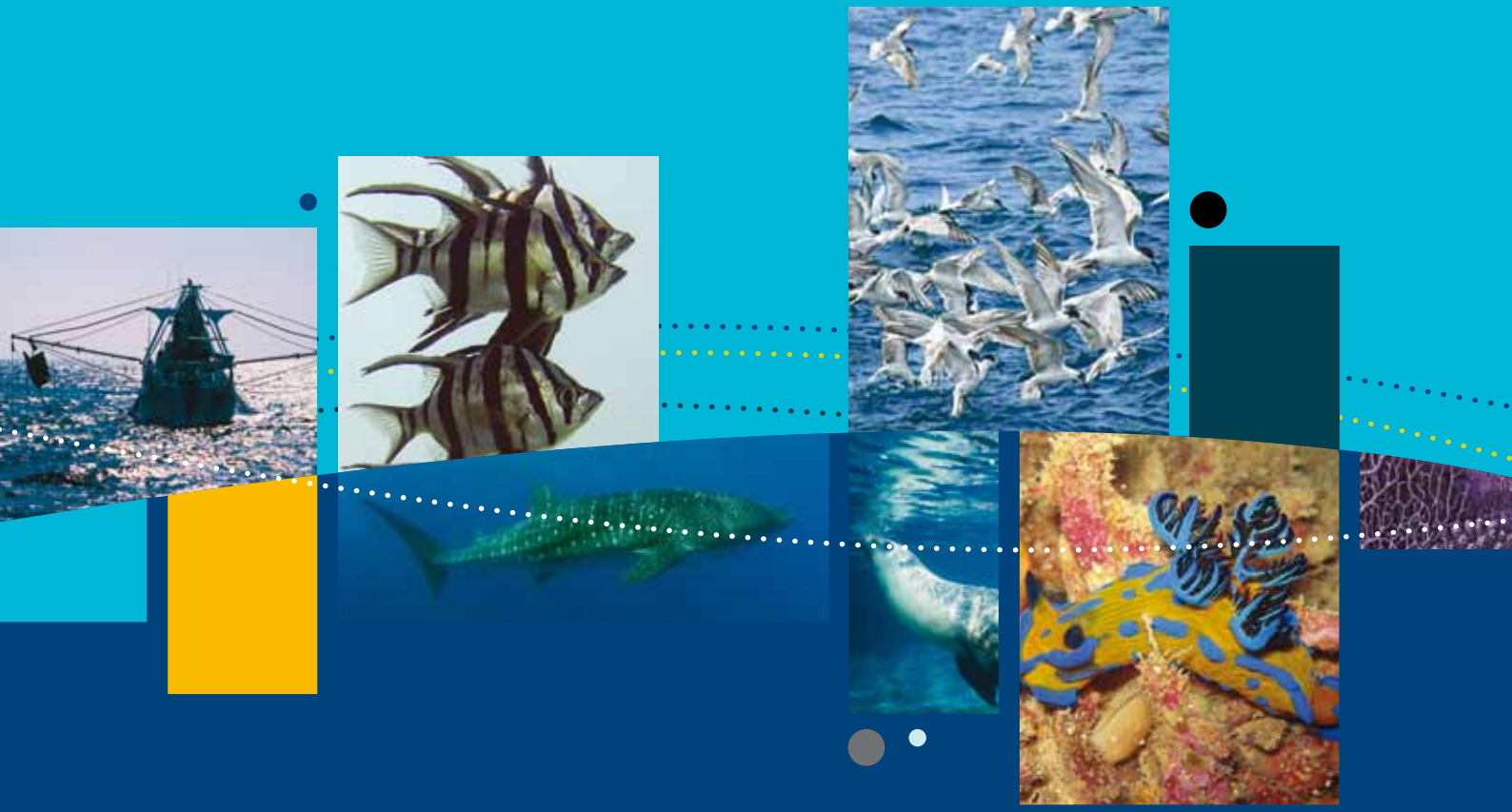
Australian Government
Department of Sustainability, Environment,
Water, Population and Communities



