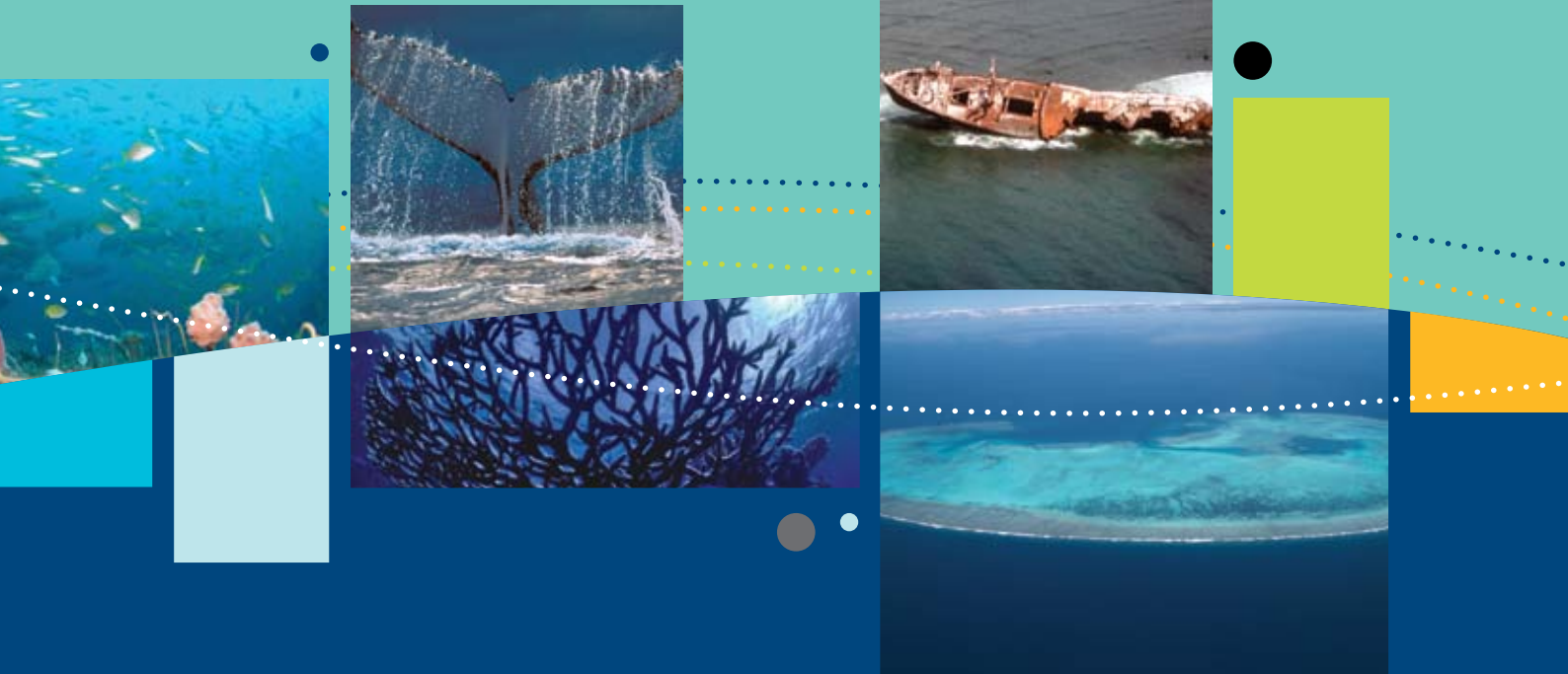




Australian Government

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



Protected places report card

Supporting the marine bioregional plan
for the Temperate East Marine Region

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

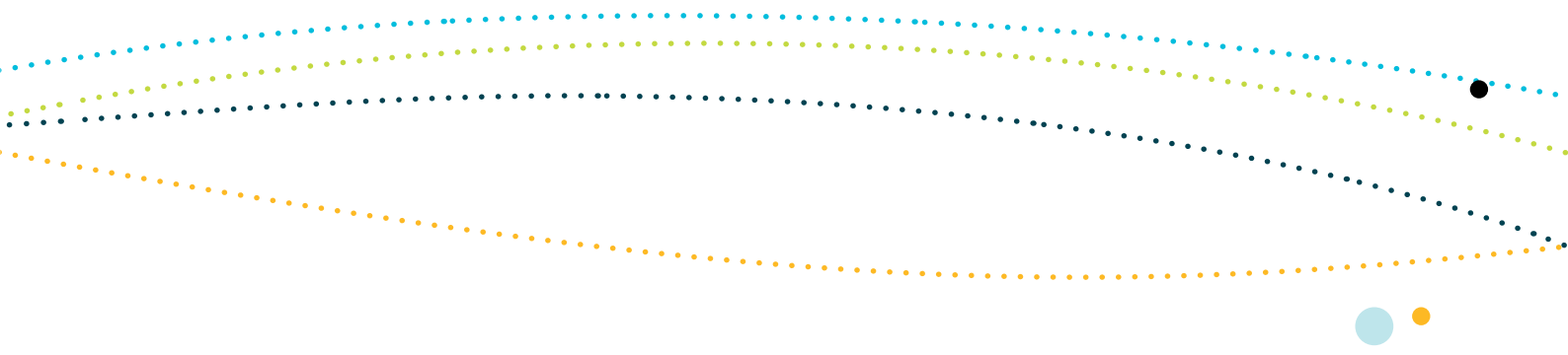
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Images:

Whale tail – D.Paton, Middleton Reef from air – Director of National Parks, Pimpernel Rock, Solitary Islands – D.Harasti, Acropora species – R.Chesher Ph.D, Black-browed Albatross – M.Double, Runic wreck on Middleton Reef – Director of National Parks, Bottlenose Dolphins – M.Spencer, Dubois' Sea Snake – GBRMPA, A Loggerhead turtle swims over Acropora corals – GBRMPA, Blue Devil – D.Harasti



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PROTECTED PLACES REPORT CARD

Supporting the marine bioregional plan for the Temperate East 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 Temperate East Marine Region

This report card focuses on features and places of the Temperate East Marine Region that are recognised and protected for their heritage and/ or significant conservation values, including historic shipwrecks, marine protected areas, World Heritage Areas, National Heritage Areas and Commonwealth Heritage places. Currently there are three world heritage places, three national heritage places, one Ramsar site, hundreds of historic shipwrecks and four Commonwealth marine reserves in or adjacent to the Temperate East Marine Region (Figure 1).

Further information on heritage places is available at www.environment.gov.au/heritage/index.html.



