

Sustainable coastal communities and environmental impacts on the coastal zone

We have some of the best beaches and coastlines anywhere in the world ... How much more can we afford to lose in terms of coastal habitat and coastal environment, and how sustainable are the communities that live in many of Australia's regional coastal areas? Those are the issues that we are concerned about.¹

Introduction

- 5.1 Chapter 5 focuses on the Committee's terms of reference to investigate the environmental impacts of coastal population growth and mechanisms to promote sustainable use of coastal resources and sustainable coastal communities.
- 5.2 The chapter provides an overview of environmental governance arrangements in Australia and the broader policy settings for environmental management, including the concept of ecological sustainable development (ESD), and some commentary on the important role that other stakeholders, such as environmental NGOs, Indigenous Australians and community groups, play in environmental management in Australia. The chapter then considers the issue of coastal population growth and demographic change and provides an overview of national environmental policy, legislation and programs relating to the coastal zone, including the Caring for our Country program and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The section on

¹ Mr Stokes, National Sea Change Taskforce, *Transcript of Evidence*, 26 March 2009, p. 2.

the EPBC Act includes discussion on coastal World Heritage areas, Ramsar sites and the protection of coastal migratory species. The chapter concludes by looking at environmental threats to coastal and marine biodiversity and the socioeconomic impacts of coastal population change, national sustainability policies and programs relating to the coastal zone, and mechanisms to promote sustainable coastal communities.

- 5.3 It is important to note that major reviews of Australia's national environmental policies and legislation were underway at the same time as this inquiry, including a review of the EPBC Act, the Australian Government's central piece of environmental legislation, and the National Strategy for the Conservation of Australia's Biological Diversity, Australia's premier biodiversity conservation policy statement. These policies and legislation form the national framework for environmental governance in Australia.
- 5.4 The revised policy and legislative framework that eventuates from these major reviews will result in new approaches to managing the environment, which will also flow through to new approaches to integrated coastal zone management. The projected impacts of climate change on Australia's biodiversity further point to the urgency of developing innovative new ways of approaching environmental management and promoting ecologically sustainable development.

Current environmental governance arrangements

- 5.5 Governance and institutional arrangements for environmental management under Australia's federal system are, at this stage, more clearly delineated than those for dealing with climate change impacts and adaptation, with federal environmental legislation, policies and programs having been established under longstanding cooperative federal, state and local government agreement through the Council of Australian Governments (COAG).
- 5.6 Environmental responsibility has been largely devolved to the states under the Australian Constitution. However, the Commonwealth has an important influence on environmental policy and planning through the EPBC Act and its funding, taxation, and international trade powers. It can play an important role in national policy making, by setting policies directly and through national government councils (such as COAG and the Natural Resource Management Ministerial Council).

5.7 In the 1980s, several key High Court judgments laid the foundation for the Commonwealth to expand its role into environmental matters:

these cases clarified the scope of the external affairs power in s.51(xxix) of the Constitution by confirming that under this provision the Commonwealth has jurisdiction to make laws for the purposes of implementing Australia's international obligations.²

5.8 In addition to the external affairs power, the Commonwealth has significant powers to protect the environment using its powers to make laws with respect to:

- international and interstate trade and commerce
- fisheries in Australian waters beyond territorial limits
- foreign corporations, and trading or financial corporations formed within the limits of the Commonwealth

5.9 Within this context, it has been observed that 'the key issue is not so much whether the Commonwealth has the power to make environmental laws but when and how it should do so'.³ However, as the recent interim review report on the EPBC Act importantly emphasises:

Maintaining an appropriate role for the Commonwealth with respect to the environment and heritage is important in the context of maintaining an appropriate division of responsibilities between the Commonwealth and the States and Territories.⁴

5.10 In 1992, COAG set out the agreement on the roles and responsibilities of each level of government in Australia with regard to the environment through the Intergovernmental Agreement on the Environment (IGAE). The IGAE provides that:

responsibilities and interests of the Commonwealth in safeguarding and accommodating national environmental matters include:

- (i) matters of foreign policy relating to the environment and, in particular, negotiating and entering into international agreements relating to the environment and ensuring that

2 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, Commonwealth of Australia, 2009, p. 8.

3 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, p. 9.

4 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, p. 8.

international obligations relating to the environment are met by Australia

- (ii) ensuring that the policies or practices of a State do not result in significant adverse external effects in relation to the environment of another State or the lands or territories of the Commonwealth or maritime areas within Australia's jurisdiction ...
- (iii) facilitating the co-operative development of national environmental standards and guidelines.⁵

5.11 The IGAE further provides that the states have responsibility:

- for the development and implementation of policy in relation to environmental matters which have no significant effects on matters which are the responsibility of the Commonwealth or any other State ...
- for the policy, legislative and administrative framework within which living and non living resources are managed within the State ...
- in the development of Australia's position in relation to any proposed international agreements ... of environmental significance which may impact on the discharge of their responsibilities ...
- to participate in the development of national environmental policies and standards. (para 2.3)

5.12 The IGAE also provides that local government has a responsibility for 'the development and implementation of locally relevant and applicable environmental policies within its jurisdiction in cooperation with other levels of Government and the local community', and an interest in:

- the environment of their localities and in the environments to which they are linked ...
- the development and implementation of regional, Statewide and national policies, programs and mechanisms which affect more than one Local Government unit. (para 2.4)

5.13 The concepts in the IGAE were developed further in 1997 when COAG and representatives of local governments signed a Heads of Agreement on Commonwealth and State Roles and Responsibilities for the Environment. The Heads of Agreement provided that the Commonwealth would apply its assessment and approval processes to meet its obligations on the following matters of national environmental significance:

- World Heritage properties

5 IGAE, 1 May 1992 (para 2.2.1), Department of the Environment, Water, Heritage and the Arts (DEWHA) website <<http://www.environment.gov.au/esd/national/igae/index.html>>

- Ramsar listed wetlands
 - places of national significance
 - nationally endangered or vulnerable species and communities
 - migratory species and cetaceans
 - nuclear activities
 - management and protection of the marine and coastal environment⁶
- 5.14 The EPBC Act specifies the matters for which the Australian Government has regulatory responsibility, and is derived from the 1992 IGAE and the 1997 COAG Heads of Agreement.
- 5.15 The states and territories have extensive powers to make legislation related to environmental matters in their own jurisdiction. However, over the past two decades many environmental policies and approaches have been developed nationally through Commonwealth-state processes. There has also been a recent trend towards devolution of the delivery of natural resource management programs to the level of regional natural resource management groups, catchment management authorities and local Landcare groups.

