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# South-east Regional Marine Plan



IMPLEMENTING AUSTRALIA'S OCEANS Policy in the South-east Marine Region TITLE: South-east Regional Marine Plan, Implementing Australia's Oceans Policy in the South-east Marine Region

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Healthy oceans: cared for, understood and used wisely for the

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As we live on an island continent, Australians are responsible for a greater area of ocean than the people of any other nation on earth. This brings exciting opportunities and important responsibilities.

> Dedicated to the memory of Meredith Hall 1971 - 2004

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### **MINISTERIAL FOREWORD**

The South-east Regional Marine Plan is the first of a kind.

Not only is this the first such plan to be developed in Australia's ocean waters, it is the first to be developed on this scale anywhere in the world.

It represents a major milestone in the Howard Government's commitment to ecologically sustainable development.

With the world's greatest area of ocean territory, Australia is a leader in oceans planning and management. This has been the case since the launch of *Australia's Oceans Policy* in 1998, the International Year of the Ocean.

The South-east Marine Region makes a vital contribution to Australia's prosperity, with more than 275,000 Australians employed directly and indirectly in marine industries within the Region, with an annual value of \$19 billion.

This economic activity occurs in oceans blessed with bountiful temperate ecosystems, where the majority of species are uniquely Australian. Marine industries and coastal communities depend upon healthy and sustainable ecosystems.

The South-east Regional Marine Plan will shape the future of Australia's oceans planning and management. Lessons learned in the south-east will inform the already commenced Northern Australian marine plan, and others yet-to-be-announced.

The South-east Regional Marine Plan is the culmination of extensive cooperation and consultation by the National Oceans Office with all stakeholders. In particular, I acknowledge the contribution of the South-east Regional Marine Plan Steering Committee, the National Oceans Advisory Group, the South-east Regional Marine Plan Working Group, and scientists who have been closely involved in the development of the Plan. The South-east States – Tasmania, Victoria, South Australia and New South Wales – have all played a significant role in the development of the Plan. I look forward to a strengthened partnership with these States in the implementation of the Plan and the integrated management of oceans within our respective jurisdictions.

On behalf of my fellow National Oceans Ministerial Board members, I proudly welcome Australia's first regional marine plan.



Dr David Kemp, Minister for the Environment and Heritage, Chair, National Oceans Ministerial Board

On behalf of National Oceans Ministerial Board members:

John Anderson, Deputy Prime Minister, Minister for Transport and Regional Services

Senator Ian Macdonald, Minister for Fisheries, Forestry and Conservation

Ian Macfarlane, Minister for Industry, Tourism and Resources

Peter McGauran, Minister for Science



### SUMMARY

Australia's oceans are beautiful and diverse. But they cannot be taken for granted.

Australians are responsible for a greater area of ocean than the people of any other nation on earth. This brings exciting opportunities and important responsibilities.

### Providing resources and jobs...

Marine-based industries are the economic engine of many communities throughout Australia. The South-east Marine Region's shipping, ports, petroleum, tourism, aquaculture and fisheries industries are estimated to contribute more than \$19 billion a year and employ more than 275,000 Australians either directly or indirectly.







The introduced pest the Pacific Seastar poses a threat to the marine life of the South-east Marine Region.

### Protecting our future...

Seemingly harmless actions may have unintended consequences in ocean ecosystems. No one wants to see a collapse of marine ecosystems like the Grand Banks of the North Atlantic, where 90% of the worldrenowned Newfoundland fishery has been wiped out and will not recover for years.

Such environmental disasters have decimated ecosystems, industries and communities around the world. While our oceans are in comparatively good condition, we must prepare today to prevent future problems. Already Australia's ocean resources are under pressure from marine pollution, fisheries bycatch, and introduced marine pests.

The opportunities and challenges for Australia are well illustrated in the South-east Marine Region.

### A remarkable environment...

Southern Australia's diversity of marine life is remarkable by global standards. Home to a great variety of invertebrates, fish and some of our best known marine animals, including whales, dolphins, and seals, Southern Australia is notable for the large numbers of endemic organisms – species found nowhere else in the world. Around 85% of the known fish fauna (600 species), and 62% of the known seafloor flora are believed to be endemic.





## Regional marine planning: How Australia is leading the world

The Australian Government recognises that it must plan today to maintain our economic prosperity and to protect the environment on which it depends.

The South-east Regional Marine Plan is pioneering work. Nowhere else in the world has marine planning been undertaken on this scale. It is the first of several large-scale regional marine plans to be developed for Australia's vast ocean territory. It will set the scene for future planning work that will be carried out for other marine regions around Australia.

## The South-east Regional Marine Plan

The South-east Regional Marine Plan covers two million square kilometres of Australia's south-east ocean waters, including the ocean off Victoria, southern New South Wales, eastern South Australia, Tasmania, and around Macquarie Island (see Figure 2, page 6).

The South-east Regional Marine Plan has been developed by the Australian Government in consultation with South-east State governments, industry representatives, Indigenous groups, marine communities and others with an interest in the marine environment. It illustrates how individual management actions by governments, industry and community members can be brought together. The Plan describes the significant progress and outlines actions to improve oceans management in the Region and achieve ecologically sustainable development. This integrated oceans management is a new way of doing business that encourages management decisions based on cooperation and consideration of all ocean uses and users in the Region.

The South-east Regional Marine Plan reflects the Australian Government's commitment to:

- the ecologically sustainable development of marine industries;
- cooperative and inclusive marine management;
- community and Indigenous participation in marine management; and
- the conservation of marine biodiversity.



A computer-generated bathymetric picture of the south-east Australian continental block and surrounding ocean floor, viewed from the south of Tasmania. A series of seamounts can be observed to the south-east of Tasmania.



## What the Plan aims to achieve: Objectives and outcomes

The Plan aims to provide for development that improves our quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. Specifically, there are nine regional objectives which have guided the development of the Plan and its 93 actions. These objectives and a selection of the key actions are listed below, along with the positive outcomes we can expect to see in the Region by implementing the Plan.

### 1. OBJECTIVE

Ensure that all ocean uses are ecologically sustainable

### **Key actions:**

- Design a monitoring and reporting regime to determine the ecological, social and economic health of the Region; and
- conduct a risk assessment to identify the combined effects of our activities.

### Outcome:

A new way of understanding and measuring the ecosystem as a whole that provides a backdrop for management of resources for individual users. This will allow us to confirm that the entire range of marine resource use, when considered jointly, is ecologically sustainable.

Students on a field trip, learning about the marine environment



### 2. Овјестиче

Protect, conserve and restore the Region's marine biodiversity, ecological processes, and natural and cultural marine heritage

#### **Key actions:**

- Develop a system of representative marine protected areas (MPAs) for the Region, including candidate options for two areas (Murray and Zeehan), that cover more than 40 000 km<sup>2</sup>;
- improve our knowledge of marine ecosystems, including better mapping of the seafloor and its habitats, e.g. seamounts and canyons; and
- do targeted work on key threats to the Region's marine biodiversity, e.g. declining water quality and introduced marine species.

#### Outcome:

A set of representative and important habitats, that support marine biodiversity, will be protected and the impacts of priority threats to these ecosystems will be minimised. We will also be able to measure the health of the oceans in the Region to see whether management is working.

### 3. Овјестиче

Increase long-term security of access and certainty of process for existing and future marine-based industries

#### Key actions:

- Review marine-related laws and regulations that apply in the Region to see where improvements can be made;
- ensure industry representation and participation in marine management, e.g. through membership of an advisory group for the Region and participation in specific projects such as identifying candidate marine protected areas; and
- provide a clear process for future management planning and development that considers existing access and use.

#### Outcome:

Industries can actively manage and plan for future growth with access to better information and advice about management requirements. They will also have opportunities to check that their current and future needs are being considered in the development of management actions in the Region.

#### 4. Овјестиче

Promote economic development and job creation in the Region consistent with ecologically sustainable development

#### **Key actions:**

- Improve our understanding of key economic issues facing marine industries, such as increasing operational and development costs, overcapitalisation, and internationally competitive markets;
- promote existing best practice and innovation in marine-based industries, such as improvements to gear technology;
- anticipate and develop consistent responses to emerging and future issues, e.g. decommissioning of oil and gas platforms and increasing vessel sizes; and
- pilot a regional tourism trail based on the marine environment, seafood and culture.

### Outcome:

Support for marine-based industries to capitalise on their investments and further refine their activities to introduce innovative technology and explore new markets. Also achieve recognition of recent advances in industry operations to promote stewardship and self management, e.g. codes of conduct.

### 5. Овјестиче

Integrate management of access, allocation, conservation and use of marine resources to ensure fairness and accountability to the community and all users

#### **Key actions:**

- Efficiencies in planning and spatial management across sectors, e.g. marine protected areas and fisheries closures;
- establish a clear process for addressing cross-sectoral issues, including agreed approaches to multiple-use management in the Region; and
- regular reporting and review procedures incorporated in a performance assessment system.

### Outcome:

A coordinated approach to marine management in the Region that is simple, well understood and that recognises the needs of all users and the community. Over time, we will have a consistent and streamlined reporting system to check on the success of our management actions and increase accountability.

### 6. Овјестиче

Increase knowledge and understanding of the Region to improve our capacity to pursue ecologically sustainable development

#### Key actions:

- Improved coordination of research effort and the development of new research partnerships, e.g. between industry and government;
- make information available to all on a central web-based Oceans Portal; and
- report on the effectiveness of management actions and establish a way of adapting management that is based on risk assessment.

#### Outcome:

More and better coordinated science will be conducted in the Region, leading to improved evidence-based decision making.

A scientist works in a marine research laboratory.





### 7. Овјестиче

Enhance community and industry stewardship and understanding of the values and benefits of the Region and involve them in its management

### Key actions:

- Implement a marine education strategy that includes teaching packages for schools;
- support the establishment of a Marine Discovery Centre Network; and
- establish a stakeholder advisory group to provide ongoing industry, community and expert participation in management of the Region, including implementation of key actions and future reviews of the Plan.

#### Outcome:

Communities will be informed about the importance of managing our marine ecosystem to promote responsible and wise use of the marine resources in the Region and build their capacity to be involved in management. Stewardship will be encouraged through recognition of, and opportunities for, communities and industries that take responsibility for marine management in their area.

The red handfish is found on shallow rocky reefs in only a few locations in south-eastern Tasmania.



### 8. Овјестиче

Involve Indigenous communities in management of the Region in a manner that recognises and respects their rights, custodial responsibilities, contributions and knowledge

#### **Key actions:**

- Build capacity of communities to participate in management through the development of Sea Country Plans such as the Maar Sea Country Plan developed in collaboration with the Framlingham Aboriginal Trust and Winda-Mara Aboriginal Corporation; and
- look for opportunities for Indigenous participation in commercial activities in the Region, e.g. commercial fishing.

#### Outcome:

Support Indigenous communities to take an active part in marine resource use and management in the Region.

### 9. OBJECTIVE

Take into account in decision making the needs, values and contributions of the community and industry, the national interest and international obligations relevant to the Region

#### Key actions:

- Establish an agreed process which provides for consistent and inclusive decision making across Australian Government agencies;
- work with South-east State governments to explore arrangements that lead to coordinated oceans management in the Region, e.g. links between estuarine and ocean management; and
- provide public reports on the Region, including the health of the ocean and the well-being of the communities that depend on the ocean and the economic benefits provided by marine resource use.

#### **Outcome:**

A more strategic coordinated approach to marine management in the Region.

The actions included in the Plan will be delivered through existing legislation.

### There is still much we don't know

While we know the environment of the Region is unique, there is much that we are still to learn. Similarly, there are likely to be untapped resources in the Region, where developing technologies may, over time, lead to new industries, jobs and prosperity.

This recognition of the limits of our knowledge about the marine environment and future resources influences the way we make management decisions today. It has also influenced the development of this Plan by changing our focus from immediate solutions to setting future direction for management. Importantly, it means that, in the first instance, our energies are best spent on building an essential information base and establishing ways of working together with stakeholders, agencies and governments.

### Fluid and dynamic: an adaptive process...

Because our information base is incomplete and our use of ocean resources changes over time, it is important that we manage our marine territory in an adaptive way. We cannot afford to make decisions today on the basis of incomplete information, which may have unintended consequences in the future.

The South-east Regional Marine Plan is designed to allow our management approach to adapt over time to gradual improvements in our knowledge, taking note of changes not only in ecosystems, but in technologies, markets and community values. This approach – known as adaptive management – acknowledges that although we don't have all the answers today, we can take considered and measurable actions towards the sustainable development of our ocean territory.

Development and application of a performance assessment system is an important part of adaptive management. The performance assessment system for the South-east Regional Marine Plan will provide us with the ability to monitor and review management arrangements and actions to determine whether they are achieving our goals.

Scientists sampling in coastal waters off southern Tasmania





Although development of this Plan represents an historic milestone in natural resource management, conclusions on a number of issues are still to be reached.

In 12 months' time, a supplement to this Plan will be produced detailing:

- a complete system of marine protected areas within the Region;
- more details on a performance assessment system to measure the progress of our actions;
- further progress on the integration of marine protected areas and other spatial management measures;
- a list of tools and approaches for achieving multiple-use management; and
- an initial review of progress on actions.

### Government partnerships

In keeping with their commitment to integrated oceans management, the Australian Government and the South-east State Governments are committed to exploring ways to cooperate on issues identified in the South-east Regional Marine Plan.

In addition to consultation and collaboration to date, it is essential for those who have played a role in the development of the Plan to remain engaged in its outcomes over time.

Using both existing and new arrangements, the South-east Regional Marine Plan encourages agencies and other stakeholders to form partnerships, cooperate to resolve outstanding issues, and share information and experiences about the marine environment.

Australian Government agencies will maintain the same responsibility as before but will work more closely together on marine issues.

### A learning process

As Australia has led the world in this new frontier of oceans planning and management, we have learned much along the way. The development of further regional marine plans across Australia's ocean territory will be streamlined by the lessons learned in the development of the South-east Regional Marine Plan.

### Structure of this document

The following 'Background' section of this document outlines *Australia's Oceans Policy* and the context for the *South-east Regional Marine Plan*.

The 'South-east Marine Region' briefly describes the Region and lists the objectives for the Region.

'The Way Forward' describes how agencies, industry and the community are making significant progress on improved oceans management and lists the key outcomes for the Region. It also explains who is involved in management of the Region and highlights how the Plan will be reviewed over time.

The 'Action Plan' lists in a table format the actions that are currently being undertaken and additional actions to be implemented over the next 10 years.

The 'Status Reports' provide up-to-date information on some of the actions in the Plan.

A number of 'Appendices' provide details on *Australia's Oceans Policy*, the south-east regional marine planning process, the characteristics of the Region and references and resources.

A 'Glossary of terms' is also included at the end of the document.

### BACKGROUND

### A vision for Australia's oceans

To make the best use of our ocean resources and avoid the management mistakes that have occurred on land, such as excessive clearing of natural vegetation and salination, the Australian Government released *Australia's Oceans Policy* in the International Year of the Ocean – 1998. This Policy outlines a strategic planning and management framework and a vision for Australia's oceans:

Healthy oceans: cared for, understood and used wisely for the benefit of all, now and in the future.

A key tool adopted by the Australian Government in implementing *Australia's Oceans Policy* is regional marine planning.

### Regional marine planning

Regional marine planning – based on large marine areas that are ecologically similar – seeks to integrate the use, management and conservation of marine resources at the broad ecosystem level. The process is designed to improve links between different sectors and across jurisdictions.

The Australian Government is developing regional marine plans for Australia's entire marine jurisdiction – some 14 million square kilometres. Together, these regional marine plans will establish broad direction and management arrangements for Australia's ocean territory (see Figure 1).

### The South-east Regional Marine Plan

The South-east Regional Marine Plan, Australia's first regional marine plan, outlines the way in which the Australian Government and stakeholders are working together to maintain ecosystem health while promoting ecologically sustainable development. A more detailed description of the policy context, including key principles, is provided in Appendix 1.

The Plan represents the culmination of four years of intensive research, coordination and consultation with stakeholders, scientists and other experts. This planning process provided a way for stakeholders to give direction and significant input to the Plan. It also offered opportunities for consultation with representatives from South-east States. A more detailed description of the planning process is provided in Appendix 2.

### Figure 1: Map of Large Marine Domains around Australia (see Map Disclaimer on inside front cover)





### What will the South-east Regional Marine Plan achieve?

The questions many people have when reading about a new government policy or plan are:

How will this improve what already happens? How will it affect the way I do business?

The South-east Regional Marine Plan builds on recent progress in managing the Region; outlines links that currently exist between stakeholders and management agencies; and identifies areas where enhanced management arrangements and links are required.

This Plan is not an additional layer of regulation. Sectoral agencies will continue their management responsibilities. Meanwhile, the use of ocean resources, and potential competition for resources, is increasing and our knowledge of the structure and connectivity of marine ecosystems is improving. As a result, clearer links and more consistent approaches for management are required, to allow management decisions to better recognise natural ecosystems and the needs of all resource users.

For the environment, the south-east regional marine planning process has already improved our knowledge of the ecosystem in the Region. The Plan establishes tools that over time will improve the way we manage our activities so that biodiversity is maintained and further environmental damage is avoided. It represents initial application of ecosystem-based management through the development and implementation of multiple-use risk assessment and integrated spatial management in the Region.

For industry, regional marine planning helps to simplify and streamline current management arrangements and map out a path to sustainable development. It also ensures that existing uses and access rights are recognised and current access and future needs are factored into decision making about the use and conservation of the Region. This provides certainty of access to allow industry to develop, use and export Australia's ocean resources, technology and expertise, while maintaining the environment on which they depend.

For communities, the Plan identifies ways to assist people to participate in management, conservation, monitoring and research activities in the Region. It also provides access to information and helps to build on the existing social and cultural relationships that different communities have with the ocean.

For Indigenous people, the Plan highlights the need to explore how we can best ensure the fair and equitable distribution of the Region's resources amongst all users. It provides opportunities for Indigenous people to participate in management of the Region and increase recognition of their economic and cultural aspirations for Sea Country.

For managers in the Region, the Plan provides ways for governments, industry and the community to improve oceans management and work together in a coordinated and integrated way. It identifies areas where the Australian Government and South-east States can explore complementary management arrangements that consider the links between terrestrial, coastal and marine environments – essential for ecosystem-based management.

**Over time**, regional marine plans are also designed to adapt and change according to new information about marine ecosystems and an improved understanding of how to manage and conserve our ocean resources. The Plan is one of the building blocks for continually developing our knowledge, understanding and management of our oceans.

Marine-based industry plays an important role in the Region.



# The South-east Marine Region

### Characteristics of the Region

The following information has been drawn from extensive work carried out during the assessments phase of the south-east regional marine planning process. A more detailed description of the South-east Marine Region and its uses is given in Appendix 3.

The South-east Marine Region covers more than two million square kilometres of water off Victoria, Tasmania (including Macquarie Island), southern New South Wales around the town of Bermagui, and eastern South Australia from the South Australian/Victorian border to Victor Harbor. Figure 2 page 6 and 7 shows the Region and illustrates some of its main uses and values.

The mapping of the sea floor of the South-east Marine Region has revealed spectacular features such as gigantic underwater canyons and towering seamounts (underwater mountains).

Ecologically, the Region has a high level of species endemism (species that are found nowhere else) and outstanding biodiversity. There is a range of conservation measures employed to protect the natural features of the Region.

This natural wealth forms the basis for a broad range of economic, social and cultural values and activities. These include, but are not limited to, petroleum exploration and extraction, commercial fishing, marinebased tourism and recreation, customary Indigenous practices, aquaculture, and conservation. Marine resource use in the Region has changed significantly over time. It is likely that this will continue as technology advances and community values change.

### Conservation in the South-east Marine Region

Conservation is the protection, maintenance, management, sustainable use, restoration and enhancement of the natural environment.<sup>4</sup> The Australian Committee for the International Union for the Conservation of Nature and Natural Resources (IUCN) expands this definition to include the understanding and enjoyment of Australia's natural and cultural heritage.

As with most of the temperate waters of the Australian Exclusive Economic Zone (EEZ), the South-east Marine Region has very high species endemism. That is, the majority (some 80%) of marine species found in the Region are not found anywhere else in the world. This places a particular responsibility on Australia to ensure that conservation measures are sufficient to maintain viable populations of these species and allow for evolutionary processes to continue.

Conservation measures in the Region are applied through a range of mechanisms such as legislative requirements or through industry-initiated Codes of Practice to ensure the long-term sustainability of available resources and the surrounding environment.

The principles of ecologically sustainable development are embedded in the statutory management arrangements for several major activities to ensure a comprehensive basis for the protection and sustainable use of natural resources across the Region. There are legislative and managerial requirements that provide for, amongst other things:

- independent environmental assessment of all Commonwealth and export fisheries to enhance the ecological sustainability of fisheries management;
- strict protection from human interference for a wide range of threatened, endangered and protected marine species;
- development of recovery plans for species such as great white and grey nurse sharks that have experienced severe human impacts in the past;

<sup>1</sup> National Strategy for the Conservation of Australia's Biological Diversity, Department of Environment, Sport and Territories, 1996.



- development of fishery Bycatch Action Plans to minimise bycatch and any other adverse impacts of fishing on the marine environment; and
- development of comprehensive environmental protection plans for major resource extraction activities such as mineral, oil and gas exploration and development.

Conservation objectives are also pursued by governments through coastal planning programs and resource management and planning systems. Protection of important and representative marine areas and listed marine species is another key aspect of Australian and State/Territory government policies.

There are numerous inshore, State-managed marine protected areas. For example, the Victorian and Tasmanian governments have collectively declared over 162 000 ha of marine protected areas. There are also two Commonwealth marine protected areas in the Region:

- The world's largest highly protected zone is contained within the 16.2 million hectare Macquarie Island Marine Park.
- The Tasmanian Seamounts Marine Reserve was declared in May 1999 following voluntary closure of the area by South East Trawl Fishery operators.

The Region is also part of the Australian Whale Sanctuary, which covers all Commonwealth waters.

The Fairy Penguin is protected in the South-east Marine Region.



# The history of human use in the South-east Marine Region

Indigenous peoples settled in the South-east Marine Region many thousands of years ago. Over that time sea levels rose and fell, eventually exposing Bass Strait. This long history is reflected in the deep spiritual connection that Indigenous people continue to enjoy with Sea Country.

Young man playing the didgeridoo during the launch of the Deen Maar Indigenous Protected Area



The advent of European fisheries in the Region, which began soon after the exploration of Bass Strait in 1797, led to a much higher demand on marine resources. The first commercial ventures focused on harvesting the abundant whales and seals of the Region. In 1810 sealers landed on Macquarie Island and within 18 months 120 000 skins for fur had been returned to Sydney. The sealing industry rapidly expanded throughout Bass Strait before it began to decline in 1825.

The Davidson Whaling Station near Eden, New South Wales, is considered by some to be the first industrial complex in Australia. It began operation in 1828. Whales were hunted primarily for whale oil, an important fuel at the time. Other whaling stations were set up in Tasmania, Victoria and South Australia. Over-exploitation resulted in whaling decline, although it continued well into the 1900s.





Boyds Tower - whaling observation tower at Twofold Bay in Eden

After the Second World War rapid advances in technology allowed for consistent deepwater commercial fishing. Today there are over 30 fisheries operating in the South-east Marine Region, fishing for some of the world's most prized seafood, such as blue fin tuna, abalone and rock lobster. The Region provides much of the table fish for the large population centres of south-eastern Australia.

The Region has been significant for Australia's international and coastal shipping since the early days of settlement. Today 40% of Australia's coastal trade is either from the Region or has travelled to, or through, the Region. Cargo shipping accounts for over 9000 ship movements a year. In the 1950s commercial oil and gas exploration began, and identified four major basins in the Region: the Gippsland, Sorrell, Otway and Bass basins. Extraction is currently only being undertaken in the Gippsland Basin, although it is likely to begin in the Otway Basin in the near future. More recently industries such as tourism, telecommunications and aquaculture have rapidly expanded. Biotechnology and renewable energy sources are also emerging as potentially significant industries.

Indigenous communities of the South-east Marine Region continue to have a strong cultural and spiritual connection to the ocean, and to use ocean resources for food, traditional purposes and income.

The coastal zone is important to most Australians for leisure, a place of residence, employment and enjoyment of the natural environment – the coast has a key place in Australian culture. Australians' growing awareness of, and interest in, the natural environment and their long-held desire to live in coastal areas shows no sign of abating. As a result there is increasing pressure on coastal and marine resources and this is making their management more complex.

In recent years, sustainable development strategies have been developed by governments and management agencies in the South-east Marine Region. These strategies reflect the community's desire to protect the marine environment and deal with the pressures being placed on it. Examples include the Victorian and New South Wales coastal policies, the Tasmanian Resource Management and Planning System and Our Seas & Coasts: A Marine and Estuarine Strategy for South Australia.



The coastal community of Geelong, Victoria

#### Figure 2: Main uses and values in the South-east Marine Region (see Map Disclaimer on inside front cover)



### A VALUABLE REGION

- The oil and gas industry directly employs about 700 people in the South-east Marine Region. The industry has generated more than \$100 billion in revenue in the last 30 years.
- Over 30 Commonwealth, State or jointly managed open ocean fisheries operate in the South-east Marine Region. In 2002–03, the total gross value of fisheries production (including molluscs and crustaceans) in the Region, in both Commonwealth and State waters, is estimated to have been \$396 million.
- In 2000-01, marine-based tourism in the Region directly generated 60 000 jobs and \$2.6 billion in value-added services. Many tourists are attracted by the spectacular marine life of the Region.

As well as economic return, the Region has other important values. Indigenous people have lived in the South-east Marine Region for thousands of years. This long history is reflected in the deep spiritual connection that Indigenous people continue to enjoy with Sea Country.



#### OTWAY AREA

- Significant multiple-use area for the oil and gas, shipping and fishing industries.
- Several whale species migrate through the area, and it is an important aggregation area for blue and southern right whales.