Overview

Overview of marine bioregional plans

Images:
Trawler – Department of Fisheries WA, Old wife – Alex Sutandio, Blue whale – DSEWPAC, Tern common – Richard Freeman, Australian Sea Lion – Glen Cowan, Vercos nudibranch – Antony King, Southern blue devil – MLSSA/Antony King, Capes Seagrass – Marine Futures WA, Dolphin – Richard Freeman, Harlequin fish – James Brook, Southern calamari squid – Anthony King, Southern right whale – Dave Watts

Australian Government

Department of Sustainability, Environment,
Water, Population and Communities

Overview

Overview of marine bioregional plans

CONTENTS

1 THE MARINE BIOREGIONAL PLANNING PROGRAM

Introduction

The Department of Sustainability, Environment, Water, Population and Communities is responsible for developing marine bioregional plans for the five large marine regions in Commonwealth waters around Australia. Marine bioregional plans apply to Commonwealth waters. The planning process is also being used to identify regional networks of marine reserves that will become part of the National Representative System of Marine Protected Areas. The Commonwealth marine reserve network will have no impact in the area from the coastline out to three nautical miles (5.5km) from shore. The planning process is based on scientific analysis of Australia's marine environment, analysis of socioeconomic factors and community consultation and input. Marine bioregional plans will be used by government and industry to improve the way we manage and protect the marine environment.

1.1 What are the objectives of marine bioregional plans?

Australia has the third largest marine environment of any nation in the world. Just as precious environments on land are protected in national parks, our oceans contain many iconic, ecologically important and fragile places which deserve protection too. Much of our marine life is found nowhere else in the world. Our nation is home to an amazing diversity of marine environments, from the tropical seas of northern Australia to the depths of the Southern Ocean. We have a responsibility to keep our oceans healthy, resilient and productive for current and future generations.

Marine bioregional planning is about improving the way Australia's marine environment is managed. Marine bioregional plans describe the marine environment and conservation values of each marine region, set out broad objectives for their biodiversity, identify regional priorities and outline strategies and actions to address these priorities.

Commonwealth marine areas are protected as a matter of national environmental significance under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

The Australian Government's objectives for Commonwealth marine areas are to:

- conserve biodiversity and maintain ecosystem health
- ensure the recovery and protection of threatened species, and
- improve our understanding of biodiversity and ecosystems and the pressures they face.

Marine bioregional plans are designed to contribute to these objectives by:

- supporting strategic, consistent and informed decision-making under Commonwealth environmental legislation in relation to Commonwealth marine areas
- supporting efficient administration of the EPBC Act to promote the conservation and ecologically sustainable use of the marine environment and its resources
- providing a framework for strategic intervention and investment by government to meet its policy objectives and statutory responsibilities.

The EPBC Act provides that a bioregional plan may include provisions about all or any of the following:

- components of biodiversity, their distribution and conservation status
- important economic or social values
- heritage values of places
- objectives relating to biodiversity and other values
- priorities, strategies and actions to achieve the objectives
- mechanisms for community involvement in implementing the plan
- measures for monitoring and reviewing the plan.

1.2 How will marine bioregional plans contribute to better management of the marine environment?

Better management of the marine environment will be achieved by:

- providing advice and information to industry proponents proposing to undertake activities that will have, or are likely to have, a significant impact on matters of national environmental significance; this is of particular relevance to decision-making around environmental assessments and approvals (Parts 3, 7, 8, 9 and 10 of the EPBC Act), fisheries assessments (Parts 10 and 13A) and species and communities (Part 13)
- enabling strategic, consistent and informed decision-making in environmental assessments and approvals and in longer term planning by government and industry

- targeting environmental programs, conservation measures and other government interventions within a region towards regional priorities
- focusing investment in research and monitoring to address critical data and knowledge gaps to increase our understanding of ecosystems and human interactions with them and to improve the government's ability to meet its statutory responsibilities and policy priorities.

