

## 8.21 Under Keel Clearance Management System in the Torres Strait

### 8.21.1 Introduction

1. AMSA's Under Keel Clearance Management (UKCM) System was declared operational on the 16th December 2011 (Marine Notice 17/2011). The Torres Strait lies between Papua New Guinea and the northern tip of the Australian continent and is a vital shipping route for the Asia-Pacific region. Numerous large vessels transit Torres Strait and face many challenges to safe navigation due to the numerous reefs, shallow waters, complex tides and strong tidal streams.
2. The UKCM system is web-based and uses accurate vessel information, hydrodynamic modelling and environmental data from tide, stream, wind and wave sensors to estimate a vessel's UKC. The UKCM system allows vessel operators and coastal pilots to plan the safe and efficient passage of deep draught vessels through Torres Strait.

### 8.21.2 Operational Status

1. The operational status of the UKCM system means that vessel operators, masters and watchkeepers, pilotage providers and coastal pilots are able to use the system to:
  - assess loading scenarios for deep draught vessels,
  - optimise the scheduling of deep draught transits and pilot transfers, and
  - improve the safety and efficiency of deep draught transits.
2. As a general principle, mariners are to use all available means to navigate safely and therefore, as an aid to navigation, the UKCM system can provide relevant information and may be used for planning deep draught transits through Torres Strait.
3. Based on monitoring of the UKCM system over the course of system trials, AMSA recommends use of the UKCM system for all vessels with a draught of

nine metres or more. Circumstances may warrant use of the UKCM system for vessels of lesser draught.

4. The UKCM system is specifically designed to complement other measures to protect the marine environment and to deliver enhanced safety and efficiency of navigation in Torres Strait and the Great Barrier Reef. Additionally, the system will:
  - validate the existing under keel safety margin for deep draught vessels; and
  - help evaluate the appropriateness of the draught limit regime.
5. AMSA considers the use of the system to be an effective way of minimising UKC risks and, when integrated into a pilotage provider's safety management system, is considered by AMSA to satisfy the UKC aspects of the safety management system required by Marine Orders 54.
6. Precautions have been taken to ensure that the information in and generated by, the UKCM system is accurate. However, the responsibility for safe navigation continues to reside with mariners (masters and pilots) through the appropriate use of the system in conjunction with other aids to navigation, official hydrographic products and prudent seamanship, which includes voyage planning as defined in IMO Resolutions. AMSA accepts no liability arising from misuse of the system or misinterpretation of information provided or generated.

### 8.21.3 UKCM System Access

1. Access to the UKCM system is available for approved users through a vetted registration process. To request registration, please follow the registration application process available at:

Link:	<a href="https://ukcm.amsa.gov.au">https://ukcm.amsa.gov.au</a>
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### 8.21.4 UKCM System Services

1. The system provides the services to authorised users as seen in table on next page.

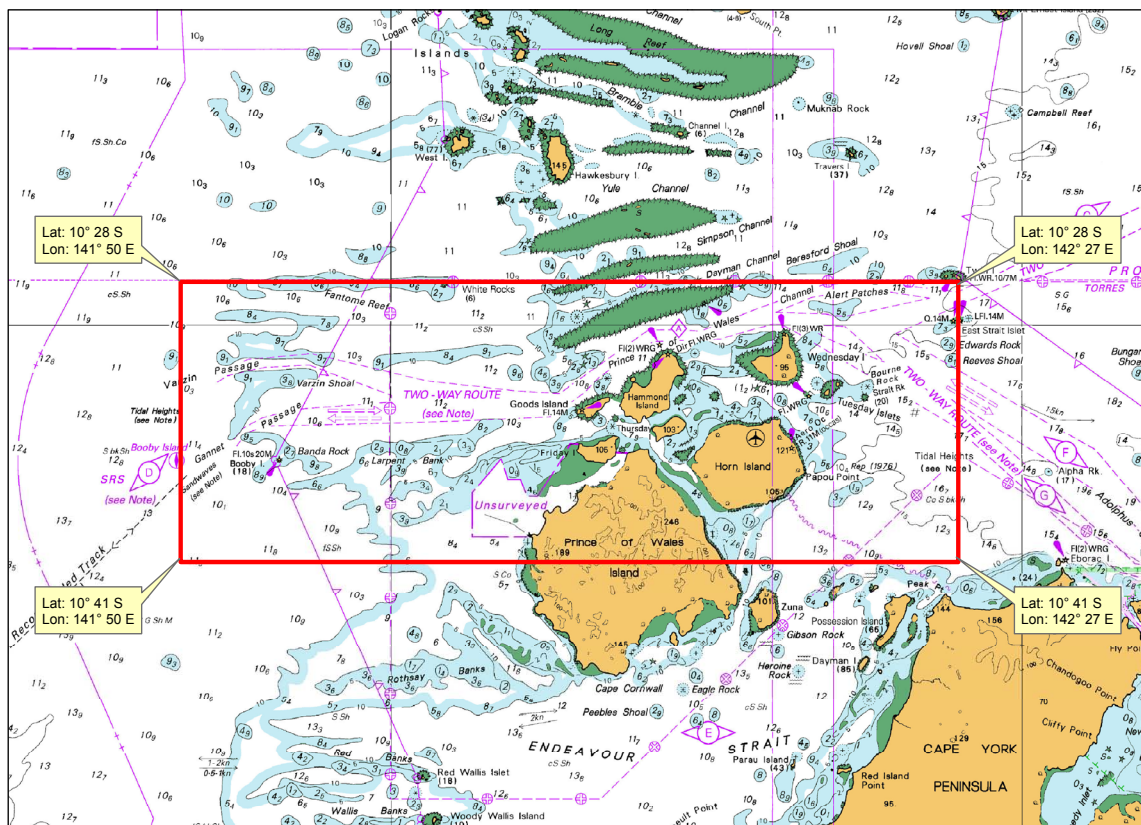
### Under Keel Management System Services

