



Australian Government

**Department of Sustainability, Environment,
Water, Population and Communities**



Protected places report card

Supporting the marine bioregional plan
for the North Marine Region

prepared under the *Environment Protection and Biodiversity Conservation Act 1999*

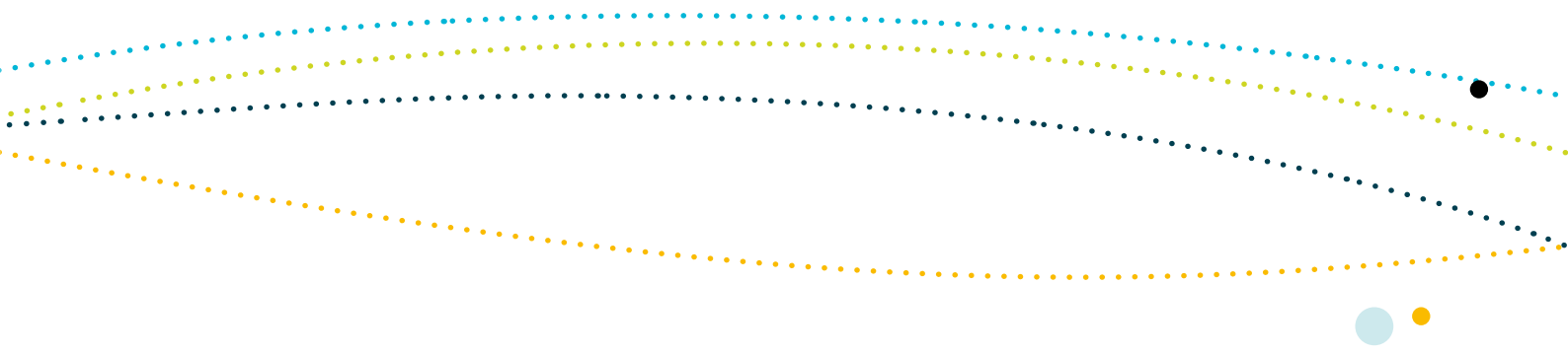
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Images:

Yellowstripe Snapper – Robert Thorn and DSEWPaC, A gorgonian with polyps extended – Geoscience Australia, Crested Tern fishing – R.Freeman, Nautilus – A.Heyward and M.Rees, Morning Light – I.Kiessling, Soft corals – A.Heyward and M.Rees, Customs boat – Australian Customs, Freshwater sawfish – R.Pillans, CSIRO Marine and Atmospheric Research, Hard corals – A.Heyward and M.Rees



CONTENTS

Protected places report card	1
1. Protected places of the North Marine Region	3
2. Vulnerabilities and pressures	6
3. Relevant protection measures	8
References	9
Map data sources	10



PROTECTED PLACES REPORT CARD

Supporting the marine bioregional plan for the North Marine Region prepared under the *Environment Protection and Biodiversity Conservation Act 1999*

Report cards

The primary objective of the report cards is to provide accessible information on the conservation values found in Commonwealth marine regions. This information is maintained by the Department of Sustainability, Environment, Water, Population and Communities and is available online through the department's website (www.environment.gov.au). A glossary of terms relevant to marine bioregional planning is located at www.environment.gov.au/marineplans.

Reflecting the categories of conservation values, there are three types of report cards:

- species group report cards
- marine environment report cards
- Protected places report cards.





Protected places report card

The protected places report card provides spatial and contextual information in regard to matters protected for their natural, cultural, historical and Indigenous heritage values. In the marine environment these matters include those places protected under the EPBC Act as matters of national environmental significance (places listed as world heritage properties, national heritage places or wetlands of international importance), Commonwealth marine reserves and places deemed to have heritage values in the Commonwealth marine environment (such as places on the Commonwealth Heritage List or shipwrecks under the *Historic Shipwrecks Act 1976*). The report card also provides information on the potential vulnerabilities and pressures on protected places and outlines existing protection measures.



1. Protected places of the North Marine Region

This report card focuses on features and places of the North Marine Region that are recognised and protected for their heritage values, including historic shipwrecks, World Heritage Areas, National Heritage Areas and Commonwealth Heritage places. Currently there is only one place of recognised heritage value in the North Marine Region—an historic shipwreck (Figure 1).

Further information on heritage places is available at www.environment.gov.au/heritage/index.html. For the current list and location of Commonwealth marine reserves in the North Marine Region, visit: www.environment.gov.au/marinereserves.



