



Australian Government

Australian Maritime Safety Authority



**PROTECTING  
OUR SEAS**

This brochure provides general information on the legislation and international conventions implemented in Australia to protect the marine environment from ship pollution.

The legislation referred to in this brochure is available from Commonwealth Government bookshops, or accessible via COMLAW [www.comlaw.gov.au](http://www.comlaw.gov.au).

For detailed information on any of these issues please contact:

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Further information on Australia's Protection of the Sea legislation can be found at [www.amsa.gov.au](http://www.amsa.gov.au)

Photos courtesy of:

Australian Maritime Safety Authority Australian Shipowners Association  
Coastwatch, CRIMP CSIRO Marine Research  
Great Barrier Reef Marine Park Authority  
WA Department of Marine and Harbours

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## Protecting our seas

Australia depends almost exclusively on shipping to move its exports and imports and has, in terms of tonnes of cargo shipped and kilometres travelled the fifth largest shipping task in the world.

Australia has a vast coastline, some of which is particularly vulnerable to pollution. Being an island continent, Australia is economically dependent on its sea lanes and port operations – resulting in a continual risk of pollution to the marine environment.

Under the traditional law of the sea, ships have the right of ‘innocent passage’ when transiting territorial and international waters. The 1982 United Nations Convention on the Law of the Sea states that passage is innocent as long as it is not prejudicial to the peace, good order or security of the coastal state. Consistent with this right, a system of global regulation has been implemented to ensure ships are subject to uniform pollution standards whether they are on the high seas, in territorial waters or in port.

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Faced with the growing possibility of adverse environmental effects, Australia has adopted several international conventions, formulated by the International Maritime Organization (IMO), dealing specifically with ship related marine pollution matters:

- AFS** International Convention on the Control of Harmful Anti-Fouling Systems on Ships 2001
- BUNKERS** International Convention on Civil Liability for Bunker Oil Pollution Damage 2001
- CLC** International Convention on Civil Liability for Oil Pollution Damage 1992
- FUND** International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992
- INTERVENTION** Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969
- MARPOL** International Convention for the Prevention of Pollution from Ships
- OPRC-HNS** Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances 2000
- OPRC** International Convention on Oil Pollution Preparedness, Response and Cooperation 1990
- SUPPLEMENTARY FUND** 2003 Protocol to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992

The decision to adopt international conventions is taken after extensive consultation with all parties involved, including the oil and shipping industries, State authorities and interested Commonwealth departments.

In the event of oil or chemical pollution, Australia has a national pollution contingency plan and response capability, known as the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances.



*Korean Star, Cape Cuvier  
Western Australia, 20 May 1988*

## **International Convention on the Control of Harmful Anti-Fouling Systems on Ships 2001**

The International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001, was developed by the IMO to protect the marine environment and human health from the adverse effects of anti-fouling systems on ships, particularly Organotin based compounds, such as tributyltin (TBT).

The Convention defines “anti-fouling systems” as “a coating, paint, surface treatment, surface or device that is used on a ship to control or prevent attachment of unwanted organisms”. The convention prohibits and/or restricts the use of harmful anti-fouling systems on ships, and establishes a mechanism to prevent the potential future use of other harmful substances in anti-fouling systems.

Ships of 400 gross tons and above must have an International Anti-fouling System Certificate. Ships of 24 metres or more in length but less than 400 gross tons must have a Declaration on Anti-fouling Systems signed by the owner or authorized agent.

## **Bunkers Liability**

The International Convention on Civil Liability for Bunker Oil Pollution Damage 2001, provides for shipowners to be strictly liable for fuel oil spills and requires them to carry compulsory insurance to cover any pollution damage following a fuel oil spill. Ships over 1,000 gross tons visiting Australian waters must have the required certificate of insurance.

## Civil Liability

The International Convention on Civil Liability for Oil Pollution Damage 1992 is designed to ensure adequate compensation is available to persons who suffer oil pollution damage resulting from maritime accidents involving oil tankers.