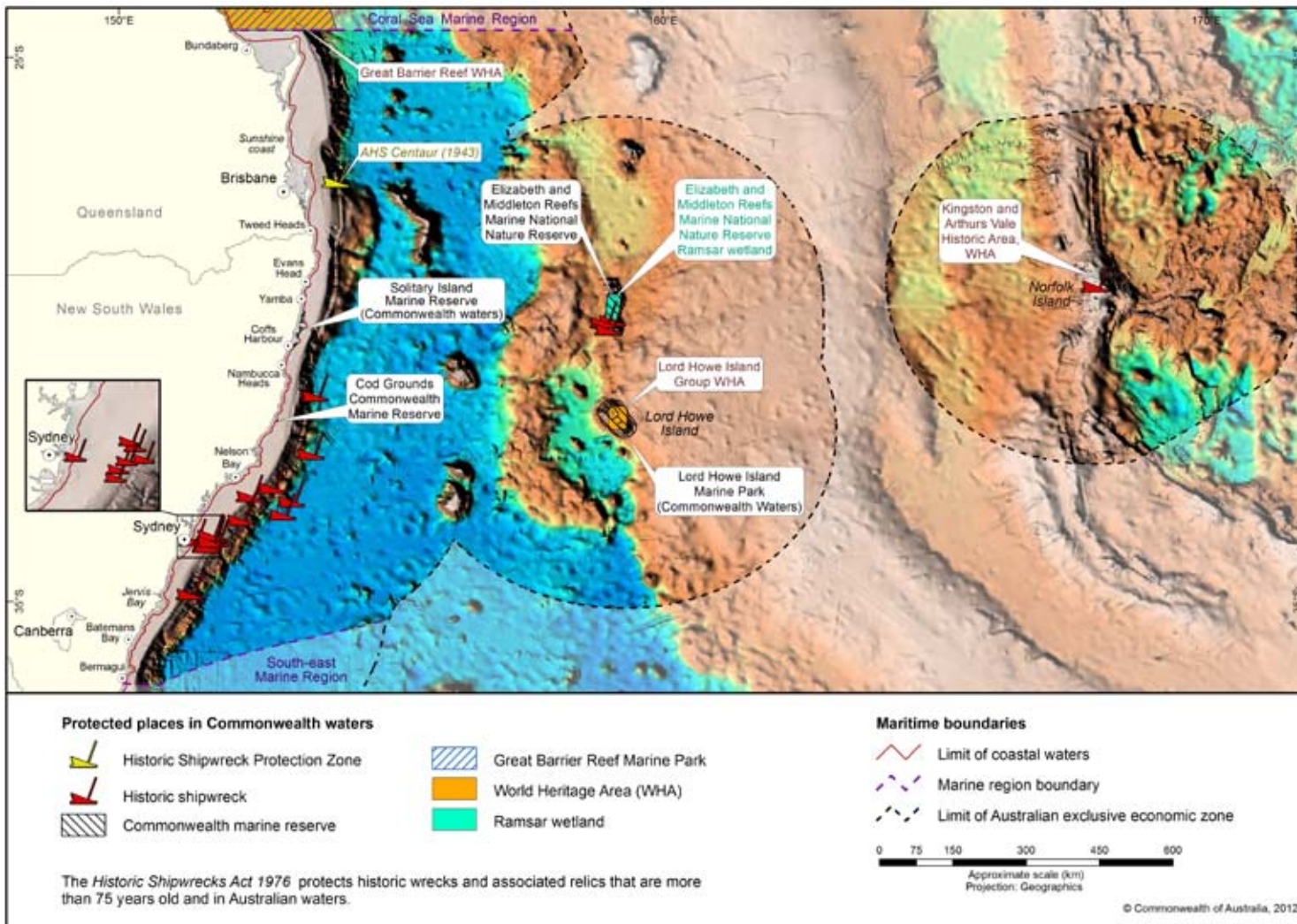


Figure 1: Protected places in or adjacent to the Temperate East Marine Region as of May 2012



Marine protected areas

There are four existing Commonwealth marine reserves in the Temperate East Marine Region (Figure 1):

- Solitary Islands Marine Reserve (Commonwealth Waters)
- Cod Grounds Commonwealth Marine Reserve
- Lord Howe Island Marine Park (Commonwealth Waters)
- Elizabeth and Middleton Reefs Marine National Nature Reserve.

For the current list and location of Commonwealth marine reserves in the Temperate East Marine Region, visit www.environment.gov.au/marinereserves.

Solitary Islands Marine Reserve (Commonwealth Waters)

The Solitary Islands Marine Reserve (Commonwealth Waters) (SIMR) is located off the coast of northern New South Wales, 600 kilometres north of Sydney, between Coffs Harbour and Plover Island. It is adjacent to the Solitary Islands Marine Park (New South Wales Waters) (SIMP) and extends from the three-nautical-mile state limit seaward to the 50 metre depth contour. The SIMR encompasses the waters, seabed and subsoil beneath the seabed to a depth of 1000 metres. The SIMP (NSW Waters) is 710 square kilometres; the SIMR (Commonwealth Waters) covers a further 160 square kilometres.

The reserve was proclaimed in 1993 and has three zones: General Use Zone (IUCN Category VI); Sanctuary Zone (IUCN Category 1a) and Habitat Protection Zone (IUCN Category IV). Activities undertaken in the reserve are regulated under management arrangements. People intending to undertake activities in the Solitary Islands Marine Reserve (Commonwealth Waters) must apply for approval from the Director of National Parks. For more information on the Solitary Islands Marine Reserve (Commonwealth Waters) please visit www.environment.gov.au/coasts/mpa/solitary/index.html.