### Tasmanian Seamounts Marine Reserve

• There are many seamounts in the Region. They rise from deep waters and provide habitat for a host of unique species.







The following profiles contain a brief description of some key uses in the Region and the challenges they face.

### Profile: Commercial fisheries and aquaculture

Commercial fishing is an important component of the Region's coastal economy. Associated activities such as repair yards, dock handling, transportation, boat construction, fish processing and commercial trade and the supply of marine gear such as nets and rigging, add significantly to the Region's employment and economic activity.

In 2002–03, the total gross value of fisheries production (including molluscs and crustaceans) from the South-east Marine Region, in both Commonwealth and South-east States' waters, is estimated to have been \$531 million, made up of \$135 million from aquaculture, \$317 million from South-east States' waters and \$79 million from Commonwealth waters. This represented an estimated 23% of the total gross value of Australian fisheries production in 2002–03.

There are over 30 Commonwealth, South-east State or jointly managed open ocean fisheries in the Region using an array of fishing methods and gear types. The Region's waters are accessible to bottom-fishing gears such as bottom longline and trawl and pelagic fishing gear that operates in the water column, such as purse seine and pelagic longline.

Commercial fishing in the Region is not spread evenly across all waters but is concentrated in inshore coastal waters (mainly South-east State fisheries) and along the continental slope (mainly Commonwealth fisheries). The Commonwealth fisheries within the Region are the:

- Bass Strait Central Zone Scallop Fishery
- Southern and Eastern Scalefish and Shark Fishery which incorporates the South East Trawl Fishery, Gillnet Hook and Trap Fishery (formerly the South East Non-trawl Fishery and the Southern Shark Fishery) and the Great Australian Bight Trawl Fishery
- Southern Squid Jig Fishery
- Small Pelagics Fishery (formerly the Jack Mackerel Fishery)

Many of the issues identified through the south-east regional marine planning process are a consequence of these uses, their challenges and interactions.

- Eastern Tuna and Billfish Fishery
- South Tasman Rise Fishery
- Antarctic Fishery
- Southern Tuna and Billfish Fishery
- Southern Bluefin Tuna Fishery

In addition, significant State fisheries within the Region are:

- Abalone Fishery
- Rock Lobster Fishery

Aquaculture operations within the South-east Marine Region are concentrated in inshore coastal waters. Major activities include the farming of Atlantic salmon and ocean trout and the culturing of edible oysters. Salmonoid production from the Region accounts for a high proportion of the total Australian aquaculture tonnage. Tasmania accounts for nearly all marine-based salmonoid production, with 13 900 tonnes produced in 2002-03. Two species of edible oysters are produced in the Region, Pacific oysters in Tasmania and South Australia, and Sydney rock oysters in southern New South Wales. Blue mussels are also being cultured in Victoria, Tasmania, South Australia and New South Wales. Abalone farming is also an emerging activity within the Region, with recent investments in abalone farming in Victoria, Tasmania and South Australia.

Direct employment from aquaculture operations and associated activities is becoming increasingly important to many coastal towns within the Region. The coastal town of St Helens, located in Tasmania, has nine operating oyster leases, which directly employ a total of 34 workers.

Aquaculture is one of Australia's growing rural industries and there is a great deal of potential for expansion of the industry into Commonwealth waters in the South-east Marine Region, as offshore aquaculture is developed in response to growing world demand.





Commercial fishing is an important part of the Region's economy.

### PROFILE: RECREATIONAL FISHING

Recreational fishing attracts the highest participation level of any outdoor recreational activity, with an estimated 3.36 million Australians, aged five years or older, going fishing at least once in the twelve months prior to May 2000. Within the South-east Marine Region, Tasmania has the highest participation rate in recreational fishing, with 29.3% of the population over the age of five years fishing at least once a year.

Popular recreational fishing locations within the Southeast Marine Region include: Mallacoota, Port Phillip Bay (Victoria); Great Oyster Bay, Tamar River (Tasmania); Eden, Wonboyn (New South Wales); and Victor Harbor and the Coorong (South Australia). The bulk of recreational fishing occurs near the coast, in bays and estuaries; however, increasingly, recreational fishing is taking place in offshore waters.

Recreational fishers use a variety of fishing gear, and target a wide range of species including finfish, small baitfish, crabs and lobsters, prawns and yabbies, squid, cuttlefish and octopus, and other molluscs. Within the Region, for example, Victorian fishers caught 9.6 million finfish and 3.5 million prawns and yabbies in the year prior to May 2000. There are many socioeconomic benefits associated with recreational fishing. For example, in the 12-month period prior to May 2001, New South Wales fishers spent an estimated \$554 million (an average of \$555 per fisher) on fishing-related equipment and activities, while in Tasmania they spent \$52 million (\$416 per fisher).



Recreational tuna fishing in the South-east Region



### PROFILE: PETROLEUM

The South-east Marine Region has been Australia's major petroleum producing region. Significant resources are currently being developed and exploration for further deposits continues. Considerable infrastructure is in place to enable transport and processing of the resources for export and for domestic gas and electricity production. The south-east will continue to be an important petroleum region for Australia, with ongoing acreage release and petroleum exploration and production activity.

Bass Strait is a world-class hydrocarbon producing region. The industry generates significant revenues for government (currently around 1% of the total) and directly employs about 700 people in exploration, production and administration activities.

In the 2002–03 financial year the petroleum industry spent an estimated \$157 million on exploration and \$84 million on drilling for development and production in the Region, including expenditure on:

- 4 185 km<sup>2</sup> of 3D and 3 525 km of 2D seismic exploration;
- 10 exploration wells totalling 16 430 m drilled; and
- 13 development wells totalling 22 142 m drilled.

#### **Gippsland Basin**

Petroleum production commenced in the Gippsland Basin in 1966 and to date more than 3.7 billion barrels of oil and condensate and 5.8 trillion cubic feet of gas have been produced. Capital invested in the Bass Strait petroleum industry now exceeds \$17 billion and has generated more than \$100 billion in revenue in the last 30 years.

Petroleum is produced from a number of platform and subsea developments in Bass Strait and is currently piped to oil processing facilities at Longford near Sale and the Patricia gas plant near Bairnsdale. In January 2003, remaining proven reserves were estimated at 499 million barrels of oil and condensate and 5 802 billion cubic feet of natural gas. In 2002, 43.4 million barrels of oil valued at \$1.9 billion and 219 billion cubic feet of gas valued at \$438 million were produced from the Gippsland Basin in Bass Strait.

While oil reserves within the Gippsland Basin are in decline, gas is still plentiful and production rates are increasing. Following the deregulation of the gas market in the late 1990s, a number of new gas producing operations are in development and the level of exploration activity in the area has increased significantly. It is likely that petroleum developments in the region will continue to grow.

### Otway Basin

There has been increased interest in the petroleum prospectivity of the Otway Basin in recent years, with a number of exploration permits awarded in the region and subsequent commercial gas finds achieved. The deregulation of the gas industry has opened up the whole eastern seaboard as a potential market for Otway gas.

The offshore gas development at Minerva in the Otway Basin will produce, via an onshore gas plant, for markets in South Australia from 2004. Further developments in the Otway Basin at Casino, Thylacine and Geographe are also expected.

- Capital invested in the Bass Strait petroleum industry now exceeds \$17 billion.



### PROFILE: INDIGENOUS USE

The continuing importance of marine resources to Aboriginal people in southern Australia is encapsulated in the following quotation:

'Aboriginal practices still continue. I have been collecting and harvesting food from the seashore since childhood and now teach my grandchild the Aboriginal way of doing things.'

Ms Faye Tatnell – Manager, South-east Tasmanian Aboriginal Corporation, 2001.

Most parts of coastal Australia are of continuing cultural and spiritual significance to Indigenous people, many of whom engage in subsistence hunting, fishing and gathering and depend directly on marine resources for food. Through their involvement in commercial activities, many Indigenous people also depend on marine resources for their income.

Fishing is an important part of Indigenous culture, and a variety of methods and equipment are used, including hand gathering, lines, rods and reels, nets, traps and spears. Indigenous fishing targets a range of species of fish, shellfish, crabs and worms that are used for food, medicine or bait. Abalone, crab and lobster harvesting are important Indigenous fisheries. The High Court decision in the Croker Island Case (also referred to as Yarmirr) under the *NativeTitle Act* 1993 confirmed the existence of non-exclusive native title in the territorial sea. Figure 3 illustrates native title claims within the Region. Obligations under the *NativeTitle Act* 1993 need to be considered as management in the Region evolves. For further information see the National Native Title Tribunal's website http://www.nntt.gov.au.

Indigenous people in the South-east Marine Region have articulated particular aspirations in terms of access rights and traditional use of marine resources, participation in management processes, and participation in the fishing sector.

At the Australian and State/Territory government level, recognition of Indigenous rights and interests in marine environmental and resource management legislation varies considerably. In some situations, Indigenous people have a statutory advisory role in fisheries and marine protected area management, while in others they do not.



Fishing has always been an important part of Indigenous culture.

Figure 3: Native Title Claims in the South-east Marine Region



SOUTH-EAST REGIONAL MARINE PLAN

### PROFILE: TOURISM AND OFFSHORE CHARTER

Tourism in the Region and adjacent coastal waters and land involves domestic and international tourists. The Region offers a wide and diverse range of opportunities, with visitors participating in activities including diving, charter boating, whale and wildlife watching, cruise ship visits, yacht racing, going to the beach, surfing, coastal sightseeing and swimming. Popular tourist destinations in the South-east Marine Region include: Phillip Island, the Great Ocean Road (Victoria); Robe, Beachport (South Australia); Merimbula, Bermagui (New South Wales); and Strahan and the Freycinet Peninsula (Tasmania).

Initial calculations indicate that nationally the direct value of marine tourism was about \$9.1 billion in 2000–01, with marine tourism directly employing about 210 000 people.

The indirect value-adding of marine tourism and employment is estimated at about \$23 billion. Marine tourism employs around 497 000 people, making it and the oil and gas industry the two most valuable marine-based industries in Australia.

Within the Region, marine tourism generated over \$2.6 billion in value added services in 2000–01. In addition it directly generated over 60 000 jobs.

Tourism activity is expected to grow in the Region as the Australian Government strengthens relationships with key markets in Asia, Europe and North America and continues to promote domestic tourism.







### PROFILE: SHIPPING AND PORTS

The South-east Marine Region is one of Australia's busiest in terms of shipping activity and shipping volumes, including shipping numbers. In addition, strong growth of this industry is expected to continue, driving further port expansion in the Region.

Shipping activities in the Region encompass cargo shipping, passenger shipping, and ship/boat building and repair activities. The Region is home to some of Australia's busiest shipping routes: Bass Strait, and eastwest and west-east international trading routes. This traffic includes international and coastal cargo trade, passenger services, and cargo and vehicular ferry services across Bass Strait. Cargo shipping alone accounted for nearly 9000 ship movements in the Region in 2000–01. In 2002–03 the ports of the Region accounted for 46% by value of Australia's total exports from ports, and 10% by weight – a total of approximately \$43 billion and 56 million tonnes respectively. The south-eastern ports also accounted for 70% of imports by value and 50% by weight – over \$67 million and 31 million tonnes respectively. In 2002–03 the Port of Melbourne alone handled international cargo (imports and exports) to the value of over \$97 billion.

Important regional shipping ports include: Portland, Geelong, Melbourne, Hastings (Victoria); Port Latta, Burnie, Devonport, Bell Bay, Spring Bay and Hobart (Tasmania); and Eden (New South Wales).



One of the Spirit of Tasmania ships in dock

More details of the uses of the South-east Marine Region can be found in *Marine Matters*, an atlas of marine activities and coastal communities in the South-east Marine Region; and in a series of assessment reports produced by the National Oceans Office. These assessment reports also detail the Region's ecosystems, communities, Indigenous issues, ocean resources, impacts on the environment, the legal framework for ocean management and a report on Macquarie Island. Copies of the Assessment Reports and *Marine Matters* can be obtained through the National Oceans Office website http://www.oceans.gov.au.

## **Objectives for the Region**

At a series of targeted regional workshops, government representatives, stakeholders and the community used the information made accessible through the south-east regional marine planning process and worked together to identify nine objectives (see box below). These objectives are consistent with the goals and principles of *Australia's Oceans Policy* and will guide the management of the South-east Marine Region.

To the maximum extent feasible:

- Ensure that all ocean uses are ecologically sustainable.
- Protect, conserve and restore the Region's marine biodiversity, ecological processes, and natural and cultural marine heritage.
- Increase long-term security of access and certainty of process for existing and future marine-based industries.
- Promote economic development and job creation in the Region consistent with ecologically sustainable development.
- Integrate management of access, allocation, conservation and use of marine resources to ensure fairness and accountability to the community and all users.
- Increase knowledge and understanding of the Region to improve our capacity to pursue ecologically sustainable development.
- Enhance community and industry stewardship and understanding of the values and benefits of the Region and involve them in its management.
- Involve Indigenous communities in management of the Region in a manner that recognises and respects their rights, custodial responsibilities, contributions and knowledge.
- Take into account in decision making the needs, values and contributions of the community and industry, the national interest and international obligations relevant to the Region.

The development of these objectives allowed us to identify key management issues in the Region and design actions that add value to the current management arrangements (see 'Action Plan' on page 45). Over time, we can check whether management is achieving the objectives for the Region, and, if it is not, change our management activities accordingly (see page 39 of 'The Way Forward', for more detail on implementation and review of the Plan).

To monitor, assess and report on management arrangements in this way we need to define measurable or operational objectives based on the objectives listed above. The regional objectives provide a broad overview of what we want for the Region but they are not operational, that is they are not stated in a way that is measurable. The process for identifying operational objectives is outlined in Status Report 1 – Adaptive Management and Performance Assessment in the Region.

#### The Twelve Apostles, a popular tourist destination





## THE WAY FORWARD

In the past, many aspects of the South-east Marine Region have been well managed by governments, industry, Indigenous people, researchers, recreational users and the community, and there has been significant progress made to address the challenges we face when managing the natural environment. As a result, many of our present-day marine management practices are robust and well-tested, and are assisting us to meet the objectives identified for the South-east Marine Region (page 15).

The marine ecosystem is dynamic, however; and our management techniques, knowledge of our oceans and social values all change over time. Consequently, efficiencies and improvements to existing marine management practices can be made and/or new or improved arrangements developed. This section of the Plan briefly summarises current management arrangements, outlines progress towards improved management and lists the key outcomes of the Plan. Specific actions are then listed in the 'Action Plan'.

Regional marine planning continues beyond publication of the Plan with the establishment of institutional arrangements, a shared information base and objectives for the Region allowing managers (from all jurisdictions), industry and the community to continue to work together in a structured way.

Macquarie Island Marine Park, encompassing the 16.2 million hectares of ocean around Macquarie Island, has a long history of good management.



# Governance and institutional arrangements

Implementation of Australia's Oceans Policy resulted in **improved governance and institutional arrangements** for oceans management, particularly within the Australian Government. Through the south-east regional marine planning process we are also seeking to establish improved governance and institutional arrangements for the Region. These arrangements will seek to cover both the Australian Government and cross-jurisdictional cooperation, and deal with improved stakeholder and technical expert engagement. This will include clarity on the roles and responsibilities of all governments and stakeholders for the ongoing management of the Region.

### STAKEHOLDER ENGAGEMENT AND EXPERT ADVICE

Input and advice from stakeholders and technical experts was critical to the development of the *Southeast Regional Marine Plan*. There were a number of ways in which this input and advice was sought during the planning process including working groups, workshops and targeted meetings. These mechanisms built on existing sectoral consultation arrangements by bringing together all stakeholders with an interest in oceans management and encouraging the exchange of needs and concerns across sectors.

It will be important to maintain stakeholder and expert engagement in both implementation and review of the Plan. This ongoing input will help to ensure that management reflects up-to-date knowledge and the changing needs of those with a stake in the Region. The 'Action Plan' includes capacity-building initiatives and establishes a stakeholder advisory group. This group will work with the National Oceans Office and focus on the implementation of key actions and future reviews of the 'Action Plan' and the South-east Regional Marine Plan objectives.

### AUSTRALIAN GOVERNMENT ARRANGEMENTS

Australia's Oceans Policy established the National Oceans Ministerial Board (NOMB) to provide high-level capacity to deal with difficult and complex policy and management issues for the oceans. The NOMB receives advice from the National Oceans Advisory Group (NOAG) which is made up of non-government stakeholders. It is also advised by the Oceans Board of Management (OBOM), established in 2003, comprising the heads of relevant Australian Government departments. The Oceans Policy Science Advisory Group (OPSAG) was also established in 2003 to provide scientific advice and support to the OBOM and through it to the NOMB. OPSAG provides a forum for setting priorities and sharing information for marine science. Its membership consists of senior representatives of all Australian Government agencies with strong interests in marine science and marine matters and also includes representatives from State/Territory and non-government organisations with marine-science related interests.

These institutional arrangements build on existing Australian Government processes previously established for integration across sectors on particular issues (see Oceans Policy: Principles and Processes for a further description).

A Victorian-based fishing vessel





#### **CROSS-JURISDICTIONAL ARRANGEMENTS**

Cross-jurisdictional collaboration is essential in applying the integrated oceans management approach outlined in the Plan (also outlined in *Australia's Oceans Policy*). The approach ensures that planning and management are integrated across sectoral agencies and spheres of government to satisfy the social, economic and ecological objectives of sustainable development. For more information on integrated oceans management see Appendix 1.

The Australian Government and South-east States are continuing to explore governance and institutional arrangements that lead to coordinated strategic direction for oceans management in the Region. An approach is to use existing Ministerial Council arrangements and an appropriate subset of relevant Ministers. The cross-jurisdictional work will also include consideration of arrangements (bilateral and/or multilateral) for cooperation on targeted issues within the Region.

There has already been significant progress on both bilateral and multilateral cross-jurisdictional cooperation. The Offshore Constitutional Settlement governs Commonwealth, State and Territorial waters and provides for specific arrangements for joint management of fisheries that cross jurisdictional boundaries (see Figure 4 for a detailed depiction of the jurisdictional boundaries in South-eastern Australia). The National Oceans Ministerial Board (NOMB) facilitates cross-sectoral management of Commonwealth waters. Similarly, each South-east State has arrangements to work across sectoral agencies.

Implementation of relevant actions in the Plan will need to build on these formal and informal mechanisms and address any gaps or specific requirements for additional actions. This operational-level work will contribute to developmental work on higher-level governance arrangements that are required to support national integrated oceans management. This national work is being progressed through the Natural Resource Management Ministerial Council (NRMMC) and aims to achieve a collaborative approach for enhancing the sustainable development of Australia's marine resources. It will include a nationally agreed set of principles of good governance to assist cooperation and consistency in oceans management.

The status of cross-jurisdictional collaboration in the South-east Marine Region will be revisited in future reviews of the 'Action Plan', to reflect the outcomes of the national integrated oceans management work.



Figure 4: Marine jurisdictional boundaries in the South-east Marine Region

### Managing uses

### PETROLEUM AND MINERALS

Offshore petroleum operations beyond coastal waters are governed by the *Petroleum* (Submerged Lands) Act 1967. Within the legal framework, the Commonwealth and the States/Northern Territory jointly administer and supervise industry activities through a Joint Authority arrangement. Each Joint Authority comprises the Commonwealth Minister and the relevant State/ Northern Territory Ministers. In addition, the relevant State/Northern Territory Ministers carry out most day-to-day administration in accordance with the Act.

Other topics of interest

The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9) Multiple-use Management Case Study (Status Report 4) Key Economic Issues Facing Marine-based Industries in the Region (Status Report 3)

Risk Assessment (Status Report 7)

The Act has accompanying regulations including the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999. These environment regulations require that an Environment Plan be approved prior to any activity being undertaken in Commonwealth waters. The regulations are designed to promote continuous improvement in environmental performance, encouraging industry to develop new technologies to minimise the impacts on the environment, and best practice in environmental management.

When a petroleum activity is likely to have a significant impact on a matter of National Environmental Significance, the industry is also regulated under the Environment Protection and Biodiversity Conservation Act 1999. These management arrangements have been developed in accordance with the principles of ecologically sustainable development. They provide for an industry that faces high financial risks due to such factors as water and drilling depths, vessel availability, varying climatic conditions and uncertain return on investment. The Australian Government Department of Industry, Tourism and Resources provides policy advice on the *Petroleum* (Submerged Lands) Act 1967 and is pursuing improved management arrangements that provide surety to the industry by:

- working with the Australian Government
  Department of the Environment and Heritage
  on a strategic environmental impact assessment
  of offshore petroleum exploration activities that
  will consider ways of better integrating current
  environmental approval processes for the industry;
- working across sectors to improve communications between the petroleum industry, the commercial fishing sector and other stakeholders, particularly in relation to conflicts relating to the use of seismic surveys; and
- conducting a review of the Petroleum (Submerged Lands) (Management of Environment) Regulations
   1999 to foster continuing improvement in objective-based regulation.

The South-east Regional Marine Plan does not propose to change these arrangements and it recognises the need for stable and internationally competitive regulatory frameworks that provide certainty of access and security of process.

Together with Geoscience Australia, the petroleum industry has contributed significantly to the knowledge base for the South-east Marine Region through environmental and geological studies. The petroleum industry also conducts, as part of its Environment Plan, risk-based environmental assessments. These assessments and studies help to improve our knowledge of the marine ecosystem in the Region and assist managers to design better management strategies to achieve improved environmental management outcomes.



SOUTH-EAST REGIONAL MARINE PLAN

Ongoing acreage release and the exploration and production of petroleum will ensure that the South-east continues to be an important oil and gas region in Australia (Figure 5). The key challenges facing the industry in the Region now and into the future will include the decommissioning of facilities and deepwater exploration and production. Work will continue also on the interaction of the petroleum industry with other ocean users in a way that minimises disruptions to all parties.

The Australian Government will address these challenges through the South-east Regional Marine Plan by:

- continuing with the current process for the decommissioning of offshore oil and gas facilities;
- seeking to identify emerging issues in the Region and dealing with these issues to provide certainty of process and clarity relating to future management; and
- promoting widespread understanding within the community of the economic pressures and operational issues facing the oil and gas industry.

### FISHING

The Region supports a number of commercial and recreational fisheries. The commercial fisheries fall under the jurisdiction of Australian and South-east State governments and so are managed using a range of tools.

Other key topics of interest

The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9)

Multiple Use Management Case Study (Status Report 4)

Cooperative Management – Enforcement and compliance (page 35) Commercial and recreational use of the Region's fisheries has been expanding since Bass and Flinders explored Bass Strait in 1797. Prior to this date, Indigenous fishing and trade had been taking place for millennia. At first, European commercial interests concentrated on the vast abundance of whales and seals in the Region but as more Europeans settled in the Region and technology advanced, more recreational and commercial fisheries developed, first around the bays and inlets and later away from the coast in deeper waters. Today some 400+ commercial fishing boats operate in Commonwealth waters alone, catching over 50 species.

The Australian Government manages the commercial fisheries for which it has responsibility using the *Fisheries Management Act* 1991. State/Territory governments have legislation for managing both commercial and recreational fisheries. In some cases where fisheries overlap jurisdictional boundaries the Australian and South-east State governments have agreed on the management responsibility, fishing methods and/or areas of water, using Offshore Constitutional Settlement arrangements.

In the Region, many commercial and recreational species are being targeted using an array of different methods and as a consequence there is a range of environmental, social and economic issues related to the long-term sustainability of fishing activities in the South-east Marine Region (Figures 6 and 7). This has led to high levels of regulation, imposed by different jurisdictions, to ensure fishing is conducted at sustainable levels.

Recent developments in Australian policy and legislation have influenced management arrangements for fisheries in the Region. Fisheries are required to undertake assessment under the Australian Government's Environment Protection and Biodiversity Conservation Act 1999 to demonstrate that their management arrangements meet ecologically sustainable management of fisheries criteria. Already a number of State and Australian Government fisheries, such as the abalone and rock lobster fisheries and the Southern and Eastern Scalefish and Shark Fishery, have completed these assessments.



Figure 6: Commercial Fishing Effort in the South-east Marine Region

There is a range of existing performance assessment arrangements across the region, designed to provide information to managers and the Australian community on the economic, social and ecological performance of fisheries. In order to prioritise management actions and research investment, the Australian Fisheries Management Authority (AFMA) is currently undertaking ecological risk assessments of the fisheries for which they have responsibility. This builds on the ongoing, annual reporting of the performance of fisheries by: AFMA in their annual report; the Bureau of Rural Sciences (BRS) in Fisheries Status Reports; and the Australian Bureau of Agriculture and Resource Economics (ABARE) who publish Australian fisheries statistics and fishery surveys.

The outcomes of Looking to the Future: A Review of Commonwealth Fisheries Policy released by the Australian Government in 2003 has foreshadowed more changes to fisheries management. Examples are the development and implementation of principles of resource sharing between commercial, recreational and Indigenous fishers and the development of 'How to' guides for reporting against the principles of ecologically sustainable development (the principles of ecologically sustainable development are described on Appendix 1, page 90).

There are still a number of challenges facing the fishing industry and managers in the Region, including overcapitalisation, increased effort for decreasing catches, slow recovery of previously over-fished stocks, increased costs and complex management arrangements for some cross-jurisdictional stocks, potential loss of fishing grounds through the application of conservation measures, understanding more about ecosystems, and pressure to continue improving fisheries' environmental performance through ecosystem-based management.

Already AFMA, in consultation with stakeholders, is addressing some of these challenges by uniting four fisheries under a common set of management objectives, resulting in a new statutory management plan, the Southern and Eastern Scalefish and Shark Fishery Management Plan. This management arrangement seeks to provide efficiency, sustainability and integration and is an important development toward ecosystem-based fisheries management and the commitments outlined in Australia's Oceans Policy. Industry is also actively addressing management challenges. Examples include: the establishment of sustainable environmental management systems (EMS) such as the Seafood Industry EMS; access to environmental services that provide information and advice on improved gear technology and methods to minimise non-target species catches; and involvement in the National Indigenous Fishing Rights Technical Working Group to encourage Indigenous participation in the commercial fishing industry.