Marine bioregional plans aim to support all of these components. Marine bioregional plans will increase our understanding of Australia's unique marine environment. This enhanced understanding will improve the way decisions are made under the EPBC Act, particularly in relation to the protection of marine biodiversity and the sustainable use of our oceans and their resources by our marine-based industries.

Importantly, marine bioregional plans will contribute towards a more preventive approach to managing the environmental impacts of human activities, by identifying and describing a region's conservation values and priorities for managing those values. This will enable decision-makers within government and industry to consider the interactions between proposed activities and conservation values, and the cumulative impacts of activities on the Commonwealth marine environment.

1.3 Where will marine bioregional plans apply?

Marine bioregional plans will apply to Commonwealth marine areas, which are also referred to as Commonwealth waters (Box 1.1). In these plans, the 'Commonwealth marine environment' refers to the environment within Commonwealth marine areas. Under Part 3 of the EPBC Act, a Commonwealth marine area is protected from certain actions both within and outside the area and is a matter of national environmental significance (Box 1.2). Generally, it is an offence, or will result in a civil penalty under the EPBC Act, to undertake an action that has, will have or is likely to have a significant impact on a matter of national environmental significance without approval from the minister responsible for implementing the EPBC Act.

Box 1.1 Commonwealth marine areas

The Australian Government is responsible for Commonwealth marine areas which are also known as Commonwealth waters. Commonwealth waters start at the edge of state or territory waters usually three nautical miles (5.5 kilometres) from the coast and extend to the outer limits of Australia's exclusive economic zone, some 200 nautical miles from shore (Figure 1). The full definition of 'Commonwealth marine area' is in s. 24 of the EPBC Act.

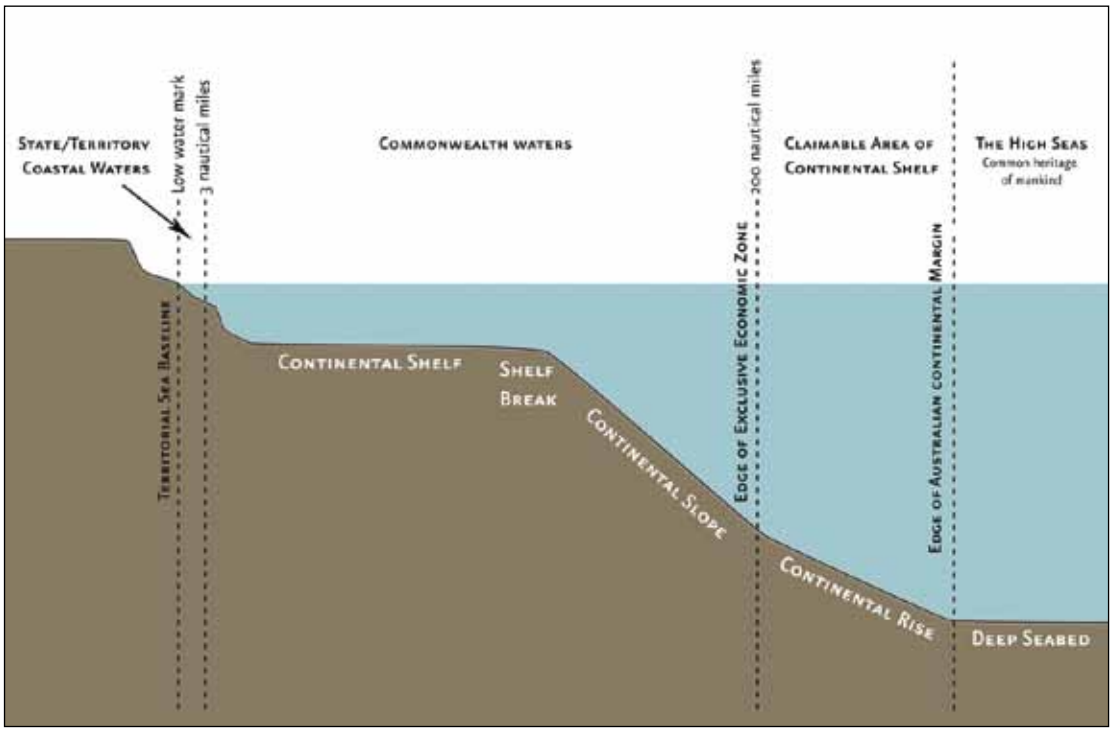
Box 1.2 Matters of national environmental significance

