



ΕΛΛΗΝΙΚΗ ΕΝΟΣΗ ΠΡΟΣΤΑΣΙΑΣ  
ΘΑΛΑΣΣΙΟΥ ΠΕΡΙΒΑΛΛΟΝΤΟΣ  
HELLENIC MARINE ENVIRONMENT  
PROTECTION ASSOCIATION



Australian  
Marine  
Environment  
Protection  
Association

# **Guide for Greek and foreign seafarers onboard Ships operating in Australian Waters 2018**

**Under the Auspices  
of**

**The Australian Maritime Safety Authority**



**Australian Government**

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**Australian Maritime Safety Authority**

## **AMSA addresses the publication**

As a long-standing supporter of HELMEPA and AUSMEPA, the Australian Maritime Safety Authority (AMSA) is pleased to contribute to the Guide for Seafarers on Ships Sailing in Australian waters.

AMSA's purpose is to:

- Provide leadership in the development of safety and environmental protection standards for responsible operations of ships and safety to seafarers;
- Monitor compliance with safety and environment protection standards;
- Respond to threats to the marine environment;
- Provide systems that aid safe marine navigation and rescue people in maritime and aviation distress situations.

This revised guide will assist all seafarers in working with AMSA to protect Australia's valuable and unique marine environment and enjoy safe passage in Australia's waters. Shipping is a rapidly changing industry, and while the information in this guide was up to date at the time of publication, all seafarers are encouraged to monitor the AMSA website at [www.amsa.gov.au](http://www.amsa.gov.au) to check for marine notices advising of changes to legislation or other requirements for ships trading in Australian waters.

Mick Kinley  
Chief Executive Officer  
June 2018

## **HELMEPA addresses the publication**

Australia, home to the most cherished and fragile Great Barrier Reef, has a vast marine environment with numerous complex ecosystems, which we must protect at all costs. When sailing along the coastline of Australia or traversing its national waters, extending in three oceans and four seas, you will also encounter extensive areas of diverse flora and fauna such as tropical sea grass, mangroves and algae that require your particular attention.

In 2000 and 2010, together with AMSA we published a Guide aimed specifically at Greek seafarers travelling in Australian waters. In 2013 we cooperated with AUSMEPA and AMSA in revising this publication which we made available also in electronic form. Now, five years later, we are indebted to AMSA for honouring HELMEPA by once again assisting us in updating this electronic resource, whose aim is to assist you in keeping abreast of developments of the Australian maritime legislation.

We wish you safe voyages in calm seas while visiting wonderful Australia.

Dimitris C. Mitsatsos  
Director General  
June 2018

## TABLE OF CONTENTS

<b>INTRODUCTION.....</b>	<b>Page</b>
<b>A. The Australian marine environment and the need to protect it.....</b>	<b>5</b>
<b>B. Australia’s biodiversity and ballast water – biofouling management.....</b>	<b>6</b>
<b>C. The Great Barrier Reef – safe navigation and pollution prevention.....</b>	<b>7</b>
<b>Abbreviations.....</b>	<b>10</b>
<b>1. SHIP REPORTING IN AUSTRALIA.....</b>	<b>11</b>
<b>1.1 General.....</b>	<b>11</b>
<b>1.2 MASTREP .....</b>	<b>11</b>
<b>2. NAVIGATING THE GREAT BARRIER REEF AND REEFVTS.....</b>	<b>12</b>
<b>2.1 Operations in the Great Barrier Reef.....</b>	<b>12</b>
<b>2.1.1 Designated Shipping Areas .....</b>	<b>12</b>
<b>2.1.2 Compulsory pilotage .....</b>	<b>13</b>
<b>2.1.3 Establishment of Virtual AIS Aid to Navigation in Torres Strait .....</b>	<b>15</b>
<b>2.2 The Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS).....</b>	<b>15</b>
<b>2.2.1 REEFVTS overview.....</b>	<b>16</b>
<b>2.2.2 REEFVTS – MASTREP interaction.....</b>	<b>16</b>
<b>3. UNDER KEEL CLEARANCE MANAGEMENT (UKCM) SYSTEM IN TORRES STRAIT.....</b>	<b>17</b>
<b>3.1 Background.....</b>	<b>17</b>

3.2 Operational status.....	17
3.3 UKCM system services and access .....	18
3.4 Area of operation .....	18
3.5 Under keel clearance requirements for Torres Strait.....	19
4. GENERAL SAFETY OF NAVIGATION.....	19
4.1 Authorized Vessel Traffic Services (VTS).....	19
4.2 Differential Global Positioning System (DGPS) .....	20
4.3 Maritime Safety Information.....	21
4.4 Safe navigation and the use of ECDIS .....	22
4.5 Additional shipping safety measures for Particularly Sensitive Sea Areas and Areas to be Avoided.....	23
4.6 Minimizing the risk of collisions with cetaceans.....	24
5. POLLUTION PREVENTION.....	25
5.1 MARPOL Annexes I, II, IV and VI .....	25
5.2 Sewage discharge in the GBR Marine Park and Queensland coastal waters .....	26
5.3 MARPOL Annex V – Garbage management.....	27
6. AUSTRALIAN BALLAST WATER MANAGEMENT REQUIREMENTS.....	29
6.1 General.....	29
6.2 Overview of requirements for international vessels.....	30
6.3 Ballast water management using Type Approved ballast water management systems (BWMS).....	30
6.4 Domestic ballast water management requirements.....	31
6.5 Sediment management.....	31
7. AUSTRALIAN BIOFOULING MANAGEMENT REQUIREMENTS .....	31
7.1 What is biofouling?.....	31
7.2 IMO Guidelines on biofouling .....	32
7.3 Australia’s National biofouling management guidelines.....	33

**7.4 In-water cleaning within Australia.....33**

**7.5 GBR Marine Park Position Statement on translocation of marine species.....33**

**8. MARINE POLLUTION INCIDENTS.....34**

**9. MARITIME EMERGENCY RESPONSE COMMANDER .....34**

## INTRODUCTION

### A. The Australian marine environment and the need to protect it

Occupying an entire continent of some 7.6 million square kilometres, Australia is the sixth largest country in the world. Its ocean territory is the world's third largest, spanning three oceans and covering around 14 million square kilometres. The coastline of Australia, including hundreds of islands, is approximately 70,000 kilometres. Australia's seas and oceans encompass all five marine, climatic zones: tropical, subtropical, temperate, sub-polar, and polar. Deep ocean basins, tropical coral reefs, temperate rocky reefs, submarine canyons, sea grass beds, mangroves and estuaries diversify Australia's seas.

Australia is one of the most urbanized and coast-dwelling populations in the world. More than 80 per cent of Australians live within 100 kilometres of the coast. Australia's vast oceans provide many benefits to its people and visitors alike, including food, employment, commerce, and tourism, as well as recreation and aesthetic values.

Human activity continues to exert pressure on marine environments. Pollution is a serious problem and the vast majority of marine pollution is caused by land-based activities like soil erosion, fertilizer use, intensive primary production, sewage and other urban industrial discharges. Pollution is also caused by offshore oil and gas exploration and production as well as shipping operations, fishing and aquaculture. All of these sectors of human activity impact on Australia's rich marine biodiversity.

Australia's marine environment is home to 4000 fish species, 500 coral species in the northern reefs alone, 50 types of marine mammal and a wide range of seabirds. It is estimated that as many as 80 per cent of southern Australia's marine species are found only in those waters. A high level of diversity assists in maintaining a healthy balance within Australia's low nutrient ecosystems.

Compared with the marine waters of other countries, Australia's oceans are considered to be in good condition despite degradation in the east, south-east and south-west. Steps are being taken to address this degradation through the introduction of coastal management and much larger marine protected areas. The Great Barrier Reef, Torres Strait and Coral Sea have been designated as particularly sensitive sea areas (PSSAs), which are areas that have been recognised for their ecological, socio-economic, cultural heritage or scientific attributes and which may be at risk of damage from international shipping activities. The Great Barrier Reef, Torres Strait and Coral Sea PSSA encompasses an area of approximately 968,000 square kilometres.

More about what Australia is doing to ensure sustainability of its marine environment is found in <http://www.environment.gov.au/marine>.

Some of Australia's iconic ocean environments may be downloaded from the booklet Our Australia. One Place, Many Stories: Oceans:

<http://www.environment.gov.au/resource/our-australia-one-place-many-stories-ocean>

The effects of the oceans that surround Australia dominate the climate and global warming could not but have a significant impact on Australia's marine ecology and climate.

Observations since 1961 show that approximately 80 per cent of the added heat has been absorbed by the sea, whose temperatures have increased to a depth of at least 3000 meters. Effects of climate change on marine ecology have already been observed like the mass coral bleaching in the Great Barrier Reef due to the warming of tropical waters. There is also growing evidence of a trend among

terrestrial and marine animals to move southward to cooler climates. Even greater changes within ecosystems will occur as sea levels continue to rise and coastlines are re-sculpted.