Service	Description
Registration Services	Service to support the management of users registration.
Vessel Service	Service to input relevant vessel particulars.
Voyage Planning Service	Service to support the long term planning of transits through the Torres Strait. Includes determination of maximum safe draught for a transit and tide windows.
Transit Planning Service	Service to support the planning of transits through the Torres Strait. Includes determination of maximum draught for a transit, times at key way points (and speeds to make good those way points) and the resultant net UKC throughout the transit.
Met Ocean Data Service	Service to view met-ocean sensor data and predictions.
Business Messages Service	Service to monitor business messages.
System Monitoring Service	Service to monitor and report on the components of the system.
Reporting Service	Service to support the request of standard and generic reports.
Help Service	Services to support the provision of electronic help.

### 8.21.5 Area of Operation

1. The UKCM System is in use for vessels transiting the Prince Of Wales Channel in Torres Strait as seen in diagram below.

Area of Operation of UKCM System in Torres Strait



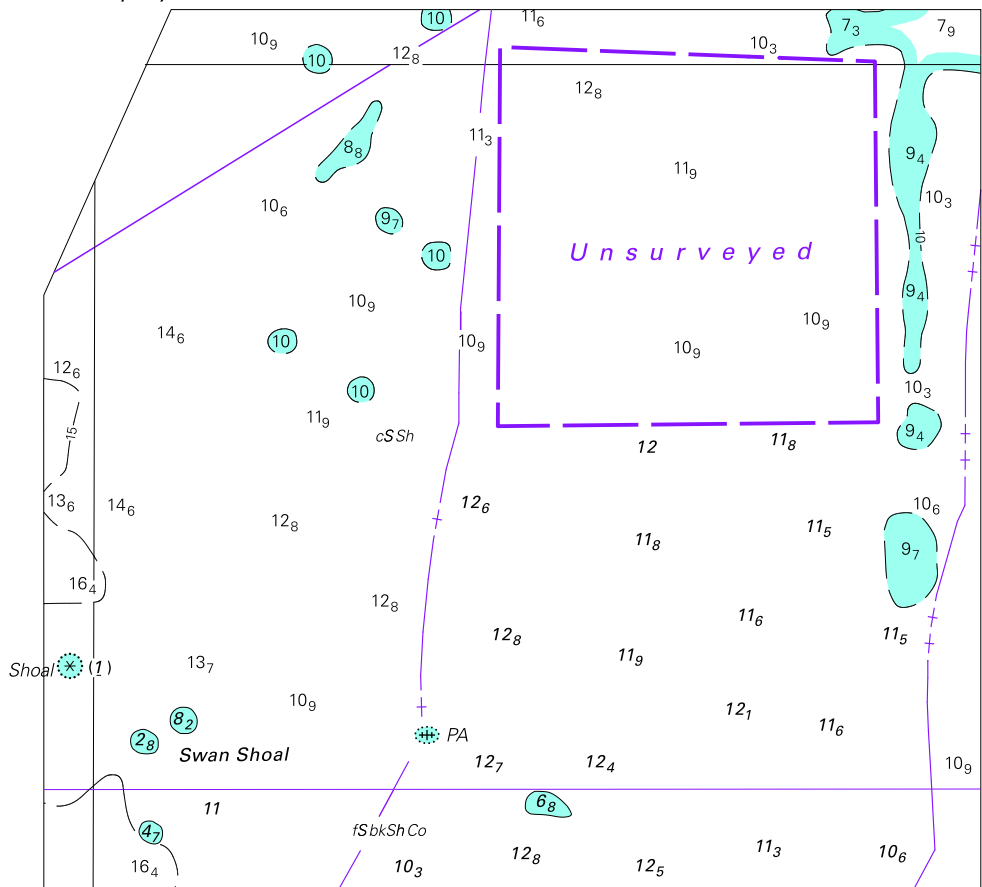
### 8.21.6 Under Keel Clearance Requirements for Torres Strait (Marine Orders 54)