Ecologically sustainable development and integrated coastal zone management

- 5.16 The 1987 report of the World Commission on Environment and Development, *Our Common Future* (the Brundtland Report), provides the standard definition of 'sustainable development' as that which 'meets the needs of the present without compromising the ability of future generations to meet their own needs'.⁷ Australia generally uses the term 'ecologically sustainable development' (ESD).
- 5.17 Sustainable development has become the dominant framework for environmental policy, both in Australia and internationally. Australia's national efforts towards advancing sustainability are embodied in the

6 Heads of Agreement on Commonwealth and State Roles and Responsibilities for the Environment, COAG, November 1997, DEWHA website
<<http://www.environment.gov.au/epbc/publications/coag-agreement/attachment-1.html>>

7 World Commission on Environment and Development, *Our Common Future*, World Commission on Environment and Development, 1988, p. 43.

National Strategy for Ecologically Sustainable Development, which was endorsed by COAG in 1992.⁸ This policy statement followed on from Australia's adoption of international policy statements on sustainable development – namely, Agenda 21, the global action plan for sustainable development, and the Declaration on the Principles of Sustainable development (the Rio Declaration).

- 5.18 ESD forms the foundation principles for the EPBC Act and this legislation therefore provides a useful standard definition of ESD:
- (a) decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations;
 - (b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation [precautionary principle];
 - (c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations;
 - (d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making; and
 - (e) improved valuation, pricing and incentive mechanisms should be promoted. (s3A)
- 5.19 ESD reflects a commitment to the so-called 'triple-bottom line' principles of environmental, social and economic considerations. As noted in the previous chapter, there is an emerging trend to consider climate change risks within the broader ambit of the concept of ESD, particularly with reference to the precautionary principle and the principle of intergenerational equity. The concept of ESD therefore brings together environmental and climate change considerations.
- 5.20 The principle of ESD underpins federal and state environment policy and therefore federal and state coastal policy. Integrated coastal zone management (ICZM) is a sub-set of sustainable development. The principles of ESD define the challenge of ICZM as well, in terms of integrating policy and management across jurisdictions and combining environmental, social and economic policy processes.

8 National Strategy for Ecologically Sustainable Development, Ecologically Sustainable Development Steering Committee, COAG, 1992, DEWHA website
<<http://www.environment.gov.au/esd/national/nosed/strategy/intro.html#WIESD>>

- 5.21 Many inquiry participants noted the critical importance of ESD in coastal zone management and problems in meeting sustainable development objectives:

pressures resulting from the rate of [population] growth and its cumulative impacts challenge the implementation of policies seeking to promote sustainable development. At present, all levels of government lack the ability to properly assess the social, economic and environmental consequences of coastal population growth and associated development and [this] is compromising our ability to deliver sustainable development on the coast.⁹

- 5.22 The concept of ESD also underlines the significance of ecosystem services. Some inquiry participants highlighted a lack of understanding of the coastal economy and concept of ecosystem services. Ecosystem services supply a range of goods and other support services and these services can therefore be costed and accounted for in the same way as any other service. As a number of coastal researchers observed:

The compilation of annual industry production values in national accounts is potentially deficient in not accounting for reduction in natural resource stocks and also inherits the limitations of national accounts data which insufficiently measures environmental values'.¹⁰

Our understanding of the both the importance and economic value of coastal ecosystems as well as the non-market value of the coast is currently quite limited. A federally led initiative to improve our understanding of the total economic value of the coastal systems is a significant imperative for improving the way in which we value and subsequently manage the coast.¹¹

- 5.23 Professor Thom noted that the Wentworth Group had developed a detailed national environmental accounts model that would enable governments to 'determine where change is taking place to the conditions in the landscape or seascape'.¹² Such a model would seek to:

- Provide annual national, state/territory-wide and regional (catchment) scale reports which measure the health and change in condition of our major environmental assets;

9 Western Coastal Board, *Submission 34*, pp. 1-2.

10 Professor McIlgorm, *Submission 47*, p. 2.

11 Professor Tomlinson and Mr Lazarow, *Submission 58*, pp. 5-6.

12 Professor Thom, *Transcript of Evidence*, 26 March 2009, p. 58.

- Underpin the long-term catchment management and land use planning decisions by Commonwealth, state/territory and local governments, and regional authorities; and
 - Improve the cost effectiveness of public and private investments in environmental management and repair.¹³
- 5.24 A set of national environmental accounts would 'enable us to track changes in our natural capital over time, just as financial balance sheets measure financial positions'.¹⁴
- 5.25 Professor Thom further commented that this system of national environmental accounts could also be 'modelled on the Healthy Waterways program in SEQ', particularly in terms of a template for delivering regional monitoring.¹⁵
- 5.26 The Committee undertook a site inspection of Moreton Bay in South-East Queensland (SEQ) as part of the inquiry process and was particularly impressed by the Ecosystem Health Monitoring Program report card, managed by the SEQ Healthy Waterways Partnership. The report card provides comprehensive monitoring of freshwater, estuarine and marine environments in SEQ waterways and catchments. It delivers a regional assessment of ecosystem health for 19 major catchments, 18 river estuaries, and Moreton Bay, highlighting where the health of these waterways is getting better or worse.
- 5.27 The Healthy Waterways Partnership Ecosystem Health Monitoring Program report card also represents an excellent example of ICZM, with established partnership arrangements between the Queensland Government, local councils, universities, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), local industries and community groups. The Committee encourages a closer inspection of this report card by visiting the relevant website.¹⁶
- 5.28 The report card enables ecosystem health to be monitored and reported in terms of measurable characteristics, and it provides an audit mechanism for management actions undertaken to protect SEQ's catchments and Moreton Bay. The report card provides an 'A to F' health rating for the
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13 *Accounting for Nature: A Model for Building the National Environmental Accounts of Australia*, Wentworth Group of Concerned Scientists, May 2008, p. 1, Wentworth Group website <http://www.wentworthgroup.org/docs/Accounting_For_Nature.pdf>

14 *Accounting for Nature: A Model for Building the National Environmental Accounts of Australia*, p. 1, Wentworth Group website <http://www.wentworthgroup.org/docs/Accounting_For_Nature.pdf>

15 Professor Thom, *Submission 6*, p. 21.

16 <<http://www.healthywaterways.org/EcosystemHealthMonitoringProgram/ProductsandPublications/AnnualReportCards.aspx>>

waterways of SEQ and is released annually. It represents the culmination of 12 months of scientific monitoring at 391 freshwater, estuarine and marine sites throughout the region. The ratings form a 'snapshot' of the ecosystem health of these waterways and help to identify issues affecting waterways and actions required to improve their health.¹⁷

- 5.29 The report card sets clear future objectives for coastal stakeholders to act upon, based on consistent monitoring, transparent data and public communication of information, with clear ownership of report card outcomes by those involved. Such monitoring and reporting is essential as without reliable, timely, rigorous information it is not possible to respond effectively to growing environmental threats. As the Chairman of the Great Barrier Reef Marine Park Authority (GBRMPA) commented:

I am a strong fan of the report card with public information on it, otherwise there is no way of knowing if you are getting better and there is no incentive to improve on it.¹⁸

- 5.30 The Committee notes Professor Thom's proposal for a national environmental accounts model. This could perhaps be trialled in the first instance as a set of national coastal zone environmental accounts, focusing on Australia's catchment, coastal and marine continuum, using indicators to measure the condition of fish stocks (both commercial and recreational), habitats (reefs, beaches, seagrass, mangroves) and water quality in catchments. As the Wentworth Group commented, 'if you can't measure it, you can't manage it'.¹⁹

- 5.31 The Northern Territory Government also emphasised the importance of standardised coastal reporting and monitoring, including the value of a national coastal zone database incorporating this information:

Species and habitat mapping and coastal monitoring in Australia is currently undertaken by various Natural Resource Management ... government, and university groups. There are currently no nationally consistent reporting and monitoring standards or protocols and significantly, no national databases to assess the status and condition of coastal species or habitats in Australia; this includes ecologically significant coastal habitats and wetlands (i.e.

17 Healthy Waterways Partnership website <<http://www.healthywaterways.org/home1.aspx>>

18 Dr Reichelt, GBRMPA, *Transcript of Evidence*, 29 April 2009, p. 7.

19 *Accounting for Nature: A Model for Building the National Environmental Accounts of Australia*, p. 6, Wentworth Group website <http://www.wentworthgroup.org/docs/Accounting_For_Nature.pdf>

seagrasses, mangroves, salt marshes, reefs) and also, migratory and protected species and wildlife such as turtles, dugongs, cetaceans, sharks and rays, seabirds and shorebirds.²⁰

Recommendation 24

- 5.32 **The Committee recommends that the Australian Government, through the Council of Australian Governments process, examine the establishment of a system of national coastal zone environmental accounts, employing the model developed by the South East Queensland Healthy Waterways Partnership.**

Role of other stakeholders in environmental management of the coastal zone

- 5.33 Australia's progress towards a healthier environment and the sustainable use of natural resources depends on the collective actions of many individuals, groups and communities whose actions need to be strategically supported and resourced. There is a need to promote a cooperative approach to the protection and management of the environment, involving research institutions, environmental groups, volunteer conservation organisations, Indigenous Australians, natural resource management (NRM) bodies, industry groups, landholders and the general community.
- 5.34 The Committee notes that a key national priority area of the Australian Government's Caring for our Country program is community skills, knowledge and engagement, including seeking to:
- Improve the access to knowledge and skills of urban and regional communities in managing natural resources sustainably and helping protect the environment.
 - Increase the engagement and participation rates of urban and regional communities in activities to manage natural resources and to help protect the environment.
 - Position all regional natural resource management organisations to deliver best-practice landscape conservation and sustainable land use planning to communities and land managers within their regions.

20 NT Government, *Submission 106*, pp. 20-21.

- Ensure the continued use, support, and reinvigoration of traditional ecological knowledge to underpin biodiversity conservation.²¹
- 5.35 The focus here is on ensuring the public has access to information about the environmental challenges facing Australia and the state of its natural resources, contributing to enduring government-community partnerships in natural and cultural resource management, and providing more effective support to regional groups, landcare groups and community organisations that are working to improve environmental protection and the sustainable management of Australia's natural resources.
- 5.36 Indigenous Australians are key stakeholders in coastal biodiversity conservation and sustainable use of the coastal zone. The Committee recognises the role of Indigenous peoples in the conservation and ecologically sustainable use of Australia's coastal and marine biodiversity, and the importance of promoting the use of Indigenous peoples' traditional knowledge of biodiversity with the involvement of, and in cooperation with, the owners of the knowledge. As the Northern Territory Government submission noted:
- The NT coastal environment necessitates management strategies that recognise Indigenous cultural interests and issues. Indigenous people have a unique and enduring connection with the sea and a multitude of benefits exists in developing complementary and cooperative marine research, monitoring and planning among Indigenous groups, governments at all levels, and the NT community.²²
- 5.37 The Caring for our Country initiative seeks to train and employ up to 300 Indigenous Rangers to manage and conserve the natural and cultural features of Indigenous lands, including Indigenous Protected Areas. The Caring for our Country program also includes several targets which recognise the importance of traditional knowledge, including developing Indigenous land and sea country management projects and working with Indigenous communities to record and pass on traditional knowledge, and protect Indigenous cultural landscapes and culturally sensitive sites.²³
- 5.38 The Committee commends these initiatives.

21 *Caring for our Country: Outcomes, 2008-2013*, p. 39 – Exhibit 80.

22 NT Government, *Submission 106*, p. 22.

23 *Caring for our Country: Outcomes, 2008-2013*, p. 44 and p. 21 – Exhibit 80.

Coastal population growth and demographic change

5.39 Coastal population growth, often as a result of what has been described as the 'sea change' phenomenon,²⁴ is creating significant environmental and socioeconomic pressures on the coastal zone.

5.40 Some six million people live in coastal areas outside the capital cities, with the rate of population growth in these coastal areas being consistently higher than the national average:

Analysis of the latest population data from the Australian Bureau of Statistics shows that at the end of June 2007 there were 6.26 million people living in Australia's non-metro coastal areas, an increase of 1.27 million people since June 1997. This increase is equivalent to approx 6% of Australia's total population.

Coastal population outside the capital cities now represents 30% of Australia's national population and 82% of the nation's regional population. In 2006-07 the number of people migrating to non-metro coastal communities exceeded the total number of people moving to all of Australia's capital cities ...

Average annual growth in Australia's non-metro coastal areas is approximately 2%, which tends to be 50% or 60% above the national average. Growth rates in individual Local Government Areas (LGAs) are often much higher ... These growth rates are based on estimated resident population figures released by the Australian Bureau of Statistics each year.²⁵

5.41 The National Sea Change Taskforce (NSCT) also recently noted that:

Revised estimates of Australia's population growth over the next 40 years have dire implications for the nation's coastal communities ... After analysing the estimates, which were prepared by Federal Treasury, the Taskforce believes the projected growth is likely to increase the population in Australia's non-metro coastal areas by up to 90%. The revised Treasury projections indicate the national population will increase to 35 million by 2049 – 7 million higher than previously thought and 13 million higher than the current population ... "If you add in the million or more 'baby boomers' who plan to retire to the coast between 2010

24 This concept describes migration away from metropolitan areas and larger regional cities to attractive, high amenity coastal locations. Internationally, the movement of people to such destinations is often described as 'amenity migration'.