### **B. Australia's biodiversity and ballast water/bio-fouling management**

Biodiversity is the variety of all forms of life including the range of species, habitats and ecological processes. Conserving biodiversity is essential to safeguarding life on Earth. Every species plays an important role in maintaining healthy ecosystems and the loss of biodiversity weakens the entire, natural environment.

Australia's biodiversity has developed largely in isolation over many millions of years, making this continent one of the most biologically diverse parts of our planet.

It is estimated that Australia is home to as many as 560,000 species including:

- Ninety two per cent of higher plant species
- Eighty seven per cent of mammals
- Ninety three per cent of reptiles
- Forty five per cent of birds.

Many of these species are unique to Australia.



The transfer of harmful organisms in ships' ballast water is considered to be one of the greatest threats to global, marine biodiversity. Shipping serves 90 per cent of world trade and more than 10 billion tons of ballast water is discharged every year. Ballast water can carry harmful organisms and pathogens and can cause environmental, economic and public health threats. About 150 million tons of ballast water is discharged annually in the vicinity of Australian ports from overseas vessels.

More than 200 marine species have been identified to have been introduced in Australia's coastal waters—mostly caused by shipping.

**Note:** Chapter 6 of this Guide provides information on the Australian ballast water management requirements that have been developed to minimize the risk of introduction and translocation of potentially harmful marine organisms through ballast water discharges.

Wooden ships were often heavily encrusted with fouling organisms. A wooden vessel in 1750 might have introduced 120 marine organisms with fouling and a further 30 with dry ballast and anchor chain. Modern studies have shown that biofouling on steel made ships can also cause the transfer of invasive species.

This process is influenced by a ship's:

- trading routes
- operating speed
- type of anti-fouling paints used
- dry-docking and hull cleaning practices.

Note: Chapter 7 of the Guide deals with the voluntary, national biofouling management guidelines of Australia aimed at reducing the risk of a vessel spreading harmful organisms by implementing sound maintenance practices that could minimize biofouling.

### **C. The Great Barrier Reef – safe navigation and pollution prevention**

Australia's Great Barrier Reef (GBR) is the world's largest living organism and a miracle of nature that spans over 2300 kilometres and covers an area of approximately 344,000 square kilometres. The GBR's development history is complex. The discovery of coral limestone deposits in drill cores dating back half a million years is considered evidence of the earliest phase of reef development for what is now the Great Barrier Reef region. The current living reef is growing on an older reef structure from around 120,000 years ago. Reef growth has not been continuous due to dramatic changes in sea level during the ice ages.

Special conditions are required for a coral reef to grow, including optimum temperatures and depth, clean water and access to light. Under these conditions' corals can increase in diameter from one to three centimetres a year and grow vertically from one to 25 centimetres per year.

In 1981, the GBR was included in the World Heritage List in recognition of its great diversity of species and habitats and for its Outstanding Universal Value.

The Great Barrier Reef:

- Is the world's largest coral reef ecosystem.
- Extends to more than 14 degrees of geographic latitude.
- Is located off the coast of Queensland in north-east Australia.
- Spans from the Torres Strait, to just north of Fraser Island.
- Comprises more than 2900 separate coral reefs containing more than 400 species of hard coral.
- Offers habitat for many diverse forms of marine life.
- Is estimated to have more than 1600 species of fish and 3000 molluscs species.
- Has more than 1050 islands ranging from small coral formations to large continental islands supporting hundreds of bird species, many of which have breeding colonies.
- Has over 2000 square kilometres of mangroves with at least 39 mangrove species and hybrids recorded and about 6000 square kilometres of shallow water seagrass beds and up to 40,000 square kilometres of deep-water seagrasses.

The Great Barrier Reef Marine Park Authority is responsible for the care, development and preservation of the GBR Marine Park's social, economic, cultural and heritage values. This management is complemented by other government agencies in Australia. Shipping in the GBR Region is managed by a number of Australian and Queensland Government agencies. Shipping rules are uniform nationally and there is a high-level coordination of everyday activities and incident response.

In recognition of the outstanding values of the GBR and the need to protect it from shipping the International Maritime Organization (IMO) in 1990 designated the GBR as a Particularly Sensitive Sea Area (PSSA). This has allowed Australia to implement a range of special protective measures to control shipping operations. They include:

- A Ship reporting system
- Coastal vessel tracking service—known as REEFVTS
- Compulsory pilotage regime
- Navigational aids
- Marine pollution response plans
- Designated shipping areas.

The two most significant risks posed by shipping that threaten the GBR ecosystem are:

- Major oil or chemical spill
- The introduction of invasive marine species.
- These two impacts have the potential to cause extensive, long-term damage to the environment, economic activity and socio-cultural activities in the region.

MARPOL provides certain requirements for the control of operational pollution from ships. Discharge of oil, noxious liquid substances, sewage, and garbage at sea is generally prohibited, unless certain conditions are met. These conditions relate to the marine area where a ship operates, the distance from the nearest land, the quantity and the concentration of pollutants in the effluent and other factors.

The GBR, according to MARPOL, is an area in which no discharge of pollutants is permitted.

Note: Chapter 5 of the Guide explains the no discharge regime within the GBR which constitutes the nearest land off the eastern coast of Australia.

In addition, Chapter 2.2 refers to REEFREP, a mandatory ship reporting system, which greatly improves the safety of navigation in the Torres Strait and the GBR.

## Abbreviations

<b>AIS</b>	Automatic Identification System
<b>AMSA</b>	Australian Maritime Safety Authority
<b>AUSMEPA</b>	Australian Marine Environment Protection Association
<b>AUSREP</b>	Australian Ship Reporting System
<b>BWMC/BWMS</b>	Ballast Water Management Convention / System
<b>DGPS</b>	Differential Global Positioning System
<b>DSA</b>	Designated Shipping Area
<b>ECDIS</b>	Electronic Chart Display and Information System
<b>EEZ</b>	Exclusive Economic Zone
<b>EGC</b>	Enhanced Group Calling
<b>ENC</b>	Electronic Navigational Chart
<b>HELMEPA</b>	Hellenic Marine Environment Protection Association
<b>IMO</b>	International Maritime Organization
<b>JRCC</b>	Australia Joint Rescue Coordination Centre, responsible for coordinating search and rescue across the Australian Search and Rescue Region

<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>MASTREP</b>	Modernised Australian Ship Tracking and Reporting System
<b>MSI</b>	Maritime Safety Information
<b>MSQ</b>	Maritime Safety Queensland
<b>PSSA</b>	Particularly Sensitive Sea Area
<b>RCDS</b>	Raster Chart Display System
<b>REEFREP</b>	The Great Barrier Reef and Torres Strait Ship Reporting System
<b>REEFVTS</b>	The Great Barrier Reef and Torres Strait Vessel Traffic Service
<b>RNC</b>	Raster Navigation Chart
<b>SEI</b>	Ship Encounter Information
<b>SOLAS</b>	International Convention for the Safety of Life at Sea
<b>SRR</b>	Search and Rescue Region
<b>UKCM</b>	Under Keel Clearance Management

# 1. SHIP REPORTING IN AUSTRALIA

## 1.1 General

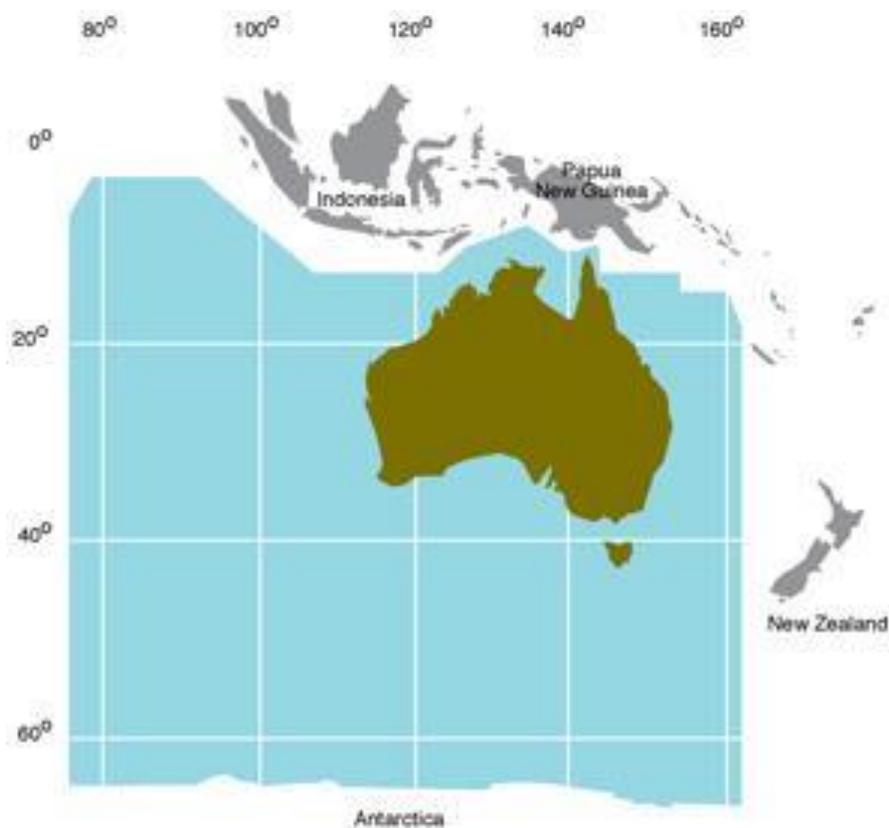
Implementing the International SOLAS and SAR Conventions, Australia operates the mandatory ship reporting system MASTREP, the Modernized Australian Ship Tracking and Reporting System, which replaced AUSREP and is fully effective since 1 January 2016. MASTREP is operated by AMSA as part of the services offered by the Joint Rescue Coordination Centre (JRCC Australia) in Canberra.

