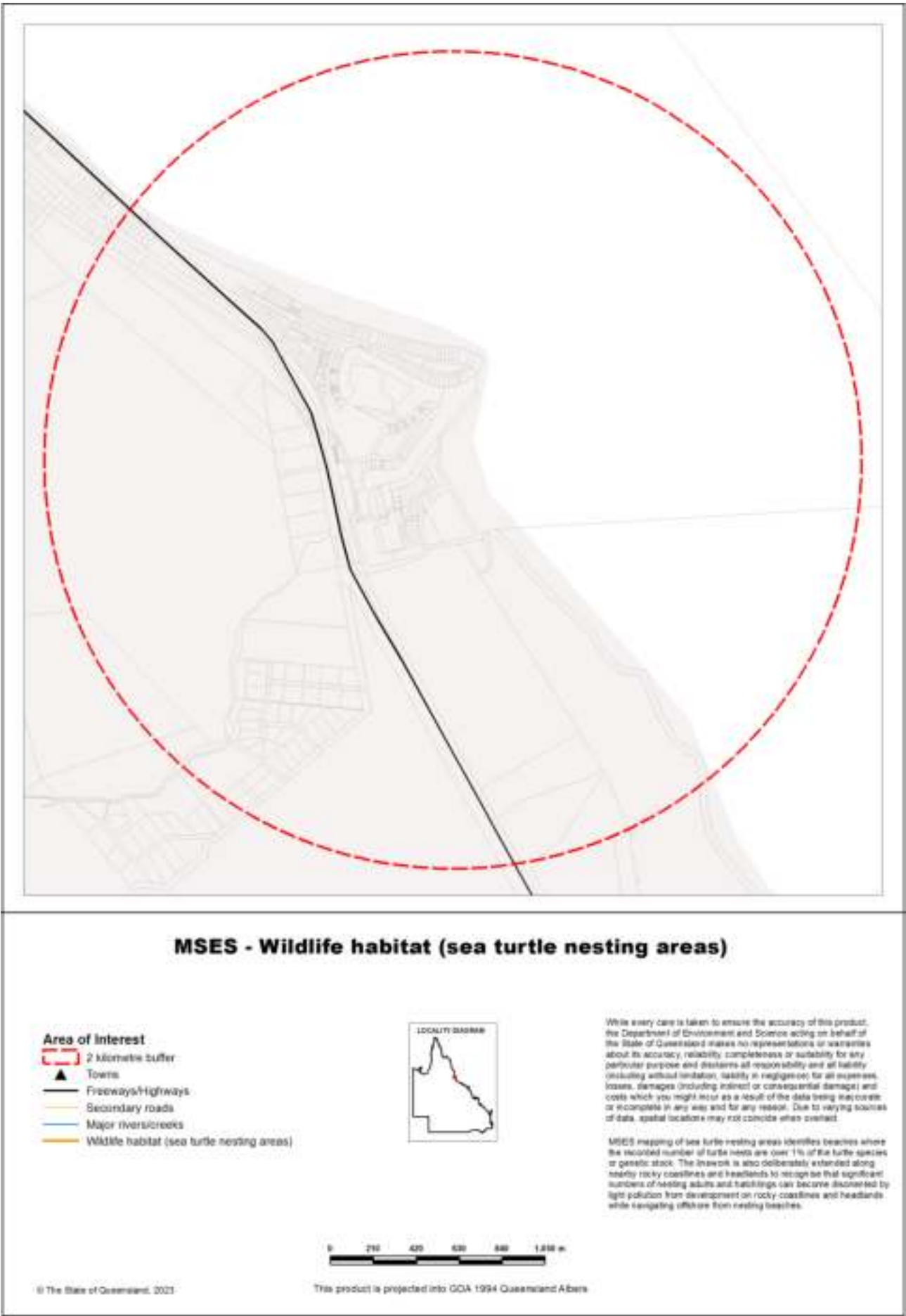
Map 3a - MSES - Species - Threatened (endangered or vulnerable) wildlife and special least concern animals