25 National Sea Change Taskforce, *Submission 79*, pp. 7-8.

and 2026, this will expand the current population in non-metro coastal areas from 6.4 million to 12.2 million by 2049 ... That is the equivalent of adding more than 11 new Gold Coasts to the population of these communities which already have the highest growth rates in Australia".²⁶

- 5.42 The impact of the non-resident population is a further issue – for example, during the holiday season the number of temporary residents in coastal areas can often exceed the number of permanent residents. As the NSCT pointed out, the standard statistical measure of population is based on the concept of usual residence and therefore changes in coastal population may not be well understood:

Current demographic data for the Australian coast is based on information from the census and from the annual Estimated Resident Population data released by the Australian Bureau of Statistics. This data does not reflect non-resident population peaks or the impact of part-time residents or other visitors. It is limited to an estimate of the number of usual residents within statistical and local government areas. It does not include people such as holidaymakers, workers in the area who live elsewhere and other temporary residents.²⁷

- 5.43 A number of other submissions commented on the need for improved statistics in this area:

Future coastal planning and decision making should ensure the improvement of processes for gathering and sharing information and resources about cross jurisdictional population and long term demographic trends including tourism and visitation patterns. This will assist in preparing for long term population challenges on the coastal zone.²⁸

- 5.44 As Mr Stokes, Executive Director of the NSCT, noted, these non-resident population peaks inevitably impact on the capacity of coastal councils to finance shortfalls in infrastructure and services:

If we look at a place like the Byron Shire in New South Wales, you have a population of just under 20,000 but that can frequently spike to over 40,000 during that Christmas holiday period. All of those people are coming in needing to use the facilities in place in

26 NSCT media release, 'Population boom set to hit coastal areas', 28 September 2009.

27 NSCT, *Submission 79*, pp. 15-16.

28 NT Government, *Submission 106*, p. 12.

the town—the roads, water, sewerage and waste disposal systems.²⁹

- 5.45 Similar views were expressed by representatives of the Broome Chamber of Commerce and Industry, and the Broome Shire, with regard to the rapid and temporary population increases in peak tourist seasons. Mr Tony Proctor, President of the Broome Chamber of Commerce, noted that the population of Broome in 1989 was approximately 4,000, and it currently has a population of between 16,000 and 17,000 people. When tourists are included, there may be approximately 30,000:

The caravan parks are full, and if you drive around Broome you will see caravans and tents in people's backyards and beside their driveways. Some people say at this time of year Broome's population gets to 34,000. I think it is probably less this year, but certainly it is still pretty full.³⁰

- 5.46 The Northern Territory Government further suggested that, to better integrate population trends into coastal zone planning and management, 'the Australian Government should co-ordinate and share national research and information available about population change and long term demographic trends in coastal areas in a format which can be used by territory, regional and local planners'.³¹
- 5.47 The Committee agrees that there is a need to establish an accurate and consistent method of measuring the impact of tourists and other non-resident population groups in Australian coastal areas to ensure a clearer understanding of demand for infrastructure and services in these communities and enable resources to be better matched with that demand. As the NSCT suggested, this could be in the form of 'a supplementary data collection over the Christmas/New Year holiday period' by the Australian Bureau of Statistics.³² The Committee also agrees that there is a need for improved data on long-term demographic trends in coastal areas, to assist in future planning.
- 5.48 Environmental and socioeconomic impacts of coastal population growth are discussed below.

29 Mr Stokes, NSCT, *Transcript of Evidence*, 26 March 2009, p. 5.

30 Mr Proctor, Broome Chamber of Commerce, *Transcript of Evidence*, 26 August 2009, p. 13.

31 NT Government, *Submission 106*, p. 12.

32 Mr Stokes, NSCT, *Transcript of Evidence*, 26 March 2009, p. 5.

Recommendation 25

- 5.49 **The Committee recommends that the Australian Government, through the Australian Bureau of Statistics, ensure that:**
- **accurate and consistent methods of measuring the numbers and the impact of tourists and other non-residents in coastal areas are undertaken to enable resources to be better matched with demand for infrastructure and services**
 - **improved data on long-term demographic trends in coastal areas is made available to assist in coastal zone planning and management**

National environmental policy and programs relating to the coastal zone

- 5.50 National environmental policy for the coastal zone operates in the context of other national legislative regimes and government policy, including:
- National Strategy for Ecologically Sustainable Development (1992)
 - National Strategy for the Conservation of Australia's Biological Diversity (1996) (currently under review)
 - Australia's Oceans Policy (1998)
 - Guidelines for Establishing the National Representative System of Marine Protected Areas (1998) and marine bioregional planning
 - National Framework for the Management and Monitoring of Australia's Native Vegetation (2001) (Native Vegetation Framework)
 - National Water Initiative (2004)
 - Australian Weeds Strategy (2007) and identified Weeds of National Significance
 - Australian Pest Animal Strategy (2007)
 - Directions for the National Reserve System – a Partnership Approach (2005)

- *Environment Protection and Biodiversity Conservation Act 1999* (Cth), including key threatening processes and threat abatement plans for invasive species under the act
- *Fisheries Management Act 1991* (Cth) and fisheries assessments under the EPBC Act
- Caring for our Country program (2008)
- Intergovernmental Agreement on a National System for the Prevention and Management of Marine Pest Incursions (2005)
- *National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan* (2006)
- National Strategy for the Management of Coastal Acid Sulfate Soils
- National Program of Action for the Protection of the Marine Environment from Land Based Activities (2006)

5.51 Some of these key initiatives are discussed in more detail below.

National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan

5.52 In 2006, the Natural Resource Management Ministerial Council (NRMMC) endorsed the *National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan*.³³ The plan ‘was developed in consultation with key stakeholders and has the support of Australian Government, state and territory jurisdictions’.³⁴ It could therefore be said to represent a national coastal policy of sorts, in place of the now lapsed Commonwealth Coastal Policy (1995).

5.53 As will be discussed further in Chapter 6, a number of inquiry participants raised serious concerns about progress in implementing the plan.

Caring for our Country program

5.54 In March 2008, the Australian Government announced that it would invest \$2.25 billion over five years on ‘a new program to restore the health of Australia’s environment and build on improved land management

33 NRMMC, *National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan*, Commonwealth of Australia, 2006, pp. 6-7 – Exhibit 79.

34 *National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan*, p. 10 – Exhibit 79.

practices'.³⁵ The Caring for our Country program focuses on six national priority areas:

- the National Reserve System
- biodiversity and natural icons
- *coastal environments and critical aquatic habitats*
- sustainable farm practices
- natural resource management in northern and remote Australia
- community skills, knowledge and engagement

5.55 The Caring for our Country program is therefore the major national funding program in terms of the coast. It sets the following five-year outcomes for the 'Coastal environments and critical aquatic habitats' national priority:

Reduce the discharge of dissolved nutrients and chemicals from agricultural lands to the Great Barrier Reef lagoon by 25 per cent.