To further enhance navigational safety and to reduce the risk of ship generated pollution in the GBR, Australia also operates a more detailed and localized reporting system called REEFREP, which is mandatory for all vessels operating in the GBR and Torres Strait. Reporting to REEFREP is undertaken through REEFVTS.

## 1.2 MASTREP

The area of coverage of MASTREP and the Australian Maritime Search and Rescue Region (SRR) are identical.

A foreign ship must report to MASTREP from the time when she arrives at the first Australian port until she departs from her final port in Australia. In any case, Masters are strongly encouraged to report to MASTREP voluntarily even where it is not mandatory.



The Australian SRR, which coincides with the area of coverage of MASTREP

MASTREP is a passive ship reporting system and does not involve shore-to-vessel communications. It is designed to minimize vessel-reporting requirements by using AIS technology to report her position to AMSA, without sending Sailing Plans, Deviation Reports and Final Reports.

It is required though that all marine incidents are reported to AMSA with Incident report form 18 and Incident alert form 19. Download copies from the AMSA website: [www.amsa.gov.au](http://www.amsa.gov.au). Examples of incidents include the loss, death or serious injury of a person, the loss of or damage to a vessel, equipment failure, a collision or a pollution event.

Further information is provided in the “MASTREP and Australian Mandatory Reporting Guide”, available at: <https://www.amsa.gov.au/mastrep-guide-2016>.

## **2. NAVIGATING THE GREAT BARRIER REEF AND REEFVTS**

As already noted the IMO designated the Great Barrier Reef (GBR) as the world’s first Particularly Sensitive Sea Area (PSSA) in November 1990. This recognized the risks posed by ships transiting the waters of the Great Barrier Reef. In 2005, following submissions to the IMO by the Australia and Papua New Guinea governments, the Great Barrier Reef PSSA was extended. The extension to include the Torres Strait region recognized the unique and complex marine ecosystem and its vulnerability to damage by international shipping activities. The PSSA was subsequently extended to cover the Coral Sea Territories.

The combined Great Barrier Reef, Torres Strait and Coral Sea PSSA encompass an area of approximately 968,000 square kilometres.

### **2.1 Operations in the Great Barrier Reef (GBR)**

In support of this PSSA designation, Australia has adopted a range of measures to assist vessels in safety transiting the Great Barrier Reef and its environs. These include navigational monitoring and support arrangements described in this section.

#### **2.1.1 Designated Shipping Areas**

By law, ships transiting or making voyages through the GBR Region are confined to Designated Shipping Areas as defined by the Great Barrier Reef Marine Park Zoning Plan 2003. More information at <http://www.comlaw.gov.au/Details/F2005B02402>.

The Designated Shipping Area (DSA) - the Inner Route of the GBR Marine Park - is a vital part of the Queensland shipping industry and receives a relatively high amount of shipping traffic. This is why vessel traffic, reporting and management systems and other provisions like compulsory pilotage are so important to help protect the GBR.

To navigate outside the DSA, a permit must be obtained from the Great Barrier Reef Marine Park Authority.



### 2.1.2 Compulsory pilotage

Compulsory pilotage is one of the protection measures that the Australian Government adopted in 1991 to reduce the risk of ship grounding and collisions in the GBR. In 2006, Australia's system of pilotage was extended to the Torres Strait - Great North East Channel area. This means that all vessels over 70 meters in length, or vessels transporting bulk oil, chemicals and liquefied gas cargoes (irrespective of length) are required to embark a licensed coastal pilot, when transiting the following coastal pilotage areas:

- The Inner Route - from Cape York to Cairns
- The Great North East Channel
- Hydrographers Passage
- Whitsundays - Whitsunday Passage, Whitsunday Group and Lindeman Group
- The Torres Strait

It is important to note that the master of a vessel is not relieved of responsibility for the conduct and safe navigation of the vessel while the vessel is under pilotage.

Masters or owners may apply to AMSA for exemption from the pilotage requirements of the Navigation Act. In order to navigate without a licensed pilot in Hydrographers Passage, Inner Route and Whitsundays, an application must also be made to the Great Barrier Marine Park Authority. The exemption may only be granted if the Minister (or his/her delegate) is of the opinion that either:

- A pilot would not provide additional environmental protection benefit - for example if an operator has considerable experience and the ship is equipped with suitable navigational aids.
- The ship does not pose a threat to the environment because she is likely to remain stationary or in a limited area within the compulsory pilotage area.

Coastal pilotage marine notice 10/2015 is information for vessel masters, owners and operators about the coastal pilotage requirements in Australian waters. Bridge resource management (BRM) and expected actions of bridge teams in Australian pilotage waters (marine notice 11/2016) refers to

efficient BRM and expected actions of Bridge Teams in Australian pilotage waters. These marine notices are available at:

<https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/marine-notices>



### **2.1.3 Establishment of Virtual AIS Aid to Navigation in Torres Strait**

AMSA has identified a number of instances when deep draught vessels may have transited very close to the charted position of OG Rock in the Prince of Wales Channel.

For deep draught vessels the practice of transiting close to or over the charted position of OG Rock may increase risk, lead to a breach of AMSA's stipulated under keel clearance limit or, in the worst-case scenario, lead to a vessel grounding.

To assist deep draught vessels, navigate in and around this area, AMSA has established a virtual AIS Aid to Navigation (AtoN). A virtual AIS AtoN is an aid to navigation, which can be displayed on vessel's navigation displays for a location where no actual physical aid to navigation exists.

The virtual AIS AtoN readily and clearly indicates the charted position of OG Rock on navigational displays to assist mariners of deep draught vessels to keep well clear of OG Rock and to avoid accidental breaches of under keel clearance limits.

### **2.2 The Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS)**

The Great Barrier Reef and Torres Strait Ship Reporting System (REEFREP) was established as a mandatory vessel-reporting system under the International Convention for the Safety of Life at Sea (SOLAS Regulation V/11). REEFREP was formally adopted by IMO's Maritime Safety Committee Resolution MSC.52 (66), and later amended by Resolutions MSC.161 (78) and MSC.315 (88).



The REEFVTS area

REEFREP is an integral component of the Great Barrier Reef and Torres Strait Vessel Traffic Service (REEFVTS). Within the REEFVTS area ships identify themselves and report their intended passage through the region. This information, together with the monitoring and surveillance systems used by REEFVTS, assists with the proactive monitoring of a ship's transit through the Great Barrier Reef and Torres Strait.

Vessels 50 meters or more in overall length and oil tankers, liquefied gas carriers or chemical tankers—of any size—must provide:

- a pre-entry reports
- final report
- intermediate position, route deviation and defect reports—when applicable.

The purpose of REEFVTS is to enhance navigational safety in Torres Strait and the Inner Route of the Great Barrier Reef thereby minimizing the risk of a maritime accident and consequential pollution and major damage to the marine environment. REEFVTS also provides the ability to respond more quickly in the event of any safety or pollution incident.

### 2.2.1 REEFVTS overview

REEFVTS is manned and operated 24 hours a day by personnel operating from the REEFVTS Centre in Townsville. Radio call identity: REEFVTS.

REEFVTS provides both information services and navigational assistance services in the REEFVTS area. In summary, the services delivered include:

#### **Ship encounter information (SEI)**

Ship encounters are predicted, and this information is sent to individual ships as SEI, usually through Inmarsat C messaging or alternatively through VHF voice communication. SEI is specific for each individual vessel as there are no general broadcasts.

Reef VTS advises individual ships by SEI when:

- the ship enters the Reef VTS area;

- there is new or changed traffic information updated every 4-6 hours, depending on the ship's speed;
- and at any other time when the ship asks REEFVTS to provide it.

### **Maritime safety information (MSI)**

Information related to location and intended movement of the ship is provided as MSI and sent to vessels with the SEI. If a vessel encounters any hazard, which is not already included in MSI - for example, a faulty navigational aid - it should advise Reef VTS. MSI is also given in Broadcasts of JRCC Australia in the form of navigational warnings (AusCoast Warnings – see below) are also providing MSI.

### **Navigational assistance**

REEFVTS may contact a ship if there is information available to REEFVTS which may help on-board decision-making - for example when the ship is heading into shallow water or deviating from a planned route.