The South-east Regional Marine Plan seeks to continue this substantial progress and aims to:

- minimise impacts on fishers and fishing-dependent communities from conservation decisions, including assessment of the need for structural adjustment assistance on a case-by-case basis;
- facilitate participation in management and planning activities to provide certainty and long-term security of access for Indigenous, recreational and commercial fishers;
- establish common goals and approaches across jurisdictional boundaries;
- evaluate different management strategies to ensure that management is efficient and achieves agreed objectives;
- increase efficiencies in planning and spatial management across sectors and jurisdictions; and
- identify better regional structures to encourage Indigenous fishing.

### Australian seafood







SOUTH-EAST REGIONAL MARINE PLAN
#### AQUACULTURE

While management arrangements for aquaculture rest with State/Territory governments, the Australian Government plays a major role in industry development. For example, the Australian Government's *Aquaculture Action Agenda* outlines actions to assist the industry in a number of areas, such as environmental management, water and land use planning, and communication.

Other key topics of interest Key Economic Issues Facing Marine-based Industries in the Region (Status Report 3) Development of a Decision Support Toolkit for Estuarine Managers in the Region (Status Report 6)

Aquaculture production is of particular significance to regional development and employment in the South-east Marine Region (Figure 8). As aquaculture and the associated service and support industries develop, coastal and rural communities tend to benefit both socially and economically. Unlike commercial wildcapture fisheries, aquacultural producers must purchase or breed their stock and rear it until it is ready to harvest. The issues facing the aquaculture industry are therefore associated with high production costs and intensive farming practices. The Australian Government is committed to meeting these challenges by working with State/Territory governments through existing management arrangements and through the Aquaculture Action Agenda.

Key challenges facing the aquaculture industry in the future include achieving accreditation under the Environment Protection and Biodiversity Conservation Act 1999 to demonstrate sustainable management arrangements and inform community perceptions.

The South-east Regional Marine Plan complements the existing management arrangements by aiming to achieve:

- clear, consistent, sustainable and accredited planning and management guidelines across jurisdictions;
- an improved understanding of stakeholder perceptions to aquaculture and promotion of sustainable aquaculture practices;
- a comprehensive and accessible information base;
- the identification of emerging issues and strategies to deal with these issues and to assist sustainable expansion of aquaculture activities; and
- better regional structures to encourage Indigenous aquaculture.

The aquaculture industry in the South-east Marine Region is important to regional development and employment.





#### SHIPPING AND PORTS

Under the Australian Constitution, the Commonwealth has powers to regulate shipping and navigation. These powers were further defined in 1979 by the Offshore Constitutional Settlement (OCS) which led to the division of jurisdictional responsibility for shipping between the Australian, State and Territory Governments, based on the type of voyage being undertaken rather than on the ship's location at any particular time. Ships on intrastate voyages generally are covered by State/Territory jurisdictions and ships on interstate or international voyages are generally covered by Commonwealth jurisdiction.

Other key topics of interest Introduced Marine Species (Status Report 10) Key Economic Issues Facing Marine-based Industries in the Region (Status Report 3) Regulatory Efficiency Review (Status Report 8)

The Australian Government Department of Transport and Regional Services and the Australian Maritime Safety Authority are responsible for administering the *Navigation Act* 1912. This is the primary Commonwealth legislation regulating ship safety for vessels within Commonwealth jurisdiction. In addition, international conventions relating to ship safety, to which Australia is a signatory, are mainly given effect through the *Navigation Act* 1912. State and Territory governments have separate legislation for regulating ship safety for vessels within their jurisdiction. States and Territories are also primarily responsible for the regulation of marine activities within their ports.

The Australian Maritime Safety Authority also administers the Commonwealth Protection of the Sea (Prevention of Pollution from Ships) Act 1983, which regulates pollution prevention from ships operating outside coastal waters but within Australia's Exclusive Economic Zone (EEZ). This legislation gives effect to the major international convention dealing with all kinds of pollution from ships, including oil, noxious liquids, harmful packaged substances, sewage, garbage, and air pollution. The States and Territories have complementary legislation to regulate pollution prevention from ships within their coastal waters. The Australian Government recognises that efficient maritime transport is vital to Australia's national, State/Territory and regional economies, and that commercial ports facilitate Australia's exports and imports. Figure 9 shows the extensive shipping routes in the South-east Marine Region.

There is a long-standing integrated national framework, the National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances, which provides preparedness and response capabilities in relation to oil or chemical pollution arising from shipping incidents. This framework involves the Department of Transport and Regional Services, the Australian Maritime Safety Authority, relevant State and Territory agencies, port corporations, the shipping, oil and gas, exploration and chemical industries and emergency services.

There are also initiatives of relevant Australian Government agencies relating to the control of harmful anti-fouling paints, and the development of procedures and systems to prevent, manage and respond to introduced marine species through the implementation of a National System for the Prevention and Management of Introduced Marine Pests. Through these initiatives the Australian Government also works with the relevant authorities in State and Territory governments, and with industry representatives.

The recreational boating industry continues to proactively improve environmental practices. For example, it encourages and promotes environmental responsibility through the *Clean Marina* certification program. The shipping industry is interested in the availability of cost-effective shore-based waste reception facilities to enable vessels to dispose of all types of wastes ashore.



Figure 9: Shipping Routes in the South-east Marine Region

Challenges facing shipping and ports in the future include maintaining efficient and economically viable vessel movements (including dredging of shipping channels and berths and disposal of dredged material); the effects of changing technology (including potential increased vessel size); complex management arrangements across international, national and State/Territory jurisdictions; increasing vessel traffic; waste disposal; and the management of introduced marine species.

Management arrangements that encourage economic as well as ecologically sustainable development for ports and shipping in the Region will continue and the South-east Regional Marine Plan will support these arrangements by aiming to achieve:

- broad recognition of the implications of increasing vessel size and vessel traffic and the ongoing national, State and regional value of ports;
- the identification of emerging issues and the development of strategies to deal with these issues to assist in continued access and efficient vessel movements;
- communication with stakeholders and management agencies; and
- continued emphasis on developing strategies that reduce the risk of the further introduction of introduced marine pests whilst having minimal impact upon operations and efficiencies for industry.

#### TOURISM

There is a range of legislation that applies to specific tourism activities, such as scuba diving, offshore charter boating and whale and wildlife watching. Australian and State/Territory government planning and environment legislation which protects the marine environment governs many of these activities.

#### Other key topics of interest

Key Economic Issues Facing Marine-based Industries in the Region (Status Report 3) The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9)

Marine Education Needs and Priorities (Status Report 2) The tourism industry is fast maturing and growing in importance as an economic driver both globally and in Australia. It is of particular importance to regional development. The Australian tourism industry has enjoyed steady, high growth rates over the 1990s. Several shocks since 2001 have put this growth at risk. The need for management arrangements and policy settings that maximise potential for sustained growth is important.

Recognising this, the Australian Government Department of Industry, Tourism and Resources will continue to be the primary source of tourism policy advice for the Australian Government. They will continue to focus on a range of initiatives, such as the negotiation of intergovernmental agreements with State/Territory governments, Indigenous tourism development and the encouragement of sustainable tourism that contributes to conservation and economic outcomes.

Building on this is the recently released Tourism White Paper: A Medium to Long-term Strategy for Tourism. In this document the Australian Government commits to the creation of a new body, Tourism Australia, which will encompass and integrate the functions of the Australian Tourist Commission, the Bureau of Tourism Research, the Tourism Forecasting Council and See Australia. The Tourism White Paper establishes the future tourism priorities of the Australian Government.

The challenges facing the Region's tourism industry include keeping up with the increasing diversity and sophistication of potential tourists and competing markets, maintaining and achieving access to areas and resources, developing competitive marketing and promotion tools and managing growth activities such as nature-based tourism and charter boating.

These future challenges and priorities are reflected in the regional actions which aim to achieve:

- support for marine tourism industry innovation;
- sustainable marine Tourism by improving understanding of environmental, economic and social pressures and raising industry standards;
- targeted marine tourism promotion;
- regulatory efficiency for the marine tourism industry; and
- representation/participation in marine management arrangements (see 'Cooperative management' page 33).



#### RECREATION

Most recreational activities in the South-east Marine Region are conducted inshore; however, a few activities are undertaken in offshore waters – for example, deepsea fishing and yachting. Recreational activities are mostly regulated by sectoral specific South-east State and Australian Government legislation, and by spatial zoning systems on issues such as health and safety, boating and marine activities, and fisheries and living marine resources.

Other key topics of interest The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9) Marine Education Needs and Priorities (Status Report 2) Managing uses – Fishing (page 21) Cooperative management – Education (page 33)

Recreation is a broad term given to a wide range of sporting and cultural activities in the South-east Marine Region, including scuba diving, fishing, boating, sailing, sea-kayaking, waterskiing etc. This diversity of recreational activities in the Region means the environment, economic and social costs and benefits associated with recreation are hard to quantify. It also means that the issues for each of these recreational activities will be different. Two common issues for recreational users, however, are: maintaining access to resources and participating fully in management activities and processes.

The Australian Government recognises these issues by encouraging engagement and consultation during policy development processes through a broad range of recreational user groups such as recreational fishing associations and scuba diving clubs. The Australian Government has also established community consultation groups such as Area Consultative Committees. These groups, networks and associations respond to regional issues and provide a vital conduit to government on local, social and economic conditions.

In the future, recreational users in the South-east Marine Region will continue to face the challenge of maintaining access to resources and will need an increased capacity to participate in management decisions.

For the South-east Marine Region these challenges are addressed in regional actions which aim to:

- establish a process to address broad-scale resource-sharing issues;
- develop and implement an agreed framework for resource sharing and management between fishing sectors; and
- establish arrangements and build capacity for ongoing stakeholder and expert advice on issues in the Region and their engagement in management processes.

Sydney to Hobart Yacht Race - Ichi Ban in Bass Strait



#### Ecosystems

#### **CONSERVATION AND PROTECTION**

The Australian Government's environmental responsibilities are managed by the Department of the Environment and Heritage, primarily through the Environment Protection and Biodiversity Conservation Act 1999. In addition, most sectoral legislation, such as the Petroleum (Submerged Lands) Act 1967, contains environmental protection and planning clauses, and State/Territory governments are responsible for environment protection and conservation within their jurisdictions.

Other key topics of interest The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9) Adaptive Management and Performance Assessment for the South-east Marine Region (Status Report 1) Risk Assessment (Status Report 7)

Although Australia's history of large-scale use of marine resources is short, pressures such as marine pollution, fisheries bycatch and introduced marine pests have left a mark on the ecosystems of the South-east Marine Region. Pressures to use the ocean's wealth mean that we need to have a way of managing all our interests to ensure the sustainability of marine resources.

This requires management approaches such as ecosystem-based management which aim to ensure that:

- connections across ecological dimensions (populations, species, habitats, regions) are taken into account, not just effects at one level;
- planning and management boundaries recognise ecological entities, integrating across other administrative, sectoral and jurisdictional boundaries;
- data are collected for ecosystems-based management, to provide the basis for sectoral and cross-sectoral integration; and

 management is monitored for maintenance of ecosystem health against ecosystem-based indicators and can be adapted in response to environmental and other indicators of change.

Partnerships between Australian and South-east State governments will play an important role in achieving these aims. Through the Natural Resource Management Ministerial Council (NRMMC), governments are cooperating on integrated coastal zone management, integrated oceans management and catchment management.

The 1999 Strategic Plan of Action for the National Representative System of Marine Protected Areas (NRSMPA) and the associated Interim Marine and Coastal Regionalisation for Australia (IMCRA) are key intergovernmental agreements. NRSMPA encourages cross-jurisdictional cooperation and collaboration, to achieve conservation outcomes and maintain ecological processes in representative systems of marine protected areas.

In addition to the broad-scale policy and management arrangements there are other sectoral management tools that contribute to environmental outcomes. These include spatial and non-spatial measures. Spatial measures include fishery closures, marine reserves and marine protected areas, while non-spatial measures include threatened species planning, environmental management plans, quotas, catch limits, permits and licences.

A reef in Tasmanian waters





Ongoing work on these approaches will continue to protect our ecosystems, and some challenges require further attention. These include land-based sources of marine pollution, threatened species management, introduced marine pests, potential over-use of resources, ocean dumping and debris, and increased pressures from rapid coastal population growth. In addition, new issues are emerging, such as the return of healthy populations of some marine mammals resulting in increasing interactions with marine resource users.

The South-east Regional Marine Plan provides us with an opportunity to address these issues. Through actions in the Plan the Australian Government is working towards ecosystem-based management to achieve:

- an established network of marine protected areas (MPAs) that achieve a comprehensive, adequate and representative (CAR) system in the Region and contribute to a National Representative System of Marine Protected Areas;
- integration of fisheries spatial management and MPAs in the Region where there are complementary objectives;
- continued development and implementation of a national system to address the problems posed by introduced marine pests;
- an ability to measure and address the cumulative impacts of resource use on the marine environment using multiple-use risk assessment;
- improved estuarine and coastal water quality by establishing consistent monitoring and management practices across sectors and jurisdictions; and
- a system and indicators for measuring the health of marine ecosystems.

The green crab is an introduced marine pest in southern Australian waters.



## **Cooperative management**

#### EDUCATION

State and Territory governments have responsibility for marine education in Australia and although a national marine education curriculum does not exist, all States and Territories have a general education framework based on national profiles and statements. Currently, New South Wales has a marine education curriculum and South Australia has developed a marine and coastal education framework, and Tasmania, South Australia and New South Wales offer specific marine-related courses at Years 11 and 12. Marine discovery centres, industry associations and a number of highly motivated and committed individuals also provide marine education in the South-east Marine Region.

Other key topics of interest Marine Education Needs and Priorities (Status Report 2)

Marine education encourages environmental stewardship and responsible and sustainable resource use by increasing people's understanding of the marine environment and marine-based industries.

Recognising this, many State/Territory and Australian Government programs encourage and build community education through ongoing work with schools, marine discovery centres, consultative groups, networks and associations. For example, the Australian Government Department of the Environment and Heritage, the National Oceans Office and many industry associations have a range of marine education resources for schools on their websites, including information about ecosystems and sustainable marine industries. Industry and the community also contribute to education through the Australian Marine Education Alliance (AMEA). AMEA links organisations, industries and practitioners involved in marine environmental education and works towards the protection of the marine and coastal environment for future generations. The Australian Marine Environment Protection Association (AUSMEPA) is a non-profit organisation working with other marine education and maritime groups to promote environmental protection. AUSMEPA provides marine environmental education and awareness resources to increase community recognition of the maritime industry's role in marine environmental management and sustainability practices.

Despite this work, many challenges remain in relation to education in the Region, such as further developing marine education tools, inspiring and empowering local education networks and encouraging people to learn about the marine environment and marine industries.

Through the actions contained in the South-east Regional Marine Plan, the Australian Government aims to meet these challenges and achieve:

- a national marine studies curriculum;
- expanded education networks that foster cooperation and collaboration; and
- widespread awareness about the importance of the marine environment and marine industries.

Learning about the marine environment





#### PARTICIPATION AND ENGAGEMENT

The coastal area of the South-east Marine Region is home to 1.4 million people with very diverse social and economic characteristics. One thing that many of these people have in common is a desire to have more input into government's decision-making processes and marine management in general.

Other key topics of interest Marine Education Needs and Priorities (Status Report 2) The Way Forward – Governance and institutional arrangements (page 17) The Way Forward – Implementation and review (page 39) The Regional Marine Planning Process to Date (Appendix 2)

Governments and industry are increasingly responding to this desire by recognising the custodial role that communities play in relation to natural resource management and the value of their participation and engagement. For example, the Australian Government Department of Transport and Regional Services has established an extensive network of Area Consultative Committees. These groups provide an important link between the Australian Government and rural and metropolitan Australia. In addition, governments have facilitated many marine management partnerships. For example, in the South-east Marine Region the Marine and Coastal Community Network is active and a number of Coastcare groups and other estuary and coastal management groups operate. South-east State governments and industry are also actively building community capacity and encouraging participation and engagement through initiatives such as the employment of Fishcare officers in each State.

To assist in the development of the Plan and marine protected areas in the Region, the National Oceans Office and the Australian Government Department of the Environment and Heritage funded liaison officers for the commercial fishing industry and conservation (non-government) organisations. These liaison officers have been particularly successful in assisting information sharing, facilitating coordinated input and ensuring effective communication.

Increasingly, marine industries are also working closely with regional communities, forging partnerships with groups and consulting stakeholders to support local economies and ensure ecologically sustainable development.

It remains a challenge to governments, industry and the community to strike a balance between too much and too little community consultation. Too much and community groups and industry representatives feel overwhelmed and overcommitted; too little and the community may feel marginalised and the value stakeholders bring to management processes is lost.

In an effort to find this balance the South-east Regional Marine Plan will build the capacity of the local community and industry representatives and aims to:

- increase community and industry awareness of the importance of estuarine and marine ecosystems;
- review existing stakeholder consultation mechanisms with a view to designing appropriate and efficient ways for stakeholders to engage in management of the Region;
- build on existing partnerships and support the development of new partnerships between governments, industry and the broader community; and
- establish an advisory group that facilitates ongoing industry, community and expert participation in management of the Region, including implementation of key actions and future reviews of the 'Action Plan'.

#### INDIGENOUS EDUCATION AND PARTICIPATION

Indigenous people also have a strong interest in marine education and participation in the South-east Marine Region. Their connection to Sea Country has developed over a long period of time and continues to be expressed through their culture and belief systems and their economic use of the Region's marine resources.

Other key topics of interest Pilot Sea Country Plans (Status Report 5) Managing uses – Fishing (page 21)

Australian and State/Territory governments have agreed to improve their approach to the delivery of government programs and services to Indigenous communities and, therefore, encourage participation in management arrangements and capacity building, through the *Council of Australian Governments (COAG) Indigenous Initiative*. Specific marine-based initiatives such as the National Native Title Tribunal conference, *Indigenous Fishing Rights: Moving Forward 2003*, which brought together industry, communities and governments, are also examining issues surrounding fishing rights for Indigenous people with a view to improving Indigenous participation in commercial fishing and aquaculture activities.

Participants in a Sea Country planning workshop



Building on these types of existing initiatives to assist Indigenous communities to address issues important to them, the Australian Government has initiated a pilot project in the South-east Marine Region to test whether Sea Country Plans are an effective way for Indigenous communities to involve themselves in natural resource management and regional marine planning. The outcomes of the pilot project are encouraging and it is recommended that mechanisms such as Sea Country Plans be considered as a part of future regional marine planning and more broadly as a vehicle for more effective Indigenous engagement in natural resource management (for more information on the Pilot Sea Country Plan project see Status Report 5).

#### **ENFORCEMENT AND COMPLIANCE**

Enforcement and compliance in the Region is undertaken by Australian and South-east State government agencies. However, operational enforcement and compliance activities are often carried out on their behalf by the Australian Customs Service, the Australian Quarantine Inspection Service, the Australian Federal Police and our defence forces. In addition, most resource management agencies have an enforcement and compliance aspect to their work – for example, fisheries officers, rangers and permit/licensing officers.

Other key topics of interest The Commonwealth Marine Protected Areas Program in the South-east Marine Region (Status Report 9)

Australia has an ocean jurisdiction of over 14 million square kilometres, and the South-east Marine Region covers some two million square kilometres. The cost associated with enforcement and compliance activities in the Region is extremely high, while the resources available for such activities are limited. Furthermore, the number of managed areas in the Region is likely to increase in the immediate future with the finalisation of fisheries assessments and the representative system of marine protected areas. Consequently, enforcement and compliance issues will become more complex and numerous.





The Australian Customs Service plays an important enforcement and compliance role in the Region.

To deal with existing issues, such as resourcing and training enforcement officers to allow multi-tasking, and to address future challenges to ensure adequate and efficient enforcement and compliance over time, the South-east Regional Marine Plan aims to achieve:

- improved partnerships and bilateral arrangements between various enforcement and compliance agencies in the South-east Marine Region; and
- an understanding of the enforcement and compliance challenges and opportunities associated with the increasing use of spatial management of marine resources in the Region.

#### SCIENCE AND RESEARCH

Marine science and research is undertaken across many government agencies and non-government institutions in the Region: for example, the Fisheries Research Development Corporation, Geoscience Australia, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) Marine Research Division, the Tasmanian Aquaculture and Fisheries Institute, the Victorian Marine and Fresh Water Resources Institute, the South Australian Research and Development Institute, the New South Wales Fisheries Research Institute, the Australian Maritime College, Deakin University, and the University of Tasmania.

Science and research are not only conducted by governments and universities, however, and marine industries in Australia contribute a great deal to our knowledge base. For example, Seafood Services Australia conducts research for the seafood industry and many petroleum companies have research and development departments. Industry also often establish partnerships with universities and private research providers and, more often than not, makes this science and research available to the public at little or no cost. Many community organisations also collect information about our coastal and marine environments – Coastcare groups and marine naturalist associations, for example.

In comparison to the terrestrial environment very little is known about the marine environment of Southeastern Australia. The size and complexity of marine ecosystems and the inaccessibility of the ocean means that our biological knowledge is still relatively limited, despite research organisations and many industries conducting marine research. In addition, there are also gaps in our social and economic knowledge of ocean users and uses.

Other key topics of interest Data management and access to research (page 38) Implementation and review (page 39) Adaptive Management and Performance Assessment for the South east Marine Pagi

Assessment for the South-east Marine Region (Status Report 1)

To address these gaps, marine scientists are continually working to improve their ability to collaborate and cooperate and make the most of resources allocated to marine science. In this respect, government agencies have a long history of collaboration on marine science programs; for example the Fisheries Research and Development Corporation (FRDC) and the Commonwealth Scientific and Industrial Research Organisation routinely collaborate on fisheries research. Despite this, there is room to improve the strategic coordination of the Australian marine science effort. The Oceans Policy Science Advisory Group (OPSAG) has been established to assist with the coordination and communication of marine science conducted by the Australian Government, thereby supporting Australia's Oceans Policy and regional marine planning. In addition to including all Australian Government agencies substantially involved with marine research, this Group also includes representatives from State/Territory governments and non-government marine research organisations to provide as broad a view as possible about the conduct of, and priorities for, marine science in Australia.

The regional marine planning process has also provided an opportunity to increase our knowledge of the Region with collection of new information, such as conducting deep-water research voyages and developing the *Marine Matters – Atlas of Marine Activities and Coastal Communities in Australia's South-east Marine Region*. The planning process also initiated the development and use of new tools and models, including ways to identify bioregions. While strategic coordination of the Australian Government's marine research effort is being improved by these initiatives, there are still things we need to know and future challenges, such as: better targeting of research to fill knowledge gaps; better coordinated process for data collection, access and distribution; greater level (both spatial and temporal) of baseline information available to support management and monitoring activities; and development of analytical tools to assist marine users and managers to understand the likely outcomes of various options for use and management of the marine environment.

The South-east Regional Marine Plan provides an opportunity to address some of these issues. Through the Plan, the Australian Government aims to achieve:

- improved coordination of environmental, social and economic research effort;
- marine research partnerships;
- improved access to marine science information; and
- development of consistent, comparable information at a national scale.

Scientists undertaking seafloor mapping as part of the AUSCAN research voyage in 2003





## DATA MANAGEMENT AND ACCESS TO RESEARCH

Science without communication and understanding remains data of interest only to scientists. For this reason, the communication of research results and scientific data, in a manner that makes this information relevant to policy makers, industries and environmental managers, is extremely important. Currently, access to research and research data is not particularly well coordinated between industry, the community and governments.

Other key topics of interest Cooperative management – Science and research (page 36) Cooperative management – Education (page 33)

A number of Australian Government initiatives currently aim to ensure that users of data will be able to access consistent datasets to meet their requirements, even though the data are collected and maintained by different authorities. These initiatives include:

- The delivery of an Australian Spatial Data Infrastructure (ASDI). The ASDI will provide a vehicle for researchers to display and distribute research results, data and scientific tools in ways not previously thought possible.
- The implementation of an internet-based Oceans Portal to provide views into a wide range of ecological and human-use information held at various national agencies across both Australian and State/Territory government jurisdictions.
- The global Census of Marine Life program called the Ocean Biogeographic Information System, which will allow Australian researchers, policy makers and managers to access biodiversity data collected in the world's oceans by other nations.

Other examples of government-led information tools include the Australian Coastal Atlas, which brings together a variety of interactive mapping tools to provide information about the Australian coastal environment, and the Natural Resource Atlas, compiled by the National Land and Water Resources Audit. These are valuable marine data sources and information networks.

Introducing ways to use new technologies and new methods of information exchange to communicate scientific information remains a challenge. Through the South-east Regional Marine Plan the Australian Government is aiming to:

- assist regional marine management groups to discover, access, visualise and manage data and information;
- develop data access standards for the marine environment; and
- continue to improve access to research, data and expert ecological advice for the management of the Region.

Learning about marine populations - a fish tagging program



# Implementation and review

The traditional approach to achieving sustainable use of the oceans is to rely on individual resource or use management, i.e. sectoral management. While sectoral management remains fundamental, regional marine planning gives us the opportunity to assess and adapt management strategies according to the overall health of the ecosystem. It means we can consider all resource use rather than the status of a single resource or one industry sector. Regional marine planning also outlines arrangements for cross-jurisdictional collaboration. In summary, this Plan explains how multiple-use management and ecosystem-based management approaches will be applied in the Region to achieve ecologically sustainable development (refer to Appendix 1 for complete definitions).

To ensure continuous improvements to management we will regularly review the Plan, considering ecosystem health trends, the success of implementation, new information and technologies and changing social values. Given that there are a variety of actions in the Plan that will be implemented over several years by different agencies, it is important that we have a structured way to assess and adapt management as required. Consequently implementation and review of the Plan will be consistent with an adaptive management approach as described in Figure 10.