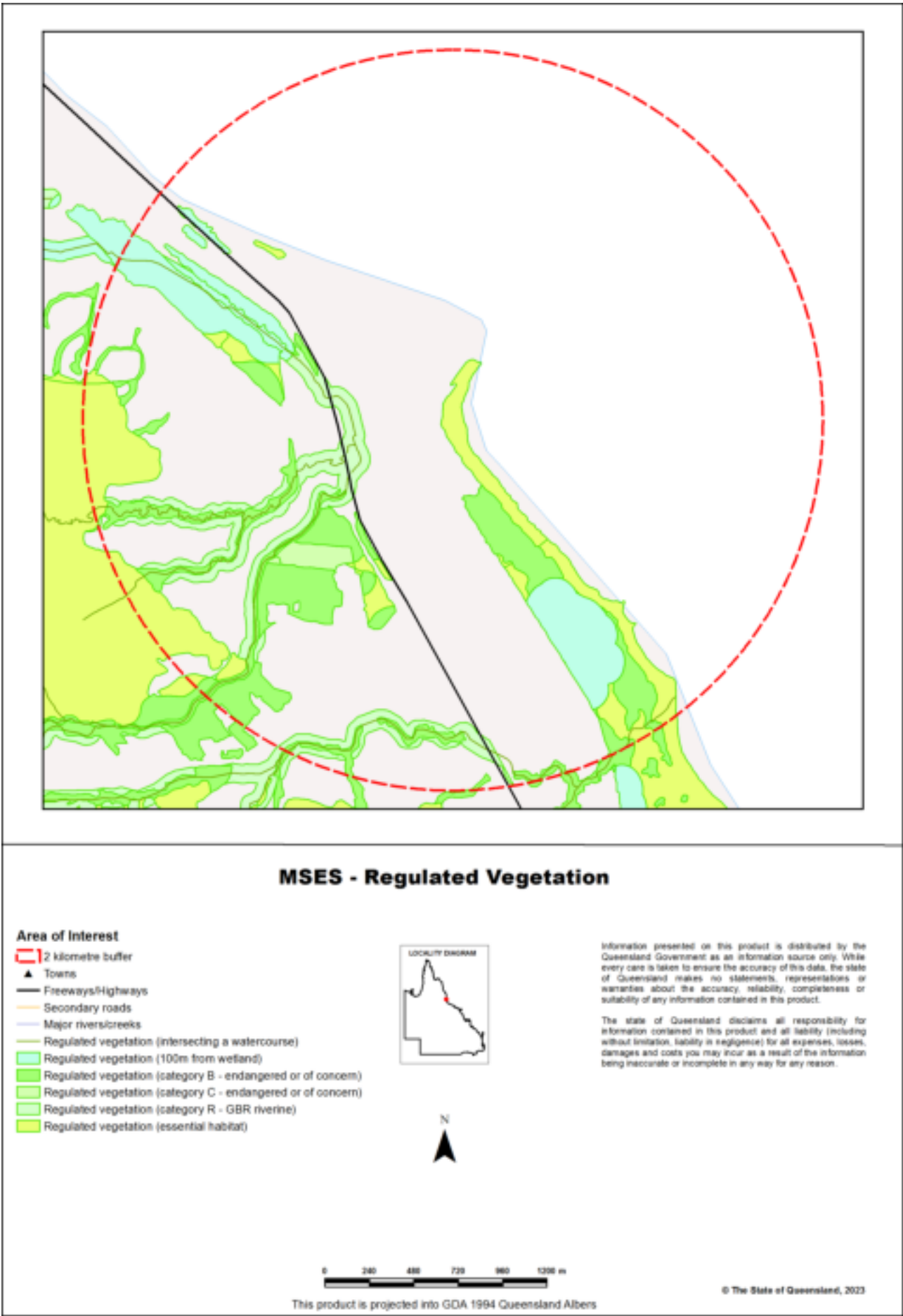
Map 3b - MSES - Species - Koala habitat area (SEQ)