The matters of national environmental significance protected under the EPBC Act are:

- world heritage properties
- national heritage places
- wetlands of international importance (listed under the Ramsar Convention[1])
- listed threatened species (except those listed as extinct or conservation dependent) and ecological communities (except those listed as vulnerable)
- migratory species protected under international agreements
- the Commonwealth marine environment
- the Great Barrier Reef Marine Park.

Additionally, nuclear actions, including uranium mines, are a matter of national environmental significance.

Figure 1: Australia's maritime zones



1 www.environment.gov.au/water/topics/wetlands/ramsar-convention/index.html

1.4 How are marine bioregional plans being prepared?

Marine bioregional plans are being developed with input from scientific and other experts, and in consultation with stakeholders. The process has four steps:

Step 1. Characterisation of the region, including its natural systems and conservation values. A bioregional profile for each region brings together the available scientific information about a region's biophysical and broad socioeconomic characteristics and conservation values.

Step 2. Regional assessment of the conservation values. This step consolidates information about the conservation values, their status and the pressures on them. The assessment is used to categorise pressures on conservation values and identify regional priorities in relation to managing these pressures.

Step 3. Development and release of a draft marine bioregional plan. Consultation with stakeholders and the community provides essential input in developing a marine bioregional plan. The EPBC Act requires the minister to consult the public on a draft of the plan. The consultation ensures that the plan is based on accurate information and builds a shared understanding of the conservation objectives and priorities within a region.

Step 4. Release of the marine bioregional plan. Following the minister's consideration of all submissions received on the draft plan during the public consultation process, it is finalised and released.

1.5 What are the key elements of a marine bioregional plan?

Marine bioregional plans will include a number of key elements that further improve our understanding of the marine environment and support more informed decision-making. The key elements are:

Conservation values are defined as those elements of the region that are either specifically protected under the EPBC Act (such as species or places), have heritage values for the purposes of the EPBC Act or have been identified through the planning process as key ecological features in the Commonwealth marine environment. (Although not specifically protected under the EPBC Act, key ecological features are identified as conservation values within the Commonwealth marine environment to help inform decisions about the marine environment.)

By comprehensively identifying and describing the region's conservation values, marine bioregional plans assist in understanding and assessing what might constitute a significant impact on matters of national environmental significance.

Key ecological features are the parts of the marine ecosystem that are considered to be important for a region's biodiversity or ecosystem function and integrity (see Section 2.1.3).

Biologically important areas are areas where a protected species displays biologically important behaviour, such as breeding, foraging, resting or migration. These areas are those parts of a marine region that are particularly important for the conservation of protected species (see Section 2.1).

Regional pressure analysis involves a review of current information on present and emerging pressures, their impact on conservation values, and the effectiveness of mitigation and management arrangements that are in place (see Section 2.2).

Regional priorities are key areas of focus that should inform decision-making about marine conservation and planning, as well as industry development and other human activities. Priorities are identified through regional pressure analysis and take into account government policy priorities. The regional priorities provide context for implementing the government's statutory responsibilities, such as recovery planning for threatened species and the development and implementation of threat abatement measures. They also point to where future government initiatives and investments in marine conservation, including in research and monitoring, would be best directed (see Section 2.3).