More information on the operation of REEFVTS and the REEFVTS User Guide 2017 are available in the Maritime Safety Queensland website at: <https://www.msq.qld.gov.au/Shipping/Reefvts>

### **2.2.2 REEFVTS – MASTREP interaction**

Participation in MASTREP does not remove the obligation of mandatory reporting to REEFVTS, which automatically forwards regular position reports to JRCC Australia.

Ships participating in MASTREP will also continue to be polled while transiting the REEFVTS Area.

## **3. UNDER KEEL CLEARANCE MANAGEMENT (UKCM) SYSTEM IN TORRES STRAIT**

### **3.1 Background**

Torres Strait lies between Papua New Guinea (PNG) and the northern tip of the Australian continent. Torres Strait is a vital shipping route for the Asia-Pacific region. Numerous large vessels transit Torres Strait. They can be confronted with many challenges to safe navigation including the numerous reefs, shallow waters, complex tides and strong tidal streams which exist in this region.

AMSA's Under keel clearance management (UKCM) system was declared operational in December 2011. The UKCM system is a web-based system that combines dynamic vessel information, hydrodynamic modelling and environmental data from tide, tidal stream, wind and wave sensors, to calculate a vessel's under keel clearance. The UKCM system allows vessel operators and coastal pilots to plan the safe and efficient passage of deep draught vessels - in the context of the amount of available water - through Torres Strait.

### **3.2 Operational status**

The UKCM system is fully operational and provides vessel operators, Masters, watchkeepers, pilotage providers and coastal pilots the ability to use the system to:

- assess loading scenarios based on final draught for deep draught vessels

- optimise the scheduling of deep draught transits and pilot transfers
- improve the safety and efficiency of deep draught transits through Torres Strait.

Mariners are to use all available means to navigate safely in accordance with the International Regulations for Preventing Collisions at Sea 1972. As an aid to navigation, the UKCM system can provide relevant environmental and positional information that assists on board decision making.

Use of the UKCM system is compulsory for all vessels with a deepest draught of eight meters or more. Circumstances may warrant use of the UKCM system for vessels of lesser draught. AMSA considers the use of the system to be an effective way of minimising under keel clearance risks. Pilotage providers that assign an AMSA-licensed coastal pilot to the transit of a vessel through Gannet Passage, Varzin Passage or POWC are required to ensure the UKCM system is used.

The UKCM system is specifically designed to complement other measures to protect the marine environment, and to enhance safety and efficiency of navigation in Torres Strait.

There are safety measures to ensure that the information generated by the UKCM system is accurate. The responsibility for safe navigation however, resides with mariners - masters and pilots - through the appropriate use of the UKCM system, other aids to navigation, official hydrographic products and sensible seamanship - including voyage planning as defined in IMO Resolutions. AMSA accepts no liability from misuse of the system or misinterpretation of information provided or generated by the system.

### 3.3 UKCM system services and access

The system provides the services to authorised users as seen in table below.

#### Access to the UKCM System

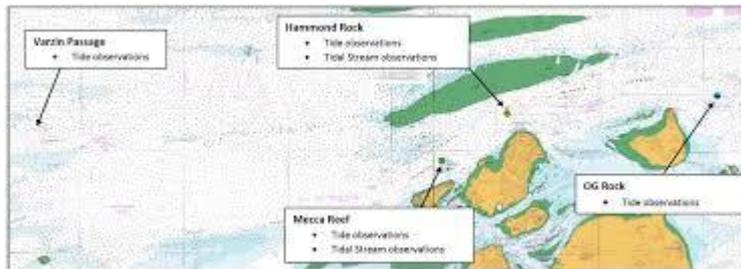
Access to the UKCM System is available for approved users through a vetted registration process. To request registration, please follow the registration process available at:

<https://ukcm.amsa.gov.au/Security/Register>

UKCM System Service	Description
Registration Services	to support the management of user's registration
Vessel Service	to input relevant vessel particulars
Voyage Planning 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	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.
Transit Monitoring Service	to monitor, in real-time, vessel transits through Torres Strait - pilots and pilotage providers only.
Met Ocean Data Service	to view met-ocean sensor data and predictions

### 3.4 Area of operation

The UKCM System is applicable for use by vessels transiting Torres Strait as outlined in the diagram below.



### 3.5 Under keel clearance requirements for Torres Strait

#### Prince of Wales Channel, the Gannet or the Varzin Passages

A pilot may only pilot a vessel through the Prince of Wales Channel, the Gannet or the Varzin Passages, if the vessel:

- has a draught of 12.20 meters or less
- has a net under keel clearance of either:
  - for a draught of less than 11.90 meters - at least one meter
  - for a draught of 11.90 meters or more - at least 10 per cent of the draught of the vessel
  - if it is being piloted through the Gannet or Varzin Passages- at least one meter.

If the vessel has a draught of at least eight meters, the pilot must use the UKCM system to pilot a vessel through these passages.

The pilot may only use the UKCM system if the pilot has completed the following approved by AMSA:

- training in the use of the UKCM system
- a competency assessment in the use of the UKCM system.

A pilotage provider can assign a licensed pilot to pilot through these passages, but the provider must make sure that the pilot complies with the above requirements.

## 4. GENERAL SAFETY OF NAVIGATION

AMSA manages a network of navigational aids around Australia's coastline assisting mariners to make safe and efficient passages. The network includes traditional lighthouses, beacons, Differential Global Positioning System (DGPS) and Automatic Identification System (AIS) stations broadcasting tide gauges, etc.

#### **4.1 Authorized Vessel Traffic Services (VTS)**

There are 14 authorized Vessel Traffic Services (VTS) operating currently in Australia's ports and coastal regions including the world's largest, Great Barrier Reef and Torres Strait VTS (REEFVTS). More details on the individual port VTS centres can be found on the AMSA website at:

<https://www.amsa.gov.au/safety-navigation/navigating-coastal-waters/authorisedvessel-traffic-services-australia>

Masters should provide reports or any information a VTS Authority requires and comply with a VTS Authority instructions related to the movement of the vessel.

#### **4.2 Differential Global Positioning System (DGPS)**

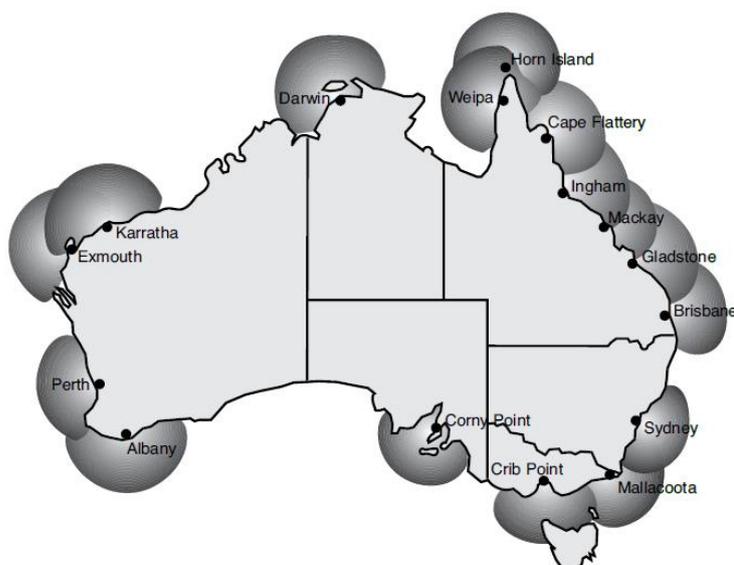
Use of the DGPS data enables mariners to improve positional accuracy to better than 10 meters with a GPS receiver. The DGPS broadcasts also provide a continuous check on the integrity of GPS.

There are seven DGPS Broadcasting Stations to provide coverage of all the shipping routes along the Queensland coast at:

- Horn Island (Torres Strait) on 320 kHz
- Weipa on 316 kHz
- Cape Flattery on 304 kHz
- Ingham on 306 kHz
- Mackay on 315 kHz
- Gladstone on 313 kHz
- Brisbane on 294 kHz

Nine more Australian DGPS sites are located at:

- Sydney (NSW) on 308 kHz
- Mallacoota (VIC) on 318 kHz
- Crib Point (VIC) on 314 kHz
- Corny Point (SA) on 316 kHz
- Albany (WA) on 315 kHz
- Perth (WA) on 306 kHz
- Exmouth (WA) on 297 kHz
- Karratha (WA) on 304 kHz
- Darwin (NT) on 294 kHz



#### DGPS stations along the coastline of Australia

The Horn Island station provides acceptable coverage along the entire length of the Great North East Channel, a distance of about 130 nautical miles, and to a range of about 140 nautical miles to the south.

The data format for all stations conforms to international standards for DGPS data transmission in the maritime radio-navigation band from 285 kHz to 325 kHz in the region of Australia. Further details are available on the AMSA website at:

<https://www.amsa.gov.au/safety-navigation/navigation-systems/australias-differentialglobal-positioning-system>

When navigating with ECDIS and GPS, prudent mariners must still monitor their position in relation to their surroundings using traditional methods, such as bearings and ranges.