Cod Grounds Commonwealth Marine Reserve

The Cod Grounds Reserve comprises a 1000 metre radius from a point at 152° 54' 37" E 31° 40' 52" S, offshore of Laurieton, New South Wales. The reserve was proclaimed in 2007 as an IUCN Category 1a—strict nature reserve (Sanctuary Zone) to protect important habitat of the critically endangered east coast population of the grey nurse shark. Activities undertaken in the reserve are regulated under interim management arrangements. People intending to undertake activities in the Cod Grounds Commonwealth Marine Reserve must apply for approval from the Director of National Parks. For more information on the Cod Grounds Commonwealth Marine Reserve, please visit www.environment.gov.au/coasts/mpa/cod-grounds/index.html.



Lord Howe Island Marine Park (Commonwealth Waters)

Lord Howe Island Marine Park is approximately 700 kilometres north-east of Sydney. The state waters around Lord Howe Island and Balls Pyramid comprise the Lord Howe Island Marine Park (State Waters), and the Commonwealth waters between 3 nautical miles and 12 nautical miles around Lord Howe Island and Balls Pyramid form the Lord Howe Island Marine Park (Commonwealth Waters). The perimeter of the Lord Howe Island Marine Park (Commonwealth Waters) roughly corresponds to the 1800-metre depth contour, which follows the base of the seamounts that underlie Lord Howe Island and Balls Pyramid. The sea area of the Commonwealth Marine Park is estimated to be 3005 square kilometres.

The reserve was proclaimed in 2000 and has two zones: a Sanctuary Zone (IUCN Category 1a) and a Habitat Protection Zone (IUCN Category IV). Activities undertaken in the reserve are regulated under management arrangements. People intending to undertake activities in the Lord Howe Island Marine Park (Commonwealth Waters) must apply for approval from the Director of National Parks. For more information on the Lord Howe Island Marine Park (Commonwealth Waters), please visit www.environment.gov.au/coasts/mpa/lordhowe/index.html.

Elizabeth and Middleton Reefs Marine National Nature Reserve

Elizabeth and Middleton Reefs Marine National Nature Reserve is located in the Tasman Sea, approximately 600 kilometres east of Coffs Harbour and to the north of Lord Howe Island. The reserve includes two separate reefs, Elizabeth Reef and Middleton Reef.

The reserve was proclaimed in 1987 and has two zones: a Habitat Protection Zone (IUCN Category II) and a Sanctuary Zone (IUCN Category 1a). Activities undertaken in the reserve are regulated under the management plan for the Elizabeth and Middleton Reefs Marine National Nature Reserve. This management plan is due to expire in 2013. People intending to undertake activities in Elizabeth and Middleton Reefs Marine National Nature Reserve must apply for approval from the Director of National Parks. For more information on Elizabeth and Middleton Reefs Marine National Nature Reserve, please visit www.environment.gov.au/coasts/mpa/elizabeth/index.html.



Ramsar sites

Ramsar sites are designated under the Convention on Wetlands of International Importance, which aims to halt the worldwide loss of wetlands and conserve, through wise use and management, those that remain. Elizabeth and Middleton Reefs Marine National Nature Reserve was designated a Ramsar site in 2002 due to the rare and representative examples of coral reef wetland that support diverse marine fauna, including uncommon and undescribed fishes, several endemic species of mollusc, and the only habitat for these species in a vast area of ocean. By virtue of its listing under the Ramsar Convention, Elizabeth and Middleton Reefs are a matter of national environmental significance.

Heritage places

Several sites in the Temperate East Marine Region are listed as more than one type of heritage place under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Heritage places and their listing categories are in Table 1. Table 1 also identifies relevant key ecological features in the vicinity of each heritage place.

World heritage places

The World Heritage List identifies heritage that is of outstanding universal value. The Great Barrier Reef was included on the World Heritage List in 1981, the Lord Howe Island group was included on the World Heritage List in 1982, and the Kingston and Arthurs Vale Historic Area on Norfolk Island was included on the list in 2010. These places are protected as matters of national environmental significance.

National heritage places

The National Heritage List includes natural, historic and Indigenous places that are of outstanding national heritage value to Australia. The Great Barrier Reef, Lord Howe Island group and Kingston and Arthurs Vale Historic Area on Norfolk Island were included on the National Heritage List in 2007.

