

LANSDOWNE REEF (UNION REEFS)

9°46'44.67"N, 114°22'12.26"E

Geographic area

Lansdowne Reef is a shallow oval coral reef platform located on the southern side of Union Reefs. The closest shallow reefs are Johnson South Reef (5.4NM southwest) and Higgens Reef (1.8NM northeast). Four coral reef platforms are visible between Johnson South Reef and Lansdowne Reef at a depth of 4-7m. Lansdowne Reef platform extends 3.3km between its western and northeastern extremities and reaches 900m along its north-south axis.



Land area above water

A 20m-long by 10m-wide above-water sand bank is visible in the 23 October 2014 satellite image, next to the tower constructed in the centre of the reef flat, when the sea level is expected to be 27cm above Mean Sea Level. This small above-water sand bank is part of a larger submerged sand bank that extends close to 200m southwest from the tower. It is uncertain whether this small bank would be fully submerged when the sea level rises by 50cm to reach Mean High Water Spring, although it seems likely based on the satellite image from 26 February 2014 viewable on Google Earth where it appears submerged. It is also unconfirmed whether this exposed part of the sand bank is naturally occurring or the byproduct of the construction of the tower.

Human infrastructure

A 15 to 20m-diameter tower has been constructed in the centre of the reef flat on a 30m-diameter platform. When the sea level is 25cm above Mean Sea Level, the surrounding water is 1-2m deep (except in the southwestern area where the sand bank is located). Three jetties are visible. The two longest jetties or loading piers are 10-15m long and located symmetrically in the northeast and southwest. A 300m long non-accessibility device system can also be observed on the northern edge of the reef flat. It extends across both sides of the 2.5m deep man-made channel that links the towers to the open sea through the northern reef flat.

Intertidal and submerged area

This coral reef platform is composed of a reef flat (0.58km²) surrounded by a reef slope (0.77km²). There is no lagoon. The reef flat is mostly 1.8-2.5m deep and shows dominant coral/seagrass/algae cover on the northern and western sides. A small sandy area (50m by 40m) located on the southwestern edge of the reef flat is 1-1.3m deep and expected to uncover at Lowest Astronomical Tide on the basis that the sea level would decrease by 1.34m. The reef slope extends over 1.2km northeast and 400m southwest. Spurs and grooves are visible on both sides at 6-8m depth. However, they are wider on the eastern side where they can be 10-20m wide and less than 1m deep. By contrast, on the western side they are narrower and more than 1m deep.

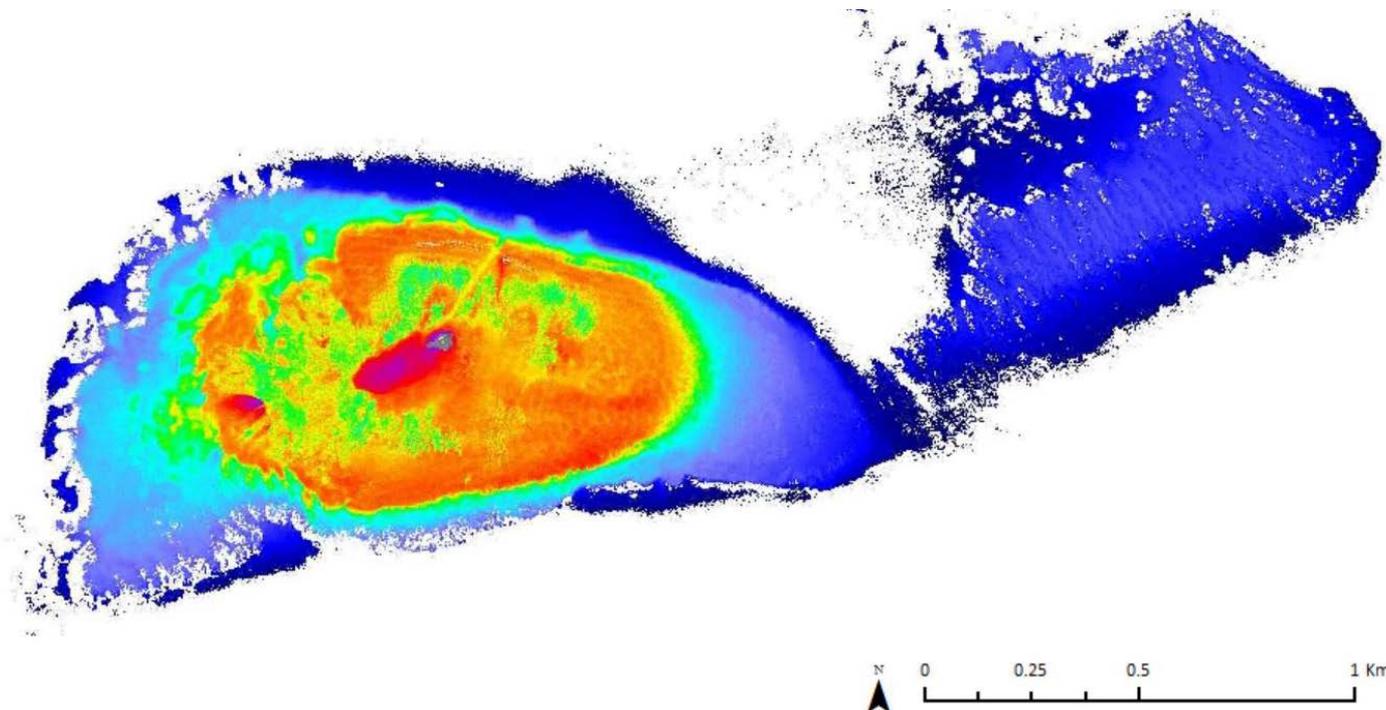
No dredging marks are visible in the 23 October 2014 image, but several areas of the reef flat look degraded (29000m²).

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Derived from WorldView-3 satellite data captured on 23 October 2014 [Sea Level: +27cm]

Bathymetry Map



Habitat Classification and Land Cover Map