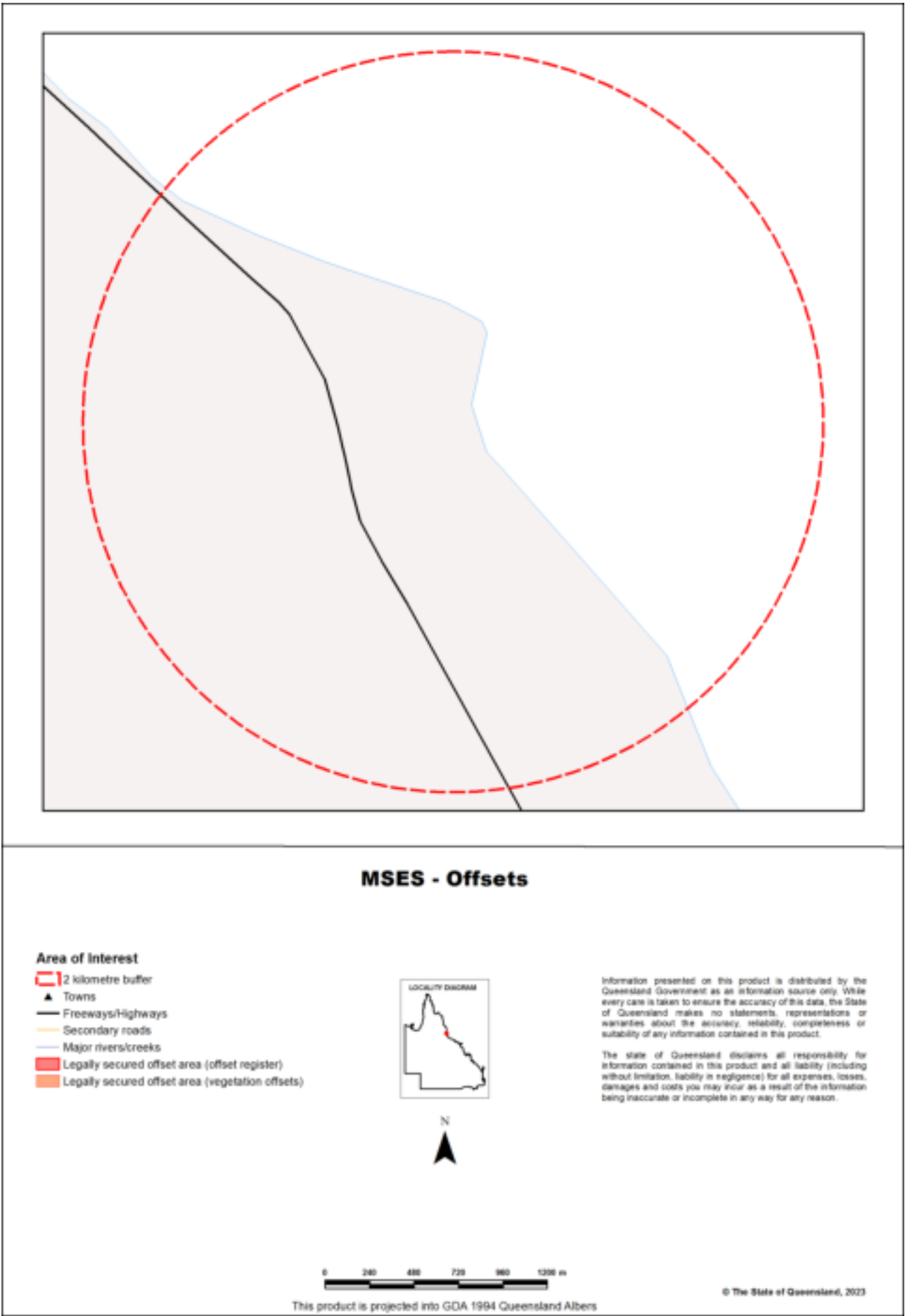
Map 3c - MSES - Wildlife habitat (sea turtle nesting areas)



Map 4 - MSES - Regulated Vegetation



Map 5 - MSES - Offset Areas



## Appendices

### Appendix 1 - Matters of State Environmental Significance (MSES) methodology

MSES mapping is a regional-scale representation of the definition for MSES under the State Planning Policy (SPP). The compiled MSES mapping product is a guide to assist planning and development assessment decision-making. Its primary purpose is to support implementation of the SPP biodiversity policy. While it supports the SPP, the mapping does not replace the regulatory mapping or environmental values specifically called up under other laws or regulations. Similarly, the SPP biodiversity policy does not override or replace specific requirements of other Acts or regulations.