### 4.3 Maritime safety information

Australia Joint Rescue Coordination Centre (JRCC Australia) and Bureau of Meteorology promulgate Maritime Safety Information (MSI) for NAVAREA X and Australia's coastal regions (AUSCOAST warnings) through the Inmarsat-C Enhanced Group Calling (EGC) service. Such MSI is received on board ships as a SafetyNET message.

It is possible that problems can arise with the receipt of an MSI. Confusion may be generated by the fact that some manufacturers use the term NAVTEX instead of SafetyNET for Inmarsat-C terminals in their user manuals.

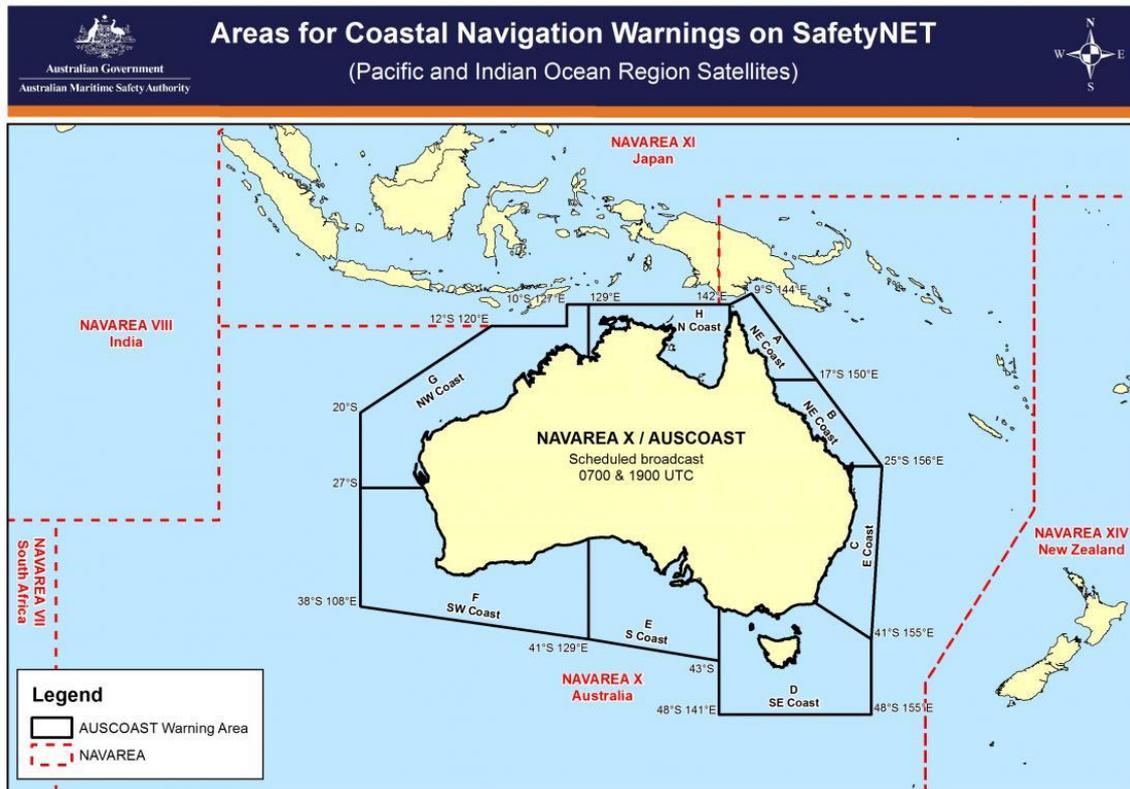
Masters are responsible to ensure that their INMARSAT-C EGC receivers are correctly configured, even while in port (if needed), to receive MSI for NAVAREA X and the coastal warning areas, appropriate for their intended voyage.

It is important to ensure that the appropriate coastal warning areas are selected on shipboard Inmarsat-C terminals. The types of MSI to be received for the coastal warning areas need be selected as well, e.g. navigational warnings, weather information etc.

Vessels can also obtain the latest MSI from JRCC Australia via Internet. Latest Maritime Safety Information is provided at:

<https://www.amsa.gov.au/safety-navigation/navigation-systems/maritime-safetyinformation-database>

This link offers the option to have the latest MSI forwarded to an email address.



Areas for coastal navigation warnings on SafetyNET from Pacific and Indian Ocean region satellites

#### 4.4 Safe navigation and the use of ECDIS

IMO Resolution MSC.282(86) has amended SOLAS Regulation V/19 on chart carriage requirements, by including a phased mandatory carriage requirement of an Electronic Chart Display and Information System (ECDIS) on certain kinds of ships engaged on international voyages depending on ship type, size and construction date. By 1 July 2018, almost all vessels on international voyages will be required to be equipped with an approved ECDIS.

Comprehensive guidance is available in IMO Circular MSC.1/Circ.1503 ECDIS Guidance for Good Practice. All Masters, navigating officers and operators of ships fitted with ECDIS are encouraged to use this guidance towards facilitating a safe and effective use of ECDIS.

AMSA recommends the use of only official vector charts, also known as Electronic Navigational Charts (ENCs), issued officially by or on the authority of a national hydrographic office. It is the responsibility of ship operators to ensure that electronic charts used onboard are official and up to date.

ECDIS may be operated either on ECDIS mode when ENC's are used or on RCDS (Raster Chart Display System) mode when suitable ENC's are not available and Raster Navigation Charts (RNC's) are used instead. The RCDS mode does not have the same functionality as ECDIS mode and can only be used together with an appropriate folio of up to date paper charts. All Australian waters are now covered by ENC's and therefore ECDIS should not be operated in RCDS mode in these waters. Where the lack of ENC coverage requires navigation on RCDS mode, mariners should critically consider the implications of not having a look-ahead capability when on this mode.

The 2010 Manila Amendments to the STCW Convention and Code, effective since 1 July 2013, have introduced several additional specific competencies in the use of ECDIS for masters and officers in charge of a navigational watch serving on ECDIS-fitted ships. Australia expects all navigating officers are appropriately familiarised with their duties as they pertain to safety of navigation. This would include all deck officers being familiar with the use and operation of the ECDIS. Passage planning should be conducted as per A.893(27) guidelines, and with appropriate position monitoring throughout the execution of the passage.

More information relevant to the safe and proper operation of ECDIS for ships visiting Australian ports is available on the AMSA website at:

<https://www.amsa.gov.au/safety-navigation/navigation-systems>

Guidance on ECDIS for ships calling at Australian ports is provided in marine notice 7/2017, available at:

<https://www.amsa.gov.au/vessels-operators/regulations-and-standards-vessels/marine-notice>

The effective operation of a ship is essential to safe navigation and the protection of the environment. Australia has noticed an increase in issues associated with the ability of crews to operate equipment, particularly navigation systems or to effectively implement critical shipboard procedures. Australia expects all ships crews to be able to fulfil their operational requirements. The responsibility for ensuring that ships crews can meet the operational requirements lies with the Company and the flag State.

The safety management system should be amended to provide adequate support and guidance in relation to the use of ECDIS. This is to ensure that this critical navigational equipment is able to be effectively operated.

AMSA will not accept scanned/photocopied charts under any circumstances. Ships should be navigated using the largest scale chart available. Read Official nautical charts marine notice 2017/06.

#### **4.5 Additional shipping safety measures for Particularly Sensitive Sea Areas and Areas to Be Avoided (ATBA)**

As mentioned already in section 2, IMO has designated the Great Barrier Reef (GBR) as the world's first Particularly Sensitive Sea Area (PSSA) in November 1990. In 2005, the GBR PSSA was extended to include the Torres Strait region. In May 2015, IMO agreed to a further extension to include an area of the southwest Coral Sea, with the following associated recommended protective measures:

- An area to be avoided (ATBA), encompassing the reefs, shoals, and islets that lie generally to the northeast of the GBR, between Palm and Hydrographers Passage.

- Two 5 nautical mile wide two-way routes, one in Diamond Passage and the other to the west of Holmes Reef in the southwest Coral Sea.

A further ATBA has been established up to 12 nautical miles off the northern section of the Ningaloo Coast in Western Australia. This came into effect from 01 June 2013 and applies to all ships over 150 gross tonnage. This ATBA is shown on all current charts.

#### **4.6 Minimizing the risk of collisions with cetaceans**

Ship collisions with cetaceans are an issue of growing international concern. As the number, size and speed of ships increase, the threat of such collisions also increases as does the risk of death or injury to people and animals as well as potential damage to hulls, propellers, shafts and rudders of vessels.

Marine notice 15/2016 on minimising the risk of collisions with cetaceans provides information on the prevention and reporting of ship collisions with cetaceans in Australian waters, including a table which shows locations and times when the five whale species, currently listed under the EPBC Act as nationally threatened species, are found in Australian waters.

Under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), which applies to all vessels, all cetaceans are protected in Australian Commonwealth waters between 3 and 200 nautical miles from the coastline in general.