Figure 10: Basic adaptive management cycle

Adaptive management is an ongoing process to review the effectiveness of management decisions and revise management if necessary. It helps ensure that management contributes to desired environmental, social and economic outcomes and mitigates identified threats to ecologically sustainable development. It also helps us to check that expenditure by the Australian Government is appropriate, effective and efficient. The adaptive management framework for the Plan is described in detail in Status Report 1 'Adaptive Management and Performance Assessment for the South-east Marine Region'.

To facilitate implementation and review of the Plan we will establish:

- a comprehensive performance assessment system for regional marine planning;
- improved methods for evaluating different management actions for managing fisheries and multiple uses;
- efficient monitoring and reporting of the health of the ocean and the well-being of communities that depend on the ocean and the economic benefits from the ocean; and
- clear and transparent processes to adapt and continuously improve management to meet agreed objectives.

Implementation and review of the South-east Regional Marine Plan will occur over a 10-year cycle, as illustrated in Figure 11. Stakeholder and expert advice and input will be sought at key stages throughout the 10-year cycle (primarily in the review of the 'Action Plan' and the regional objectives) and each review will be publicly available. The National Oceans Office will also report on the implementation of Australia's Oceans Policy and the health of our oceans. This report will be compiled to coincide with other regional marine planning reviews (Figure 11) and to supplement existing environment reporting programs – for example, Australia's State of the Environment Report.





Figure 11: Timeline for implementation and review of the South-east Regional Marine Plan

#### ACHIEVING MULTIPLE-USE MANAGEMENT

Multiple-use management aims to achieve integration and an acceptable balance of outcomes across the full range of ocean uses (Australia's Oceans Policy, vol. 2, p.47). The south-east regional marine planning process has highlighted the need for governments to have a clear and agreed way of integrating sectoral management. It also identified that we need to improve our understanding of the range of tools available to manage multiple uses in the ocean, particularly in areas of intensive use. The ability to conduct multiple-use risk assessment, including ecological, economic and social risks, is also critical for successful management of the Region.

To achieve multiple-use management in the Region, we will:

- pursue arrangements for cross-jurisdictional collaboration;
- continue to apply the Integrated Oceans Process as a means for Australian Government agencies to address emerging issues within the Region;
- continue the development of Oceans Guidelines to pursue consistency in the application of policies for ecologically sustainable development;
- compile a list of Multiple-use Management Tools and Approaches – initially through a case study in the Otways area; and
- establish and conduct a Multiple-use Risk
   Assessment for the Region (see Status Report 7 for more detail).

#### **CROSS-JURISDICTIONAL COLLABORATION**

In late 2003, the Natural Resource Management Ministerial Council (NRMMC) released a joint statement in which all Australian Governments committed to progressing a collaborative approach to support integrated oceans management. Governments have agreed that there are areas to target for national cooperation. These are: governance, ecologically sustainable development, knowledge management, consultation and participation, compliance and enforcement, and environmental quality. In practical terms, this work is focusing on analysing approaches to multiple-use management in the marine environment around Australia and the issue of marine debris. The aim of this focused approach is to test existing government decision-making processes and the success or otherwise of current multiple-use management initiatives. The list of multiple-use management tools and approaches being developed through the Plan will inform this process.

#### **INTEGRATED OCEANS PROCESS**

The Integrated Oceans Process (IOP), elaborated in Oceans Policy: Principles and Processes, outlines the way the Australian Government addresses oceans management issues that impact on more than one agency's area of responsibility. It consists of three steps: a relevance test, issue scoping and risk analysis, and strategy development. The IOP does not replace existing regulatory arrangements but supplements them, providing a comprehensive way to address complex, cross-sectoral marine issues.

The application of the IOP will clarify responsibilities and processes, and determine key decision-points and stakeholder participation in dealing with emerging multiple-use management issues in the Region. It will help to avoid and minimise conflicts and provide increased certainty for industry and other marine stakeholders. It will also ensure a more strategic and effective approach to marine management.

#### **OCEANS GUIDELINES**

The development of Oceans Guidelines, together with sectoral guidelines, will provide practical assistance to oceans managers to achieve more sustainable and efficient outcomes. The Guidelines are intended to inform the application of the IOP and provide stakeholders with a clear description of the Government's approach to key issues, theories and tools. The Guidelines that are currently being developed are:

- Guidelines for the Application of Ecosystem-based Management in the Ocean; and
- Guidelines for Assessing and Using Socioeconomic Data in Oceans Management.

### MULTIPLE-USE MANAGEMENT TOOLS AND APPROACHES

The implementation of a case study in the Otways area provides an opportunity to identify practical and effective approaches to multiple-use management. It will do this by documenting and collaboratively evaluating a range of existing processes addressing specific multiple-use management issues in the Otways area (see the box on page 42 for Otways area information and Status Report 4 'Multiple-use Management Case Study' for more detail on the Otways Case Study).

The case study will:

- document specific examples of multiple-use management processes in the Otways area;
- identify a range of effective approaches and tools for multiple-use management at different scales in the Region; and
- identify opportunities to improve existing multipleuse management processes, and where appropriate, facilitate practical outcomes in consultation with management agencies and key stakeholders.

The Shy Albatross, a species unique to the South-east Marine Region





#### THE OTWAYS AREA

The focus of use in the Otways area extends from Cape Jaffa in South Australia at its western end, in an arc that follows the shelf break to Macquarie Harbour at its southern end, on Tasmania's central west coast (Figure 12). The northern coastline of the area, known as the Bonney Coast, is a narrow shelf region straddling a steep continental slope incised with numerous canyons and valleys. The western half of the coast experiences upwellings of cool nutrient-rich water in February–March that support productive and diverse marine communities. The Australian Government Department of the Environment and Heritage has identified the Bonney Upwelling as an area of high conservation value requiring effective protection from user impacts.

Off the north-west coast of Tasmania the area is characterised by a steep continental slope incised with canyons and valleys, and a swift southbound current system, known as the Zeehan Current. This current transports larvae around the coast of Tasmania.

Whale species are known to migrate through and aggregate in the Otways area and it is one of three important whale habitats in Australian waters. In order to protect this important area, the Australian Government Department of the Environment and Heritage has reached agreement with stakeholders to explore the option of developing a conservation agreement, which would be implemented by key partners in agreement. This provides an alternative to pursuing a marine protected area under the Environment Protection and Biodiversity Conservation Act 1999.

There are three major industries that operate in this multiple-use area: commercial fishing, petroleum exploration and extraction, and shipping. The ports industry also provides essential support and services to these industries. Marine-based industries are a vital source of employment and revenue for many coastal settlements in the area, particularly Portland, Robe, Beachport, King Island, Stanley and Strahan.

Commercial fishers use a range of gear types in the area, including trawl, trap, longline, dropline, dredging, gillnet and diving, to target numerous species. Some parts of the area are subject to many types of fishing. The highest-value species are abalone, scallops, southern rock lobster, giant crab, blue grenadier and spotted warehou. Aquaculture is also located in the near-shore waters of the area. Abalone, Pacific oysters and salmonoid are farmed in sheltered bays or harbours.

Major commercial shipping routes pass through the area. Agricultural products and woodchips are transported from the port of Portland to receiving ports in the Gulf of St Vincent, South Australia, and through Bass Strait to Melbourne and Sydney. There are also numerous minor shipping routes in the area, such as those that service King Island.

The Otways area is believed to contain significant petroleum reserves, although many parts of the area have not yet been explored. A large percentage of the area is covered by lease agreements for petroleum exploration. There are current development projects in the Otway Basin and petroleum exploration and production activities in the area are expected to increase over the next decade. For example, the Otway Gas Project covering the Geographe and Thylacine fields expected to bring gas onshore in 2006 which will supply about 10% of south-east Australia's gas demand for 10 years.

The Otways area has been used by Indigenous people for thousands of years. Modern Indigenous communities also use and depend on the area for food and cultural practices. An extensive registered Native Title Application covers the shelf around Portland and there is a long, narrow area covered by an Indigenous Land Use Agreement extending out from Port Campbell.

There is also significant submerged cultural heritage in the Otways area, with substantial numbers of shipwrecks off the coast contributing to the area's well-known status as 'the Shipwreck Coast'.

In October 2002, broad areas of interest were identified for areas containing the greatest diversity of structures in the South-east Marine Region. These eleven broad areas of interest have provided a focus for ongoing work identifying candidate options for marine protected areas in Commonwealth waters in the Region (see Status Report 9, 'The Commonwealth Marine Protected Areas Program in the South-east Marine Region'). Three broad areas of interest have been identified in the Otways area. In addition, in 2002 the Victorian Government declared 24 marine protected areas to protect marine biodiversity on the Victorian coastline, including the Bonney Coast.

SOUTH-EAST REGIONAL MARINE PLAN





# **ACTION PLAN**

The following table lists the current and future actions that will help achieve the objectives for the South-east Marine Region. Consistent with 'The Way Forward' the actions are presented under the headings: Managing uses, Ecosystems, Cooperative management and Implementation and review. The actions are then arranged under the objectives for the Region, and are then further grouped under sub-headings for ease of reading. Where necessary, cross-referencing is provided between actions and Status Reports.

While some actions are the sole responsibility of the Australian Government, other actions require cooperation with the States and other partners to ensure their successful implementation. The lead agency column outlines which Australian Government agency is responsible for each action. The lead agency is responsible for scoping or describing in more detail what the action entails, the resources required and the level of involvement of the partners. Other partners are identified in brackets, and may include additional Australian Government agencies, the States, industry, community groups and other stakeholders. Where partners are identified for future actions it is critical that these partners be involved in the scoping of the actions. The agency acronyms are listed in the 'Glossary of terms' (Appendix 5).

Most actions are focused on the Region but in some cases a national response is more efficient, including the work to be done in further developing the mechanisms described in *Oceans Policy: Principles and Processes*. These actions are highlighted in blue.

The Timing/Status column identifies the proposed time period over which the action needs to be or is currently being implemented. This column also indicates the status of the action and Status Reports are provided for some commenced actions (pages 60 - 89).

Commenced	=	currently being implemented
Short term	=	1 — 2 years for implementation
Medium term	=	2 – 5 years for implementation
Long term	=	5 – 10 years for implementation
Ongoing	=	actions that do not have a defined end point but are or will be part of

business

ongoing Australian Government

#### Killer whale off the Tasman Peninsula





# 1. Managing uses

## OBJECTIVES

- Increase long-term security of access and certainty of process for existing and future marine-based industries
- Promote economic development and job creation in the Region consistent with ecologically sustainable development

	Action	Lead Agency (and partners)	Timing and Status
1.1	Develop processes for marine resource sharing and m between sectors (including resource use and conserva	anagement to address intera ation)	ctions
1.1.1	Establish a best practice integrated process to address broad-scale resource sharing issues through the mechanisms described in Oceans Policy: Principles and Processes	NOO (all relevant Australian Government agencies, States/ Territories, industry)	Medium term/ Commenced
1.1.2	Develop and implement an agreed framework, in consultation with the States, the Northern Territory and stakeholders for resource sharing and management between sectors (commercial, recreational, Indigenous and aquaculture) that use Australian Government managed fisheries resources	DAFF (ASIC/ATSIC Technical Working Group, all relevant Australian Government agencies, States/Territories, industry, stakeholders)	Medium term/ Commenced
1.2	Assist industry to develop sustainably in the Region		
1.2.1	Continue to provide opportunities for industry innovation, and to manage industry expansion (in terms of new areas and/or technologies) to achieve ecologically sustainable use of marine resources in the Region	AFMA, DAFF, DITR (States, industry)	Ongoing
1.2.2	Encourage value adding and identify markets for the sustainable development of the fishing industry in the Region	DAFF (industry, States)	Ongoing
1.2.3	Support bioprospecting policy setting and management arrangements for research and development activities and ensure sustainable bioprospecting in the Region	DITR, DEH, DAFF (all relevant Australian Government agencies, States, industry)	Medium term
1.2.4	Examine the environmental, social and economic implications of increasing vessel sizes and of greater shipping traffic in the Region, and develop policy setting and management arrangements as required	DOTARS (relevant Australian Government agencies, States, industry)	Short term



1.3	Increase understanding of the economic pressures an industry in the Region	d operational issues facing m	arine-based
1.3.1	Support scoping studies of economic issues facing commercial fisheries in the Region, including consideration of options to improve their economic, environmental and social performance	DAFF (all relevant Australian Government agencies, industry, States)	Short term/ Commenced
1.3.2	Undertake scoping studies to identify economic issues and strategic directions for marine-based industries within the Region, e.g. Tourism (see Status Report 3)	NOO (DAFF, DITR, DOTARS)	Medium term/ Commenced
1.3.3	Continue to assess the performance of Commonwealth fisheries in the Region using ABARE industry surveys and BRS Fishery Status Reports, which provide readily accessible information on fisheries' status, management and economic performance	ABARE, BRS (peak industry bodies)	Ongoing
1.3.4	Promote sustainable development of aquaculture in the Region by working with States and industry to provide planning and management guidance for aquaculture, taking into consideration the physical and biological requirements of the species to be farmed and of the receiving ecosystems, through the development of ESD guidelines as part of the National Aquaculture Action Agenda	DAFF (DEH, Primary Industries Ministerial Council, industry, States)	Medium term
1.3.5	Investigate community and stakeholder perceptions of the aquaculture industry through the project 'Understanding community and stakeholder perceptions of aquaculture'	DAFF, BRS (States)	Short term/ Commenced

# 1.4 Encourage, recognise and promote the contribution of marine industries to sustainable development

1.4.1	Where relevant, promote and encourage industry uptake of environmental management systems in order to support ecologically sustainable development outcomes, and demonstrate environmental stewardship to markets and the community	DAFF (all relevant Australian Government agencies, industry, States/Territories)	Medium term/ Commenced
1.4.2	Recognise and promote existing best practice and innovation in marine-based industries, through information sharing and communications tools, and in the longer term through the Oceans Portal (see Action 3.8.2)	NOO	Ongoing



Encourage consistent assessment of, and responses to of management in the Region	, the social and economic im	pacts
Establish operational guidance for assessing social and economic impacts and consistently applying the information to decision making for oceans management through the Oceans Guidelines (Guidelines for Assessing and Using Socioeconomic Data in Oceans Management) as described in Oceans Policy: Principles and Processes	NOO (all relevant Australian Government agencies)	Medium term
When declaring new marine protected areas evaluate the needs of fishing operators, fisheries and associated dependent communities for adjustment assistance through implementing the 'Displaced Fishing and Marine Protected Areas' policy framework (see also Actions at 2.1 and 2.2)	DEH, DAFF, DOTARS, BTRE	Medium term
	Encourage consistent assessment of, and responses to of management in the Region Establish operational guidance for assessing social and economic impacts and consistently applying the information to decision making for oceans management through the Oceans Guidelines (Guidelines for Assessing and Using Socioeconomic Data in Oceans Management) as described in Oceans Policy: Principles and Processes When declaring new marine protected areas evaluate the needs of fishing operators, fisheries and associated dependent communities for adjustment assistance through implementing the 'Displaced Fishing and Marine Protected Areas' policy framework (see also Actions at 2.1 and 2.2)	Encourage consistent assessment of, and responses to, the social and economic im of management in the RegionEstablish operational guidance for assessing social and economic impacts and consistently applying the information to decision making for oceans management through the Oceans Guidelines (Guidelines for Assessing and Using Socioeconomic Data in Oceans Management) as described in Oceans Policy: Principles and ProcessesNOO (all relevant Australian Government agencies)When declaring new marine protected areas evaluate the needs of fishing operators, fisheries and associated dependent communities for adjustment assistance through implementing the 'Displaced Fishing and Marine Protected Areas' policy framework (see also Actions at 2.1 and 2.2)DEH, DAFF, DOTARS, BTRE

# 1.6 Manage interactions between users in the Region

1.6.1	Compile a list of tools and approaches for achieving multiple-use management initially through case-studies in the Otways area. Examine the scope and application of a multiple-use management model (see Status Report 4)	NOO (all relevant Australian Government agencies, States, industry, stakeholders)	Medium term/ Commenced
1.6.2	Recognise and support existing activities to improve communications between the petroleum industry and the commercial fishing sector with regard to seismic surveys, and with other sectors more broadly	DITR, DAFF, AFMA (NOO, peak industry bodies, industry, States)	Ongoing

## 1.7 Identify areas for regulatory reform to remove inefficiencies and to provide greater clarity to industry

1.7.1	Conduct a targeted regulatory efficiency review	NOO (all relevant	Short term/
	with the input of stakeholders and government	Australian Government	commenced
	representatives. The review will focus on industry and	agencies, industry,	
	government concerns, look at possible improvements	stakeholders, and	
	to government regulation and will complement	States/Territories)	
	existing work, e.g. DITR strategic assessment of the		
	possible impacts of petroleum exploration activities		
	in Commonwealth waters (see Status Report 8)		



# 1.8 Continue to develop mechanisms to improve ecologically sustainable management of resources across sectors and jurisdictions

1.8.1	Pursue complementary ecosystem-based fisheries management for fisheries resources that extend across the South-east Marine Region, including consideration of Offshore Constitutional Settlement (OCS) arrangements	DAFF, AFMA (States/Territories, all relevant Australian Government agencies)	Ongoing
1.8.2	Examine the strategic implications of multiple jurisdictional arrangements for marine-based industries within the Region	NOO (States, all relevant Australian Government agencies)	Medium term

#### 1.9 Build capacity to deal with emerging management issues within the Region

1.9.1	Establish procedures for addressing emerging issues in the Region through a structured risk-based approach (applying the approach outlined in Oceans Policy: Principles and Processes)	NOO (all relevant Australian Government Agencies)	Medium term/ Commenced
1.9.2	Develop a Decommissioning of Offshore Facilities issues paper through the mechanisms described in Oceans Policy: Principles and Processes	DITR/DEH/NOO (industry, peak industry body, all relevant Australian Government agencies, States/Territories, stakeholders)	Short term/ Commenced

SOUTH-EAST REGIONAL MARINE PLAN

# 2. Ecosystems

## OBJECTIVES

- Protect, conserve and restore the Region's marine biodiversity, ecological processes, natural and cultural heritage
- Increase knowledge and understanding of the Region to improve our capacity to pursue ecologically sustainable development

	Action	Lead Agency (and partners)	Timing and Status
2.1	Further develop a system of representative marine pr waters of the Region	rotected areas (MPAs) in the	Commonwealth
2.1.1	Continue to identify a comprehensive, adequate and representative system of candidate MPAs from Broad Areas of Interest (BAOI) in the Region, using ecological specifications and consideration of social and economic consequences (see Status Report 9)	DEH (all relevant Australian Government agencies, industry, stakeholders and States)	Short term/ Commenced
2.1.2	Following public consultation, finalise MPA selection and declaration in accordance with Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	DEH (all relevant Australian Government agencies, industry, stakeholders, States)	Medium term
2.2	Enhance coordination across jurisdictions to ensure i for MPA identification, declaration and management	nformation sharing and cons	istent processes
2.2.1	Continue to address national MPA policy issues, and ensure regional collaboration to identify and manage MPAs and share information	DEH (NOO, all relevant Australian Government agencies, States/Territories, experts)	Ongoing
2.2.2	Implement the Strategic Plan of Action for the National Representative System of Marine Protected Areas (NRSMPA), through the completion of priority projects and actions	DEH (States/Territories)	Ongoing
2.2.3	Review the process and methods used for identifying candidate MPAs in the Region to support implementation and of the NRSMPA in other regions and provide additional policy guidance where required, e.g. deepwater habitat, highly modified environments, or cross-jurisdictional MPAs	DEH (NOO, States/Territories)	Medium term



#### Build capacity to enable effective integration of conservation measures across jurisdictions, sectors 2.3 and stakeholders in the Region, particularly seeking efficiencies in spatial management measures Conduct a review of available conservation measures, NOO (DEH, Medium term 2.3.1 including their objectives, status and applications all relevant Australian to assist with efficiency, integrated design and Government agencies, implementation, and increased understanding States/Territories) of scope and nature of conservation tools NOO (all relevant Short term Examine the policy, management and timing issues 2.3.2 associated with integrating spatial management Australian Government measures agencies) 2.3.3 Integrate fisheries spatial management and MPAs NOO (AFMA, DAFF, DEH, Short term in the Region where there are complementary States, industry) objectives (see Status Report 9) 2.3.4 Explore efficiencies to be gained through integration Medium term All relevant Australian Government agencies of MPAs and fisheries spatial management with spatial management in other sectors (e.g. infrastructure corridors, exclusion zones around petroleum facilities) Enhance coordination between key groups and DEH (all relevant Short term 2.3.5 agencies involved in conservation and resource Australian Government management, through information sharing, agencies, communication and informal reporting States/Territories) 2.3.6 Provide industry with clear information on DEH. all relevant Short term conservation management arrangements in the Australian Government Region (particularly for listed marine species), agencies (industry) including compliance requirements Develop measures to assist industry in meeting DEH, all relevant Ongoing 2.3.7 conservation requirements across the Region Australian Government agencies (industry) 2.3.8 Support stakeholder-driven conservation agreements in DEH (all relevant Ongoing the Region such as the agreement proposed as a result Australian Government of the Bonney Upwelling Conservation Assessment agencies, stakeholders, industry, States)



2.4.1	<ul> <li>Ensure that regional Natural Resource Management (NRM) planning under the Natural Heritage Trust (NHT) and the National Action Plan for Salinity and Water Quality protect coastal and marine receiving waters from land-based pollution through: <ul> <li>Identification of the environmental values of estuarine and marine waters;</li> <li>water quality targets to enhance or maintain those environmental values;</li> <li>cost-effective measures for achieving water quality targets; and</li> <li>monitoring attainment of water quality targets. This process, incorporated into accredited regional NRM plans and associated water quality sub-strategies, will be implemented in accordance with the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) and the Australian Guidelines for Water Quality Monitoring and Reporting (2000)</li> </ul> </li> </ul>	DEH, DAFF (NRMMC, States/Territories)	Ongoing
2.4.2	With support from the Coastal Catchments Initiative (CCI), apply the Australian Government's Framework for Marine and Estuarine Water Quality Protection, in particular for Port Phillip Bay, Western Port, the Derwent estuary and Gippsland Lakes. The resultant Water Quality Improvement Plans are to be incorporated into regional NRM plans and supported through funding from both the CCI and the regional delivery of the NHT	DEH (States/Territories)	Ongoing
2.4.3	Develop a National Environment Protection Measure (NEPM) for fresh, estuarine and marine water quality, which implements the planning, management and monitoring frameworks set out in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) and the Australian Guidelines for Water Quality Monitoring and Reporting (2000)	DEH (NRMMC-National Environment Protection Council, States/Territories)	Medium term
2.5	Implement the National System for the Prevention a (IMPs) (including undertaking strategic research)	nd Management of Introduce	ed Marine Pests
2.5.1	Continue to coordinate development and implementation of IMP barrier control initiatives for all vectors in the Region, as well as emergency response	DAFF (NRMMC-National Introduced Marine Pests Coordination Group (NIMPCG), States)	Ongoing
2.5.2	Complete IMP baseline surveys within the Region for high-risk locations that remain unsurveyed, in line with agreed national protocols and priorities	DAFF (NRMMC-NIMPCG, relevant State agencies, industry, the Australian Transport Council (ATC))	Medium term

## 2.4 Manage marine pollution from land-based activities so that it is within acceptable limits



2.5.3	Develop and support the implementation of nationally agreed protocols for ongoing monitoring of introduced marine species (IMS) in high-risk locations in the Region	DAFF (NRMMC-NIMPCG, States, industry, ATC)	Ongoing
2.5.4	Develop methods for determining the cost (economic, environmental and social) of IMS introductions and for evaluating IMS management options	DAFF (NRMMC-NIMPCG, States, ATC)	Short term
2.6	Implement strategic control programs for the effecti of marine pests in the South-east Marine Region	ve mitigation and, where po	ssible, elimination,
2.6.1	Evaluate the Asterias amurensis control plan model for application to other established IMP populations	DEH (NRMMC-NIMPCG, States/Territories)	Short term
2.6.2	Develop agreed protocols for the development and implementation of National Control Plans at regional and national levels	DEH (NRMMC-NIMPCG, States/Territories)	Short term
2.6.3	Progress implementation of the Asterias amurensis control plan, including ranking areas of vulnerability to Asterias amurensis and determining the business case for eradicating or significantly reducing Asterias amurensis populations	DEH (NRMMC-NIMPCG, States/Territories)	Medium term
2.7	Develop approaches to ecosystem-based management	t in the Region	
2.7.1	Facilitate the development of approaches and tools to achieve integrated and ecosystem-based management, including through the development of Guidelines for the Application of Ecosystem-based Management in the	NOO (all relevant Australian Government agencies)	Medium term/Commenced

# 2.8 Improve capacity for the sustainable management of estuaries in the Region consistent with the Australian Government and States' work on coastal management

Ocean (as described in Oceans Policy: Principles

and Processes)

2.8.1	Examine ways of identifying ecosystem services provided by estuaries in the Region, including the economic value of estuarine habitats to key species, to assist in building links between the management of offshore marine resources/ecosystems and estuaries. (see also Action 2.4.1)	DAFF/DEH/NOO (States, industry)	Medium term
2.8.2	Ensure estuarine and marine ecosystem requirements are an integral part of water resource planning in the Region (see also Actions 2.4.1 and 2.4.3)	DAFF, DEH (all relevant Australian Government agencies, States)	Ongoing
2.8.3	Support the development of a decision support toolkit for estuarine managers in the Region (see Status Report 6)	NOO, DEH (States)	Medium term/ Commenced