Regional advice on environmental assessments and referrals will assist people who wish to undertake activities in, or potentially impacting on, the Commonwealth marine environment to better understand and meet their obligations under the EPBC Act. They will also assist them in deciding whether a referral to the minister for approval should be made, and identify any information that is likely to be important to include as part of the referral (see Section 2.4).

1.6 Who will use marine bioregional plans?

People who have responsibility for, or interest in, management of marine-based activities, environment protection and marine science

Marine bioregional plans are important documents for individuals and organisations with an interest in the marine environment and the way national environmental law is administered within Commonwealth waters. Marine bioregional plans provide information that enables people to better understand the Australian Government's marine environment protection and biodiversity conservation responsibilities, objectives and priorities.

People who wish to undertake new developments in Commonwealth waters, or developments that are likely to have a significant impact on matters of national environmental significance

People planning to undertake activities within a marine region can use the information provided in marine bioregional plans and supporting information tools to determine how to mitigate the potential environmental impacts of their proposal and whether their proposal should be referred in accordance with the EPBC Act.

The minister and department implementing the EPBC Act

The minister must have regard to a bioregional plan in making any decision under the EPBC Act to which the plan is relevant. Decisions under the EPBC Act of relevance to marine bioregional plans include:

- EPBC Act assessments and approvals for proposed actions in Commonwealth waters (Parts 3, 7, 8, 9 and 10 of the Act)
- cases in which environmental approval is not needed (Part 4)
- fisheries export approvals and strategic assessments (Parts 10 and 13A)
- listing and recovery of species and ecological communities (Part 13)
- the protection of heritage values and places in the marine environment (Part 15).

Although the minister must have regard to a bioregional plan in making any decision under the EPBC Act for which the plan has relevance, the plan is not a legislative instrument.

Other government agencies

The requirement to have regard to a marine bioregional plan in making decisions applies only to the Commonwealth minister administering the EPBC Act. However, marine bioregional plans provide comprehensive information about each marine region that assists government decision-making relevant to the Commonwealth marine environment. Marine bioregional plans are underpinned by an ecosystem approach (Box 1.3). This approach requires government decision-makers to consider issues across jurisdictional, sectoral and disciplinary boundaries, so that actions are not considered in isolation from one another. The information provided in marine bioregional plans assists decision-makers in the Australian Government and other jurisdictions to collaborate more effectively across jurisdictional and sectoral boundaries.

Box 1.3 The ecosystem approach

What is it?

The ecosystem approach is one of the most important principles of sustainable environmental management. Essentially, it recognises that all elements of an ecosystem are interconnected and requires that the effects of actions on the different elements of an ecosystem be taken into consideration in decision-making.

Why do we do it?

Ecosystems are complex and interconnected—what affects one species or habitat will have cascading and possibly unpredictable implications for other species or habitats. In addition, different activities within a marine environment may affect different parts of the interconnected whole or amplify the impacts on particular parts of the natural system.

We wish to prevent problems rather than react to them. This is why we want to address the drivers of biodiversity loss, rather than their symptoms. A focus on building and maintaining the resilience of ecosystems is more efficient and effective than addressing problems after they have occurred.

2 METHODS USED TO IDENTIFY KEY ELEMENTS OF A MARINE BIOREGIONAL PLAN

This section outlines how the Department of Sustainability, Environment, Water, Population and Communities is developing draft marine bioregional plans as a basis for consultation with the public.

2.1 How are conservation values identified?

2.1.1 Protected species and their biologically important areas

Under the EPBC Act, protected species can be listed in a number of categories.

Threatened species are, in broad terms, those species that have been identified as being in danger of becoming extinct. Species may be listed in the following categories:

conservation dependent

vulnerable

endangered

critically endangered

extinct in the wild

extinct

Migratory species are those species that are listed under:

- the Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention)
- the Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds in Danger of Extinction and their Environment 1974 (JAMBA)
- the Agreement between the Government of Australia and the Government of the People's Republic of China for the Protection of Migratory Birds and their Environment 1986 (CAMBA)
- the Agreement between the Government of Australia and the Government of the Republic Of Korea on the Protection of Migratory Birds 2007 (ROKAMBA)

any other international agreement, or instrument made under other international agreements approved by the environment minister.