Liability for such damage is placed on the owner of the ship from which the polluting oil escaped. The Convention applies only to persistent oils such as crude oil, fuel oil, heavy diesel oil, lubricating oil and whale oil.

The Convention requires ships carrying more than 2,000 tonnes of oil in bulk as cargo to maintain adequate insurance to cover specified liability limits. A certificate is issued to each ship by the appropriate authority attesting that insurance or other financial security is current.

The Convention provides for compensation up to approximately A\$226 million.



*Beached oil*

## Fund

The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage is supplementary to the Civil Liability Convention and establishes a regime for compensating victims when the compensation under the Civil Liability Convention is inadequate.

The compensation regime is financed by contributions levied on any person who has received in one calendar year more than 150,000 tonnes of crude or heavy fuel oil in a country which has ratified the Convention. Payment to the Fund varies considerably from year to year according to the number of major oil spills that have occurred affecting member countries.

Compensation is available under the Fund Convention for costs incurred in clean up operations at sea or on the beach, costs incurred to restore contaminated private property, for example a seaside resort or boat, and consequential expenses such as the repair of a road or embankment which is damaged during clean up operations.

There is also provision for recovery of economic loss suffered by those who depend directly on earnings from coastal or sea related activities such as fishermen and resort or hotel operations.

Compensation available under the Fund Convention is approximately A\$510 million.



*The Fund Convention compensates for losses incurred after oil spills*



*Kirki of Western Australia,  
21 July 1991*

## Intervention

Article 221 of the United Nations Convention on the Law of the Sea (UNCLOS) provides for governments to take and enforce measures beyond the territorial sea to protect their coastline or related interests from pollution or threat of pollution following a maritime casualty, providing such a casualty may reasonably be expected to result in major harmful consequences.

The Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969 (and its amending 1973 Protocol relating to substances other than oil) provides signatories with powers to take measures on the high seas to protect their coastline and related interests such as fishing activities, tourism and the well being of living marine resources.

Measures which can be taken under this Convention include moving the ship, removing the cargo and sinking or destroying the ship. The Convention is not limited to tankers: it applies to all sea-going vessels and floating craft. A government may take action only after due consultation with those involved including the flag State and the owners of the ship or cargoes in question.

In Australia, the Protection of the Sea (Powers of Intervention) Act 1981 gives effect to both Article 221 of UNCLOS and the Intervention Convention/ Protocol, and extends the Article 221 powers to apply within Australia's territorial sea. Penalties of up to A\$1.1 million are provided for failure to comply with a direction made under the Act. The owner is also liable for any costs incurred by the Government in taking action under this Convention.

The *Navigation Act 1912* provides powers to order the owner to remove a wreck, and in the event of the owner not complying, enables the Minister to order the removal or destruction of the wreck. In most marine casualty situations, pollution is the major immediate consideration after safety of life. Wreck removal under the *Navigation Act 1912* would only become an issue once pollution threats have been satisfactorily dealt with.

## MARPOL

The International Convention for the Prevention of Pollution from Ships (MARPOL) is recognised as the most comprehensive initiative to regulate and minimise pollution from ships. Over 99 per cent of world shipping tonnage is regulated by this Convention.

By defining pollutants, MARPOL specifies prohibitions, restrictions and conditions for discharges at sea. MARPOL is given effect in Australia by the Commonwealth *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and the *Navigation Act 1912*, and complementary State and Northern Territory legislation.



*Disposal of plastics is prohibited*

MARPOL contains six annexes dealing with the specific rules for carriage and discharge of substances:

**ANNEX I Oil** – oil mixtures, distillates, gasolines, jet fuels, etc.

**ANNEX II Noxious liquid substances** – mainly chemicals including acids, alcohols, castor oil, hydrogen peroxide, pentanol, sodium sulphite, etc. Also covers substances such as citric juice, glycerine, milk, molasses, wine, etc.

**ANNEX III Harmful substances carried in packaged forms** including: freight containers, portable tanks, road and rail tank wagons, etc.