Reduce the discharge of sediment and nutrients from agricultural lands to the Great Barrier Reef lagoon by 10 per cent.

Deliver actions that sustain the environmental values of:

- priority sites in the Ramsar estate, particularly sites in northern and remote Australia
- an additional 25 per cent of (non-Ramsar) priority coastal and inland high conservation value aquatic ecosystems including, as a priority, sites in the Murray-Darling Basin

Improve the water quality management in the Gippsland Lakes in Victoria, the Tuggerah Lakes Estuary in New South Wales and in all priority coastal hotspots

Increase the community's participation in protecting and rehabilitating coastal environments and critical aquatic habitats.³⁶

5.56 The Committee notes that a new Community Action Grants program has also been established under the Caring for our Country program, to

35 Media release by the Hon Peter Garrett, Minister for the Environment, Heritage and the Arts and the Hon Tony Burke, Minister for Agriculture, Fisheries and Forestry, 'Caring for our Country: better land management, less red tape', 14 March 2008.

36 *Caring for our Country: Outcomes, 2008-2013*, p. 17 – *Exhibit 80*. See also *Caring for our Country Business Plan: 2009-10*, Commonwealth of Australia, 2008.

support local environmental and land management work. Eligible community groups include:

- community groups involved in coastal rehabilitation, restoration and conservation
- groups of farmers or land managers working on sustainable farming or improving natural resource management
- Indigenous partnerships involved in protecting or improving the environment
- community groups involved in biodiversity conservation, environmental protection or managing natural resources³⁷

5.57 The Committee supports the objectives of the Caring for our Country program and particularly its focus on coastal environments as a national priority area. Clearly there are benefits in keeping all major Australian Government environmental funding under the one program, to ensure a focus on the Australian environment as a whole. However, there is a risk that specific priorities for coastal environment funding may be lost within this broader program.

5.58 For example, it appears that financial support under the Community Coastcare program will in the future be available under the 'Coastal environments and critical aquatic habitats' national priority area of the Caring for our Country program:

In 2008-09 we ran that as a transition program, which we called Community Coastcare, and ran as a separate small grants process. As of this year, and in all future years, that program will be run as part of the annual Caring for our Country business plan process. So there will not be a separate call for Coastcare small grants, but people will still be able to apply to apply for the funding through their applications to the Caring for our Country business plan.³⁸

5.59 The Committee will outline its proposal for a dedicated national coastal zone funding program in Chapter 6. It is envisaged that this program, in focusing on the coastal zone and promoting integrated coastal zone management, will be broader than the coastal environments priority of the Caring for our Country program.

37 DEWHA website accessed 28 September 2009 <<http://www.nrm.gov.au/funding/cag.html>>

38 Ms Rankin, DEWHA, *Transcript of Evidence*, 18 June 2009, p. 16. See also *Caring for our Country Business Plan: 2009-10*, 'From now, financial support for community organisations will be available through the processes in the annual Caring for our Country business plan and there will not be a separate process for Community Coastcare', p. 74.

- 5.60 The Committee is concerned that climate change impacts on biodiversity is not listed as a national priority under the Caring for our Country program.

Recommendation 26

- 5.61 **The Committee recommends that the Australian Government:**
- **expand the list of national priority areas identified under the Caring for our Country program to include climate change impacts on biodiversity**
 - **give consideration in future funding rounds to projects that:**
 - ⇒ **involve working with state/territory and local governments to improve coastal land use planning**
 - ⇒ **seek to address loss of coastal habitat as a result of coastal development and population pressures**

National Reserve System and the coastal zone

- 5.62 The National Reserve System includes national parks, Indigenous lands, reserves run by non-profit conservation organisations and ecosystems protected by landholders on private property. The National Reserve System rests on a bioregional framework:

The Australian land mass is divided into 85 bioregions. Each bioregion is a large geographically distinct area of similar climate, geology, landform, vegetation and animal communities ...

The bioregions are described in a bioregional map, the Interim Biogeographic Regionalisation for Australia (IBRA). IBRA is the National Reserve System's planning framework, the fundamental tool for identifying land for conservation ...

The main priority for the National Reserve System is to address gaps in comprehensiveness at the national scale.³⁹

- 5.63 As discussed above, the National Reserve System is a national priority area under the Caring for our Country program. The program seeks to 'expand the area that is protected within the National Reserve System to at

39 DEWHA website accessed 24 August 2009
<<http://www.environment.gov.au/parks/nrs/science/ibra.html>>

least 125 million hectares (a 25 per cent increase)'.⁴⁰ The Department of the Environment, Water, Heritage and the Arts (DEWHA) website notes that the National Reserve System is Australia's 'natural safety net in the face of threats from climate change':

Healthy, functioning and resilient environments are our best defence against a changing climate. Protected areas build resilience by controlling other habitat threats such as weeds and feral animals, by managing water resources and regenerating vegetation. They form a buffer against the impacts of climate change, providing refuges for species to survive and adapt, reducing the extinction risk for our native species ...

along the agricultural zones of the south-western and eastern seaboard, the country is fragmented by land clearing, extensive pastoralism and intensive agriculture. Here the reserve system is building resilience by extending and linking protected areas to extend habitat ranges, to increase connectivity, protect water catchments and to reduce soil erosion.⁴¹

5.64 Several inquiry participants recommended that more coastal habitat be added to the National Reserve System:

A national target for coastal parks and reserves in terms of proportion of coastline (not land area) will help with the maintenance of amenity values, keeping in mind that the demand will be greatest in areas of population concentration.⁴²

Immediate action must be taken to secure known coastal areas of high biodiversity value in protected areas, to contribute to the National Reserve System.⁴³

Protection of the natural coastal environment through expansion of the National Reserve System must be at the centre of efforts to protect the coastal environment.⁴⁴

40 *Caring for our Country: Outcomes, 2008-2013*, p. 5—*Exhibit 80*.

41 DEWHA website accessed 24 August 2009
<<http://www.environment.gov.au/parks/nrs/about/protected-areas/climate-change.html>>
See also M Dunlop and P Brown, *Implications of Climate Change for Australia's National Reserve System: A Preliminary Assessment*, CSIRO, 2008; and DEWHA, *Australia's Strategy for the National Reserve System: 2009-2030*, Commonwealth of Australia, 2009.

42 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Submission 49*, p. 8.