If a vessel collides with a cetacean in Australia's Commonwealth waters, the person in charge of the vessel is required by law to notify the Secretary of the Department of the Environment within seven days of the day he/she became aware of the collision. The notification should contain specifics such as the date of incident, location, outcome of the collision and contact details.

Details on how to report an incident are given at:

<http://www.environment.gov.au/marine/marine-species/cetaceans/notification-interactions>

The collection of collision information can help to identify hotspots for cetacean-ship interactions and assist in tailoring better guidance for the avoidance of future collisions.

In accordance with IMO's guidance document on minimizing the risk of ship strikes with cetaceans (MEPC.1/Circ.674), masters are urged to:

- Maintain a look out for cetaceans, especially during the times and locations indicated in minimising the risk of collisions with cetacean's marine notice 15/2016.
- Warn other vessels in the vicinity by using all appropriate means of communication when cetaceans are sighted.
- Consider reducing vessel speed in areas where cetaceans have been sighted.
- Consider modest course alterations away from sightings.

## 5. POLLUTION PREVENTION

Australian legislation implements the International Convention for the Prevention of Pollution from ships (MARPOL), which generally permits certain operational discharges from ships, providing that strict restrictions are met, and contains special requirements for ships navigating in the GBR Region.

The following webpage outlines the relevant discharge standards for ships operating in Australian waters and in GBR:

<https://www.amsa.gov.au/marine-environment/marine-pollution/discharge-standards>

### 5.1 MARPOL Annexes I, II, IV and VI

Discharges of oil, noxious liquid substances, sewage and air emissions in the 200 nautical miles Australian EEZ may only be made in full compliance with the relevant provisions of MARPOL.

In addition, MARPOL Convention has designated the Great Barrier Reef and part of the Torres Strait as an area in which no discharges of pollutants are permitted. This area is between the Queensland coastline and “nearest land” defined as a line drawn between coordinates on the outer edge of the Great Barrier Reef. Specific distances are then measured seaward of that line.

As the outer edge of the Great Barrier Reef and part of the Torres Strait is considered to be nearest land for the purposes of MARPOL discharge standards, normal operational discharges permitted by MARPOL are generally prohibited in the Reef region.



MARPOL nearest land - limitations of operational discharges in the Great Barrier Reef

For example, discharges of tank washings from oil tankers under MARPOL regulations may only be made more than 50 nautical miles from the outer edge of the Great Barrier Reef. In addition, oily

waste from cargo tanks must only be discharged under certain conditions, outlined on the webpage: <https://www.amsa.gov.au/marine-environment/marine-pollution/discharge-standards>.

In Australian waters, operational discharges from ships are regulated by MARPOL and a suite of Commonwealth and state/territory legislation. AMSA administers the Protection of the Sea legislation, while states, territories and local port authorities administer and implement local requirements. As Australia is party to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Protocol) which recognises measures that prevent, reduce and where practicable eliminate pollution caused by the dumping of waste at sea, the dumping of controlled material (such as wastes or other matter including vessels, aircrafts or platforms) is subject to strict requirements under the Environment Protection (Sea Dumping) Act of 1981.

In the case of sea dumping inside the GBR Marine Park, strict provisions apply under the Sea Dumping Act and the Great Barrier Reef Marine Park Act 1975, which are both administered by the Great Barrier Reef Marine Park Authority. For sea dumping in Australian waters outside the boundary of the GBR Marine Park, the Australian Government Department of the Environment and Energy administers the Sea Dumping Act. Requirements under the Sea Dumping Act are provided at: <http://www.comlaw.gov.au/Details/C2010C00163>

MARPOL is strictly enforced under Australian laws, which provide for a maximum penalty of up to \$A2.2 million for the master and \$A11 million for the owner of a ship violating the discharge or emission standards. Reports of actual or probable oil spills should be made in accordance with the form set out in the ship's Shipboard Oil Pollution Emergency Plan. Reports should be made without delay at <https://amsa-forms.nogginoca.com/public/polrep.html> or by contacting AMSA on the contact details below:

AMSA Joint Rescue Coordination Centre (Australia)  
**Within Australia:** 1800 641 792 (free call)  
**Outside Australia:** +61 2 6230 6811  
**Further notification details are available on**  
<https://www.amsa.gov.au/marineenvironment/marine-pollution/mandatory-marpol-pollution-reporting>

Where a ship's master or agent finds reception facilities in an Australian port inadequate, for example if a facility is not available or is inconveniently located, there are unreasonable charges and/or undue delay is experienced, the master should communicate all relevant details to the vessel's flag State and AMSA (as the port State authority) using the IMO reporting format. The report should be forwarded to the following address:

General Manager Standards  
Australian Maritime Safety Authority  
GPO Box 2181 Canberra ACT 2601  
[StandardsEnvironment@amsa.gov.au](mailto:StandardsEnvironment@amsa.gov.au)

AMSA will investigate the report with the relevant port authority and provide information on the outcome of the investigation to IMO and the flag State.

## 5.2 Sewage discharge in the GBR Marine Park and Queensland coastal waters

Sewage discharge is an identified risk to the GBR ecosystem ([Great Barrier Reef Outlook Report 2014](#)) Discharge of sewage is of concern due to increased nutrients and pathogens in the water column. Compounded with other impacts, it can adversely affect corals, fish, seagrasses and other flora and fauna of the GBR - particularly in poor tidal areas such as bays and lagoons. Localised effects on a coral reef can include reduced species diversity, lower coral cover and suppressed coral growth.

Sewage discharges must comply with regulations administered by the Great Barrier Reef Marine Park Authority and Queensland coastal waters requirements.

- GBR specific sewage discharge requirements are given at:  
<http://www.gbrmpa.gov.au/about-us/legislation-regulations-and-policies/vesselsewage-regulations>
- Queensland coastal waters sewage discharge requirements are given at:  
<https://www.msq.qld.gov.au/Marine-pollution/Sewage>

## 5.3 MARPOL Annex V – Garbage management

New amendments to MARPOL Annex V entered into force internationally on 1 March 2018. According to these amendments, it is mandatory that solid bulk cargoes as defined in SOLAS regulation VI/1-1.2, other than grain, are classified in accordance with the new Appendix I of MARPOL Annex V and declared by the shipper as to whether or not they are Harmful to the Marine Environment (HME).

A new format of Garbage Record Book is now specified in Appendix II of MARPOL Annex V. The main change is the Record of Garbage Discharges, which is divided into Part I and Part II and kept as two separate record books (similar to Part I and Part II of the Oil Record Book). Part I is for the use of all ships, while Part II is only required for ships that carry solid bulk cargoes.

Under Part I, the following categories of garbage discharge are recorded:

- A. Plastics
- B. Food wastes
- C. Domestic wastes
- D. Cooking oil
- E. Incinerator ashes
- F. Operational wastes
- G. Animal carcass(es)
- H. Fishing gear
- I. E-waste

For each entry, the date-time, category and signature sections remain unchanged, but the details to be included for the specific discharge have been expanded. A separate section for recording exceptional discharges or loss of garbage has also been included.

Another two categories of garbage discharge are recorded under Part II:

- J. Cargo residues (non-Harmful to the Marine Environment)
- K. Cargo residues (Harmful to the Marine Environment).

Information to be recorded in Part II includes date and time of the discharge; position of the ship or name of the port if disposed of ashore; category of discharge; estimated amount discharged into the sea, to a reception facility or another ship; and start and stop positions of the ship for the discharges into the sea.

A summary table of MARPOL Annex V discharge requirements is found at:

<https://www.amsa.gov.au/marine-environment/marine-pollution/discharge-standards>

In short, permissible discharges outside Special Areas are restricted to the following, only while the ship is en route, as far as practicable from the nearest land and, in any case, not less than the distance noted:

- Three nautical miles: food wastes passed through a comminutor or grinder. Such comminute, or ground food wastes shall be capable of passing through a screen with openings no greater than 25 mm.
- Twelve nautical miles: food wastes not processed as mentioned above.
- Twelve nautical miles: cargo residues that do not contain any substances classified as HME and cannot be recovered with the use of commonly available methods for unloading.

Cleaning agents or additives contained in cargo hold, deck and external surfaces wash water, may be discharged into the sea when these substances are not HME.

It should also be noted that all ships arriving into Australian waters on an international voyage are subject to Australian biosecurity requirements and additional restrictions apply, particularly in relation to food and other waste onboard. More information is available from the Department of Agriculture and Water Resources.

While many dry bulk cargoes may be considered harmless to the marine environment, a chief concern is the potential impact on ocean sediments and bottom-dwelling inhabitants of a build-up of materials, especially in ports and relatively shallow shipping lanes.

IMO also recommends that wherever possible, cargo residues should be completely cleaned up prior to sailing and either delivered to the intended cargo space or to a port reception facility. Shipboard areas where spillage is most common should be protected to enable residues to be easily recovered.