**ANNEX IV Sewage** – raw and treated wastes from toilets, drainage from medical premises and spaces containing live animals etc.

**ANNEX V Garbage** – plastic bags, synthetic ropes, food wastes, paper products, glass, metal, crockery, packaging material, cargo residues, maintenance wastes, synthetic fishing nets, etc.

**ANNEX VI Air pollution** – ozone depleting substances, nitrogen oxides, sulphur oxides, shipboard incinerators, fuel oil quality etc.

MARPOL regulations also specify:

- ▶ Obligations for disposal of marine pollutants at reception facilities in port.
- ▶ Specific shipboard pollution emergency and environmental management plans.
- ▶ Criteria for design, construction, equipment and operation of ships (including double hulls and equivalent environment protective designs).
- ▶ Recording and reporting procedures.

Certain vessels are subject to regular and complete surveys to ensure they fully comply with MARPOL regulations.

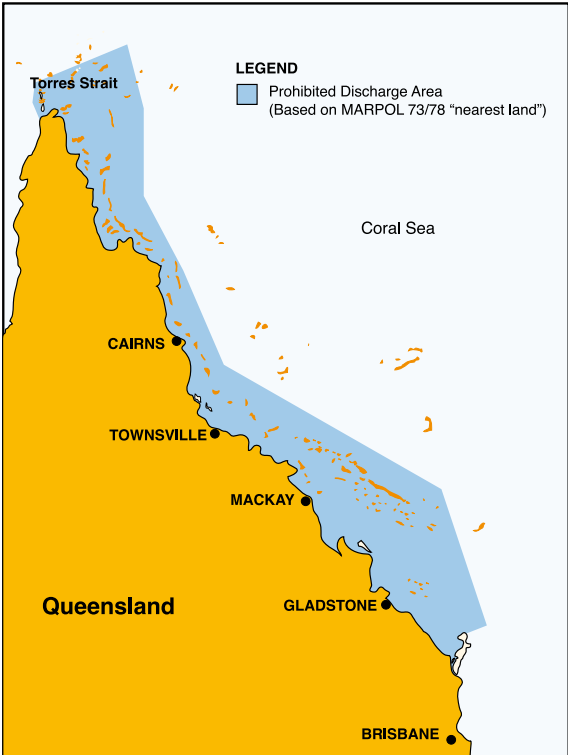
Generally, a ship is prohibited from discharging oil at a rate greater than 15 parts per million while oil tankers are prohibited from discharging within 50 nautical miles (nm) from the nearest land.

Nearest land is generally defined as the territorial sea baseline recognised under the United Nations Convention on the Law of the Sea. The MARPOL “nearest land” definition includes additional [protection for the sea area off the north-eastern coast of Australia where generally no discharges are permitted. (See diagram above).

Specific distances for allowable discharges are then to be measured seaward of the outer boundaries of this area.

For example, Ships are generally prohibited from discharging garbage within 12nm of the nearest land boundaries – in some places this is as much as 162nm from the Queensland coast.

Under Annex VI, there are limits on sulphur oxide (SO<sub>x</sub>) and nitrogen oxide (NO<sub>x</sub>) emissions from ship exhausts and a prohibition on deliberate emissions of ozone depleting substances. The Annex also prohibits the incineration on board ship of certain products, such as contaminated packaging materials and polychlorinated biphenyls (PCBs).



MARPOL is continually being amended to ensure that maximum protection from shipping operations is attained for the marine environment. This includes associated specifications, codes and guidelines that underpin MARPOL requirements. Penalties of up to A\$10 million are provided for failure to comply with Australian MARPOL legislation.

## Additional protection for the Great Barrier Reef and Torres Strait

In addition to MARPOL discharge protection, the IMO declared the Great Barrier Reef area a “Particularly Sensitive Sea Area” in 1990. The Area was extended to include the Torres Strait in 2005. This declaration means that associated protective measures can be applied to shipping activities. The Great Barrier Reef was the first area in the world to attain this status.