43 Conservation Council of SA, *Submission 71*, p. 4.

44 Lake Wollumboola Protection Association, *Submission 84*, p. 8.

there remains substantial room in some states for more coastal national parks and reserves. Whereas New South Wales has 45% and Victoria 41% of their coast in national parks and reserves, all the other states have less than 30% of their coast in parks. Such parks are a very effective way of maintaining a natural coastline, which can fend for themselves in relation to climate change, as well as eliminating the demand for coastal development in the park areas.⁴⁵

Recommendation 27

- 5.65 **The Committee recommends that, in seeking to expand the area protected within Australia’s National Reserve System (NRS) under the Caring for our Country program, the Australian Government focus on high biodiversity coastal habitat, including more effective off-reserve coastal zone conservation and expanded coastal reserves that provide larger buffer zones. In undertaking this initiative, the Australian Government should continue to work with state/territory and local governments, Indigenous groups, conservation organisations, private landholders and other stakeholders to ensure that these protected areas are added to the NRS in a timely manner.**

Environment Protection and Biodiversity Conservation Act 1999 and the coastal zone

- 5.66 The *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is the Australian Government’s central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places – defined in the act as matters of national environmental significance. Actions require approval under the act only if they are likely to have a significant impact on a matter of national environmental significance. The matters of national environmental significance defined under the act are:

- World Heritage properties

45 Professor Short, *Submission 4*, p. 2.

- national heritage places
- wetlands of international importance (Ramsar wetlands)
- listed threatened species and ecological communities
- migratory species protected under international agreements
- Commonwealth marine areas
- the Great Barrier Reef Marine Park⁴⁶

State of the Environment reports

- 5.67 Under the EPBC Act, every five years the Minister must instruct DEWHA to prepare a State of the Environment report for Australia, to be tabled in Parliament (the next report is due in 2011).
- 5.68 State of the Environment reporting seeks to provide accurate information on the major causal factors influencing Australia's environment and heritage and the effectiveness of responses to address change. Reporting covers eight major themes: atmosphere, land, inland waters, coasts and oceans, biodiversity, human settlements, natural and cultural heritage and the Australian Antarctic Territory. The regular production of State of the Environment information provides scope for changes in environmental pressures and impacts to be tracked over the long term.
- 5.69 The 2001 *State of the Environment Report*, in its 'coasts and oceans' section, highlighted that:
- Australian waters are more susceptible to exotic marine pests than previously thought, with threats to tropical habitats as well as to temperate habitats.
 - The management of the coastal environment, including catchments and estuaries, is still fragmented among many agencies at a local and state level.
 - Further loss of coastal habitat has occurred through the encroachment of human settlements and growth in pressures due to tourism in the coastal zone.
 - Pressures on Australia's coral reefs continue unabated from downstream effects of land use and other human activities.
 - Large nutrient loads of nitrogen and phosphorus are still being discharged to coastal and estuarine waters from both point sources and non-point sources.

46 In addition, the act confers jurisdiction over actions that have a significant environmental impact on Commonwealth land or a Commonwealth marine area or that are carried out by a Commonwealth agency or if the action proposed is a nuclear action.

- Our national ability to measure the condition of coastal and marine waters through a system of standard indicators has not improved since SoE (1996) ...
- Our knowledge of the marine environment remains limited, particularly the status of many marine species and habitats and the deep sea environment.
- The environmental effects of aquaculture activities are still not fully understood. Some activities have the potential to adversely affect the marine environment.
- The coastal population continues to expand and the use of coastal resources is increasing. There is uncertainty in the ability of coastal ecosystems to absorb rising levels of sediment and pollutants from land uses in the coastal zone.⁴⁷

5.70 The latest *State of the Environment Report* (2006), in its 'coasts and oceans' section, noted that Australia's coasts:

are at risk of serious degradation because of the pressures on them, including fishing, population growth and urbanisation, pollution, mining, tourism, species invasion from ballast waters, and climate change. There is also an alarming lack of knowledge because there is no systematic national monitoring of many important aspects of Australia's coastal and ocean systems ... Planning for adaptation to climate variability should be a priority.⁴⁸

5.71 The 2006 State of the Environment report also highlights as 'key points' that:

- Australia still does not have a comprehensive, nationally consistent system for measuring the condition and trends of its coasts and ocean ecosystems and the key resources they support.
- While still uncertain, the current forecasts of climate change suggest that increasing ocean temperatures will cause major impacts on coral reefs and that changing ocean circulation patterns are likely to affect cold water, and thus planning for adaptation to climate variability should be a priority.
- Because Australian marine ecosystems remain at risk from exotic species being brought into Australian waters on ships'

47 Australian State of the Environment Committee, *Australia State of the Environment 2001*, Independent Report to the Commonwealth Minister for the Environment and Heritage, Commonwealth of Australia, 2001, p. 6.

48 Australian State of the Environment Committee, *Australia State of the Environment 2006*, Independent Report to the Commonwealth Minister for the Environment and Heritage, Commonwealth of Australia, 2006, p. 49.

hulls and discharged in ballast water, measures to restrict transfer must continue both internationally and domestically.

- Trends in the status of fisheries' resources and in the bycatch are negative, and efforts to reverse these trends, such as improving management plans and introducing environmental management systems, should be enhanced and then communicated to the public to ensure progress is measured and evaluated.
- While there are no surprises or new issues since 2001, *the need to resolve existing problems remains as strong as ever in order to stem the slow decline of environmental quality.*⁴⁹

5.72 The Committee regards the conclusions of the State of the Environment report as one of the major reasons for conducting this inquiry into the coastal zone and recommending a comprehensive program of action to address these areas.

Independent review of EPBC Act

5.73 On 31 October 2008 the Minister for the Environment, Heritage and the Arts commissioned an independent review of the EPBC Act.⁵⁰ This is the first review of the EPBC Act since its commencement on 16 July 2000. The review will assess the operation of the EPBC Act and the extent to which its objects have been achieved.

5.74 As part of this review, a comprehensive public consultation process has been undertaken and an interim report on the review of the EPBC Act has been released. The report highlights key issues raised through the public consultation process. The final report is to be provided to the Minister for the Environment, Heritage and the Arts by 31 October 2009.

5.75 The Committee was particularly interested in whether the EPBC Act might be expanded to include coastal matters as a way of improving coastal zone management arrangements. As the review was conducted at the same time as this inquiry, the Committee believes it is instructive to note issues of relevance in the interim review report. Figure 5.1 sets out key issues raised by the report with relevance to the Committee's inquiry into the coastal zone.

49 *Australia State of the Environment 2006* (emphasis added), p. 58.

50 Section 522A of the EPBC Act requires it to be reviewed every 10 years from its commencement. The review is being undertaken by Dr Allan Hawke, supported by a panel of experts.