Further information on the CMS, JAMBA, CAMBA and ROKAMBA is provided at **www.environment.gov.au/biodiversity/migratory/index.html**

Cetaceans—all cetaceans (whales, dolphins and porpoises) are protected under the EPBC Act in the Australian Whale Sanctuary and, to some extent, beyond its outer limits.

Marine species belong to taxa that the Australian Government has recognised as requiring protection to ensure their long-term conservation (in accordance with sections 248–250 of the EPBC Act). Listed marine species occurring in the South-west Marine Region include species of:

- sea snakes (families Hydrophiidae and Laticaudidae)
- seals, both eared and true seals (families Otariidae and Phocidae)
- marine turtles (families Cheloniidae and Dermochelyidae)
- seahorses, sea dragons, pipefish and ghost pipefish (families Syngnathidae and Solenostomidae)
- seabirds (i.e. bird species that occur naturally in Commonwealth marine areas).

Protected species can be listed under more than one category.

Under the EPBC Act, species listed as threatened or migratory are matters of national environmental significance (although species listed as extinct or conservation dependent are not matters of national environmental significance—see Section 1.5 of the marine bioregional plan).

Biologically important areas have been defined for some listed species, using expert scientific knowledge about species' distribution, abundance and behaviour in each marine region. The selection of species was informed by the availability of robust scientific information, the conservation status of listed species and the importance of the region for the species. The range of species for which biologically important areas are defined will continue to expand as reliable spatial and scientific information becomes available.

Behaviours that have been used to define biologically important areas are:

- breeding, calving, pupping, spawning aggregations, nesting (and resting after nesting, in the case of turtles)
- migration, resting on migration, aggregations of resting animals
- feeding, foraging for young, foraging, feeding aggregations
- roosting, aggregations of animals.

The process for defining biologically important areas involves mapping proposed areas digitally, based on expert advice and published literature, then obtaining independent scientific review of the maps and descriptions of the proposed areas.

Biologically important area maps and descriptions are available in the conservation values atlas for each region.

2.1.2 Protected places

Protected places are those places protected under the EPBC Act as matters of national environmental significance—places listed as World Heritage, National Heritage, or wetlands of international importance—Commonwealth marine reserves and places deemed to have heritage value in the Commonwealth marine environment such as places on the Commonwealth heritage list or shipwrecks under the *Historic Shipwrecks Act 1976*.

2.1.3 How are key ecological features identified?

Key ecological features (KEFs) are elements of the Commonwealth marine environment that are of particular importance for ecological functioning, ecological integrity and biodiversity. KEFs are recognised as conservation values in marine bioregional plans and, as such, inform decisions about the potential significance of impacts on the Commonwealth marine environment (see Policy Statement 1.1: Significant impact guidelines: matters of national environmental significance, May 2009[2]).

The Australian Government has drawn on the best available scientific information and advice to identify and describe KEFs in each marine region. KEFs were first described in the bioregional profile for each region and have since been modified as a result of further analysis and review by scientific experts. The revised KEFs are described in the Commonwealth marine environment report card for each region. The information supporting KEFs is subject to ongoing review as new scientific information emerges.

Criteria to identify KEFs

The criteria used to identify KEFs in each marine region are:

- a species, group of species or community with a regionally important ecological role, where there is specific knowledge about why the species or species group is important to the ecology of the region, and the spatial and temporal occurrence of the species or species group is known
- a species, group of species or community that is nationally or regionally important for biodiversity, where there is specific knowledge about why the species or species group is regionally or nationally important for biodiversity, and the spatial and temporal occurrence of the species or species group is known

2 **www.environment.gov.au/epbc/publications/nes-guidelines.html**

- an area or habitat that is nationally or regionally important for
  - enhanced or high biological productivity
  - aggregations of marine life
  - biodiversity and endemism[3]
- a unique seafloor feature with ecological properties of regional significance.