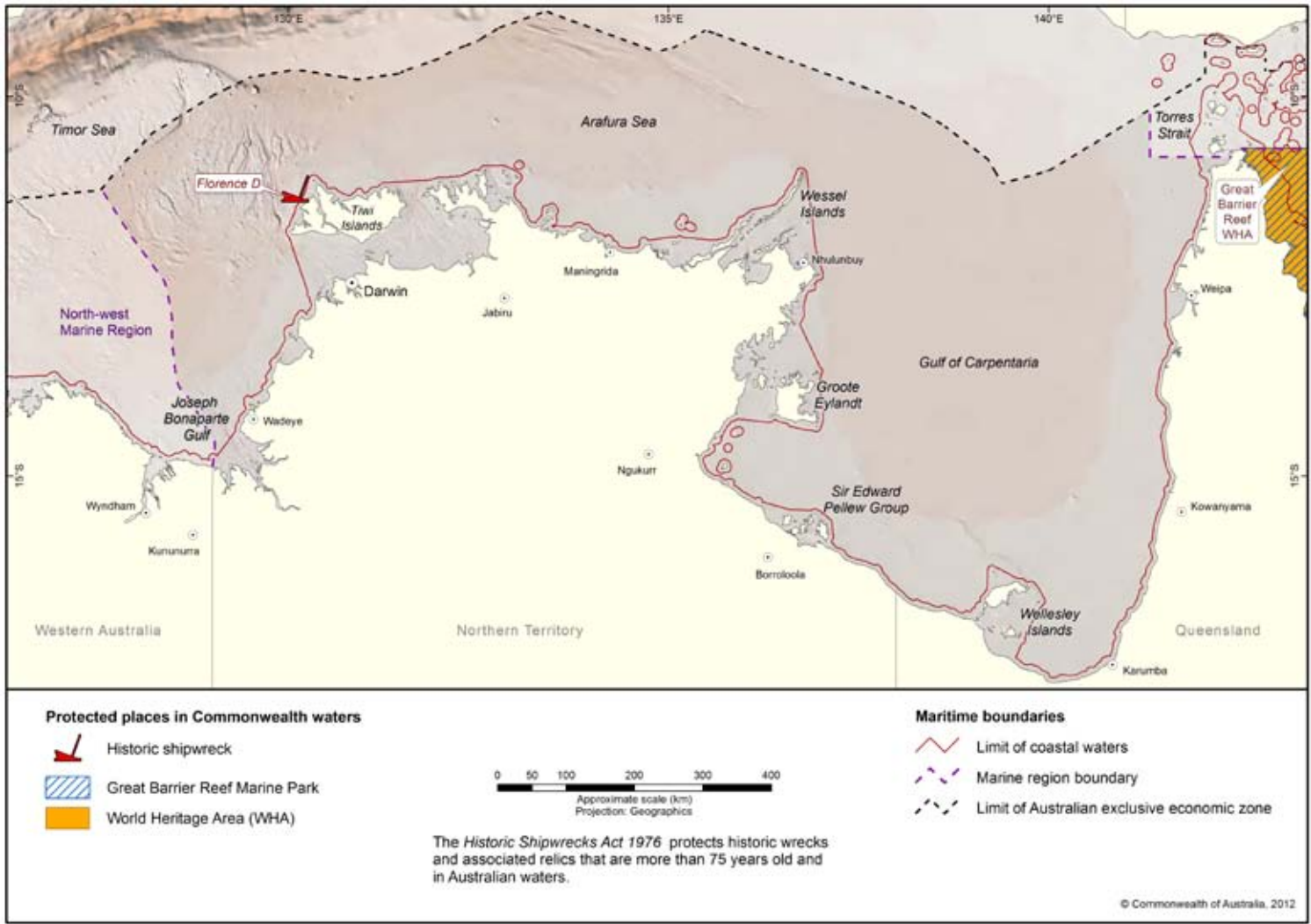
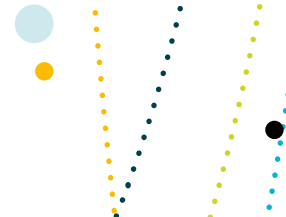


Figure 1: Protected places in the North Marine Region as of May 2012





Historic shipwrecks

The *Historic Shipwrecks Act 1976* states that an historic shipwreck is a shipwreck that is:

- more than 75 years old
- located in Australian waters and waters above the continental shelf of Australia.

A shipwreck that is less than 75 years old may be declared an historic shipwreck by the minister if it is deemed to possess historical significance. There is one declared historic shipwreck in the region (Table 1 and Figure 1). The vast majority of shipwrecks are already declared under the 75 year blanket protection provided by the Historic Shipwrecks Act. Protected or no-entry zones may also be declared to provide further protection to particularly vulnerable or important sites.

Table 1: Historic shipwrecks in the North Marine Region as of May 2012

Shipwreck name	Year	Description	Depth	Protection zone
Florence D	1942	Merchant ship destroyed during a Japanese air attack on Darwin on 19 February 1942	12–20 m	A no-entry protection zone has been declared around the <i>Florence D</i> . Permits are required under the <i>Historic Shipwrecks Act 1976</i> (s. 15) to enter this protection zone



2. Vulnerabilities and pressures

Vulnerabilities

Most materials used to construct vessels are vulnerable to various forms and degrees of deterioration in the marine environment. The rate and scale of vessel deterioration depends upon two factors:

- fortitude of the materials used in construction
- duration and force of disturbance.

Disturbance, which encompasses both environmental and anthropogenic pressures, causes physical deterioration to vessels. Physical scouring or smothering (by sediments) may progressively deteriorate a shipwreck.