The Queensland Government's "Method for mapping - matters of state environmental significance for use in land use planning and development assessment" can be downloaded from:

<http://www.ehp.qld.gov.au/land/natural-resource/method-mapping-mses.html> .

## Appendix 2 - Source Data

The datasets listed below are available on request from:

<http://qldspatial.information.qld.gov.au/catalogue/custom/index.page>

- Matters of State environmental significance

Note: MSES mapping is not based on new or unique data. The primary mapping product draws data from a number of underlying environment databases and geo-referenced information sources. MSES mapping is a versioned product that is updated generally on a twice-yearly basis to incorporate the changes to underlying data sources. Several components of MSES mapping made for the current version may differ from the current underlying data sources. To ensure accuracy, or proper representation of MSES values, it is strongly recommended that users refer to the underlying data sources and review the current definition of MSES in the State Planning Policy, before applying the MSES mapping.

Individual MSES layers can be attributed to the following source data available at QSpatial:

MSES layers	current QSpatial data ( <a href="http://qspatial.information.qld.gov.au">http://qspatial.information.qld.gov.au</a> )
Protected Areas-Estates, Nature Refuges, Special Wildlife Reserves	- Protected areas of Queensland - Nature Refuges - Queensland - Special Wildlife Reserves- Queensland
Marine Park-Highly Protected Zones	Moreton Bay marine park zoning 2008
Fish Habitat Areas	Queensland fish habitat areas
Strategic Environmental Areas-designated	Regional Planning Interests Act - Strategic Environmental Areas
HES wetlands	Map of Queensland Wetland Environmental Values
Wetlands in HEV waters	HEV waters: - EPP Water intent for waters Source Wetlands: - Queensland Wetland Mapping (Current version 5) Source Watercourses: - Vegetation management watercourse and drainage feature map (1:100000 and 1:250000)
Wildlife habitat (threatened and special least concern)	- WildNet database species records - habitat suitability models (various) - SEQ koala habitat areas under the Koala Conservation Plan 2019 - Sea Turtle Nesting Areas records
VMA regulated regional ecosystems	Vegetation management regional ecosystem and remnant map
VMA Essential Habitat	Vegetation management - essential habitat map
VMA Wetlands	Vegetation management wetlands map
Legally secured offsets	Vegetation Management Act property maps of assessable vegetation. For offset register data-contact DES
Regulated Vegetation Map	Vegetation management - regulated vegetation management map

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### Appendix 3 - Acronyms and Abbreviations

AOI	- Area of Interest
DES	- Department of Environment and Science
EP Act	- <i>Environmental Protection Act 1994</i>
EPP	- Environmental Protection Policy
GDA94	- Geocentric Datum of Australia 1994
GEM	- General Environmental Matters
GIS	- Geographic Information System
MSES	- Matters of State Environmental Significance
NCA	- <i>Nature Conservation Act 1992</i>
RE	- Regional Ecosystem
SPP	- State Planning Policy
VMA	- <i>Vegetation Management Act 1999</i>