# Овјестиче

# • Ensure that all ocean uses are ecologically sustainable

	Action	Lead Agency (and partners)	Timing and Status
2.9	Assess the impacts of resource use on ecosystems (ir areas and/or species in the Region and determine ma	ncluding cumulative impacts) anagement measures to mitig	to identify priority ate impacts
2.9.1	Develop and apply methods of multiple-use risk assessment for threats to the marine environment, industry and communities (see Status Report 7 and Action 4.2.3)	NOO (all relevant Australian Government agencies)	Short term/ Commenced
2.9.2	Continue to conduct sectorally focused risk assessments, such as the Strategic Assessments conducted under the Environment Protection and Biodiversity Conservation Act 1999	All relevant Australian Government agencies	Ongoing
2.9.3	Use ecological risk assessment of Commonwealth fisheries in the Region to determine priority issues and areas for research and management	AFMA	Ongoing
2.9.4	Minimise seal interactions and mortalities in light of increasing seal numbers and levels of interaction with humans, by investigating management options at a national level, and supporting further research and development	DAFF (NRMMC- National Seal Strategy Group, States/Territories)	Medium term/ Commenced
2.9.5	Support further research and development for the design and use of mitigation methods to avoid seal interactions in the fishing industry	AFMA, States/Territories	Ongoing
2.9.6	Support mechanisms to minimise interactions between industry and protected species in the Region, e.g. threat abatement plans, recovery plans and international agreements	DEH, AFMA (all relevant Australian Government agencies, States, industry)	Ongoing
2.10	Assess and monitor ecosystem health and integrity i	in the Region	

2.10.1	Develop a set of fundamental indicators of marine health for use in the Region (see also Action 4.1.2)	NOO, all relevant Australian Government agencies	Medium term
2.10.2	In developing and implementing the performance assessment system for the Region assess, evaluate and report on ecosystem health (see Status Report 1)	NOO (all relevant Australian Government agencies)	Medium term/ Commenced
2.10.3	Facilitate effective coordination for the collection and analysis of marine ecosystem health indicators (see Status Report 1)	NOO, all relevant Australian Government agencies	Ongoing



# 3. Cooperative management

#### **OBJECTIVES**

- Enhance community and industry stewardship and understanding of the values and benefits of the Region and involve them in its management
- Take into account, in decision making, the needs, values and contributions of the community, industry, the national interest and international obligations relevant to the Region
- Integrate management of access, allocation, conservation and use of marine resources to ensure fairness and accountability to the community and all users

Action	Lead Agency (and partners) Timir	g and Status
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#### 3.1 Increase knowledge and awareness of oceans management in the Region's community

3.1.1	Identify needs and advise on priorities for education and training in marine science through a coordinated Australian Government approach	OPSAG (DEST, peak bodies and networks, NOO)	Short term
3.1.2	Develop and implement a National Oceans Office marine education strategy including developing teaching packages called 'tackle boxes' containing marine education resources for schools (see Status Report 2)	NOO (peak bodies and networks, all relevant Australian Government agencies)	Short term/ Commenced
3.1.3	Incorporate Australia's Oceans Policy principles and marine studies as part of a national environmental education program	DEH, DEST (all relevant Australian Government agencies)	Long term
3.1.4	Support the establishment of a Marine Discovery Centre (MDC) network	NOO (MDCs, States/Territories)	Short term
3.1.5	Provide oceans education resources to MDCs through the MDC network	NOO (MDC network, all relevant Australian Government agencies)	Ongoing
3.1.6	Pilot a 'regional' tourism trail which focuses on information about the local marine environment, seafood industries, Indigenous culture, and marine science and education	NOO (DOTARS, DITR, DAFF, peak bodies, States)	Short term



3.2	Emance community and moustry capacity for, and pa	articipation in, marine manage	
3.2.1	Support initiatives that raise community and industry awareness of the importance of, and build capacity for their participation in, estuarine and marine ecosystem monitoring in the Region	DEH, NOO, BRS (States)	Ongoing
3.2.2	Similar to the recent review of Australian Government Fisheries Management Advisory Committees, review existing stakeholder consultation mechanisms in the Region to ensure effective and efficient ongoing participation in marine planning and management	NOO (all relevant Australian Government agencies, States, industry)	Short term
3.2.3	Build community capacity to contribute to management of IMS priority issues such as introduction and translocation in the Region and nationally, and promote the development and use of best practice community-based IMS management, particularly through codes of conduct and other non-regulatory approaches such as guidelines	DAFF (NRMMC-NIMPCG, States, NOO)	Long term
3.2.4	Assist regional marine management groups to discover, access, visualise and manage data and information, e.g. through the Oceans Portal, the 'Neptune' Oceans data directory, and modification of the Natural Resource Information Toolkit to include marine data management issues	NOO (all relevant Australian Government agencies)	Ongoing
3.3	Support the development of partnership approaches	to marine research and monit	oring
3.3.1	Build on existing research partnerships and support the development of new partnerships in the Region between researchers and members of the community, Indigenous people and industry (examples of such collaboration include the habitat mapping of the South East Fisheries)	All relevant Australian Government agencies (States, industry, stakeholders, research institutions)	Ongoing
3.4	Increase recognition of the contribution made by ma to marine research, and of the public benefits flowin	rine-based industries and the g from it	community
3.4.1	Support industry-led public interest research, education and participation initiatives in the Region	All relevant Australian Government agencies (States, industry, stakeholders, research institutions)	Ongoing
3.4.2	Communicate the contribution that marine industries and the community make to marine	All relevant Australian Government agencies	Ongoing

## 3.2 Enhance community and industry capacity for, and participation in, marine management in the Region



3.5	Develop processes for marine management that provi stakeholders and experts in the Region	de opportunities for involve	ment of relevant
3.5.1	Establish arrangements (e.g. an advisory group) and build capacity for ongoing stakeholder and expert advice on issues in the Region and their engagement in management processes	NOO (stakeholders, experts, States)	Medium term
3.6	Enhance the strategic coordination of Australia's mar of key ecological, social and economic data requireme	ine research effort to ensure ents for regional marine plan	the provision ning
3.6.1	Pursue the National Oceans Ministerial Board's strategic marine science goals by supporting the production and implementation of a rolling three-year action plan	NOO (OPSAG)	Ongoing
3.6.2	Support research on the impact of climate change and strategies for adapting to change within the Region	AGO (DEH, DITR, DEST)	Ongoing
3.6.3	Continue to implement the NOO National Science Work Program, including strengthening informal networks of research advisers through collaborative projects, coordinating Australia's marine research effort and co-investing with research agencies on key marine data collection activities to improve the information base	NOO	Ongoing
3.6.4	Coordinate and address marine research needs for Australia's Oceans Policy and regional marine planning	NOO, OPSAG (States/Territories)	Ongoing
3.6.5	Improve social and economic data collection to allow managers and users to access data at appropriate spatial scales and allow identification of links between resources, social and economic catchments, and regional and national economies	NOO, all relevant Australian Government agencies (States/Territories)	Medium term/ Commenced
3.6.6	To assist in coordinating marine research needs for the Region, initiate an annual or biennial forum on marine research in the South-east Marine Region to: enhance dialogue between researchers, decision-makers and users (including community groups and Indigenous people); identify research priorities for the Region; build capacity for community-based research; and promote collaboration and partnerships between research institutions, government agencies, industry and stakeholders	NOO (OPSAG, research institutions, States)	Short term



# 3.7 Develop or adopt relevant regional, national and/or international standards for marine data and services sharing

3.7.1	Develop networked systems that are capable of exchanging and using agency-based information stores,	NOO (all relevant Australian Government agencies,	Short term/ Commenced
	using the Oceans Portal Project and by establishing	States/Territories, research	
	an ocean biogeographic injoiniation system node	institutions	

#### 3.8 Improve access to research, data and expert ecological advice for the management of the Region

3.8.1	Develop web-based applications, embedded within an Oceans Portal, which enables access to, and manipulation of, data in the South-east Marine Region. Encourage broad participation by the marine community in this collaborative project	NOO (all relevant Australian Government agencies)	Ongoing
3.8.2	Develop a web-based tool (the Oceans Portal) that identifies what marine data is available for the South- east Marine Region, and encourage relevant agencies to make data available and accessible through this tool	NOO (relevant Australian Government Agencies, States)	Medium term/ Commenced

# 3.9 Develop governance systems that promote and support ecologically sustainable development of ocean resources

3.9.1	Establish, trial and continue to evaluate the Integrated Oceans Process as described in Oceans Policy: Principles and Processes	All relevant Australian Government agencies	Ongoing
3.9.2	Enhance governance arrangements to facilitate integrated oceans management across governments, including consideration of cross-jurisdictional ministerial arrangements	NOO (NRMMC-IOM Working Group, States/Territories, all relevant Australian Government agencies)	Ongoing

#### 3.10 Increase efficiencies in enforcement and compliance activities in the Region

3.10.1 Investigate the enforcement and compliance challenges and opportunities associated with the increasing use of spatial management of marine resources in the Region	AFMA, DAFF, DEH (NOO and other relevant agencies)	Short to medium term
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## Овјестиче

• Involve Indigenous communities in management of the Region in a manner that recognises and respects their rights, custodial responsibilities, contributions and knowledge

	Action	Lead Agency (and partners)	Timing and Status
3.11	Provide opportunities for Indigenous involvement in in the Region	management and marine res	ource use
3.11.1	Identify management and capacity-building mechanisms to enable Indigenous communities to participate in the management and use of resources in the Region	DEH/DAFF (joint Australian Government NRM teams), ATSIS (all relevant Australian Government agencies, States)	Ongoing
3.11.2	Provide support to Indigenous communities through the development of Sea Country Plans as a potential vehicle for Indigenous involvement in natural resource use and management processes, including through regional natural resource management (see Status Report 5)	NOO (DEH/DAFF (joint Australian Government NRM teams), ATSIS, all relevant Australian Government agencies, States)	Medium term/ Commenced
3.11.3	Examine the means for establishing regional structures to develop Indigenous fishing and aquaculture strategies	DAFF (all relevant Australian Government agencies, research bodies, industry, States)	Medium term/ Commenced



# 4. Implementation and review

	Action	Lead Agency (and partners)	Timing and Status
4.1	Adaptively manage use of the Region by assessing, reporting and acting on whether the objectives for the Region are being met		
4.1.1	Collate and evaluate information on existing performance assessment processes (objectives, indicators, performance feedback) for oceans management within the Australian Government and State governments	NOO, BRS, ABARE (all relevant Australian Government agencies, States/Territories)	Short term/ Commenced
4.1.2	Using the process identified in this Plan and building on existing State and Australian Government performance assessment and monitoring, define operational objectives, performance indicators and performance feedback for the Region (see Action 2.10.1 and Status Report 1).	NOO (all relevant Australian Government agencies, States, stakeholders, technical experts)	Short term/ Commenced
4.1.3	Determine roles and responsibilities for performance assessment in the Region	NOO (all relevant Australian Government agencies)	Short term
4.2	Evaluate the effectiveness of specific management strategies designed to meet the objectives of sustainable resource use and biodiversity conservation		
4.2.1	Incorporate systems for risk-based decision making and management-strategy evaluation into the mechanisms as described in Oceans Policy: Principles and Processes	NOO (all relevant Australian Government agencies)	Medium term
4.2.2	Investigate the use of management strategy evaluation for all marine sectors, in the first instance in the Southern and Eastern Scalefish and Shark Fishery	AFMA, CSIRO, NOO	Short term/ Commenced
4.2.3	Assess the cumulative, social, economic and ecological impacts of multiple uses in the Region to determine priority issues and areas for research and management (see also Action 2.9.1)	NOO (all relevant Australian Government agencies)	Medium term



# **STATUS REPORTS**

The following ten Status Reports outline progress and future work on some actions contained in the 'Action Plan.'

# STATUS REPORT 1

Adaptive Management and Performance Assessment for the South-east Marine Region

## ACTIONS: 2.10 AND 4.1

These actions collectively contribute to the development of a comprehensive adaptive management framework which includes the performance assessment system for the South-east Marine Region.

#### DESCRIPTION

The Australian Government is committed to a transparent, accountable and effective approach to ecosystem-based management and multiple-use management. Adaptive management is a cyclical process through which the effectiveness of management decisions is reviewed and revised if necessary.

Australia's Oceans Policy states that management needs to be capable of rapid responses to the assessment of adverse impacts in order to manage for uncertainty. Ocean planning and management should also include the development of outcome-based performance indicators and performance assessment procedures. Performance assessment should include monitoring of both human activities and ocean health in a manner that is open and transparent, with results made publicly available (*Australia's Oceans Policy*, 1998, vol. 1, pp. 12, 13, 38).

The use of the Oceans Adaptive Management Framework described below builds on the programs of sectoral management agencies, and will improve efficiency in monitoring and reporting requirements. It allows us to measure our progress towards ESD in the Region across all sectors. The Framework is a new and ambitious concept that brings together management and assessment of all elements of the ocean system for the first time. Therefore the implementation of the Framework will be staged to allow sectors and agencies to work through the relevant steps, and the issues they generate, in a considered manner.

The adaptive management theory can also include formal experimental evaluation of management strategies. While the Framework described here does not explicitly include this, it can easily accommodate it.

In addition, some actions in the Plan target Management Strategy Evaluation for the South-east Marine Region.

#### **PROGRESS TO DATE**

Progress to date has been in three key areas of work:

- Describing the Oceans Adaptive Management Framework;
- Developing a process for setting measurable objectives; and
- Undertaking a 'stocktake' of performance assessment systems currently in operation which are relevant to regional marine planning.

### 1. Describing the Oceans Adaptive Management Framework

The aim of adaptive management is to ensure that:

- the management, regulatory processes and policy measures that the Government uses contribute to desired environmental, social and economic outcomes and mitigate identified threats to ecologically sustainable development; and
- expenditure by the Government on behalf of the Australian people is appropriate, effective and efficient.

The ocean is a dynamic system over which we have little direct control. Natural variability is high and our understanding of how ecosystems work is very limited, as is our understanding of the complex interactions within a multiple-use environment. In such a system it is essential to base management on an understanding of ecosystem boundaries and characteristics, that is ecosystem-based management, rather than on arbitrary human-imposed boundaries. Multiple-use management also provides us with the ability to manage complex interactions by jointly considering all uses of the same ocean resource so that their overall impacts on the oceans, and the impacts they have on each other, can be understood.
We can continuously improve management through regular review of existing management, regulatory processes and policy, and by considering ecosystem trends, new information and technologies, and changing social values.

Using a risk-based approach to adaptive management we acknowledge that we are managing uses and activities, and not ecosystems directly. Therefore management actions have a direct effect on human uses and activities but only indirect effects on ecosystem, social and economic outcomes.

For this reason, the Adaptive Management Framework is divided into two cycles, sustainability aspirations and the management cycle, interlocked via human uses (Status Report 1, Figure 1):

- 'Ecologically sustainable development aspirations' refers to our aims for sustainable environment and social and economic systems. Oceans managers and planners are not able to manage these directly but have a capacity to influence them through management actions; and
- 'Management cycle' refers to the objectives and actions undertaken within organisational and management systems. An organisation may be held accountable for meeting the objectives and doing actions through a performance assessment system.

The key steps in the Oceans Adaptive Management Framework are:

- Identify the Ecologically Sustainable
   Development (ESD) elements. This defines the aspects of ecosystems, society and the economy that are critical for sustainability.
- Assess the current condition of those ESD elements and any trends.
- Identify uses, opportunities and threats to ESD for oceans and analyse risks.
- Set clear, measurable objectives that are linked to identified indicators that we can measure to see how we are going in meeting our objectives. Under the Oceans Adaptive Management Framework there are three types of objectives and their associated indicators:
  - ESD objectives identify our aspirations for our environmental, social and economic systems.
     ESD indicators measure progress towards these objectives.



#### Status Report 1, Figure 1: Oceans Adaptive Management Framework



- Ocean use objectives (management outcomes) identify how we want identified human uses or non-human threats to respond to management to help us meet our sustainability objectives.
   Ocean use indicators measure the effectiveness of management actions in appropriately regulating human use of the oceans
- Action objectives identify the actions that we are implementing to meet our ocean use (management outcomes) objectives. Action indicators measure the efficiency of management actions in terms of actions done and resources spent.
- While initially objectives are very high-level, all types must be systematically defined at an 'operational' level, which means they need to be specific, measurable, achievable, identify targets and be time-bound. Finalising the objectives and associated indicators for the South-east Marine Region will be the result of a process involving stakeholders, technical experts and governments. Not all indicators that are identified will be monitored because of resource, technology and logistic constraints. A cost-benefit analysis will be undertaken to identify the set of indicators that will provide the most information for the least cost. The assumptions that are made in choosing those indicators will also be articulated.
- Decide what management action to take based on an evaluation of the range of management actions, and then implementing the actions.
- Monitor the indicators and assess how they are performing in relation to the desired objectives.
- **Report on performance** towards the objectives.
- **Review and change management** when objectives are not being met.

# 2. Developing a process for setting measurable objectives

The objectives listed in the South-east Regional Marine Plan are aspirations for the Region held by all those with a stake in the Region and its management. This includes industry, the wider community and government. While these objectives provide a broad overview of what we want for the South-east Marine Region they are not operational, that is they are not stated in measurable terms, which will make it difficult to determine whether we are actually meeting them. For the Adaptive Management Framework and performance assessment system to function effectively, the objectives for the Region need to be defined in a clear and structured way in measurable terms.

The process for developing and finalising operational objectives for the South-east Marine Region, and hence for defining indicators, will build on the work undertaken throughout the planning process. The process will include two streams of work: developing objectives for ESD and for ocean use (management outcomes); and ensuring that action objectives as outlined in the 'Action Plan' are measurable with indicators assigned.

# Developing objectives for ESD and for ocean use (management outcomes)

- Collate all objectives already identified through the south-east regional marine planning process, categorise them into objectives for ESD, for ocean use (management outcomes) and for actions, and identify whether or not they are measurable.
   Who: National Oceans Office
- Develop draft ESD elements (arranged in a hierarchical way called an 'element tree') for the South-east Marine Region. The proximate parts of the element tree identify those elements for which ESD objectives need to be set.
   Who: National Oceans Office
- Seek expert advice on the ESD elements and revise if necessary.

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Who: National Oceans Office in conjunction with advice from ecosystem, social and economic experts
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 Using the collated objectives, identify the elements that have existing objectives (both ESD and ocean use (management outcomes) and also identify those elements for which there are gaps in objectives.
 Who: National Oceans Office

- Agree on the ESD elements for the South-east Marine Region, fill in gaps in objectives and agree on ESD objectives. Setting these objectives will be informed by risk assessments and by the information obtained in the assessment phase (particularly that contained in the impacts, ecosystems and resources reports). This work will be done through crosssectoral work including all sectors, government, and expert advisers (ecological, social and economic).
   Who: National Oceans Office with Australian Government agencies, stakeholders and expert advisers
- In parallel with setting ESD objectives, objectives for ocean use (management outcomes) will be developed.

**Who:** National Oceans Office with Australian Government agencies, stakeholders and expert advice

 Identify and agree on appropriate potential indicators of objectives for ESD and ocean use (management outcomes).
 Who: National Oceans Office with Australian Government agencies and expert advice

### **Developing Action Objectives**

Concurrently with developing the objectives for ESD and for ocean use (management outcomes) each action in the 'Action Plan' needs to be stated in a measurable way and indicators chosen.

Who: National Oceans Office with lead agencies and partners

#### Completing the objective-setting process

To complete the objective-setting process, the action objectives need to be matched to the higher-level objectives and decisions made about the indicators that will be monitored.

 Match the action objectives to the relevant ocean use (management outcomes) objectives and ESD objectives.

Who: National Oceans Office

 Conduct cost-benefit analysis of indicators to determine which ones will be monitored. As stated in the Adaptive Management Framework, not all indicators identified will be necessarily monitored if there are resource, technology and logistic constraints. A risk-based cost-benefit analysis will be used to identify those indicators that will provide the most information for the least cost. The assumptions that are made in choosing those indicators will also be articulated.

**Who:** National Oceans Office with all Board agencies, and expert advice

 Distribute completed ESD elements, objectives for ESD, for ocean use (management outcomes) and for actions and associated indicators, revise based on comment and provide to the National Oceans Ministerial Board for approval.

Who: National Oceans Office with Australian Government agencies, stakeholders and expert advisers

# 3. A stocktake of performance assessment systems

The National Oceans Office has commissioned a project to identify and evaluate existing performance assessment systems in the Australian Government (being undertaken by the Bureau of Rural Sciences and ABARE). An interim report has been received which focuses on 11 systems particularly relevant to the South-east Marine Region. The review includes information on scale, scope, objectives, indicators, and reporting cycles. This information will be used in the further development of the Adaptive Management Framework and performance assessment system to ensure that where possible the framework builds on and enhances work already being done to assess performance in the Region.

#### FUTURE WORK PROGRAM

The future work program for the development of the Oceans Adaptive Management Framework and the performance assessment system includes the following actions:

- Further develop hypothetical examples of the Adaptive Management Framework and performance assessment system (June 2004)
- Agree on a schedule for setting objectives (June 2004)
- Finalise the stocktake project (June 2004)
- Establish agreed ESD elements and objectives through the objective-setting process (January 2005)
- Implement the Adaptive Management Framework for the Region (ongoing).



# **STATUS REPORT 2** Marine Education Needs and Priorities

# Астіон 3.1.1

Identify needs and set priorities for marine science, education and training through a coordinated Australian Government approach.

## DESCRIPTION

Marine education is essential for fostering stewardship of the marine environment. In the context of Australia's Oceans Policy this includes fostering a greater understanding of all ocean users and their respective needs, differences and interests. Education is critical to bringing about cultural change which recognises the complexity of the marine environment and the way it is used. In response to the pivotal role of education in implementing Australia's Oceans Policy, the draft Plan included the action develop and implement a South-east Marine Region education strategy'. This work aimed to identify and build on current marine education initiatives in the Region as well as identifying and addressing key gaps. The work takes a holistic approach to education, recognising the different needs of more formal education (primary, secondary and tertiary), the general community, Indigenous communities and industry.

#### **PROGRESS TO DATE**

A draft education strategy has now been developed by the National Oceans Office. This strategy summarised current education initiatives in the Region and nationally, and identified key needs of the education community with regard to marine education resources. From this strategy, an Education Action Plan has been publicly released and includes initiatives such as:

 Developing and implementing an Oceans Office marine education strategy to ensure that information is provided to all education sectors in an appropriate way;

- To reach the formal education sector, incorporating marine issues in the development of a National Environmental Education Program and, in the shorter term, developing teaching packages called 'tackle boxes', which contain marine education resources for schools;
- For the wider community, supporting the establishment of a Marine Discovery Centre (MDC) network and providing the network with oceans education resources to reach the community;
- For tertiary marine science, education and training, identifying needs and setting priorities for a coordinated Australian Government approach; and
- To provide an avenue for government, industry and communities to explain how the ocean is being used and managed, piloting a 'regional' tourism trail which focuses on information about the local marine environment, seafood industries, Indigenous culture, and marine science and education.

A number of other actions in the Plan that are not specifically 'education actions' will also contribute to fostering stewardship and improving understanding of the South-east Marine Region.

#### FUTURE WORK PROGRAM

The future work program for education will be focused on the implementation of the actions identified in the South-east Regional Marine Plan.

# STATUS REPORT 3

# Key Economic Issues Facing Marinebased Industries in the Region

# Астіон: 1.3.2

Undertake scoping studies to identify economic issues and strategic directions for marine-based industries within the Region.

## DESCRIPTION

As outlined in Australia's Oceans Policy, the Australian Government is committed to the goal of promoting ecologically sustainable economic development and job creation for marine-based industries (Australia's Oceans Policy, 1998, vol.1, p 4). The first step in achieving this goal involves gaining a better understanding of the economic pressures and operational issues that face marine-based industries.

To inform the development of this Plan, the National Oceans Office undertook preliminary research into the range of pressures facing marine-based industries within Australia's South-east Marine Region. This broadly-based research and the subsequent stakeholder consultation process identified a need for more formal scoping studies to be done.

## PROGRESS TO DATE

The National Oceans Office engaged the Australian Bureau of Agricultural and Resource Economics (ABARE) to undertake a project to identify the key economic issues facing marine-based industries operating in Australia's South-east Marine Region, their causes, and an indication of areas where further work may be needed. This work identified and reviewed:

- the importance of each marine industry to the local, regional and national economy;
- cross-cutting macroeconomic drivers that are likely to affect the Region's marine industries and their strategic direction;
- the main strategic directions of the Region's marine industries and key economic forces driving them in this direction; and
- areas where further, more detailed understanding of both directions and drivers is required for the marine industries of the South-east Marine Region.

#### PRELIMINARY FINDINGS

Marine-based industries in the Region include: fisheries (aquaculture, commercial and recreational fishing); seawater and seabed mining (oil and gas, offshore mining); marine-related manufacturing (biotechnology, ocean waste disposal, ship/boat building); seabed energy infrastructure (electricity transmission lines); marine-based tourism; marine-based transport (shipping and ports and marinas); and seabed communications infrastructure (submarine cables). The following preliminary views are:

- These industries supply domestic and international markets and are largely influenced by international as well as national trends (e.g. global fisheries catches, oil prices) and new and developing technologies (e.g. petroleum exploration and extraction, fishing efficiency).
- World economic growth, world trade, world energy trade and prices, Australia's economic growth, and Australia's population dynamics have been identified as important cross-cutting macroeconomic industry drivers that are likely to affect the Region's marinebased industries and their strategic direction.



The areas where a more detailed understanding of strategic directions or drivers for marine-based industries is required include:

- Aquaculture and wild fisheries: trends in domestic and international markets for aquaculture and wild fisheries products to increase understanding of likely future returns from fisheries products.
- **Marine tourism:** more specific information on the numbers of tourists likely to visit the South-east Marine Region, and the specific types of activities that attract them there.
- Seabed and seawater mining: the economic viability of oil and gas resources in basins (other than the Gippsland Basin) where exploration is currently being carried out in the South-east Marine Region.
- Maritime transport and trade: planned port developments in Victoria and Tasmania, and regional transport strategies.