In the development of marine bioregional plans, KEFs are:

- informing the identification and assessment of pressures on Commonwealth marine areas and their conservation values, and hence the identification of regional priorities in each marine region
- contributing to the identification of a representative network of Commonwealth marine reserves. KEFs for which spatial protection is both desirable and appropriate are being considered for inclusion in marine reserves
- contributing to the development of indicators for marine ecosystem health.

2.2 How are the pressures on conservation values analysed?

The regional pressure analysis included an assessment of the impact of pressures on regional conservation values and the effectiveness of mitigation and management arrangements that are in place. The analysis enabled pressures to be categorised in terms of their relative importance, and has informed the identification of priorities for each marine region. The outcomes of the regional pressure analysis for each marine region are presented in the conservation value report cards (see Section 3).

The analysis included a review of scientific and expert literature, and was informed by the findings of relevant environmental and impact assessment studies, risk assessments and expert opinion.

The pressure analysis considered, for each selected conservation value, information derived from available reports and research about:

- the spatial location and intensity of the pressure(s), both current and anticipated
- the location of the conservation value—that is, its distribution and the location of areas important to it
- current understanding of impacts (at relevant scales) resulting from the interaction between the pressure(s) and the conservation value
- current management measures and the effectiveness of impact mitigation measures.

3 Endemism refers to species native to the region

Selection of conservation values for assessment

The pressure analysis was applied to KEFs, protected places and species groups or species for which the region is important for the species' conservation. In assessing the significance of the region for a species' conservation, key considerations included the species' conservation status, distribution, population structure within the region and life history characteristics, and the potential for the population(s) in the region to be genetically distinct from populations elsewhere.

Pressure categories and ranking criteria

In the assessment process, pressures were classified as *of concern*, *of potential concern*, *of less concern* and *not of concern*.

A pressure is *of concern* when:

- there is evidence that it interacts with the conservation value within the region and there are reasonable grounds to expect that it may result in a substantial impact (Box 2.1), and
- there are no management measures in place to mitigate the impact(s), or there is inadequate or inconclusive evidence of the effectiveness of management measures within the region.

A pressure is *of potential concern* when:

- there is evidence that the conservation value is vulnerable to the type of pressure, although there is limited evidence of a substantial impact within the region, and
- the pressure is widespread or likely to increase within the region, and
- there are no management measures in place to mitigate potential or future impacts, or there is inadequate or inconclusive evidence of the effectiveness of management measures.

A pressure is *of less concern* either when:

- there is evidence of interaction with the conservation value within the region and there are reasonable grounds to expect that the impacts are unlikely to be substantial, or
- there is evidence of interaction with the conservation value within the region and there are reasonable grounds to expect that current management measures in place are effective in minimising or mitigating the impact.

A pressure is *not of concern* when:

- the pressure is rare or absent from the region, or
- there are reasonable grounds to expect that the impacts are minimal or the pressure does not interact with the conservation value, or
- there is evidence that the pressure is managed effectively through routine management measures.

Box 2.1 What is a substantial impact?

A pressure was considered likely to cause a *substantial impact* on a conservation value if there was a reasonable possibility that it would have any of the following effects:

- introduction of a known or potential pest or invasive species
- extensive modification, destruction, fragmentation, isolation or disturbance of habitat, which results in changes to community composition and/or trophic relationships and/or ecosystem services
- modification, destruction, fragmentation, isolation or decline in availability of quality habitat important for a species of conservation value, to the extent that the species' conservation status is affected or its recovery is hindered
- substantial change in air or water quality, which may adversely impact biodiversity, ecological function or integrity, social amenity or human health
- introduction of persistent organic chemicals, heavy metals or potentially harmful chemicals, which adversely impact on biodiversity, ecosystem function or integrity, social amenity or human health
- change in community dynamics or structure that results in adverse impacts on biodiversity, ecological function or integrity, social amenity or human health
- increase in mortality of conservation values to an extent that may affect their conservation status or hinder recovery
- reduction in the area of occupancy of a species of conservation value, which may affect its conservation status or hinder recovery
- fragmentation of populations of conservation value
- reduced breeding success of a species or population of conservation value
- extensive or prolonged disturbance that affects the conservation status of a species or population of conservation value.