Compulsory pilotage and a ship reporting system were protective measures introduced on sections of the Great Barrier Reef in October 1991. All vessels of 70 meters’ or more in overall length, and all loaded oil tankers, chemical tankers and liquefied gas carriers, regardless of length, are required by law to carry a pilot when taking passage through the inner route of the Great Barrier Reef between Cape York and the vicinity of Cairns, or when passing through Hydrographers Passage, off Mackay.

Compulsory pilotage and a two-way shipping route were protective measures introduced in Torres Strait in July 2005. Compulsory pilotage applies to the same ships as the Great Barrier Reef pilotage arrangements, when navigating the Torres Strait and the Great North East Channel.



*Australia's Great Barrier Reef*

## Preparedness and response

Much of the impetus for the 1991 International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) came from the Exxon Valdez and Kharg V disasters. Both incidents illustrated that oil spills can overwhelm a country's response capability regardless of the resources it has at its command.

A primary purpose of the Convention is to bring the world's response capability to bear on the problem so that all nations will benefit.

The Convention makes provision, among other things, for pollution emergency plans for ships, offshore platforms and sea ports; oil pollution reporting procedures; establishment of a national and regional systems for preparedness and response; the facilitation of international co-operation and mutual assistance; exchange of information; and promotion of research and development, and technical co-operation and training.

In 2000, the OPRC Convention was extended to include hazardous and noxious substances.

## Supplementary Fund

The Supplementary Fund makes available additional compensation to victims in the States that accede to the Protocol. The total amount of compensation available for each incident in the States that are Members of the Supplementary Fund is approximately A\$1,500 million.

## Ballast water

Each year about 150 million tonnes of ballast water is discharged in Australian waters from overseas vessels. When a ship is not fully loaded it uses seawater as ballast to maintain stability and float deeper in the water. This makes the ship safer and allows the propeller to operate efficiently. In modern ships, ballast water is carried in special ballast tanks.

The introduction of non-indigenous marine species through ballast water is recognised as a significant worldwide problem.

More than 200 introduced marine species including fish, molluscs, worms and a toxic alga have been detected in Australian coastal waters. These species can have detrimental effects on human health and aquaculture industries.

International shipping is currently complying with voluntary controls for ballast water control and the International Maritime Organisation has developed a new international convention, which is expected to enter into force internationally within the next few years. In 2001, Australia introduced mandatory requirements for ballast water management for all ships coming to Australia. The Australian Quarantine and Inspection Service monitor and inspect ships for compliance.

## Biofouling

Biofouling is the undesirable accumulation of micro-organisms, plants and animals on submerged structures, and is becoming increasingly recognized as a pathway for the introduction of marine organisms. Evidence suggests that in some regions (including Port Phillip Bay) more than 50 per cent of marine

introductions have occurred through the biofouling pathway. The IMO is developing guidelines to assist in the minimising the translocation of invasive aquatic species through biofouling of ships.

Australia has developed a number of guidelines for the management of biofouling by vessels and other maritime facilities.

See [www.marinepests.gov.au/home](http://www.marinepests.gov.au/home)



*Introduced species: Acanthaster planci  
(crown-of-thorns starfish)*

## Enforcement

Australia supports a policy of on-board adherence to pollution conventions. Enforcement activity is two-fold through port State Control inspections and investigations following reports of pollution incidents.

Port State Control inspections of ships are conducted by AMSA to ensure that foreign ships visiting Australian ports are seaworthy, do not pose a pollution risk, provide a healthy and safe work environment and comply with relevant international regulations. Oil tankers are inspected to ensure compliance with structural and operational requirements of MARPOL. (On average around 70% of all ships are inspected every three to six months, with the main focus on ships assessed as higher risk).

Other types of vessels are also inspected on a risk analysis basis.