It is understood that dry cargo residues on deck areas are washed down by ships' crews not only for operational reasons but safety reasons as well. The safety of the ship, her crew and others involved in the ship's operation is of vital importance. Therefore, MARPOL provides exceptions from the discharge restrictions where there is a threat to the safety of the ship and to those on board.

In accordance with MARPOL Regulation V/6(a), AMSA and the Great Barrier Reef Marine Park Authority will accept the cleaning of cargo residues from a vessel within the 12 nautical mile limit only in the following circumstances:

- To ensure the safe operation of a helicopter for taking a pilot on board or for some other such purpose. This condition applies only to the helicopter landing area and its immediate vicinity to avoid dust raised by the down-draft of the helicopter rotors and is not extended to include the

systematic wash-down of the entire vessel. For additional information on helicopter operations, refer to the Australian Code of Practice for Ship-Helicopter Transfers, copies of which can be obtained from any AMSA office

- Where there is a need to avoid navigational hazards, like dust being blown onto areas such as the wheelhouse or bridge wings
- Where residues cause a serious safety hazard to personnel when spillages are not cleaned from deck areas, adjacent walkways and working areas.

## 6. AUSTRALIAN BALLAST WATER MANAGEMENT REQUIREMENTS

### 6.1 General

Each year about 150 million tons of ballast water is discharged in Australian waters from overseas vessels. Australian scientists have identified over 200 introduced marine species in Australian coastal waters, most of which have been translocated from overseas ports to Australian ports via shipping.

On 8 September 2017, IMO's International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management Convention – BWMC) entered into force. From this date on, all vessels navigating in Australian waters are required to manage their ballast water and sediments in accordance with BWMC and Biosecurity Act 2015.

In order to comply with the Biosecurity Act 2015 and BWMC, when operating in Australian waters, vessel operators should manage ballast water in accordance with the latest version of Australian Ballast Water Management Requirements, a detailed guidance available at:

<http://www.agriculture.gov.au/biosecurity/avm/vessels/ballast>

Seafarers involved in ballast water management should be familiar with the ship's:

- Ballast water management plan.
- Method of ballast water management.
- Pumping system including the piping arrangement, the pumps and all the arrangements of air and overflow pipes so that crew working on deck is well aware of the process in effect.
- Functionality of the air pipe heads and the air/overflow pipes to make sure that there is no blockage of air/overflow pipes, ball failure, freezing or unintentional closure of the pipe.
- Expected time of ballast water exchange at sea for which the full knowledge of the ships' operational plan, the routing and the passages and ports time schedule is required. This becomes ever important when the water exchange is to be carried out in the open sea, in deep water or inside designated areas.
- Alternative methods of ballast water exchange and the risks involved, the consequences to the stability and strength of the vessel, the advantages of each method or the possibility of using treatment alternatives.
- Procedures for recording in the ballast water record book, sampling and sounding to prove a proper record.
- Ballast pump capacity restrictions and records of ballast pump tests, if any.

- Precautions to be taken when entering tanks for the removal of sediment and the procedures for the safe handling and packaging of sediment and its storage.

## **6.2 Overview of requirements for international vessels**

The Department of Agriculture and Water Resources, formerly the Australian Quarantine Inspection Service (AQIS), is the lead agency of the Australian Government for the regulation of ballast water.

all internationally plying vessels intending to discharge ballast water anywhere inside the Australian territorial sea are required to manage their ballast water in accordance with Australia's Ballast Water Management Requirements (the requirements).

Full details of the Australian Ballast Water Management Requirements may be downloaded from the departments' website: <http://www.agriculture.gov.au/biosecurity/avm/vessels/ballast/>

Australia does not require any action by the Master that endangers the lives of seafarers or the safety of the ship.

All vessels arriving in Australia from international waters are required to submit pre-arrival information using the online Maritime Arrivals Reporting System (MARS).

Masters / agents who do not submit this information will not be given formal quarantine clearance to enter port. This will cause delays to the vessel and additional charges will be incurred by the vessel.

The pre-arrival report requires masters to declare whether or not they intend to discharge ballast in Australian waters, and the forward itinerary of the vessel. Vessels must also complete a ballast water report and enter accurate records of ballast exchanges undertaken.

Completed records of ballast water management must be retained on the vessel for a minimum period of two years and provided to Biosecurity officers on request.

## **6.3 Ballast water management using Type Approved ballast water management systems (BWMS)**

Australia recognizes the IMO's approval process and accept discharge from ballast water management systems (BWMS) that have received Type Approval.

For further information regarding the use of BWMS and ballast water reporting requirements please see the Australian Ballast Water Management Requirements or contact the Maritime National Coordination Centre.

## **6.4 Domestic ballast water management requirements**

Australia introduced additional requirements for the management of Australian sourced domestic ballast water on 8 September 2017.

The key purpose of the policy is to protect Australia's marine environment from established marine pests spreading further via domestic ballast water, which is ballast water that originates from an Australian port or within Australia's territorial sea.

The Australian Government requires all ships undertaking coastal trading within Australian waters to comply with the Australian Ballast Water Management Requirements when moving ballast water between Australian ports.

Please visit the departments' website for further information.

<http://www.agriculture.gov.au/biosecurity/avm/vessels/ballast/>

## **6.5 Sediment management**

Sediment that has settled out of ballast water has the potential to harbor marine pests in the form of viable organisms such as cysts and eggs that can remain dormant for long periods of time.

When sediment is removed from the ship's ballast tanks and is to be disposed of by that ship at sea, such disposal should only take place in areas outside 200 nautical miles from land and in water depths of over 200 meters.

When disposing of sediment to a designated reception facility all sediment shall be prevented from entering the marine environment. This includes sediment that has settled out of ballast water or comes from the routine cleaning or repair of spaces used to carry ballast water - such sediment may be mixed with water and constitute a slurry or tank washings. All sediment disposed of at reception facilities must be managed in accordance with all relevant state requirements including human health, environmental and safety requirements.

A designated reception facility is a facility identified by a jurisdiction where the cleaning or repair of ballast water tanks occurs. Details of reception facilities for ballast tank sediment disposal have been provided to the IMO and made available to ships.

## **7. AUSTRALIAN BIOFOULING MANAGEMENT REQUIREMENTS**

### **7.1 What is biofouling?**

Biofouling are the marine plants and animals that attach and grow on the submerged parts of a vessel like the hull, propellers, anchors, niche areas and fishing gear. Vessel biofouling is a major pathway for the introduction of exotic species into Australian waters.

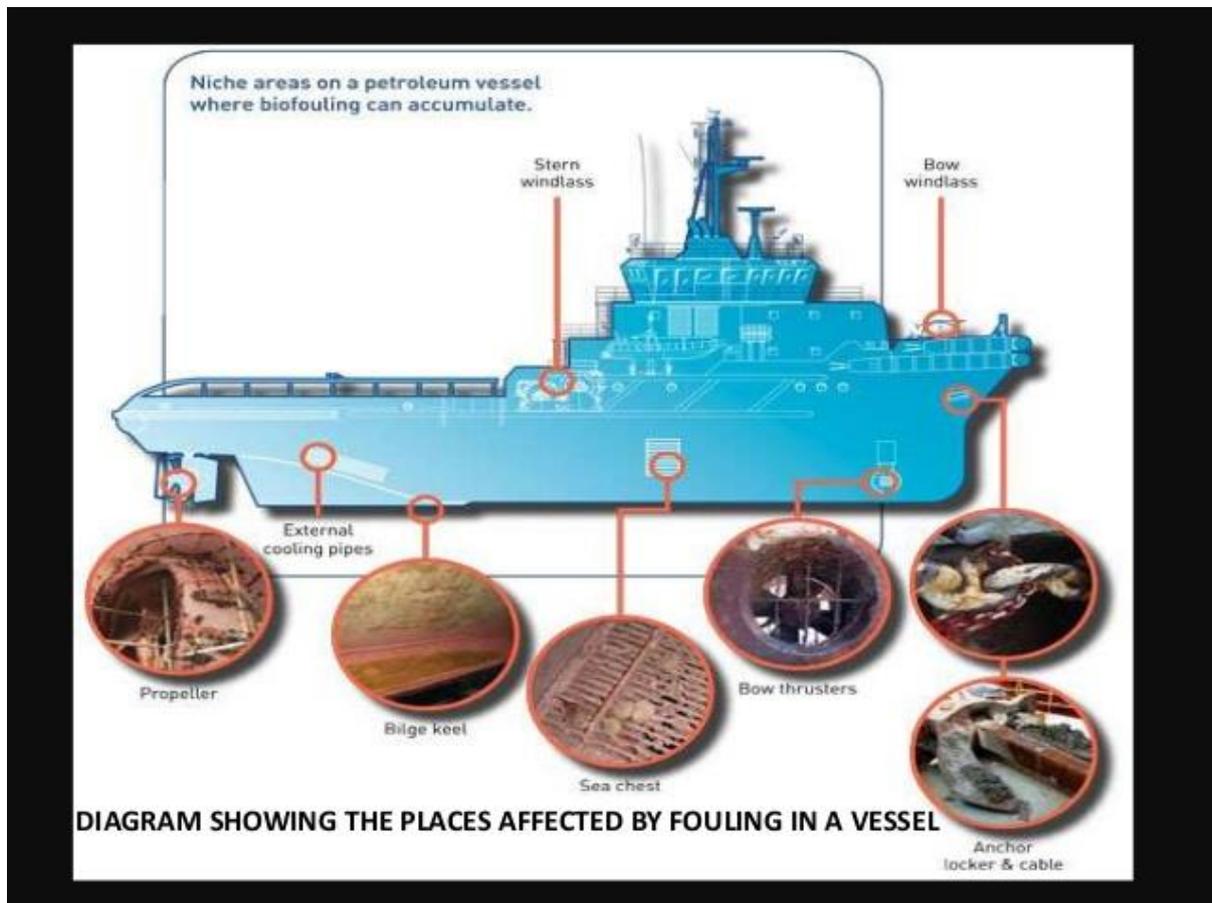
Additionally, biofouling can cause problems to a vessel's daily operations by blocking internal seawater systems and decreasing fuel efficiency due to the drag caused by biofouling.