Note that the criteria above defining substantial impacts have been informed by the criteria developed to define significant impacts in the EPBC Act Policy Statements, but that the two sets of impacts are used for different purposes and should not be confused.

2.3 How are regional priorities identified?

Regional priorities are key areas of focus that are being identified to inform decision-making about marine conservation and planning, as well as industry development and other human activities. The regional priorities will provide context for implementing the government's statutory responsibilities such as recovery planning for threatened species and the development and implementation of threat abatement measures. They will also point to where future government initiatives and future investments in marine conservation, including in research and monitoring, would be best directed.

The outcomes of the pressure analyses guide the identification of the regional priorities. These analyses reflect aspects such as the conservation status of conservation values, the location and extent of pressures and the expected impacts arising from conservation value/pressure interactions. To further aid the identification of the regional priorities for each region, consideration is being given to the following criteria:

- a conservation value that is subject to
  - a pressure considered *of concern* for the conservation value, and
  - pressures that together are likely to result in cumulative impacts on the value, and/or
  - pressure(s) that are likely to increase substantially in intensity and extent over the next 5–10 years
- a pressure that is considered *of concern* for multiple conservation values
- an area where better knowledge would improve the Government's capacity to meet conservation and ecologically sustainable use objectives
- an Australian Government policy priority for the marine region.

3 INFORMATION SUPPORTING MARINE BIOREGIONAL PLANS

3.1 What information is provided in a marine bioregional plan?

Through the marine bioregional planning process, the Australian Government is synthesising and consolidating a range of information to act as a guide in the management of the Commonwealth marine environment. Information resources are being developed to make this knowledge publicly accessible and to inform decision-making both within and outside government.

Marine bioregional plans will also provide direction by identifying regional priorities, strategies and actions (Sections 3.1 and 3.2 of each marine bioregional plan) and providing regional advice on environmental assessments and referrals (Schedule 2 to each marine bioregional plan).

3.2 What information resources are available?

There are two main information resources that will support the plans; conservation value report cards and a conservation values atlas.

Conservation value report cards

The conservation value report cards contain a comprehensive summary of information about the conservation values in each marine region. Conservation values include species and places protected under the EPBC Act and key ecological features.

There are three types of conservation value report cards, reflecting the three main categories of conservation value:

- Commonwealth marine environment (including key ecological features)
- species groups
- heritage places.

The report cards are available at **http://www.environment.gov.au/coasts/mbp/index.html** and are complementary to the marine bioregional plans. The report cards include:

- a description of the conservation value in the region
- an overview of vulnerabilities and pressures (*of concern* and *of potential concern*)
- a list of current protection measures
- references.

The conservation values atlas

The environment department, as the Australian Government department responsible for administering the EPBC Act, maintains a suite of interactive tools that allow users to search, find and generate reports on information and data describing matters of national environmental significance and other conservation values in the marine environment.

The conservation values atlas has been developed as part of the marine bioregional planning process and is designed to provide a visual representation of the conservation values in each marine region. It presents maps detailing the location and spatial extent of conservation values (where sufficient information exists). The conservation values atlas is available at **http://www.environment.gov.au/coasts/mbp/index.html**.

The information and data in these tools can be accessed in a variety of ways, with the main avenue being through the department's website. The conservation values atlas is expected to become more detailed as our knowledge about the conservation values improves over time.






MAR53/0411