Following reports of pollution, the available evidence is assessed for potential investigations. Investigations aim to collect additional evidence for possible legal action. Evidence that triggers an investigation includes photographs of the pollutant



*Vessels seen polluting are reported to AMSA*



*Pollution from a fishing vessel*

or polluter along with witness statements or samples of the pollutant. Samples could include discharged substances or garbage items showing a ship's name. Where samples of liquid pollutants are available from the sea and from suspect ships they are analysed by authorised chemists. Results of analysis indicating a match with a ship are valuable as evidence in a prosecution. Persons witnessing pollution incidents are encouraged to report and provide statements to the relevant authority.

Suspected violations are investigated and appropriate action taken as part of Australia's obligations under MARPOL. Inspectors appointed in each State/NT are empowered to board a vessel and check for evidence of pollution or other violations.

Pollution surveillance operations are coordinated by AMSA in Canberra through the Australian Search and Rescue Centre. Reports originate from many sources including Border Protection Command, Coastwatch, the shipping industry, civil and military aircraft and the general public.

## Responding to pollution incidents

The National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances provides a national integrated government/ industry organisational framework capable of effective response to pollution incidents in the marine environment and to manage associated funding, equipment and training programs to support National Plan activities.

The Plan provides spraying equipment, dispersants, control and recovery devices and ship-to-ship transfer equipment at various locations around Australia. The Australian Maritime Safety Authority (AMSA), the States and Northern Territory and the oil, chemical, shipping and exploration industries conduct comprehensive training programs to provide Australia with sufficient trained personnel to mount an effective response to an oil or chemical spill.

Funding for the Plan is based on the “polluter pays” principal and the “potential polluter pays” principal. This means that actual polluters are required to meet the response costs to the National Plan for any spills they cause and potential polluters are required to contribute to National Plan funds an amount related to the risk they present for marine oil or chemical spills.

To achieve this funding, a levy is placed upon commercial shipping using Australian ports. These funds provide for the maintenance and administration of the Plan and also allow a contingency to cover costs when:

- ▶ the polluter is not known, or
- ▶ the polluter is unable to meet the costs.

In 1991 the oil industry, through the Australian Institute of Petroleum, established the Australian

Marine Oil Spill Centre (AMOSC) in Geelong, Victoria. AMOSC is an integral part of the National Plan providing greater response capability in the event of major oil spills in Australian waters and enhanced training capability and expertise.

The National Plan is supported by the National Maritime Emergency Response Arrangements (NEMERA). NEMERA enhances preventative arrangements by ensuring the continuing provision of a minimum level of maritime emergency towage capability around the Australian coastline and the enhancement of the emergency response management framework, which includes the appointment of a single national decision maker to coordinate a response to a maritime casualty.



*ETV Pacific Responder*

For more detailed information on the National Plan and NEMERA, see separate AMSA publications.

## A final note

Recent years have seen acceleration of interest, worldwide, in the adoption of international regulations to protect the marine environment. These regulations are regularly updated and new regulations being developed.

Despite all the preventative measures, accidents and illegal activities do occur and Australia's response capability is designed to minimise and control the effects of pollution in the marine environment. It is not only a large pollution event that causes harm, but continual small amounts of chronic pollution is just as damaging.

The cleanliness of Australia's ocean can be maintained through the enforcement of legislation, education and the continued development of control procedures for the prevention and physical removal of harmful substances from the marine environment.



## YOU CAN HELP

The protection of the marine environment is the responsibility of everyone. We must all be conscious of the pollution threats to our waterways and oceans and the serious effects that may result.

Polluters must be held responsible for their actions.

If you witness a vessel polluting, you can report the incident to AMSA or the local port/marine/transport authority and the incident will be investigated.

Please provide relevant details of the incident such as when and where the incident occurred, name of the vessel, type and extent of pollution and any other information.

Pollution from vessels should be reported to:  
Rescue Coordination Centre (Australia)

Ph: 02 6230 6811 (24 hours)

Freecall: 1800 641 792

Or: Environment Protection  
Australian Maritime Safety Authority

Email: [eps@amsa.gov.au](mailto:eps@amsa.gov.au)

Ph: 02 6279 5933

[www.amsa.gov.au](http://www.amsa.gov.au)