The translocation of marine species and pests to Australia and around the world via biofouling is a major concern as it can harm fisheries, threaten healthy fish habitats and have adverse economic and health effects.

To reduce the risk of translocating marine pests, vessels or equipment that are found to have heavy biofouling or pose a high risk of accumulating heavy biofouling, are advised to treat their biofouling

by implementing biofouling management measures such as dry-docking, cleaning and antifouling renewal.

In the picture below, you may see the areas on a ship where biofouling can occur.



Shipboard areas where biofouling can accumulate

## 7.2 IMO guidelines on biofouling

The IMO provides guidelines for the control and management of the bio-fouling of the vessel through the voluntary implementation of certain practices with the aim to reduce the risk of transferring harmful marine organisms that are attached to the hull.

Particular emphasis is given to the selection and maintenance of anti-fouling paints, the protection and condition of sea chests and cooling water piping, the tunnels of the bow and stern thrusters, the rudder and propeller, the anodes, etc. These guidelines propose the development and the implementation of a Biofouling management plan which includes:

- A description of hull areas susceptible to biofouling and a program of inspections, maintenance and cleaning of each area.
- Details of anti-fouling paints used or any other protection systems.
- Procedures for the maintenance of anti-fouling paints and systems fitted for the protection of sea water piping system, the periodical in-water inspections.
- Maintenance of a Biofouling Record Book and procedures for the training of the crew.

### **7.3 Australia's national biofouling management guidelines**

There are currently no mandatory requirements in Australia concerning the management of biofouling on internationally arriving vessels.

However, to assist vessel operators in managing for biofouling on their vessels, Australia has developed voluntary national biofouling management guidelines. This guidance can be applied to all vessels including commercial ships; yachts; non-trading vessels such as tugs, dredges, semi-submersibles and barges; fishing vessels and petroleum vessels and infrastructure such as drilling rigs, offshore support vessels and mobile offshore drilling units.

The National biofouling management guidelines are available via the Australian Government website [www.marinepests.gov.au](http://www.marinepests.gov.au).

The Australian government is currently developing new biofouling management requirements to reduce the risk to Australia's marine environment, industries and human health from the threat posed by harmful aquatic organisms introduced through biofouling.

### **7.4 In-water cleaning within Australia**

[The Anti Fouling and in-water cleaning-guidelines](#) provide best practice approaches to applying, maintaining, removing and disposing of anti-fouling coatings and managing biofouling and invasive aquatic species on vessels and movable structures in Australia and New Zealand.

These guidelines are also intended to assist authorities to decide on the appropriateness of in-water cleaning operations in general and on a case-by-case basis. The aim of the guidelines is to minimise contamination and biosecurity risks associated with shore-based and in-water maintenance of vessels and movable structures.

These guidelines are applicable to all vessels and movable structures in Australian aquatic environments (marine, estuarine and freshwater), regardless of whether they have an anti-fouling coating.

### **7.5 GBR Marine Park Position Statement on translocation of marine species**

Ship operator's transiting or making voyages within the waters of the Great Barrier Reef Marine Park should refer to the GBR Marine Park Authority Position Statement on the translocation of species in the GBR Marine Park. This position statement is available at:

<http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/825/1/translocation-of-species-2007.pdf>

The Position Statement complements the National Biofouling Management Guidelines and Australia's Ballast Water Management Requirements. The GBR Marine Park Authority Position Statement is aimed at reducing the risks associated with activities which may result in the translocation of marine pests in the GBR Marine Park through a process of risk management. The GBR Marine Park Authority encourages ship's operators to undertake a risk assessment of marine pest translocation from their shipping activities and identify adequate prevention and management measures to address any risks of translocation.

## 8. MARINE POLLUTION INCIDENTS

Australia implements a number of IMO Conventions that specifically address pollution from ships through a range of Protection of the Sea Legislation. To support this legislation, AMSA administers the National Plan for Maritime Environmental Emergencies (National Plan), which is available at:

<https://www.amsa.gov.au/marine-environment/national-plan-maritime-environmentalemergencies/national-plan-maritime>

The National Plan brings together the combined resources of the:

- Australian Government,
- State and Northern Territory (State/NT) Governments including emergency services,
- The oil, shipping, ports, chemical and petroleum exploration and production industries.

The National Plan sets out a clear definition of the responsibilities of the participants, formalised in an Inter-Governmental Agreement (IGA). The IGA details such matters as:

- The divisions of responsibilities
- Contingency planning
- Access to Commonwealth equipment
- The management and control of financial affairs.

The national contingency plan hierarchy consists of:

- National marine oil and marine chemical spill plans,
- The Marine Pollution Contingency Plan for the GBR Marine Park,
- State/NT plans,
- Port and industry plans.

## 9. MARITIME EMERGENCY RESPONSE COMMANDER

AMSA has appointed a Maritime Emergency Response Commander (MERCOT) to act on behalf of the Authority during a shipping casualty. The MERCOT is responsible for the management of responses to shipping incidents in Commonwealth waters, with intervention powers to take such measures as may be necessary to prevent, mitigate or eliminate a risk of significant pollution, including the power to direct a port to release a tug to provide emergency assistance to a vessel at risk or designate a place of refuge for a ship in emergency situations that present a risk of significant pollution.

The MERCOT has appropriate statutory powers to enable effective decision-making consistent with the aim of the [National Plan for Maritime Environmental Emergencies](#).

The MERCOT will endeavour to consider all relevant legal, practical, environmental, socio-economic and operational issues in deciding whether and how to respond to a maritime casualty, as dictated by the circumstances of each particular casualty.

Incidents requiring the intervention of MERCOT will occur randomly and infrequently and will be in response to actual or potentially serious emergencies. MERCOT's intervention, therefore, will be for incidents where there is actual, or a threat of significant pollution posed by a ship.

State and Northern Territory Governments retain powers to deal with lesser threats of pollution or other environmental damage within their respective jurisdictions, to the extent that they are available, and may still exercise powers independently. However, MERCOM will be able to step in and exercise his/her intervention powers if, in the MERCOM's opinion, such action is needed to fully address the threat in question, and MERCOM's directions prevail over any other direction where inconsistency occurs.

### **Marine Pollution Incidents in the GBR**

Shipping activity has the potential to adversely impact on the environmental, economic and socio-cultural values of the GBR World Heritage Area. The greatest threats are of a major oil or chemical spill following an incident. A major oil spill or shipping incident occurs about every two years in the GBR World Heritage Area, the last being Shen Neng at Douglas Shoals (2010).

The Marine Pollution Contingency Plan for the GBR Marine Park refers to specific planning and response arrangements for pollution events in the GBR while being consistent and complementary to the National Plan. The Plan provides the policy, strategic setting and incident response procedures to pollution events.

In the event of a marine incident, the Great Barrier Reef Marine Park Authority provides environmental and scientific advice to the agency combating the spill, which is either AMSA or Marine Safety Queensland.

- For ship operators transiting or making voyages through waters of the GBR, the Great Barrier Reef Marine Park Authority recommends that the operator has in place a marine pollution contingency plan for the vessel/s. A contingency plan should include: A Risk Assessment which examines the potential for any oil, chemical or hazardous or noxious substance spills, including damage or release of cargo that may be harmful to the environment, identification of prevention and mitigation measures that comply with all relevant Commonwealth and State/NT legislation.
- Provisions for planning and preparedness.
- Response procedures.
- Reporting procedures.
- Provisions for ensuring that the master and all crew on board are suitably qualified and trained and are aware of provisions contained within the contingency plan.
- Mechanisms in place to manage fatigue of master and crew.

### **Wreck Removals**

When a vessel is wrecked, sunk or abandoned in the GBR Marine Park the Great Barrier Reef Marine Park Authority may order the responsible person/s to remove the property from the GBR Marine Park in a reasonable timeframe under Regulation 94 of the Great Barrier Reef Marine Park Regulations 1983.

More info at: <https://www.legislation.gov.au/Series/F1996B01950>