## APPENDIX D STUDY SITE CONCEPT PLAN





Figure D-6-1 Lot 170

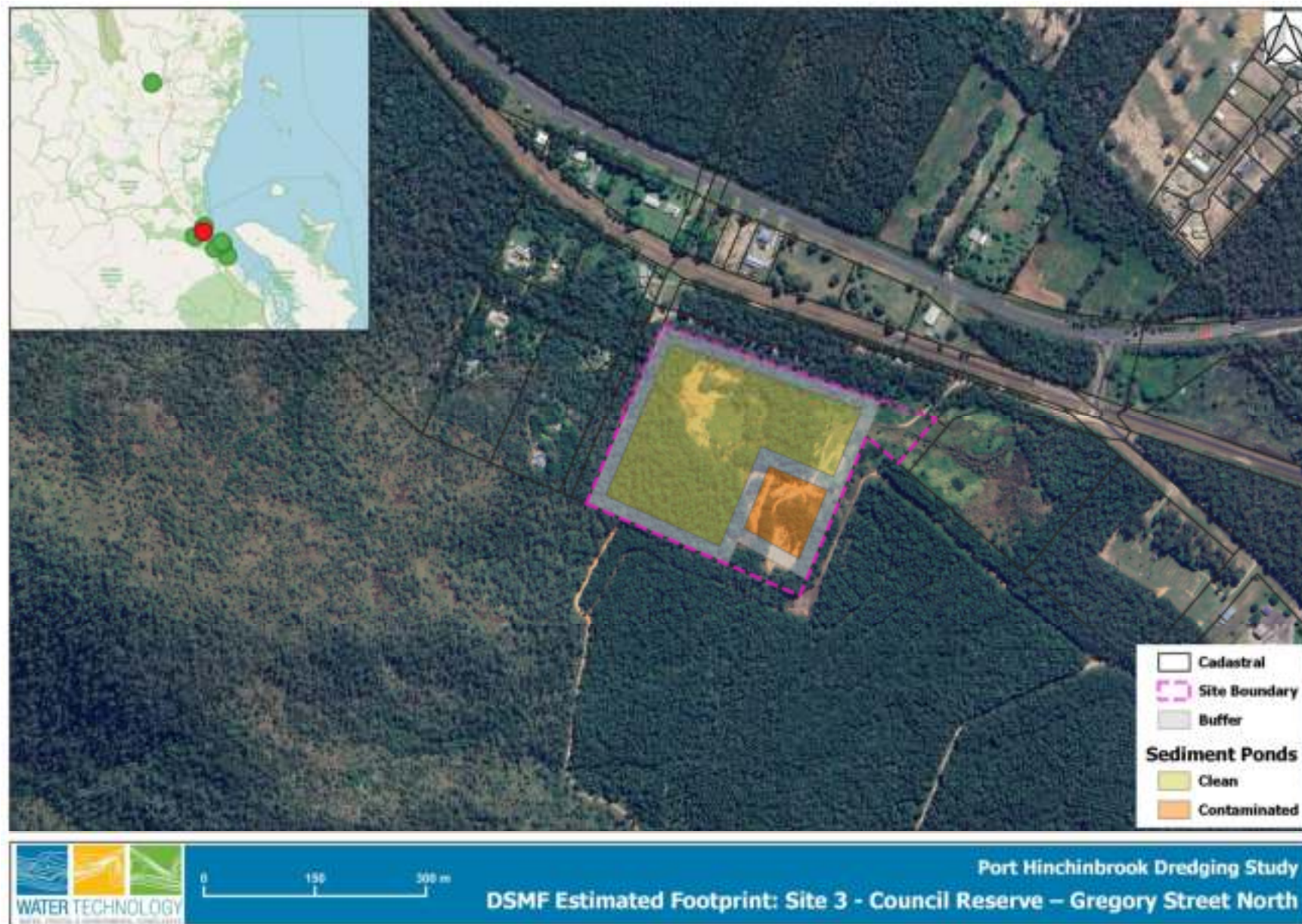


Figure D-6-2 Gregory Street North



Figure D-6-3 Tully Waste Facility



Figure D-6-4 Private Property- Concept Plan



## APPENDIX E MULTI-CRITERIA ANALYSIS

23020295\_R01V02\_DredgeSedimentDisposalSiteAnalysisReport.docx



**Table E-6-1 Key Performance Indicators**

ID	DSMF site	Dredging type	Lot Area (m <sup>2</sup> )	Design Longevity	Capacity	Maximum bund height	Distance to DSMF	Existing land use	Tenure	MSES on Site	% of site w/o MSES	Impact	Receiving water	Receiving water	Groundwater	Construction plant	Capital Costs	Initial Maintenance Cost	Routine Maintenance Cost	Lifecycle cost per year
1a	Lot 170 (Existing disposal location)	Hydraulic	593,300	25	850,000	6	1	Dredging pond	Freehold	No	100	L	Saline	Commercial Basin	Brackish	Marine	5 to 10	5 to 9	4 to 5	3 to 5
1b	Lot 170 (Existing disposal location)	Mechanical	593,300	25	850,000	6	1	Dredging pond	Freehold	No	100	L	Saline	Commercial Basin	Brackish	Land	5 to 10	5 to 6	2 to 4	2 to 4
2	Council Reserve - Gravel Pit	Mechanical	453,000	N/A	5,000	N/A	4	Quarry	Reserve	Yes	5	H	Freshwater	Stony Creek	Fresh	Land	N/A	N/A	N/A	N/A
3	Council Reserve - Gregory Street North	Mechanical	124,000	10	330,000	13.5	6	Reserve	Reserve	Yes	15	H	Freshwater	Meunga Creek	Fresh	Land	3 to 4	10 to 15	5 to 10	5 to 10
4	Private Property - Quarry on Attie Creek Road	Mechanical	240,400	2	N/A	15	12	Quarry	Freehold	Yes	40	H	Freshwater	Meunga Creek	Fresh	Land	N/A	N/A	N/A	N/A
5	Cardwell Transfer Station	Mechanical	76,660	3	66,000	6	7	Waste Management	Reserve	Yes	50	H	Estuary	Meunga Creek	Fresh	Land	2 to 5	10 to 13	6 to 9	7 to 10