1. Vessels may transit the Prince of Wales Channel, the Gannet or the Varzin Passages only if the ship:
  - (a) does not have a draught that exceeds 12.20 m; and
  - (b) has a net under keel clearance of:
    - (i) if the ship has a draught of less than 11.90 m - at least 1 m; or
    - (ii) if the ship has a draught of 11.90 m or more - at least 10% of the draught of the ship; or
    - (iii) for a ship piloted through the Gannet or Varzin Passages - at least 1 m.

### 8.21.7 Summary

1. The UKCM system is one of a number of protective measures implemented by AMSA to enhance the safety of shipping in Torres Strait and the Great Barrier Reef. Complementing the system of pilotage and the recent extension to REEFVTS coverage, the UKCM system provides a modern aid to navigation that seamlessly links complex shore-based calculations with ship-based operations.

To accompany Australian Notice to Mariners 229/2012

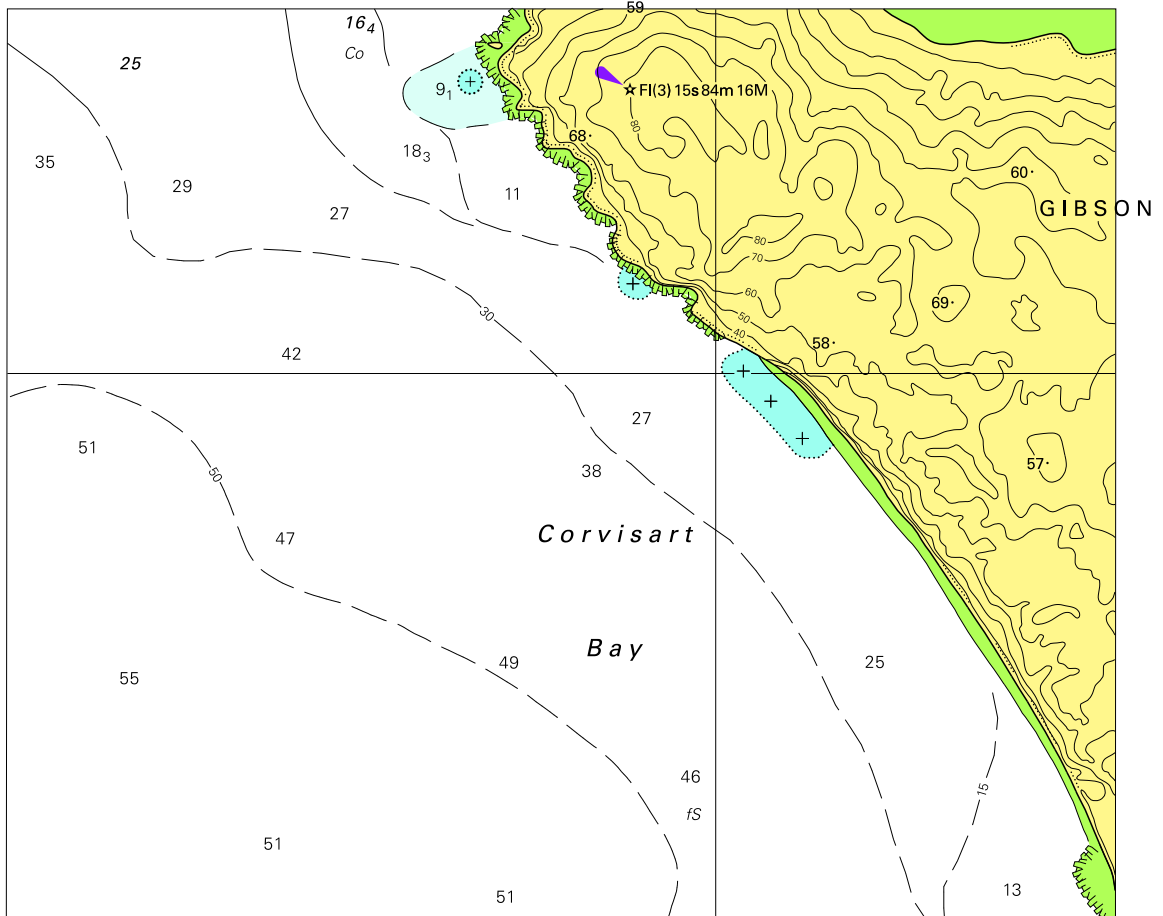


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(123.9 x 116.2mm)

To accompany Australian Notice to Mariners 236/2012



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(146.7 x 120.1mm)