Table 1: Protected places in or adjacent to the Temperate East Marine Region as of May 2012

| Protected Place | Commonwealth marine protected areas | World Heritage List | National Heritage List | Ramsar site | Relevant Key Ecological Feature (if any) |
|--|-------------------------------------|---------------------|------------------------|-------------|--|
| Cod Grounds Commonwealth Marine Reserve | ✓ | ✗ | ✗ | ✗ | ✗ |
| Elizabeth and Middleton Reefs Marine National Nature Reserve | ✓ | ✗ | ✗ | ✗ | Elizabeth and Middleton Reefs |
| Great Barrier Reef | ✓ | ✓ | ✓ | ✗ | ✗ |
| Kingston and Arthurs Vale Historic Area, Norfolk Island | ✗ | ✓ | ✓ | ✗ | Norfolk Ridge |
| Lord Howe Island Marine Park | ✓ | ✓ ¹ | ✓ ¹ | ✗ | Lord Howe seamount chain |
| Solitary Islands Marine Reserve (Commonwealth waters) | ✓ | ✗ | ✗ | ✗ | ✗ |

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 are likely to be hundreds of historic shipwrecks in the region but the precise locations of those presumed to occur in Commonwealth waters are unknown (Table 2 and Figure 1). The vast majority of shipwrecks are already declared under the 75-year blanket protection provided by the Act. Protected or no-entry zones may also be declared to provide further protection to particularly vulnerable or important sites.

¹ The Lord Howe Island Group World Heritage place and National Heritage place sits partly within the Lord Howe Island Marine Park (Commonwealth waters).

Table 2: Historic shipwrecks in the Temperate East Marine Region as of May 2012

| Historic shipwrecks with protected zones within the Temperate East Marine Region | | | |
|--|------|---|---|
| Shipwreck name | Year | Description | Protected zone information |
| AHS Centaur | 1943 | Motor vessel torpedoed and sunk by Japanese submarine I-77 south-east of Cape Moreton | A no-entry protection zone has been declared around <i>AHS Centaur</i> . A permit is required under section 15 of the <i>Historic Shipwrecks Act 1976</i> to enter this protection zone |
| Historic shipwrecks without protected zones in the Temperate East Marine Region | | | |
| Shipwreck name | Year | Description | |
| HMS Sirius | 1790 | Baltic trader wrecked on the reef east of Kingston Pier off Norfolk Island while landing stores | |
| Princess Charlotte | 1820 | Sailing vessel lost at sea between Hobart and Sydney | |
| Rosetta Joseph | 1850 | Sailing vessel wrecked at Elizabeth Reef due to navigation error | |
| Morpeth Packet | 1855 | Sailing vessel sprang a leak and sank off Sydney and Broken Bay | |
| Packet | 1857 | Sailing vessel forced onto Elizabeth Reef during a gale | |
| Douglas | 1869 | Sailing vessel struck the south-east outer fringe of Elizabeth Reef | |
| Windhover | 1874 | Sailing vessel sprang a leak off Newcastle | |
| India | 1884 | Twin screw steamer wrecked in heavy gale at Seal Rocks | |
| Adolphe | 1904 | Sailing vessel sank on Oyster Bank, Newcastle, after tug hawser parted | |
| Aurora | 1917 | Sailing vessel lost at sea in the vicinity of the Solitary Islands | |
| HMAS Australia | 1924 | Battle cruiser scuttled in disposal area off Sydney | |
| Annie M Miller | 1929 | Twin screw steamer capsized in gale south of Sydney Heads | |
| HMAS Torrens | 1930 | Twin screw steamer sunk by gunfire in disposal area off Sydney | |
| Eden | 1933 | Twin screw steamer scuttled in disposal area off Sydney | |
| Myee | 1933 | Hulk scuttled in disposal area off Sydney | |
| Newcastle | 1933 | Side wheel paddle steamer scuttled in disposal area off Sydney | |
| Ballina | 1934 | Dredge sank off Port Stephens when it foundered under tow in a north-east gale | |
| Richmond | 1934 | Dredge scuttled off Newcastle | |
| Nancy | 1935 | Barge scuttled in disposal area off Sydney | |





2. Vulnerabilities and pressures

The following sections (2 & 3) refer to historic shipwrecks only. Further resources, such as pressure analysis information, can be found for some of the other protected places listed in this report card as they are partly (or wholly) encompassed by a key ecological feature of the Temperate East Marine Region. This information can be sourced from the Commonwealth Marine Environment report card at www.environment.gov.au/marineplans/temperate-east.