ID	DSMF site	Dredging type	Lot Area (m <sup>2</sup> )	Effectiveness			Social					Environment				Economic				
				Design Longevity	Capacity	Maximum bund height	Distance to DSMF	Existing land use	Tenure	MSES on Site	% of site w/o MSES	Impact	Receiving water	Receiving water	Groundwater	Construction plant	Capital Costs	Initial Maintenance Cost	Routine Maintenance Cost	Lifecycle cost per year
6	Tully Waste Facility	Mechanical	489,000	19	640,000.00	12.5	50	Waste Management	Reserve	Yes	70	M	Freshwater	Maria Creek	National Park	Land	3 to 5	50 to 70	25 to 35	25 to 35
7	Private Property	Mechanical	255,600	5	180,000	6	15	Farming	Freehold	Yes	75	M	Saline	Hinchinbrook channel	Brackish	Land	3 to 4	20 to 25	10 to 15	10 to 15
8	Mangrove restoration - Stony Creek	Mechanical	40,000	0.25	15,000	6	0.5	Unallocated State Land	varies	Yes	5	H	Saline	Hinchinbrook channel	Saline	Land	5 to 7	5 to 10	3 to 5	20 to 30
9	Nearshore Unidentified	Barge	N/A	N/A	N/A	N/A	10	GBRMPA	varies	Yes	0	H	Saline	Rockingham Bay	N/A	Marine	N/A	10 to 15	N/A	N/A
10	Offshore - Unidentified	Barge	N/A	N/A	N/A	N/A	150	GBRMPA	varies	Yes	0	H	Saline	Coral Sea	N/A	Marine	N/A	N/A	N/A	N/A



Table E-6-2 Multi Criteria Analysis Result

DSMF site	Effectiveness			Social			Environment			Economics					Weighted Total Score
	Design Longevity	Capacity	Score	Community amenities	Safety	Score	Biodiversity	Receiving water	Score	Capital Cost	Initial Dredging Cost	Maintenance Cost	Lifecycle Cost	Score	
Lot 170	3	3	3	3	3	3	3	3	3	0	0	0	0	0	2.3
Lot 170	3	3	3	3	3	3	3	3	3	0	0	2	3	1.25	2.6
Gravel Pit	-6	-1	-3.5	0	1	0.5	1	-6	-2.5	-6	-6	-6	-6	-6	-2.9
Gregory Street North	2	2	2	-3	1	-1	0	-6	-3	3	-3	-3	-3	-1.5	-0.9
Attie Creek Road	0	-6	-3	0	-3	-1.5	-3	-6	-4.5		-6	-6	-6	-6	-3.8
Cardwell Transfer Station	0	1	0.5	2	0	1	-3	0	-1.5	3	-3	-3	-3	-1.5	-0.4
Tully Waste Facility	3	3	3	2	-6	-2	-3	-6	-4.5	3	-6	-6	-6	-3.75	-1.8
Private Property	1	2	1.5	-3	-3	-3	-3	3	0	3	-6	-6	-3	-3	-1.1
Stony Creek	-3	-1	-2	0	3	1.5	-6	3	-1.5	2	-3	0	-6	-1.75	-0.9
Nearshore	2	2	2	-3	0	-1.5	-6	0	-3	-6	-6	-6	-6	-6	-2.1
Offshore	-6	2	-2	-6	-6	-6	-6	-3	-4.5	-6	-6	-6	-6	-6	-4.6



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