## FUTURE WORK PROGRAM

The National Oceans Office will pursue work with other agencies to determine priority areas for future studies so as to assist in dealing with emerging issues and industry trends.

# STATUS REPORT 4 Multiple-use Management Case Study

# Астіон 1.6.1

Compile a list of tools and approaches for achieving multiple-use management initially through case-studies in the Otways area. Examine the scope and application of a multiple-use management model.

## DESCRIPTION

The Case Study provides an opportunity to learn lessons from existing multiple-use management processes - management processes that need to consider the interests of multiple users. It will do this by documenting and collaboratively evaluating a range of management processes developed for specific management issues in the Otways area - the area of ocean from Robe in South Australia to Macquarie Harbour in Tasmania. It is focused on understanding how sectors/users are currently working together to achieve their own objectives and is designed to identify effective processes for doing this, including the aspects of stakeholder consultation, information sharing, conflict resolution and achieving outcomes. The Case Study is not aimed at setting benchmarks, reviewing regulation or determining new arrangements that restrict current uses and activities. It is a theoretical exercise focused on learning from previous experiences (i.e. not linked to any regulations or administrative procedures) that will not delay existing approvals processes.

The Case Study will:

- Document specific examples of multiple-use management processes in the Otways area;
- Identify a range of effective approaches and tools for multiple-use management at different scales in the Region; and
- Identify opportunities to improve existing multipleuse management processes, and where appropriate, facilitate practical outcomes in consultation with management agencies and key stakeholders.

The Case Study is being progressed in two phases. The first phase is focused on developing the Case Study method to ensure that the approach to reporting and evaluation is objective and consistent. Phase two is mostly focused on documenting and evaluating the selected multiple-use management processes.

The findings of the Case Study will be collaboratively evaluated (including participation from relevant agencies of the Australian and State governments and also key stakeholders) using the direction provided in *Australia's Oceans Policy*, including:

- Deal fairly with all interests;
- Integrate across institutional, jurisdictional and policy boundaries;
- Allow for flexibility and adaptability of governance;
- Ensure transparency of processes and accountability of decisions;
- Engender stewardship and a duty of care amongst ocean users and managers;
- Provide certainty about rights and responsibilities of ocean users and managers; and
- Use public funds efficiently.

#### PROGRESS TO DATE

A Working Group comprising representatives from South-east States and Australian Government agencies have helped to identify suitable management processes for inclusion in the Case Study and to discuss the development of the project. The following multiple-use management processes have been identified for inclusion in the Case Study:

- Interactions between giant crab and trawl fishers – focusing on the current process for developing ways to manage interactions occurring off the west coast of Tasmania;
- Interactions between conservation, fishing and petroleum exploration – focusing on processes for planning and conducting seismic survey;
- Efficiencies for integrating conservation measures – focusing on recent government and stakeholder efforts to integrate the conservation of shark species;



- 4. Sustainable industry expansion focusing on the application of the Australian Government's Acreage Release Process for expansion of offshore petroleum exploration;
- Ecosystem health focusing on the trial of methods for multiple-use risk assessment, initially covering ecosystem impacts;
- Indigenous participation focusing on the Australian Government's approach to development of a Sea Country Plan for the Framlingham/Windamara Indigenous communities in Victoria; and
- Stakeholder awareness and communication

   focusing on the stakeholder engagement process for the development of the Draft South-east Regional Marine Plan.

The Working Group has also provided advice on the approach for reporting and evaluating, and the work program for documenting the management processes listed above. To maximise stakeholder participation and information sharing, the Working Group agreed that work on the interactions between conservation, fishing and petroleum exploration will be deferred until the outcomes of pending projects and reviews have been determined.

#### FUTURE WORK PROGRAM

The future work program is primarily about implementation of the second phase of the Case Study. This will include discussions with key stakeholders and management agencies on reporting and evaluation of management processes included in the Case Study.

Opportunities to improve the existing multiple-use management processes included in the Case Study will be discussed, and where appropriate facilitated, in consultation with government agencies and key stakeholders.

# STATUS REPORT 5 Pilot Sea Country Plans

## Астіон 3.11.2

Provide support to Indigenous communities through the development of Sea Country Plans as a potential vehicle for Indigenous involvement in natural resource use and management processes, including through regional natural resource management.

## DESCRIPTION

To plan and initiate two pilot Sea Country Plans in South-west Victoria and South Australia in collaboration with coastal Indigenous groups.

Sea Country Plans are a mechanism for Indigenous people to:

- Consider and plan their interests and responsibilities relating to the use and management of marine areas with which they are culturally associated.
- Negotiate with other marine managers and users to develop policies and institutional arrangements that are respectful of Indigenous people's rights, interests and responsibilities in Sea Country.
- Seek resources and other support to enable Indigenous people to use and manage their Sea Country according to their rights, interests and responsibilities.

# Community/local area and current marine involvement

A Victorian Pilot Sea Country Plan was developed in collaboration with the Gunditj Mara people whose Sea Country extends (approximately) from Lorne in the east to the Victorian/South Australian border in the west. The Winda-Mara Aboriginal Corporation and the Framlingham Aboriginal Corporation are representing the interests of Aboriginal people in the development of the Plan. These people have a long history of management and dependence on marine resources. Their pre-colonial society and economy was built around access to and utilisation of coastal and marine resources. The unique lifestyle and continuing culture of the Indigenous people of the area includes a strong focus on their utilisation of the short-finned eel, a migratory species which links the land-based activities of the local people to the South-east Marine Region.

# **ISSUES FACING INDIGENOUS COMMUNITIES**

Key issues that were identified in the planning process are:

- Involvement in decision making on matters affecting access to and protection of their marine resources and habitat.
- 2. Addressing land-based impacts on marine and aquatic habitats.
- 3. Equity in sharing of economic benefits of exploitation of marine natural resources.

#### Background

The development of Pilot Sea Country Plans is in response to several studies and strategic initiatives relating to the recognition of Indigenous rights and interests in marine environmental and resource management. These include the *Coastal Zone Inquiry* (1993), the development of an *Aboriginal and Torres Strait Islander Fisheries Strategy* (1998) and consultations during the preparation of the *South-east Regional Marine Plan*. These processes confirmed that particular groups of Indigenous people have an ongoing cultural attachment to and a broad range of interests and responsibilities in specific areas of coastal land and sea, which are difficult to accommodate in State or national planning or management processes.

The development of Sea Country Plans that recognise this fundamental relationship between Indigenous people and their Sea Country might address the spectrum of interests at the appropriate geographic scale. Therefore they may be a potential vehicle for more effective Indigenous involvement in natural resource management.



# Description of planning process (project management)

- The planning process was endorsed by an Indigenous Reference Group from the South-east Marine Region, who provided advice on potential pilot project areas.
- Dr Dermot Smyth and Mr Steve Szabo, consultants with many years' experience in strategic planning and policy development relating to Indigenous peoples' rights and interests in environmental and resource management, were contracted to facilitate the development of the two pilot Sea Country Plans in collaboration with representative Aboriginal organisations.
- The South-west Victorian Pilot Sea Country Plan outlines key marine and coastal environmental and resource management issues of concern to Aboriginal people, and explores options for enhancing their involvement in decision making.
- Consultations with the Native Title Unit of the Aboriginal Legal Rights Movement of South Australia commenced in November 2003, but due to unavailability of key Indigenous people and organisations it was not possible to formally commence the South Australian pilot study in 2003. An initial planning meeting with the Aboriginal Legal Rights Movement, during which options for pilot areas and communities will be discussed, is scheduled for early 2004.

# FUTURE WORK ON THIS PILOT PROJECT INCLUDES:

- Completion of a South Australian pilot Sea Country Plan.
- Supporting negotiations between Indigenous groups and other marine managers regarding the implementation of the Pilot Sea Country Plans.

## PRELIMINARY OUTCOMES

The completion of the South-west Victorian Pilot Sea Country Plan has already demonstrated that such Plans can:

- Meet the Australia's Oceans Policy commitment to engaging Indigenous people in marine planning at an appropriate geographic scale and across a spectrum of cultural, ecological and economic issues.
- Assist government agencies and other stakeholders to better understand Indigenous people's interests and responsibilities with respect to their Sea Country.
- Provide a framework for constructive negotiations between coastal Indigenous groups, government agencies and other marine stakeholders on future use, management and equitable benefit-sharing of marine environments and resources.
- Build a more integrated and cooperative approach to marine resource management.

#### PRELIMINARY RECOMMENDATIONS

- Mechanisms, such as Sea Country Plans, which engage Indigenous communities in marine resource management at culturally appropriate scales, should be an integral part of future regional marine planning. They should be considered more broadly as a vehicle for effective Indigenous engagement in natural resource management.
- Sea Country Plans have sufficient flexibility to cater for variation in Indigenous interests and responsibilities within regions and enable regional marine plans to be more responsive to local cultural, social and economic requirements.



SOUTH-EAST REGIONAL MARINE PLAN

- Sea Country Plans could potentially be an important tool for implementing a range of government environmental and social initiatives of importance to Indigenous people. Examples include the Australian Government's Aboriginal and Torres Strait Islander Fisheries Strategy, and the Victorian Government's Indigenous Partnership Strategy, as well as Indigenous components of Natural Resource Management Regional Plans funded through the second phase of the Natural Heritage Trust.
- The National Oceans Office should facilitate the development and implementation of Sea Country Plans as part of its ongoing role in regional marine planning.
- Sea Country Plans have the potential to inform and be implemented (in whole or part) through regional natural resource management processes supported by the Natural Heritage Trust.



# STATUS REPORT 6

Development of a Decision Support Toolkit for Estuarine Managers in the Region

# Астіон: 2.8.3

Support the development of a decision support toolkit for estuarine managers in the Region.

### DESCRIPTION

As part of the assessment phase for the development of the South-east Regional Marine Plan, the report, Ecosystems: Nature's Diversity, was produced. It documented a clear biophysical relationship between estuaries and inshore and offshore marine ecosystems. In summary, estuaries form a critical link to the broader marine ecosystem:

- as a primary production zone;
- as an integral link in the cycle of nutrients and food energy to and from inshore and offshore marine systems;
- as critical spawning grounds, nurseries and sheltered feeding grounds for many commercially, recreationally and ecologically significant species in the South-east Marine Region; and
- as both buffer and conduit for excess nutrients, sediments and contaminants originating on land, that then cycle through the entire marine ecosystem. (See Appendix 3, Figure 5, page 96.)

## ISSUES

The importance of estuaries presents two issues for regional marine planning in the South-east Marine Region. It demonstrates that sustainably managed estuaries are integral to the overall health of the marine ecosystem; and it highlights the importance of ensuring that estuarine and catchment managers and users understand the link between estuarine and offshore marine environments, and respond appropriately. At present in the South-east Marine Region, the management of the majority of estuaries is guided by general policy frameworks, for example legislation and regulation, catchment management plans, and programs such as the Coastal Catchments Initiative, the National Water Quality Management Strategy and the National Principles for the Provision of Water for Ecosystems. A few estuaries have specific management strategies and scientific investment, including the Derwent, D'Entrecasteaux and Huon estuaries, Tasmania; and Port Phillip Bay, Victoria. Consequently, there are disparate levels of knowledge and management for estuaries. Therefore, a logical first step to facilitate better estuarine management is through the development of decision support systems for managers.

One of the challenges facing estuary managers is 'knowing where to start': such as knowing what information to gather towards answering relevant planning and management questions (for example, siting aquaculture developments), how to interpret that data, and how to predict changes in an estuary as a result of management decisions and outcomes.

In addition, a difficult aspect of estuarine management is the ability to visualise the cause, effect and ultimately results of various natural events and/or management strategies for a particular estuary. Data, and in particular, models, rely on users and managers having a high degree of understanding of the information and abstract representations of results to grasp their real meaning and implications.

#### Project

Within the South-east Marine Region, the presence of well-studied estuaries with ongoing management programs has provided an opportunity to develop software that:

- effectively demonstrates the utility of estuarine data and modelling for management;
- assists estuarine managers in interpreting and presenting their data and undertaking scenario modelling; and
- can be trialled and will be transferable to other estuaries to guide management projects with regard to information gathering and management strategy evaluation.



The project will utilise the data available through the Derwent Estuary Program to trial the visual presentation of complex scientific data to non-technical audiences. It will also provide an excellent national case study on methods to integrate monitoring and modelling data with water quality targets using visualisation software.

The project addresses a number of priorities identified in both the South-east Regional Marine Plan and the National Water Quality Management Strategy (NWQMS), recognising the links between catchments and marine environments. In particular, the project will:

- identify values and permissible pollution levels for coastal water bodies in accordance with the NWQMS;
- raise community and industry awareness of the importance of monitoring and build capacity for enhanced participation; and
- support the development of a decision support toolkit for estuarine managers.

# FUTURE WORK PROGRAM

When the project is complete it will be of practical value to the Derwent Estuary Program and will be transferable to other estuaries. It will enhance the use of monitoring and modelling data to support more effective management. The display, analysis and interpretation of estuarine water quality data will be greatly enhanced through the visualisation tools which will be developed as part of this project. The project will result in the development of one component of a decision support tool – Data Model Access and Visualisation Software – to assist management actions on estuarine health indicators and targets.



# STATUS REPORT 7

# **Risk Assessment**

# Астіон 2.9.1

Develop and apply methods of multiple-use risk assessment for threats to the marine environment, industry and communities.

## Астіон 4.2.3

Assess the cumulative, social, economic and ecological impacts of multiple uses in the Region to determine priority issues and areas for research and management.

#### DESCRIPTION

Risk assessment is an essential tool for managers to achieve a precautionary, adaptive and ecosystem-based approach to oceans planning and management. Risk assessment is a critical step in the Adaptive Management Framework. (Refer to Status Report 1 for 'Adaptive Management and Performance Assessment in the South-east Marine Region'.)

Risk assessment is characterised by systematic and transparent analysis of information to predict and describe likely outcomes of specific events that may occur and the magnitude of their consequences. This leads to the identification of priorities for management responses and further research. Risk assessment can be used to underpin many aspects of decision making for oceans management.

While risk assessment has been applied in many areas of environmental management, there is a need to develop a standard approach to assessing risks to all aspects of the sustainable use of broad areas of ocean. A multiple-use risk assessment approach to be applied in the South-east Marine Region is being developed. This risk assessment approach will:

- Assess risks to ecosystems, economies and communities in an integrated way;
- Simultaneously consider the cumulative impacts arising from multiple uses and threats;
- Build on rather than duplicating existing risk assessment processes;
- Be open and transparent and involve stakeholders at various stages;
- Use a staged approach to risk assessment consisting of an overview phase and subsequent more detailed investigations where appropriate; and
- Be consistent with the Australian and New Zealand environmental risk assessment standard.

This risk assessment approach will identify current and emerging threats to marine ecosystem health, and marine-dependent industries and human communities. It will also assist in determining appropriate planning and management responses to those threats.

Within the Oceans Adaptive Management Framework, multiple-use risk assessment adopts a methodical and staged approach to the analysis of system elements (for example, ecosystems, economies and society) and their potential threats (for example, human uses, policy changes etc.) based on available information. The cumulative effect of some threats or groups of threats also needs to be considered. The first stage of multipleuse risk assessment is a broad analysis of system elements and threats to identify management and research priorities. Subsequent phases of risk assessment focus on a narrower spectrum of elements and threats that require a more detailed examination.

The steps of multiple-use risk assessment are:

- Description of activities or processes that constitute a source or risk; the description includes their nature, frequency and location;
- Identifying the elements of the ecosystem (ecological, economic, socio-cultural) that might be impacted upon and the nature and location of these elements;
- Description of the potential impacts on the selected ecosystem components;
- Analysis of the extent to which the activity and the elements might interact;

- Estimation of the likelihood of the impact occurring (where there is interaction);
- 6. Ranking the relative levels of risk posed to the ecosystem elements;
- Ranking the relative levels of risk posed by each of the activities or processes; and
- 8. Consideration of any risk management measures already in place in estimating risk levels.

Following from the risk assessment process would be the development of risk mitigation measures, including the ranking of possible mitigation measures that may be applied.

## PROGRESS TO DATE

Substantial work toward assessment of risks to sustainable oceans use has already been done, including:

- Development of a framework for risk assessment including a standard method, building on the Australian/New Zealand Standard Risk Management Standard AS/NZS 4360:1999.
- Collection of a large amount of information during the assessment phase, resulting in several reports:
  - Identification of ecosystem components (Ecosystems: nature's diversity, Resources: using the ocean)
  - Identification of ecological threats (Resources: using the ocean; Impacts: identifying disturbances).

The focus has initially been on identifying and addressing threats to marine ecosystem health, and a method for conducting ecological multiple-use risk assessment has been developed and is being trialled in the Otways area (refer to Status Report 4 – Multiple-use Management Case Study).

# FUTURE WORK PROGRAM

The risk assessment work program involves trialling the standard risk assessment method as part of the Multiple-use Management Case Study and specifically for the Managing Risks to Marine Ecosystem Health issue. (Refer to Status Report 4 – Multiple-use Management Case Study.)

Risk assessment in the Otways will initially focus on risks to ecosystems and this work is expected to be completed by June 2004.

The methods will then be revised as necessary before applying them across the whole of the Region. This is expected to be completed in the second half of 2004.

Further work needs to be done to develop detailed methods for social and economic risk assessment and to incorporate these into a full assessment of the risks to the marine environment, industries, and human communities in the Region.



# STATUS REPORT 8 Regulatory Efficiency Review

# Астіон 1.7.1

Conduct a targeted regulatory efficiency review with the input of stakeholder and government representatives. The review will focus on industry and government concerns, look at possible improvements to government regulation, and will complement existing work, e.g. Department of Industry, Tourism and Resources (DITR) strategic assessment of the possible impacts of petroleum exploration activities in Commonwealth waters.

## DESCRIPTION

The review will identify areas for regulatory reform to remove inefficiencies and to provide greater clarity to industry.

#### **PROGRESS TO DATE**

The review is focusing on practical examples of industry, community and government concerns regarding ocean regulation. The National Oceans Office (NOO) has worked primarily with the individual members of the National Oceans Advisory Group and Board agencies to identify and analyse the concerns.

The review has found that sectoral agencies, by and large, are aware of and are addressing major issues that affect ocean users; for example, duplication in regulation. An example is the perceived overlap in legislative approvals between the Environment Protection and Biodiversity Conservation Act 1999 (Cth) and the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999 (Cth) for the petroleum industry. This issue is being addressed by the Department for the Environment and Heritage (DEH), DITR and NOO. Where there are such processes in place to address stakeholder issues, they will be reported on in the final Regulatory Efficiency review. Stakeholders have raised further opportunities to realise efficiency in Australian Government marine management. Thus the review is analysing issues where improvement can be made through planning and integration and where agencies have identified an across-sector opportunity for improvement in marine management. The issues are:

- Improving certainty in marine resource management, particularly for:
  - resource-use planning across sectors.
  - stakeholder engagement processes.
  - decision making in multiple-sector matters.
- Providing incentives for stewardship.
- Improving access to regulatory and other information.
- Improving coordination and accessibility of information about marine ecosystems.

National Oceans Ministerial Board agencies are working through these issues. A report will be released on the detail of the issues and options to address them at the culmination of the analysis process.

#### FUTURE WORK PROGRAM

The Review will develop policy advice on the above issues through further consultation with stakeholders on the National Oceans Advisory Group in the first instance and outside that group as necessary. It is expected that the National Oceans Ministerial Board will consider any recommendations on these issues and decide on any further scope for the review by the middle of 2004.

# The Commonwealth Marine Protected Areas (MPAs) Program in the Southeast Marine Region

A marine protected area (MPA) is an area of sea (which may include land, the seabed and subsoil under the sea) established by law for the protection and maintenance of biological diversity and of natural and cultural resources.

MPAs are recognised nationally and internationally as being central to protecting ocean ecosystems, which in turn sustain marine industries and communities. It is also widely recognised that strategic regional marine planning that provides for the establishment of MPAs and the complementary sustainable management of adjoining waters is the best way of achieving conservation of marine biodiversity.

One of the major initiatives under Australia's Oceans Policy is the accelerated development of a National Representative System of Marine Protected Areas (NRSMPA). By linking this work with regional marine planning around Australia, we are pursuing what the world recognises as a best-practice approach to conservation of our oceans. For more information on the NRSMPA see the information box on page 87.

# A good foundation

Since the Great Barrier Reef Marine Park was declared in 1975, another 13 MPAs have been declared in Commonwealth waters – that is, between 3 nautical miles and 200 nautical miles out to sea, around Australia's coast. State governments have also been active in contributing areas to the NRSMPA (Status Report 9, Figure 1).

In the mid to late 1990s the process began in earnest to identify and declare MPAs where they were needed (see Status Report 9, Figure 2). During this period, new declarations in Commonwealth waters include the Great Australian Bight Marine Park, Tasmanian Seamounts Marine Reserve, Macquarie Island Marine Park, Lord Howe Island Marine Park, Cartier Island Marine Reserve, and Heard Island and McDonald Islands Marine Reserve. The six new MPAs add an extra 249,570 km<sup>2</sup> (approximately the size of Victoria) bringing the existing marine reserve area to a total of 272,219 km<sup>2</sup> (not including the Great Barrier Reef Marine Park which protects a further 345,000km<sup>2</sup>).

However, despite the achievements to date, a number of gaps remain in Australia's distribution of MPAs, especially in deepwater and cooler temperate oceans. For this reason, the Australian Government made it a priority to establish MPAs in large-scale bioregions that were not already represented within the NRSMPA. Through the South-east Regional Marine Plan, the Australian Government has accelerated the development of a system of MPAs in the temperate waters around the south-east of the continent.

When the system is finished, Australia will have the benefit of the most comprehensive system of MPAs in the world.

# INCREASING THE PACE IN THE SOUTH-EAST

The South-east was the first Region identified for planning under Australia's Oceans Policy. Accordingly, this is the first time the regional marine planning process has been used to support the design of a comprehensive, adequate and representative system of MPAs in Commonwealth waters, under the direction of the National Oceans Ministerial Board.

The work being done in the South-east Marine Region is also the first time representative MPAs are being identified and established across a large-scale deep offshore marine region. This system-wide approach has involved close cooperation, not only between diverse Australian Government departments and agencies, but with State Governments and a range of other stakeholder groups.

Development of the system of MPAs in the South-east Marine Region will build on two existing Commonwealth MPAs (the Tasmanian Seamounts



Status Report 9, Figure 1: The National Representative System of Marine Protected Areas 2002

Status Report 9, Figure 2: Illustration of the increasing area of Commonwealth MPAs between 1982 and 2002 [excludes the Great Barrier Reef Marine Park]



Marine Reserve and the Macquarie Island Marine Park) as well as complementing MPAs established in adjoining state waters. These existing MPAs, the new approach combining MPA identification and regional marine planning, and the commitment across stakeholder groups to participate in the design of MPAs, provide an excellent foundation from which to tackle the many challenges we face in identifying MPAs in the Southeast Marine Region.

# A SYSTEM OF MPAS IN THE South-east Marine Region

The goals of the National Representative System of Marine Protected Areas (NRSMPA) relate primarily to the conservation of biodiversity and sustainable and equitable management of human use. The priority is to establish MPAs in large-scale bioregions that are not already represented within the NRSMPA.

In the South-east marine Region, eleven Broad Areas of Interest (BAOI) (see Status Report 9, Figure 3) have been defined that contain the greatest diversity of bioregions and sea floor features (for example the shelf, shelf edge, slope, abyssal plain, seamounts and rotated continental blocks) for sampling within candidate MPAs. The aim of the MPA design process is to use both stakeholder and scientific information to design options for a network of MPAs across the Region to protect representative samples of defined bioregions while minimising impact on industry.

In addition, the integration of the regional marine planning and MPA processes provides an exceptional opportunity to consider other conservation measures when designing the MPA system, and to ensure that MPAs are not identified in isolation from the management of sustainable resource use.

See more on the Department of the Environment and Heritage website at

www.deh.gov.au/coasts/mpa/southeast/index.html

# Challenges

## Learning and working together

Fisheries management, and major known and potential energy developments, are particularly complex issues for the South-east Marine Region. In addition the offshore waters and their biodiversity values in the Region are largely unknown.

For these reasons it is vital that the MPA process is supported by stakeholders and underpinned by a realistic and credible amount of scientific advice and technical support.

Stakeholder engagement is essential to develop MPA options that minimise social and economic impacts of MPA establishment, and to secure ongoing commitment and support for subsequent MPA management. This requires, at the earliest stage of MPA design, the involvement and consideration of the needs of stakeholders, including knowledge of cultural, social and economic impacts.

Key challenges include:

- ongoing development of integrated policy responses to achieve industry development, energy policy and conservation objectives
- continuing to support innovative ways of communicating with stakeholders to enhance the information sharing in the MPA process
- timely advice on the determination of zoning and management of MPAs, including how management arrangements would change in response to new information and technologies
- moving forward the integration of MPAs with other mutually beneficial spatial management measures such as fisheries closures.

Overcoming these challenges will require an ongoing and significant investment from stakeholders and government to bring together industry and other interested groups to generate MPA options for the Region.



Status Report 9, Figure 3: Broad Areas of Interest in the South-east Marine Region

#### ACHIEVEMENTS IN THE REGION

While there is still further work needed to address these challenges, we have made significant progress and achieved major outcomes for the design of candidate MPAs in the Region.

These achievements include:

 An agreed collaborative process to actively involve stakeholders in the design of candidate MPAs for the Region.