The *Florence D* shipwreck lies in shallow water (12–20 metres deep). Much of the structure is fractured, corroded and covered by sediment (Steinberg 2009). The wreck lies on seabed made up of soft silty compounds; however, surrounding areas of seabed are typically of a gravelly muddy sand composition (Baker et al. 2008, Steinberg 2009). The area around Bathurst Island where the *Florence D* is situated has high tide ranges (up to 8 metres) and high energy tidal currents, both of which stimulate sediment movement and contribute to the highly turbid shallow environment (Rothlisberg et al. 2005). Strong monsoonal winds, cyclones and wind-generated waves combined with the high tidal energy all potentially contribute to wave abrasion. Direct impacts (such as anchorage or vessel strike) could also cause immediate damage to the shipwreck.

Analysis of pressures

On the basis of current information, pressures have been assessed for the *Florence D* shipwreck. A summary of the pressure analysis for the *Florence D* shipwreck is provided in Table 2. Only pressures identified as *of concern* or *of potential concern* are discussed in further detail below. An explanation of the pressure analysis process, including the definition of substantial impact used in this analysis, is provided in Part 3 and Section 1.1 of Schedule 1 of the plan.

Table 2: Outputs of the historic shipwreck pressure analysis for the North Marine Region

Pressure	<i>Florence D</i> shipwreck
Changes in sea temperature	of potential concern
Chemical pollution	not of concern
Nutrient pollution	not of concern
Noise pollution	not of concern
Light pollution	not of concern
Physical habitat modification (dredging)	not of concern
Physical habitat modification (offshore mining operations)	not of concern
Human presence at sensitive sites	of less concern
Extraction of living resources	not of concern
Bycatch	not of concern
Collision with vessels	not of concern
Invasive species	not of concern
Changes in hydrological regimes	not of concern

■ of concern
 ■ of potential concern
 ■ of less concern
 ■ not of concern

Changes in sea temperature – climate change

Changes in sea temperature are assessed as *of potential concern* to the *Florence D* historic shipwreck. Changes in sea temperature can impact on the long-term preservation of shipwrecks, especially those located in shallow waters such as the *Florence D*. Sea temperatures have warmed by 0.7 °C between 1910–1929 and 1989–2008, and current projections estimate ocean temperatures will be 1 °C warmer by the 2030s (Lough 2009). Increases in sea temperatures may increase the decay of wrecks, with the rate of deterioration dependent on vessel composition. The *Florence D* was only identified in 2009, and the extent to which natural variability in sea temperatures has impacted on the current state of the *Florence D* is unknown (Steinberg 2009).





3. Relevant protection measures

Environment Protection Biodiversity Conservation Act

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provides protection to world heritage places, national heritage places and historic shipwrecks through its environmental impact assessment process. Any action that has the potential to significantly impact a matter of national environmental significance will require approval under the EPBC Act.

Historic Shipwrecks Act

The *Historic Shipwrecks Act 1976* aims to protect historic shipwrecks for their heritage values, maintain them for educational and recreational purposes, and regulate activities that may result in their damage, interference, removal or destruction. The Historic Shipwrecks Act contains six principal protection measures to meet its management objectives:

- *Protection zones*
Protection zones are declared by the minister and prohibit entry into a declared zone. A protection zone may extend up to 200 hectares and includes the airspace above, the waters or land beneath, the seabed and seabed subsoil. (For more information see www.environment.gov.au/heritage/shipwrecks/protected-zones.html)
- *Prohibitions against certain actions*
A person must not unlawfully engage in conduct that destroys, damages, interferes, disposes or removes an historic shipwreck or relic. Upon conviction under this section, a person is punishable by a fine not exceeding \$10 000 or imprisonment for a period not exceeding five years, or both. A body corporate is punishable by a fine not exceeding \$50 000.
- *Permits*
If an action will damage, destroy or interfere with an historic shipwreck or relic, a permit must be obtained from the minister before commencement of the action. (For more information see www.environment.gov.au/heritage/publications/shipwreck-forms-permits.html)
- *Ministerial directions regarding possession, custody or control*
The minister may require a person in possession, custody or control of a shipwreck, article or relic to undertake an action to ensure its preservation.
- *Maintenance of an historic shipwreck register*
The minister shall operate a Register of Historic Shipwrecks. A new Australian National Shipwrecks Database was launched in 2009 and includes all known shipwrecks in Australian waters (see www.environment.gov.au/heritage/shipwrecks/database.html)
- *Duty to notify of a shipwreck discovery*
A person who finds the remains of a vessel or any associated article must inform the minister as soon as practicable. Notification can be made via apps5a.ris.environment.gov.au/shipwreck/public/forms/notification.do?mode=add.



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MAP DATA SOURCES

DSEWPaC (2010): Historic Shipwrecks Register

DSEWPaC (2010): Collaborative Australian Protected Areas Database (CAPAD)

DSEWPaC (2007): Commonwealth Marine Protected Areas Managed by DSEWPaC

DSEWPaC (2006): Commonwealth Marine Planning Regions

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