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 threats, causes physical deterioration to vessels. Physical scouring or smothering (from sediment dispersal) may progressively deteriorate a shipwreck. In deeper environments, sediments are moved intermittently during winter storms, with fine-grained sediments transported off-shelf to an approximate depth of 120 metres (James et al. 2001). Direct impacts (such as anchorage or vessel strike) could cause immediate damage to a shipwreck.

Analysis of pressures

On the basis of current information, pressures have been assessed for historic shipwrecks in the Temperate East Marine Region. Given the unknown location of many shipwrecks in the region, for the purposes of this assessment, we have considered pressures against two distinct groups, based on their location: shipwrecks that occur in the shallower waters of the continental shelf and those in the deeper, off-shelf waters. A summary of the pressure assessment for the two shipwreck groups is provided in Table 3. Only pressures identified as *of concern* or *of potential concern* are discussed in further detail below. A description 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 3: Outputs of the historic shipwreck pressure analysis for the Temperate East Marine Region

| Pressure | On-shelf shipwrecks ² | Off-shelf shipwrecks ³ |
|--|----------------------------------|-----------------------------------|
| Changes in sea temperatures | of potential concern | of less concern |
| Chemical pollution | of less concern | not of concern |
| Physical habitat modification (dredging) | of less concern | not of concern |
| Physical habitat modification (offshore mining operations) | not of concern | not of concern |
| Human presence at sensitive sites | of less concern | of less concern |
| Collision with vessels | of less concern | not of concern |
| Changes in hydrological regimes | of less concern | of less concern |

Legend 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 for on-shelf shipwrecks due to the potential impacts of this pressure on the long-term preservation of historic shipwrecks. Sea temperatures have warmed by 0.7 °C between 1910–1929 and 1989–2008, and current projections estimate ocean temperatures will be a further 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. It is not expected that the influences of changing sea temperatures will be felt as markedly on off-shelf shipwrecks as they are typically sitting in considerably deeper water.

2 On-shelf shipwrecks are shipwrecks located upon the continental shelf

3 Off-shelf shipwrecks are shipwrecks located beyond the continental shelf



3. Relevant protection measures

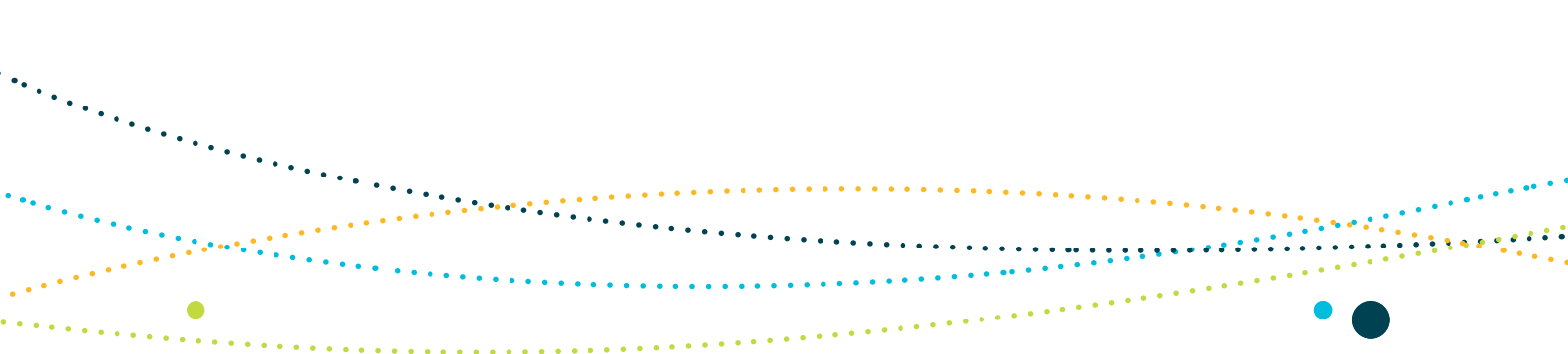
Environment Protection and Biodiversity Conservation Act

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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