During the last year, the Australian Government and stakeholders have worked together to develop products that provide stakeholders with critical information needed to design candidate MPAs in the Region. These products include a list of operational criteria for identifying and selecting a comprehensive, adequate and representative (CAR) system of MPAs within the South-east Marine Region, a map of eleven Broad Areas of Interest (BAOI) to provide focus in identifying candidate options for MPAs (see Status Report 9, Figure 3), and the User Guide, including MPA Specifications, to assist stakeholders to design options for candidate MPAs within each BAOI.<sup>4</sup>

As well as these products, the Government has established a range of consultative forums and networks to ensure a comprehensive, transparent, equitable process for stakeholder engagement in developing MPA outcomes for the South-east Marine Region. In particular, the Australian Government has funded two liaison positions – one within the commercial fishing industry and one within the conservation sector. These positions help to strengthen the capacity of these sectors to engage in the design of options for candidate MPAs.<sup>2</sup>  Candidate MPAs in the Murray and Zeehan broad areas of interest, totalling over 40,000 km<sup>2</sup>.

In developing candidate MPAs, all stakeholder groups have been invited to work with the Government to minimise impacts on marine-based activities while maintaining scientific credibility and achieving conservation objectives for the Region. Leaders of peak industry associations from the oil and gas and commercial fishing sectors, as well as conservation and Indigenous groups coordinated input on behalf of their members to develop options for candidate MPAs in two BAOI – the Murray (1A) and Zeehan (1C). The result was multiple options for the development of candidate MPAs in each of the two BAOIs.

Using these various options as a basis, the candidate MPAs shown in Figures 4 and 5 are proposed by the Australian Government to be advanced as proposals for declaration. There will be additional consultation to seek stakeholder support for these candidate MPAs as part of the process to refine boundaries and potential management and zoning arrangements. As shown in Figure 6, the candidate MPAs for Murray and Zeehan areas will not enter the statutory process for declaration until a representative system has been finalised for the South-east Marine Region (see Next Steps).

<sup>a</sup> For information on how to get involved please contact your peak representative body or the Department of the Environment and Heritage Marine Protected Areas Taskforce ph o2 6274 1111. It is expected that leaders of peak industry associations and other non-governmental groups will coordinate and collate input from and on behalf of their members to ensure a 'whole of sector' development of options.

<sup>&</sup>lt;sup>1</sup> The User Guide including descriptions of the broad areas of interest, the specifications, maps and other resources can be found at: www.deh.gov.au/coasts/mpa/southeast/index.html Environment Australia, CSIRO Marine Research and the National Oceans Office (2003) Australia's South-east Marine Region: A User's Guide to Identifying Candidate Areas for a Regional Representative System of Marine Protected Areas'. Commonwealth of Australia, August.



Status Report 9, Figure 4: Candidate MPA – Murray Broad Area of Interest<sup>4</sup>

Caveat: Data are assumed to be correct as received from the data suppliers

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 An Australian Government policy statement on MPAs and Displaced Fishing and a toolkit to guide social and economic assessment.

A policy statement on MPAs and displaced fishing was released by the Australian Government in January 2004 in response to concerns about the impacts on fishers and fishing dependent communities of decisions to establish MPAs. The Government's policy on MPAs and displaced fishing will be applied to the Murray and Zeehan candidate MPAs to illustrate to stakeholders how the policy will apply in practice. For more information see Marine Protected Areas and Displaced Fishing: A Policy Statement at www.deh.gov.au/coasts/ mpa/legal.html.

As well as the policy statement, the Australian Government (through the Bureau of Rural Sciences) is developing and testing methods of assessing the potential social and economic impacts of MPAs. This work will provide a toolkit to guide more detailed social and economic assessments of MPAs. The toolkit will be applied to future options for candidate MPAs in the Region and to MPAs proposed in Commonwealth waters around Australia.

 Approach identified to progress integration of fisheries spatial management and MPAs in the Region where there are complementary objectives.

The Australian Government has committed to exploring ways to integrate spatial management measures to increase efficiencies in planning and management across sectors. Work will start in the South-east Marine Region and focus on integrating MPAs and fisheries closures where there are complementary objectives.

<sup>3</sup> For further information of IUCN categories please see Environment Protection and Biodiversity Conservation Regulations 2000 and also the Commonwealth Marine Protected Areas Program 2003 www.deh.gov.au/coasts/mpa/publications/index.html

# Staged and adaptive approach to zoning and preliminary risk assessment framework for fishing impacts.

The long-term aim of the NRSMPA is to achieve a comprehensive, adequate and representative system of MPAs with a mix of the World Conservation Union (IUCN) categories, including highly protected zones<sup>3</sup>. For representative MPAs in Commonwealth waters, the Australian Government considers that this broad objective will be better met through large, rather than small MPAs.

Where adequate information exists to make an informed decision, areas of high conservation value will be highly protected. Where information gaps create uncertainties for management and decisions on zoning, the Australian Government will adopt a staged and adaptive approach to setting levels of protection as more information about the specific economic, cultural and ecological values in the area is gathered and assessed. It is envisaged that information will be sought and discussed in a collaborative manner involving Government and stakeholders. The Australian Government welcomes industry contributions to improve knowledge of biodiversity and other environmental values through, for example, sponsored research. This staged process of MPA review will take place transparently within the framework of the development and review of management plans.

In relation to managing fishing activities in MPAs, Australian Government agencies in consultation with State fisheries agencies, marine ecologists and gear technology experts, have developed a preliminary framework to assess the impacts of fishing activities within the BAOI in the South-east Marine Region.

The assessments will guide the analysis of fishing gear impacts in candidate MPAs, and help develop appropriate management strategies to protect MPA values. Industry, government and conservation groups will be consulted in making these assessments. The risk assessment framework, while initially for the South-east Marine Region, will be developed to be applicable, as far as possible, to other regions where representative MPAs are to be developed.



Status Report 9, Figure 5: Candidate MPA – Zeehan Broad Area of Interest<sup>4</sup>

<sup>4</sup> The candidate MPAs shown in Figures 4 and 5 have been developed by the Australian Government based on input provided by the fishing industry, the oil and gas industry, conservation groups, Indigenous representatives, relevant Australian and State government agencies including scientists from CSIRO Marine Research, the Bureau of Rural Sciences and Geoscience Australia. Other groups consulted through the Commonwealth Marine Protected Areas Stakeholder Reference Group and the South-east Regional Marine Plan Working Group include shipping, ports, recreational fishing, tourism and minerals, have also identified issues for further consideration.

The candidate MPAs are proposed by the Government to be advanced into proposals for declaration. In so doing, the Government will seek stakeholder support for these candidate MPAs as part of a consultative process to refine boundaries and propose potential management and zoning arrangements. Additional refinements may also be made as part of a system wide review of candidate MPAs across the Region, including consideration of the results of the risk and social and economic assessments. Once approved by the National Oceans Ministerial Board, a proclamation process will be conducted including a notice inviting public comment as part of the statutory processes under the Environment Protection and Biodiversity Conservation Act 1999.

#### NEXT STEPS

The tools, policies, processes and information so far developed will help us generate options for candidate MPAs in the remaining nine BAOI in the South-east Marine Region and to continue development of the candidate MPAs for Murray and Zeehan. The key stages in this process are outlined in Figure 6. This work will continue to be underpinned by the best available scientific, cultural, social and economic information and with the direct participation of all stakeholders. The timing of these stages is indicative and subject to external factors, such as inputs from stakeholders and the risk and social and economic assessments.

As shown in Figure 6, the Murray and Zeehan candidate MPAs will continue to be progressed (with possible minor adjustments to boundaries that will only be made after consultation with all relevant stakeholders) in parallel to work on generating candidate MPAs for the remaining BAOI.

Proposed zoning and management arrangements for the Murray and Zeehan candidate MPAs will be developed as soon as feasible. This will draw on risk assessments, including of typical fishing activities in the Region. The potential displaced fishing effort that could arise from the proposed zoning and management arrangements will be estimated through social and economic assessments for Murray and Zeehan. The Government's policy on MPAs and displaced fishing, released in January 2004, will be applied to the Murray and Zeehan candidate MPAs as soon as the proposed zoning for the Murray and Zeehan candidate MPAs has been determined.

The form of activities permitted in multiple use (IUCN VI) zones of MPAs in the South-east Marine Region will be established and made available to stakeholders as soon as possible.

This approach aims to clearly illustrate to stakeholders how the risk and socio-economic assessments, zoning and displaced fishing policy will apply in practice. While work on the remaining BAOI will continue as far as possible in parallel, stakeholders will not be asked to agree to candidate MPA outcomes for the remaining BAOI until these issues have been clarified for the Murray and Zeehan candidate MPAs. Before candidate MPAs enter the statutory declaration processes, a review across all the Region's MPA candidates will ensure that as a set they are consistent with the reserve system criteria of comprehensiveness, adequacy and representativeness. Continuing consultations and the peer review could result in some fine-tuning of candidate MPAs. For example, the system-wide review may recommend enhancements to the Zeehan candidate MPA to better meet the reserve system criteria and specifications. Any modifications to the proposed candidate MPAs would be considered in direct consultation with stakeholders in terms of any impacts on marine industries.

Once the South-east Marine Region's MPA candidates are approved by the National Oceans Ministerial Board, the statutory process for declaration of a Commonwealth reserve under section 351 of the Environment Protection and Biodiversity Conservation Act 1999 will commence with a notice inviting comment on a declaration proposal.

The progressive implementation of the South-east Regional Marine Plan and integration with other conservation tools and spatial management arrangements will provide for the protection of the biodiversity values of the Region while minimising impacts and costs to industry, Government and the wider community, noting that this process will not supersede the relevant Government agencies with primacy for the management of particular activities such as the Australian Fisheries Management Authority. A review of the MPA process will be undertaken in the context of the broader implementation and review of South-east Regional Marine Plan and the full range of conservation measures available for the protection and maintenance of marine ecosystems in the Region.



Status Report 9, Figure 6: Next steps in the development of a representative system of MPAs for the South-east Marine Region

# Timeframes are indicative only and subject to NOMB recommendations and requirements for risk and social and economic assessment



WHAT IS THE NATIONAL REPRESENTATIVE System of Marine Protected Areas?

# National Representative System of Marine Protected Areas (NRSMPA)

The National Representative System of Marine Protected Areas (NRSMPA) is one of the key Australian Government initiatives to achieve marine biodiversity conservation.

Australia's governments are working together to set up a national system of protected areas throughout our entire marine zone. As at 2002 the NRSMPA covered approximately 64,600,000 hectares or 7% of Australia's marine jurisdiction, excluding the Australian Antarctic Territory (Status Report 9, Figure 1). The primary goal of the NRSMPA is to establish and manage a system of MPAs that will be:

- comprehensive include MPAs that sample the full range of Australia's ecosystems;
- adequate include MPAs of appropriate size and configuration to ensure the conservation of marine biodiversity and integrity of ecological processes; and
- representative include MPAs that reflect the marine life and habitats of the areas they are chosen to represent.

The development of the NRSMPA also fulfils Australia's responsibilities and obligations under a number of international conventions and agreements.

The NRSMPA exists within a broader range of national and State and Territory mechanisms to achieve biodiversity conservation and the complementary sustainable management of Australia's marine jurisdiction. Each Australian jurisdiction has its own laws and processes for establishing and managing MPAs.

While the primary goal of the NRSMPA is the conservation of marine biodiversity, many other values and uses can be accommodated in MPAs where these are compatible with the objectives of the protected area.

For further information on how MPAs are established and managed please see www.deh.gov.au/coasts/mpa/nrsmpa/index.html.



# **STATUS REPORT 10** Introduced Marine Species

# Actions: 2.5 and 2.6

These actions collectively contribute to the further development and implementation of the National System for the Prevention and Management of Introduced Marine Pest (IMP) incursions, and the undertaking of strategic research, and the implementation of strategic control programs for the effective mitigation and, where possible, elimination, of marine pests in the South-east Marine Region.

### DESCRIPTION

During the assessment phase of the south-east regional marine planning process, Introduced Marine Species (IMS) were identified as a priority issue of concern to stakeholders and governments in the Region. IMS were also recognised as one good example of the need for clear processes for integrated oceans management (IOM) since their management requires a cross-sectoral approach and IMS incursions have implications for multiple industries as well as for the general community. The South-east Regional Marine Plan includes a number of actions designed to improve management of, and information on IMS, both in the Region, and nationally. These actions are supportive of the development and implementation of the National System for the Prevention and Management of Introduced Marine Pest Incursions. This system is being managed at a national level through the Natural Resource Management Ministerial Council (NRMMC) National Introduced Marine Pests Coordination Group (NIMPCG) which reports to the Marine and Coastal Committee, recognising the importance of a single efficient national system.

# PROGRESS TO DATE: ACTION 2.5

Progress in the development and implementation of the National System for the Prevention and Management of Introduced Marine Pest Incursions has been made in a number of areas. A high-level officials group (HLG) was formed by the NRMMC in recognition of the need for high-level advice on the key issues of appropriate legislative, governance and funding approaches for implementation of a national approach.

The HLG first met in December 2002 and comprised of nominees from the Australian Government, and all State and Northern Territory governments.

The HLG conducted extensive consultation with all relevant stakeholders who broadly supported the principles underlying the HLG's work, with the shipping industry indicating its support for the proposed approaches in the report.

The outcome of the HLG process was a report to the NRMMC including 23 recommendations to assist development of a National System. The National System is comprised of three elements. The key recommendations were that:

- The prevention element be based on shared jurisdictional arrangements between all governments for all vector risks, with the Australian Government responsible for managing the risks of marine pest introduction to Australia, and the States and Northern Territory responsible for managing the risks of marine pest translocations between Australian ports;
- the emergency management element be based on the current interim coordination arrangements, with additional measures to address post-event evaluations, detection strategies, containment of establishing pests and protocols for moving from emergency response to the ongoing control and management;
- the ongoing control and management element be based on implementation of agreed National Control Plans, enacted through jurisdictional legislation;

- funding be based on a mixed cost recovery basis for prevention and beneficiary-based funding for emergency management and ongoing management and control;
- the recommendations be supported by an inter-governmental agreement; and
- a single national interface for shipping and a range of protocols and best practice models to address biofouling be developed.

The NRMMC considered and endorsed the HLG report in October 2003 and the implementation of its recommendations over a three-year period. The Council noted that agreement to the recommendations in the report were subject to resolution of funding arrangements by each jurisdiction and also noted that to achieve effective implementation, significant further work will be necessary.

The HLG report will also be provided to the Australian Transport Council (ATC), which has responsibility for shipping, ports and recreational boating, through NRMMC processes. The comments of the ATC will be considered prior to final implementation of the recommendations. The Standing Committee on Transport considered and noted the report in October 2003 and agreed that the Australian Marine Group should engage directly with NIMPCG on the development and implementation of the National System.

### PROGRESS TO DATE: ACTION 2.6

Work on progressing strategic research and the implementation of strategic control programs for the effective mitigation/elimination of marine pests in the South-east Marine Region has included:

- Management Strategy Evaluation for Asterias amurensis: A formal Management Strategy Evaluation commenced as part of implementation of the National Control Plan for Asterias amurensis and is scheduled to be completed in May 2005. This will detail the estimated costs and benefits of management and control options in the National Control Plan and provide a model that can be extended to other high-profile marine pest species in the South-east Marine Region.
- Agreed protocols for National Control Plans: The development of agreed protocols for the development and implementation of National Control Plans at regional and national levels was discussed at NIMPCG's 9th (3 December 2003) and 10th (16–17 March 2004) meetings. Draft protocols are to be finalised before signing of Intergovernmental Agreement on the National System, the text of which is scheduled to be settled in June 2004.

## FUTURE WORK PROGRAM

The future work program is focused on further developing and implementing the National System through NIMPCG in accordance with the agreed workplan, including implementation of the actions identified in the Plan.



# APPENDICES

# Appendix 1: The Policy context

The Government has demonstrated in Australia's Oceans Policy its commitment to maintaining the health of ocean ecosystems and their marine biological diversity. With new and enhanced management arrangements, these goals can be achieved, meeting a broad range of economic, social and cultural needs well into the future. Management agencies, industry and stakeholders have already advanced oceans management practices and have worked together to address cross-sectoral issues. Implementation of Australia's Oceans Policy and regional marine planning builds on this progress.

In 1998, Australia's Oceans Policy outlined the challenges we face in ensuring ecologically sustainable use of our marine resources:

Urban and infrastructure development in the coastal zone, together with the development of marine industries, continue to place increasing demands on our coastline and oceans. Past management practices have not allowed us to assess and ameliorate the cumulative impacts of our actions on ocean health and productivity.

If we were to continue without integrating our oceans planning and management we could not be confident that Australia would avoid the spiral of marine resource degradation that has been witnessed in so much of the rest of the world.

The collapse of a number of major marine ecosystems and fisheries resources in the northern hemisphere, with the associated economic damage and social dislocation, is a stark warning of the vulnerability of marine systems. In Australian waters, the degrading of our unique temperate seagrasses and serious declines in stock of important commercial fish species such as southern bluefin tuna, southern sharks, orange roughy and gemfish, show that we are not immune from such threats. The Commonwealth and all State and Territory governments have made commitments in the past under the National Strategy for Ecologically Sustainable Development which are relevant to Australia's Oceans Policy. In applying that Strategy to our oceans, the emphasis to date has been on actions within the separate sectors, such as fisheries, petroleum, and protected areas. While progress has been made, until now management and decision-making have not been integrated across the various sectoral interests.

Management of our oceans purely on an industry-byindustry basis will not be sustainable in the long run. Activities such as fishing, tourism, shipping, aquaculture, coastal development and petroleum production must be collectively managed to be compatible with each other and with the ecological health of the oceans.

(Australia's Oceans Policy, vol. 1, 1998, p. 11.)

Since these policy statements regarding ecologically sustainable development and related approaches were made, agencies have made significant advances in building these principles into their legislative and regulatory frameworks.

In October 2001 the High Court decided that native title rights and interests can be recognised in offshore areas (the Croker decision – *The Commonwealth v. Yarmirr* (2001) 184 ALR 113). Among the native title rights and interests that were recognised in the Croker decision were the rights to fish, hunt and gather for noncommercial purposes, and to visit and protect places of cultural or spiritual importance in the claimed area. The possibility that native title rights and interests might exist in the South-east Marine Region must be taken into account in regional marine planning.

With Australia's Oceans Policy, the Government is furthering its commitment to ecologically sustainable development. This has resulted in a commitment to integrated and ecosystem-based planning and management for multiple uses of our oceans. In working towards this goal, the Commonwealth and all State and Territory governments continue to pursue improved coordination so that jurisdictional boundaries do not become barriers to effective planning and management. Key principles relevant to Australia's Oceans Policy are summarised in the box overleaf.



# KEY PRINCIPLES AT A GLANCE

**Ecologically sustainable development** (ESD) is defined in *Australia's National Strategy for Ecologically Sustainable Development*, 1992, as 'using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be increased.' All Australian governments have agreed to pursue ESD through their policies and regulations.

'With Australia's Oceans Policy, the Government is introducing a refinement of the commitment to ecologically sustainable development. The Government is committed to integrated ecosystem-based planning and management for multiple uses of our oceans' (Australia's Oceans Policy, 1998, vol. 1, p. 11).

For more detail, see: Australia's Oceans Policy, 1998, vol. 1, pp. 11, 19. Oceans Policy: Principles and Processes, 2003, pp. 2, 11, 13, 19.

**Ecosystem-based management** (EBM) is a management approach that recognises that maintaining the structure and function of ecosystems is vital and that human uses and ecosystem health are interdependent.

Australia's Oceans Policy recognises that 'ocean ecosystem health and integrity is fundamental to ecologically sustainable development' (Australia's Oceans Policy, 1998, vol 1, p. 19.) Understanding and minimising the consequences of human activities on ecosystem integrity should be a primary consideration in making management decisions.

For more detail, see: Australia's Oceans Policy, 1998, vol. 1, pp. 10, 19. Oceans Policy: Principles and Processes, 2003, pp. 2, 13. Integrated oceans management (IOM) is an approach that recognises that planning and management need to be integrated across sectoral agencies and spheres of government to satisfy the social, economic and ecological objectives of ESD. It is necessary because marine-based activities may overlap or interact, needing consideration of all uses and values, and an understanding of cumulative impacts on the ecosystem.

For more detail, see: Australia's Oceans Policy, 1998, vol. 1, pp. 4, 11, 21. Oceans Policy: Principles and Processes, 2003, pp. 3, 5, 13.

**Multiple-use management** (MUM) in the marine environment is an approach which aims to achieve integration and an acceptable balance of outcomes across the full range of ocean uses (*Australia's Oceans Policy*, 1998, vol. 2, p. 47).

For more detail, see: Australia's Oceans Policy, 1998, vol. 2, pp. 37, 43, 44, 47.



# Appendix 2: The Regional Marine Planning Process to date

#### PROCESS

This Plan represents a major milestone under Australia's Oceans Policy.

Following the announcement of *Australia's Oceans Policy* in the International Year of the Ocean in 1998, the Australian Government began work on the first largescale integrated marine planning and management process in the world.

The first step was to scope the Plan, which described in broad terms what the South-east Regional Marine Plan should do and how it should be developed.

Next came the assessment phase, during which a vast amount of information was collected on the biological, physical, economic, community, Indigenous and management characteristics of the Region. This led to a series of assessment reports that provided the first comprehensive understanding of the Region.

With a sound information base provided through the assessment phase, the next step was to identify planning issues and objectives for the Region.

The options phase of the process required the articulation of objectives, identification of issues and development of recommendations through close consultation with stakeholders and government agencies. Representatives from recreational and commercial fishing, aquaculture, petroleum, conservation, tourism, shipping and ports, and community and Indigenous groups have been key players in the process. The Draft South-east Regional Marine Plan was publicly released on 18 July 2003, and was accompanied by a media advertising campaign in all capital cities and coastal centres in the Region.

The draft Plan was released for a three-month period of public consultation. During this time, staff from the National Oceans Office visited regional centres to obtain input from the general community and to incorporate their views into the south-east regional marine planning process. On conclusion of this period, over 70 submissions were received. These submissions were summarised in the Draft South-east Regional Marine Plan Submissions Report. The submissions and feedback gained during regional and stakeholder meetings have been used in finalising the South-east Regional Marine Plan.

#### PARTICIPATION

Through the South-east States Consultative Working Group, the four States in the South-east Marine Region – Tasmania, South Australia, Victoria and New South Wales – have been involved in the process and will be investigating more formal engagement into the future. The need for their involvement is reflected in actions such as pursuing common goals and approaches for the management of Regional fisheries resources that extend across jurisdictions, and collaboration on measures to reduce land-based sources of marine pollution.

Stakeholder involvement began with the South-east Steering Committee, an expert-based group appointed by the National Oceans Ministerial Board (NOMB). It advised on the planning process, providing strong input, particularly during the assessment phase.

The NOMB also appointed the National Oceans Advisory Group (NOAG), comprising mainly non-government representatives from industry, scientific research and the conservation sector. The group meets regularly to advise Ministers and the National Oceans Office on issues affecting *Australia's Oceans Policy*. The 19-member group reports directly to the NOMB.



An ongoing commitment to engage stakeholders was also reflected in the formation of the South-east Regional Marine Plan Working Group. The experience of the Working Group members was used to identify Regional objectives, clarify the issues in the South-east Marine Region and propose actions to address the issues. The outcomes of the Working Group were significant in the development of the South-east Regional Marine Plan.

To ensure effective engagement with such a wide variety of stakeholders and interest groups, the National Oceans Office has employed a range of communication mechanisms. A number of technical working groups were formed from experts from a range of sectors with the aim of producing a credible information base on which to build the Plan. A number of communication products have been developed, including computer-enhanced images of the seafloor, and websites, to engage adults and children. SOUTH-EAST REGIONAL MARINE PLAN



# Appendix 3: Description of the South-east Marine Region

The South-east Marine Region brings together three large marine domains (large-scale marine ecosystems): the South-eastern, the South Tasman Rise and Macquarie domains.

It covers more than two million square kilometres of water off Victoria, Tasmania (including Macquarie Island), southern New South Wales around the town of Bermagui (south of latitude 36°48'S) and eastern South Australia from around Victor Harbor east.

Geologically, the South-east Marine Region has been partly shaped by the catchment of Australia's major river systems from Victoria, Tasmania and the Murray-Darling Basin, a land area in excess of 1.2 million square kilometres. These river systems provide inputs

Appendix 3, Figure 2: Murray Canyons



into coastal ecosystems and have helped to shape underwater features at times of lower sea levels. Examples of this are the canyon structures at the eastern end of Bass Strait and the spectacular Murray Canyons, a geological marvel bigger than the Grand Canyon (see Appendix 3, Figure 2).

The water depth in the Region varies from the vast shallow expanse of Bass Strait, averaging 60 metres deep, to the Hjort Trench, near Macquarie Island, where the sea floor lies 6700 metres below the surface.

**Appendix 3, Figure 1:** Geomorphic features on the south-east continental margin. The South-east Marine Region includes both inshore (State) waters (from the low-water mark to three nautical miles) and Commonwealth waters (from three to 200 nautical miles), as well as the continental shelf beyond the Exclusive Economic Zone. While the Region includes State coastal waters, the South-east Regional Marine Plan focuses on Commonwealth waters. Source, Geoscience Australia, National Oceans Office, 2003 (see Map Disclaimer on inside front cover).



Other key geological features of the Region include the upper continental shelf, where water depths are generally less than 200 metres, seamount structures off southern Tasmania, the sunken continental shelf known as the South Tasman Rise south of Tasmania, and the steep continental slope (see Appendix 3, Figures 1 and 3).

There are three major ocean currents in the Region. The East Australian Current is a southward-flowing open ocean current that brings warm water from as far north as the Coral Sea off North Queensland. The Zeehan Current flows southward on the continental shelf, transporting warmer water down the west coast of Tasmania, and the Antarctic Circumpolar Current is an eastward flowing current that gains strength south of Tasmania and passes Macquarie Island as it circles the globe.

The interactions of these currents result in complex water flows that determine species composition, distributions and dispersal, controlling the movement of sediments and nutrients and influencing the seasonal variations in salinity and temperature.

Where the currents converge, there is a mixing of cool and warm waters, resulting in upwellings of nutrient-rich waters that provide a source of food for many marine species (see Appendix 3, Figures 4a and 4b).

The ecosystems of the South-east Marine Region also clearly demonstrate the ecosystem continuum from



catchments to the coast to the ocean, as energy and impacts from the land are transferred to near-shore habitats and from there to the deeper water marine systems via ocean currents and species that move freely from ocean to coast (see Appendix 3, Figure 5).

The South-east Marine Region contains much of Australia's temperate seagrass meadows - the largest in the world. The Region also features rocky reefs and splendid underwater forests of seaweed known as giant kelp, which can form a canopy up to 30 metres above the seabed. Kelp forests and seagrass meadows are critical primary production ecosystems within the Region, receiving nutrient and sediment inputs from the land, and supplying food energy through direct food and detritus chains to other marine systems further offshore. It is also known that the Region's estuarine seagrass meadows and rocky reefs play a critical role in the lifecycles of many marine species found in the Region. Many commercially and recreationally fished species within the South-east Marine Region rely on estuarine and other near-shore environments for part of their lifecycle. Seamount habitats in the Region also support a host of species, including the commercially significant orange roughy (see Appendix 3, Figure 6).

The diversity of marine life in the South-east Marine Region is remarkable by global standards. Southern

**Appendix 3, Figure 3:** The seafloor contains many spectacular features that are illustrated by the bathymetry (water depths) of the South-east Marine Region, prepared for the National Oceans Office by Geoscience Australia. Dry land is indicated by the red, with Tasmania in the middle of the image. Bass Strait and the continental shelf around the Region stretch from the land to the shelf break, where the seafloor slopes away towards the abyssal depths. Large seamounts (underwater volcanoes) dot the deep seafloor in the South-east Marine Region and the continental block of the South Tasman Rise appears in the lower left of the image (south of Tasmania).





Australia is also notable for the large numbers of endemic organisms – species that are found nowhere else in the world. For instance, Southern Australia has the most diverse marine benthic flora in the world and 62% of its macroalgae are thought to be endemic. Further, the fish fauna of southern temperate Australia consists of about 600 species, of which 85% are believed to be endemic and 11% are shared only with neighbouring New Zealand.

Marine invertebrates include a great variety of groups such as sponges, crabs, seastars, anemones, octopus, squid and molluscs. Collectively, their species considerably outnumber the vertebrates. Vertebrates include some of the best-known marine animals of the South-east Marine Region – whales, dolphins, seals and many fish of commercial significance.

More than 20 species of migratory seabirds spend time in the Region. Macquarie Island is a major sub-Antarctic breeding ground for seals and migratory seabirds.

Within the South-east Marine Region there are more than 45 wetlands of national importance. Ten of these are internationally recognised as critical habitat for migratory birds (sites listed under the Ramsar Convention), including the Coorong in South Australia, Gippsland Lakes and Western Port in Victoria, Moulting Lagoon in Tasmania and Merimbula Lake in New South Wales.

More than 120 species in the South-east Marine Region are listed as having conservation significance under State or Commonwealth legislation.

**Appendix 3, Figure 4a:** The main surface currents and water masses of the South-east Marine Region in summer. The dark shaded areas are typically high in nutrients needed for primary productivity (nitrates and phosphates). The size of the arrows represents the strength of the currents.


Introduced marine species are those that occur outside their natural or historical ranges. In the South-east Marine Region, 115 species are recorded as being introduced. Of the 115 known introduced marine species in the Region, 11 have been recognised as pests (introduced marine pests).

Some of Australia's most important cultural relics in the form of shipwrecks and ancient evidence of Indigenous habitation can also be found in the Region. Such historical evidence tangibly reflects the cultural importance of the Region to people throughout time.

#### HUMAN USE AND VALUES

The South-east Marine Region is used for a diverse and extensive range of activities. Table 1 lists and describes these uses in more detail.

The most important uses in terms of their financial and employment contributions are the petroleum, tourism, shipping, ports and fisheries industries. There are many other uses which may be becoming more important or are of specific importance to local communities or to Australia's cultural identity.

As well as considering the financial value of uses within the Region, there are also values that, while not signalled through a market, are important for social, cultural and environmental reasons. For instance, the values people place on the natural beauty and mystery of the ocean generally have no associated monetary values.

**Appendix 3, Figure 4b:** The main surface currents and water masses of the South-east Marine Region in winter. Cold Southern ocean waters are much higher in nutrients than the warmer waters of the tropics and subtropics.







Appendix 3, Figure 5: Regional links between marine ecosystem types, physical processes (top) and biological processes (bottom)

Today, including greater Melbourne, more than 3.5 million people live in the towns and cities along the coastline of the Region. Its communities are socially and economically diverse (see Appendix 3, Figure 7), and specific demographic findings indicate that:

- parts of the Region, particularly in the east, have high unemployment, low population growth and an aging population;
- there is a strong population trend of migration to the coast, which poses new challenges for Regional communities;
- coastal communities to the west of Melbourne and Hobart (when compared with those of the east) have lower unemployment and higher average weekly incomes;
- Indigenous people comprise a little less than 3% of the total population, with the highest concentration of Indigenous people located on Flinders Island; and
- there are strong links between the coastal communities in the Region and how the surrounding marine environment is used.

An assessment of Regional community values found that, overall, the community highly values environmental sustainability, biodiversity and the use of resources to secure future sustainable economic benefits. Community members express strong support for more policing of the resources of the Region, and for improving knowledge of the Region and its resources through more funding for science. There is also a desire for greater community participation in decision making and management, and for more public education about the Region.

The Region's ecosystems provide a number of environmental services such as carbon storage, waste recycling and habitat for commercially significant fish. While these services are traditionally not expressed in dollar terms, they are of substantial value to society.





Appendix 3, Figure 7: Total population in the South-east Marine Region

#### Appendix 3, Table 1: Range of uses in the South-east Marine Region (in alphabetical order)

Use	Brief explanation
Aquaculture	Aquaculture production is spread throughout the inshore coastal waters within the South-east Marine Region. There are currently no aquaculture activities in Commonwealth waters in the Region, however there is potential for operations to move offshore in the future. Important aquaculture activities include the farming of Atlantic salmon and ocean trout, and culturing of edible oysters, although leases for mussel culturing and abalone farming have increased in the Region. Salmonoid production from the Region accounts for a high proportion of the total Australian aquaculture tonnage. Two species of edible oysters are produced in the Region: Pacific oysters in Tasmania and South Australia, and Sydney rock oysters in southern New South Wales. Blue mussels are also being cultured in Victoria, Tasmania, South Australian aquaculture production in the Region represented around 20% of Australian aquaculture production by value in 2002–03, with an estimated \$135 million worth of produce. The aquaculture industry has also created many direct and indirect jobs for local communities.
Biotechnology	Biotechnology is a broad term for a group of technologies based on applied biological science and includes any technique that uses living organisms (or parts of organisms) to make or modify products, to improve plants and animals, or to develop micro-organisms for specific uses. It has diverse existing and potential applications in medicine, agriculture, food processing, manufacturing, energy production and environmental management.
	The estimated value of the international biotechnology industry (pharmaceuticals, nutriceuticals, agrochemicals and industrial or biomedical agents) was in excess of \$US200 billion in 2001. The Australian biotechnology industry is comparably small (but expanding rapidly), with a market capitalisation of almost \$15.5 billion. There are over 120 biological sample collection sites in the Region for the biotechnology industry.
Commercial fisheries	Over 30 Commonwealth, State or jointly managed open ocean fisheries operate in the South- east Marine Region. An array of methods and gears are used to capture fish (including molluscs and crustaceans), including bottom fishing gears such as bottom longline and trawl, and pelagic fishing gear that operates in the water column, such as purse seine and pelagic longline.
	Commercial fishing in the Region is not spread evenly across all waters but is concentrated in inshore coastal waters (mainly State fisheries) and along the continental slope, mainly in Commonwealth fisheries. The Commonwealth fisheries within the Region are the Bass Strait Central Zone Scallop Fishery, Southern and Eastern Scalefish and Shark Fishery which incorporates the South East Trawl Fishery, the Great Australian Bight Trawl Fishery and the Gillnet Hook and Trap Fishery (formerly the Southern Shark Fishery and South East Non Trawl Fishery), Southern Squid Jig Fishery, Small Pelagics Fishery, Eastern Tuna and Billfish Fishery, South Tasman Rise Fishery. In addition, significant State fisheries within the Region include the Abalone Fishery and the Rock Lobster Fishery.
	Commercial fishing is an important component of the Region's coastal economy. Activities such as repair yards, dock handling, transportation, boat construction, fish processing and commercial trade, and the supply of marine gear such as nets and rigging, all add significantly to the Region's employment and economic activity.
	In 2002–03, the total gross value of fisheries production (including molluscs and crustaceans) from the South-east Marine Region, in both Commonwealth and South-east State waters, is estimated to have been \$396 million, made up of \$317 million from South-east State waters and \$79 million from Commonwealth waters. This represented an estimated 20% of the total gross value of Australian fisheries production in 2002–03.

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Conservation	Conservation is the protection, maintenance, management, ecologically sustainable use, restoration and enhancement of the natural environment. The Australian Committee for the World Conservation Union (IUCN) expands this definition to include the understanding and enjoyment of Australia's natural and cultural heritage.					
	Conservation measures in the Region are applied through a range of mechanisms such as legislative requirements or through industry-initiated codes of practice to ensure the long-term sustainability of available resources and the surrounding environment.					
	<ul> <li>The principles of ecologically sustainable development (ESD) are embedded in the statutory management arrangements for several major activities to ensure a comprehensive basis for the protection and sustainable use of natural resources across the Region. There are legislative and managerial requirements that provide for, amongst other things: <ul> <li>independent environmental assessment of all Commonwealth and export fisheries to enhance the ecological sustainability of fisheries management;</li> <li>strict protection from human interference for a wide range of threatened, endangered and protected marine species;</li> <li>development of recovery plans for species such as great white and grey nurse sharks that have experienced severe human impacts in the past;</li> <li>development of fishery Bycatch Action Plans to minimise bycatch and any other adverse impacts of fishing on the marine environmental protection plans for major resource extraction activities such as mineral, oil and gas exploration and development.</li> </ul> </li> </ul>					
	Protection of important and representative marine areas and listed marine species is a key aspect of Australian and State/Territory government policies. There are numerous inshore, State-managed marine protected areas (MPAs). Two Commonwealth MPAs have been declared in the South-east Marine Region.					
Defence	The Australian Defence Force operations span three broad categories – military, constabulary and diplomatic. Australian Defence Force activities in the Region include transit of naval vessels, training exercises, shipbuilding and repairs, hydrographic survey, surveillance and enforcement, and search and rescue.					
	There are currently no Royal Australian Navy vessels based in the South-east Marine Region. The Region is host to one commissioned establishment (HMAS Cerberus at Crib Point, Victoria) and two non-commissioned establishments (the East Coast Armaments complex at Port Wilson, Victoria, and Naval Headquarters in Hobart, Tasmania). HMAS Cerberus is Australia's largest Naval Training Base and has the capacity to support the operations of minor war vessels (mine warfare ships, landing craft, hydrographic survey vessels and patrol boats).					
Emerging industries	Clean renewable energy resources are becoming increasingly attractive, not just for environmental reasons but also because hydrocarbon resources are finite and are likely to become increasingly expensive. A number of renewable energy resources are being explored around the world, and those applicable within the Region include wave and wind power.					
Indigenous people	Many Indigenous people depend directly on marine resources for food and income.					
	Most parts of coastal Australia are of continuing cultural and spiritual significance to Indigenous people, who engage in subsistence hunting, fishing and gathering. Fishing is an important part of Indigenous culture, using a variety of methods and equipment including hand gathering, lines, rods and reels, nets, traps and spears. Indigenous fishing targets a range of species of fish shellfish, crabs and worms that are used for food, medicine or bait. Abalone, crab and lobster harvesting are recognised as an important part of the Indigenous fisheries. Indigenous people in south-eastern Australia engage in fishing and shellfish collecting on a regular basis and are involved in commercial fishing activities.					

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Marine education	Formal education facilities in the Region include universities and colleges in Tasmania and Melbourne that offer courses and research opportunities in areas such as marine biology and ecology, aquaculture, maritime transport and marine engineering, marine resource management, and related areas such as law, economics and the social sciences.					
Marine heritage	The South-east Marine Region has many natural, cultural and maritime heritage places, including coastlines, islands and reefs; Indigenous clan estates and coastal middens; and shipwrecks, lighthouses, customs houses, coastal fortifications and penal settlements. Conservation and interpretation of this heritage helps us to understand and appreciate our culture and history. Macquarie Island, including the waters out to 12 nautical miles, was listed for its natural values as a World Heritage Area in 1997 on the basis of its outstanding marine natural heritage, including unusual geological features and aesthetic values.					
Marine research	A broad range of field science is carried out in the Region aboard a diverse array of research vessels, from small dinghies, motor boats and inflatable craft, to larger sea-going vessels for offshore biological, oceanographic and geological research. Australian Government and State government research agencies, museums, universities and industries are active in the Region, undertaking inshore surveys, offshore biological research, seafloor mapping and physical oceanography.					
	Surveys sponsored by the National Oceans Office have extended the coverage of seafloor maps of the Region and our understanding of the structural features of the deep-sea habitats.					
Oceans waste disposal	eans waste posal Oceans are the recipients of a cocktail of by-products from land-based production and consumption activities. Materials that have been dumped in the South-east Marine Regio include chemicals, ammunition and industrial waste, as well as nearly 50 vessels that hav been either abandoned or deliberately scuttled. Dumping of about six million tonnes of ja occurred from Pasminco's zinc smelter in Hobart from 1966 to 1997. Dumping at sea in Au is now highly regulated and permits are required.					
Offshore minerals	There has been limited exploration for minerals in the Region since the 1960s. Exploration licences have been granted in the past for areas off northern, western and southern Tasmania, Flinders Island, King Island and Great Oyster Bay. No commercial exploitation followed this exploration activity. The single current exploration licence for offshore minerals in the Southeast Marine Region is for cassiterite (tin) in Ringarooma Bay off north-east Tasmania.					
Petroleum	For over 30 years, the South-east Marine Region has been Australia's major petroleum producing region. While oil reserves within the Gippsland Basin are in decline, gas is still plentiful and production rates are increasing. It is also likely that petroleum developments in the Region will continue to grow. Exploration activity is widespread throughout the Gippsland, Otway, Sorrell and Bass Basins.					
	<ul> <li>The petroleum industry spent an estimated \$157 million on exploration and \$84 million on drilling for development and production activities in 2002–03 in the Region, including expenditure on:</li> <li>4185 square kilometres of 3D and 3525 km of 2D seismic exploration;</li> <li>10 exploration wells totalling a drilling depth of 16 430 metres; and</li> <li>13 development wells totalling a depth of 22 142 metres.</li> </ul>					



	Since production in Bass Strait began in 1966, about 3.7 billion barrels of oil and condensate and 5.8 trillion cubic feet of gas have been produced. In January 2003, remaining proven reserves were estimated at 499 million barrels of oil and condensate and 5802 billion cubic feet of natural gas. In 2002, 43.4 million barrels of oil valued at \$1.9 billion, and 219 billion cubic feet of gas valued at \$438 million were produced from the Gippsland Basin in Bass Strait. There is a substantial submarine petroleum pipeline network of 500 kilometres conveying petroleum products from offshore production facilities within Bass Strait to the Longford gas plant in Sale (Victoria) for processing and transmission.
Ports and marinas	Ports and marinas in the Region support many marine-based industries, including shipping, fishing, and petroleum production, as well as recreational activities. Major shipping ports for freight traffic in the Region include: Portland, Geelong, Melbourne, Hastings (Victoria); Port Latta, Burnie, Devonport, Bell Bay, Spring Bay and Hobart (Tasmania); and Eden (New South Wales). In 2002–03 the ports of the Region accounted for 46% by value of Australia's total exports from ports, and 10% by weight – a total of approximately \$43 billion and 56 million tonnes respectively. The south-eastern ports also accounted for 70% of imports by value and 50% by weight – over \$67 million and 31 million tonnes respectively. In 2002–03 the Port of Melbourne alone handled international cargo (imports and exports) to the value of over \$97 billion.
	Melbourne and Devonport are the primary passenger ports within the Region due to the Melbourne–Devonport and Devonport–Sydney routes of the TT Lines Spirit of Tasmania I, II & III. There are also numerous minor ports within the South-east Marine Region that are important to commercial and recreation fishing vessels, yachts and other pleasure crafts. These ports offer supplies, services and refuge for these vessels. Important fishing ports include: Strahan (Tasmania), Lakes Entrance (Victoria), Eden (New South Wales) and Robe (South Australia).
Recreational fishing	Recreational fishing attracts the highest participation level of any outdoor recreational activity. Research suggests that an estimated 3.36 million Australians, aged five years or older, undertook recreational fishing activities at least once in the 12 months prior to May 2000, and that recreational anglers undertook approximately 23 million fishing days per annum. Within the South-east Marine Region, Tasmania has the highest participation rate in recreational fishing with 29.3% of the population over the age of five years fishing at least once a year.
	Most recreational fishing takes place near the coast in bays and estuaries; however, the amount of offshore recreational fishing activities is increasing. Some of the most popular locations for recreational fishing in the Region are: Twofold Bay, Eden, Wonboyn (New South Wales); Mallacoota, Gippsland Lakes, Corner Inlet, Western Port Bay, Port Phillip Bay, Portland Bay (Victoria); Tamar River, Great Oyster Bay, D'Entrecasteaux Channel, Storm Bay, Derwent River, Huon Channel (Tasmania); and the Coorong, and Victor Harbor (South Australia).
	Recreational fishers use a variety of fishing gear and target a wide range of species including finfish, small baitfish, crabs and lobsters, prawns and yabbies, squid, cuttlefish and octopus, and other molluscs. Within the Region, Victoria fishers caught 9.6 million finfish and 3.5 million prawns and yabbies were caught in the year prior to May 2000.
Shipping	Shipping activities in the Region encompass cargo shipping, passenger shipping, and ship/boat building and repair activities. The Region is home to some of Australia's busiest shipping routes: the Bass Strait and east-west and west-east international trading routes. This traffic includes international and coastal cargo trade, passenger services, and cargo and vehicular ferry services across Bass Strait. Cargo shipping alone accounted for nearly 9000 ship movements in the Region in 2000-01.

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	Shipbuilding and boatbuilding are distinguished from one another by the tonnage of the vessels they serve. Shipbuilding and associated activities in the Region service vessels with over 50 tonnes displacement, and include drydock operation, hull cleaning, ship repairing, shipyards, shipbuilding and ship wrecking. In 2001–02 there were 15 shipyard establishments in the Region. Boatbuilding and associated activities service vessels under 50 tonnes displacement, and include boat repairs, yacht construction, boatbuilding, dinghy manufacturing and sailboat manufacturing. In 2002–03 there were 14 boatbuilding establishments in the South-east Marine Region.			
	The South-east Marine Region includes three major shipyards: INCAT in Hobart, which builds large wave-piercing catamarans; Tenix Defence Systems in Williamstown which builds warships; and Commercial Catamarans in Lakes Entrance in Gippsland, which builds medium-sized catamarans, mostly for commercial fishing.			
Submarine cables and energy transmission lines	Submarine cables in the Region are limited to the subsea floor of Bass Strait between Tasmania and the Australian mainland. Currently, in Bass Strait there is an operational submarine cable in place (a Telstra fibre optic cable installed in 1995) as well as several obsolete telegraph and telephone cables. The Bass Strait natural gas transmission pipeline project, owned by Alinta Energy, features a 744 km subsea and underground pipeline that will transport natural gas from Victoria across Bass Strait to Hobart in Tasmania's south and Port Latta on Tasmania's north-west coast.			
Surveillance	Surveillance flights are conducted by Coastwatch aircraft in the Region. The majority of identified sightings are Australian fishing vessels, foreign fishing vessels, cargo vessels and yachts. Significant incidents, other than fisheries infringements, are rare. There were no arrests resulting from aerial surveillance in the Region during the period from 1997 to 2002.			
Tourism and offshore charter	The Region and adjacent coastal waters attract both domestic and international tourists. Recognising the diversity in environments and range of ocean, marine and coastal based activities in the Region, visitors can participate in a wide range of activities including diving, charter boating, recreational boating, cruise ship visits, yacht racing, going to the beach, surfing, coastal sightseeing, swimming, fishing and wildlife watching.			
	Initial calculations indicate that nationally the direct value of marine tourism was around \$9.1 billion in 2000–01, with marine tourism directly employing around 210 000 people. The indirect value-adding of marine tourism and employment is estimated at about \$23 billion. Marine tourism employs about 497 000 people, making it and the petroleum industry the two most valuable marine-based industries in Australia. Within the Region, marine tourism generated over \$2.6 billion in value-added services in 2000–01. In addition it directly generated over 60 000 jobs.			

For more detailed information, see the South-east Regional Marine Plan assessment report, Resources: Using the Ocean.



#### Australia's Oceans Policy Issues Papers

# Appendix 4: References and resources

Appendix 4 lists relevant resources that were produced for or referenced in the development of the *South-east Regional Marine Plan*.

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# Appendix 5: Glossary of terms

ABARE	Australian Bureau of Agriculture and Resource Economics					
AFMA	Australian Fisheries Management Authority					
AGO	Australian Greenhouse Office					
AMEA	Australian Marine Education Alliance					
ANZECC	Australian and New Zealand Environment and Conservation Council					
ANZLIC	Australian and New Zealand Spatial Information Council					
APPEA	Australian Petroleum Production and Exploration Association					
ASDI	Australian Spatial Data Infrastructure					
ASIC	Australian Seafood Industry Council					
ATC	Australian Transport Council					
ATSIS	Aboriginal and Torres Strait Islander Services					
AUSMEPA	Australian Marine Environment Protection Association					
BAOI	Broad Areas of Interest					
BRS	Bureau of Rural Sciences					
BTRE	Bureau of Transport and Regional Economics					
CAR	Comprehensive, Adequate and Representative [system, etc.]					
CCI	Coastal Catchment Initiative					
COAG	Council of Australian Governments					
CSIRO	Commonwealth Scientific and Industrial Research Organisation					
DAFF	Department of Agriculture, Fisheries and Forestry					
DEH	Department of the Environment and Heritage					
DEST	Department of Education, Science and Training					
DITR	Department of Industry, Tourism and Resources					
DOTARS	Department of Transport and Regional Services					
EBM	Ecosystem-based Management					
EEZ	Exclusive Economic Zone					
EMS	Environmental Management System					
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999					
ESD	Ecologically Sustainable Development					
FRDC	Fisheries Research and Development Corporation					



IMP	Introduced Marine Pest					
IMS	Introduced Marine Species					
IOM	Integrated Oceans Management					
IOP	Integrated Oceans Process					
IUCN	World Conservation Union					
MDC	Marine Discovery Centre					
MUM	Multiple-use Management					
MPA	Marine Protected Area					
NAP	National Action Plan for Salinity and Water Quality					
NEPM	National Environment Protection Measure					
NHT	National Heritage Trust					
NIMPCG	National Introduced Marine Pests Coordination Group					
NOAG	National Oceans Advisory Group					
NOMB	National Oceans Ministerial Board					
NOO	National Oceans Office					
NRMMC	Natural Resource Management Ministerial Council					
NRSMPA	National Representative System of Marine Protected Areas					
NWQMS	National Water Quality Management Strategy					
OBOM	Oceans Board of Management					
OCS	Offshore Constitutional Settlement					
OPSAG	Oceans Policy Science Advisory Group					
PIMC	Primary Industries Ministerial Council					
PSLA	Petroleum (Submerged Lands) Act 1967					
RMP	Regional Marine Plan					
SEMR	South-east Marine Region					
SERMP	South-east Regional Marine Plan					

**PHOTO CREDITS** 

#### Cover

Small boat – National Oceans Office Ocean, scallop shell – CSIRO Marine Researd

#### Insets

All images CSIRO Marine Research, except Weedy Sea Dragon – Parks Victoria/William Boyle

Page ii	Ocean – CSIRO Marine Research
Page iv	Port of Melbourne – Port of Melbourne Corporation
	Weedy Sea Dragon — Parks Victoria/William Boyle
	Sea star – CSIRO Marine Research
	Lab shot – CSIRO Marine Research
	Handfish — CSIRO Marine Research
	Research image – CSIRO Marine Research
	Net mender – CSIRO Marine Research
	Fairy Penguin – Nature Conservation Branch,
	Department of Primary Industries, Water and Environment
	Indigenous man on beach - Neil Martin/Framlingham Aboriginal Corporation
	Whaling Tower – Sapphire Coast Tourism Authority
	Oil rig — CSIRO Marine Research
	Net mender – CSIRO Marine Research
	Department of Primary Industries, Water and Environment
	Department of Primary Industries, Water and Environment
	Lobster – CSIRO Marine Research
	Sponge garden – Tasmanian Aquaculture and Fisheries Institute
	Seals – Sharee McCammon
	Fishing boat – DAFF
	Fisherman – CSIRO Marine Research
	Oil rig — CSIRO Marine Research
	Indigenous fishing - Neil Martin/Framlingham Aboriginal Corporation
	Spirit of Tasmania — City of Port Phillip/David Greenberg
	Fishing boat – National Oceans Office
	Aquaculture – CSIRO Marine Research
	Reef – Tasmanian Aquaculture and Fisheries Institute
	Green crab – CSIRO Marine Research
	Child - www.wetpaper.com.au
Page 36	Customs vessel – Australian Customs Service
	AUSCAN voyage - National Oceans Office
	Shy albatross – Nature Conservation Branch,
	Department of Primary Industries, Water and Environment
	Killer ubala Nature Concernation Branch

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Healthy oceans: cared for, understood and used wisely for the benefit of all, now and in the future. Healthy oceans: cared for, understood and used wisely for the benefit of all, now and in the future. Healthy oceans:



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# SOUTH-EAST REGIONAL MARINE PLAN