Figure 5.1 Key issues raised in interim review report of the EPBC Act with relevance to the coastal zone

- the Act currently takes a reactive approach to biodiversity conservation ... the Act should be amended so that it takes a more proactive approach to protecting biodiversity ... [with] the Commonwealth becoming involved earlier in the planning or development process. (p. 31)
- [the Act should] shift away from the protection of individual species towards landscape-scale biodiversity planning and setting and overseeing implementation of regional targets and objectives on environmental matters (p. 31) ... The term 'landscape-scale assessments' is used to cover ideas associated with strategic and bioregional approaches, as opposed to species-by-species protection or project-by-project assessment. The EPBC Act provides for landscape-scale planning and assessment approaches along with project-specific assessments—available landscape-scale assessments include strategic assessments, bioregional plans and conservation agreements. To date there has been limited utilisation of landscape-scale planning provisions, but the number of these assessments is increasing. (p. 162)
- Submissions proposed the inclusion of several new matters of NES under the Act. The most commonly suggested matters were greenhouse gas emissions or climate change impacts, land clearance, water extraction, wild rivers or wetlands of national importance and wilderness areas. (p. 34)
- the adoption of a 'specified activity' or 'designated development' approach within the Act's triggers would diminish reliance on the 'significance' test and create much greater certainty as to what is covered by the Act. (p. 47)
- Many of the submissions ... claimed that many projects that should have been referred were 'slipping through the net'. (p. 55)
- A theme which came through in many submissions was that generally, the level of awareness of the EPBC Act in the community was low ... This lack of awareness was compounded by an absence of knowledge at the Local Government level which is a first point of contact for many developers and concerned individuals. (p. 77)
- A prevailing theme arising from public submissions was a concern that the EPBC Act does not consider cumulative impacts, or does not deal with them well ... These 'cumulative impacts', are often described as a process of 'death by 1,000 cuts', or the 'tyranny of small decisions'. (p. 86)
- Several submissions ... supported the insertion of a three-part land clearance trigger ... (i) the clearing of native vegetation over 100 ha in any two year period; (ii) the clearing of any area of native vegetation which provides habitat for listed threatened species or ecological communities, or listed critical habitat; and (iii) a schedule of activities that would trigger the Act regardless of the hectares proposed to be cleared (for example, major coastal resort developments). (p. 125)
- The potential need for providing habitat corridors across jurisdictional boundaries and the need to look at habitat diversity at a national scale ... lends strength to the argument that the EPBC Act should contain a better mechanism for managing the loss of nationally significant vegetation. (p. 128)
- 'the current Act does not provide a long-term basis for addressing biodiversity conservation in the context of climate change' ... a 'climate change vulnerability assessment' [should be] ... a required step when determining the listing of a species or ecological community ... in light of climate change, the future

feasibility of projects should be assessed— an example was provided of a dam that would not fill with water as a consequence of changing climate ... that increased biodiversity pressures from sea level rise needs to be considered ... 'Landscape connectivity becomes critically important in the face of uncertainty about future climate.' (p. 142, p. 143, p. 144)

- Submissions were critical of the level of transparency in the nomination process, in particular for listing of threatened species and ecological communities under the EPBC Act. The use of a conservation theme for nominations for listing of threatened species and ecological communities was viewed unfavourably in some submissions, as it appears to result in nominations outside of the theme being excluded from consideration. A number of submissions suggested changes to the current listing categories for threatened species and ecological communities and the inclusion of an 'emergency' or 'transitional' listing power in the Act. There is a lack of alignment between Commonwealth and State and Territory lists for threatened species and ecological communities and this can result in inconsistencies and duplications of processes. (p. 194)
- Recovery planning, especially species-by-species planning, is not as effective or as efficient as it could be. Concern is focussed on failure to prepare effective plans and failure to implement plans. There was support for outcomes-focused efforts and for multi-species and regional recovery planning approaches. Insufficient resourcing is provided to support the development and implementation of effective recovery actions. Decision-making is often supported by poor information or a limited knowledge base. There was support for a broader approach to biodiversity conservation such as at a landscape or ecosystem level. (p. 212)
- Landscape scale approaches to biodiversity conservation, as they were described in public submissions, would require greater engagement by the Australian Government in planning activities. This would generally involve close collaboration with State and Territory governments and agencies. Any expanded approach would need to allow for a range of land tenures and existing land uses ... If a landscape approach to protecting biodiversity was adopted in addition to the current provisions under the Act, there would also be a need to determine and subsequently define the units of scale that a landscape approach might operate at, including its boundaries and attributes ... In consideration of the issues raised above, there are a number of options available to the Australian Government in providing better management of impacts on biodiversity. These include: Addition of a new trigger such as 'ecosystems of national environmental significance'; Increasing the use of strategic assessments; and Expanding the provisions for bioregional assessments to include non-Commonwealth land. (p. 221)
- A common theme arising out of the submissions dealing with this issue was that the implementation of ESD principles in terms of decision-making was inadequate. (p. 300)
- There is a need for more proactive compliance and enforcement action under the Act. There is concern at the lack of Commonwealth 'on-ground' enforcement presence in regional areas leading to poor compliance, or lack of local knowledge, impacting on the quality of judgements ... There is a need for more proactive monitoring and audit and adequate resourcing to ensure that follow up monitoring of compliance with conditions of approval are carried out in a timely manner. (p. 328)

Source *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report, Commonwealth of Australia, 2009*

5.76 Key points made by inquiry participants about the EPBC Act and the coastal zone included that:

in a number of cases [the act] is not being properly enforced ... In a lot of cases in Tasmania the EPBC Act is not even considered when it should be, in my view.⁵¹

Species and Endangered Ecological Communities listed in [state] Threatened Species Conservation Act should be afforded protection under the Commonwealth Environment Protection and Biodiversity Conservation Act ... Reforms to the Environment Protection and Biodiversity Conservation Act should be considered to ensure that coastal sites of conservation significance are protected from degradation due to development.⁵²

Things come in under the EPBC Act if you have got an endangered species, but the strip is so small now along the coast that vegetation, for example, does not even factor in as a significant regional ecosystem. There are actually quite a lot of pockets of remnant bushland that are high in biodiversity that should be able to be protected as well, but they do not seem to fit into any legislation.⁵³

The reason the small decisions fail, or appear to be failing – a death of a thousand cuts-type problem – is a missing overlay ... It is the leadership that comes from having a widely accepted strategic plan or an accepted future vision. I would be quite in favour ... of provisions in the EPBC Act for a more strategic approach in planning.⁵⁴

Because the act is framed as very much a reactive act it waits for someone to come up with an idea ... It is a very limited thing based pretty much around just the conservation values and trying to protect conservation values and struggles to deal with the integration of cross-sectoral issues in terms of fisheries, oil and gas, shipping and all the other sorts of uses of the ocean and coastal areas. Because it is very much based around species and

51 Mr Dudley, North East Bioregional Network, *Transcript of Evidence*, 28 January 2009, p. 30.

52 Lake Wollumboola Protection Association, *Submission 84*, p. 17, p. 18.

53 Ms Warneminde, Coolum District Coast Care, *Transcript of Evidence*, 28 April 2009, p. 66.

54 Dr Reichelt, GBRMPA, *Transcript of Evidence*, 29 April 2009, p. 4.

communities, and you have to get those listed, it is also a great limitation.⁵⁵

- 5.77 The failure of the EPBC Act to deal with cumulative impacts – the ‘death by a thousand cuts’ problem – as highlighted above, was a prevailing theme of submissions to the inquiry. A number of inquiry participants raised concerns about the broader failure of planning regimes to deal with the problem of cumulative impacts of coastal development:

It is 20 years on from the coastal zone inquiry ... and we talked about the tyranny of small decisions, so that you end up with ribbon development or inept small decisions that end up with destruction of wetlands and a whole range of things that gets rid of a lot of the opportunities for coastal buffers against issues that we face now, particularly with potential climate change and sea-level rise. It seems that in 29 years we have really not gone very much further in Australia.⁵⁶

The planning tribunal might say, ‘If that land gets cleared, that is not necessarily going to have a big impact on the overall environment or ecological health of the area.’ The problem is, though, that it is death by a thousand cuts syndrome. It is not looked at in terms of an overall, long-term protection plan for the area, so you can just keep nibbling away at one piece after another. In each case, one particular development might not be that damaging but the cumulative effect over 10 or 20 years is that you have damaged the whole area and fragmented it and it is not ecologically viable anymore.⁵⁷

While it is true that each individual development application can argue that its own cumulative impact on flood plains is minor, examination of the collective impacts of all development is staggering ... and there is no current (or convenient) mechanism to address this issue locally.⁵⁸

- 5.78 The Great Barrier Reef Marine Park Authority pointed to the significant role that strategic (regional/landscape scale based) planning along the coast could play in overcoming problems in this area:

The reason the small decisions fail, or appear to be failing – a death of a thousand cuts-type problem – is a missing overlay ... It

55 Mr Smyth, Australian Conservation Foundation, *Transcript of Evidence*, 25 March 2009, p. 51.

56 Dr Crossland, Coolool District Coast Care, *Transcript of Evidence*, 28 April 2009, p. 66.

57 Mr Dudley, North East Bioregional Network, *Transcript of Evidence*, 28 January 2009, p. 36.

58 Sunshine Coast Environment Council, *Submission 27*, p. 3.

is the leadership that comes from having a widely accepted strategic plan or an accepted future vision. I would be quite in favour ... of provisions in the EPBC Act for a more strategic approach in planning. My comment on that would be to make sure that every effort is made to bring the jurisdictions along with it. The 25-year positive relationship between Queensland Parks and Wildlife and the marine park authority is evidence that joint arrangements can work, but they cannot be unilateral. For instance, to make the park's management work on the water we have a joint committee. There are operational committees under it. There is a steering committee and then that reports to me and the head of the Premier's Department in Queensland. We give it a working infrastructure or we give it a governance structure and we use it. I think a strategic approach to the use of the coastline would need something similar, something to make it work and be accepted at the council level.⁵⁹

- 5.79 DEWHA agreed that a 'limitation of the EPBC Act is the constraints on its ability to consider the cumulative effects of actions by multiple parties' and noted that it was attempting to 'address this shortcoming by taking new approaches to the protection of biodiversity at an ecosystem level':

For example, the implementation of the Marine Bioregional Planning framework ... and the current Strategic Assessment of Browse Basin liquefied natural gas reserves in the Kimberley are examples of using the provisions of the EPBC Act to assess threats at an ecosystem level, taking into account all of the uses that may impact on the resources and biodiversity of a particular area and all parties with a stake in a region.⁶⁰

- 5.80 The importance of strategic/regional based planning for the coastal zone is further discussed in Chapter 6.

- 5.81 In terms of whether an amendment to the EPBC Act might be useful in providing specific protection for the coastal zone, Mr Smyth, from the Australian Conservation Foundation (ACF), commented:

I think there are ways in which that can be strengthened in terms of things like land clearing triggers in, say, coastal areas. There could also be triggers around sorts of activities in coastal marine areas which cause habitat damage. There could be clearing for

59 Dr Reichelt, GBRMPA, *Transcript of Evidence*, 29 April 2009, p. 4.

60 DEWHA, *Submission 103*, p. 4.

coastal subdivisions or trawling and things like that which could actually have some impact on coastal marine environments.⁶¹

5.82 However, Mr Smyth concluded that, while the act might be amended in this way, better options existed to address problems with coastal zone management:

There are ways in which the EPBC Act could be amended and strengthened, but I think it is our view still that there needs to be something which is able to get across the various sectors across the jurisdictions and, in the case of Commonwealth and marine and coastal waters, the EPBC Act really struggles there.⁶²

5.83 Similarly, Professor Thom commented that, 'if legislation is to be enacted, it should be new legislation and not simply amendments to the EPBC Act 1999'.⁶³ As the Nature Conservation Council of New South Wales commented, the EPBC Act is 'almost the last measure' and there is a 'need to start much more immediately in the planning process'.⁶⁴

5.84 The Committee notes the interim findings of the EPBC Act review and looks forward to the final report recommendations. The Committee also notes that many of the concerns raised by inquiry participants about the EPBC Act match those raised in the interim review report. Amendments to the legislation along the lines proposed should assist in improving coastal zone management.

5.85 Of particular concern was the interim report finding that 'the level of awareness of the EPBC Act in the community was low' and that this was 'compounded by an absence of knowledge at the Local Government level which is a first point of contact for many developers and concerned individuals'.⁶⁵ As local government is at the frontline in terms of coastal zone management and planning, this level of awareness about the act needs to be urgently addressed.

5.86 The Committee agrees that the cumulative impacts of many small decisions taken along the coast are clearly not being dealt with effectively under current federal and state environmental protection regimes. This also requires urgent attention.

61 Mr Smyth, ACF, *Transcript of Evidence*, 25 March 2009, p. 45.

62 Mr Smyth, ACF, *Transcript of Evidence*, 25 March 2009, p. 45.

63 Professor Thom, *Submission 6*, p. 20.

64 Ms Faehrmann, Nature Conservation Council of NSW, *Transcript of Evidence*, 25 March 2009, p. 65.

65 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, p. 77.

Recommendation 28

5.87 **The Committee recommends that the Australian Government, in considering its response to the Independent Review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), take into account concerns about the EPBC Act and coastal zone management raised as part of this inquiry – in particular, the need to address the cumulative impacts of coastal development. This could be achieved by numerous means, including:**

- a land clearing trigger
- defining coastal ecosystems as a matter of national environmental significance
- making more use of landscape-scale assessments through strategic assessments or bioregional plans

Coastal World Heritage areas

5.88 The EPBC Act provides for the management and protection of Australia's World Heritage properties. Major coastal World Heritage sites include the Great Barrier Reef Marine Park and Kakadu National Park. As set out in a recent report on climate change impacts on World Heritage sites, both areas have been classified as extremely vulnerable to projected climate change impacts:

- The lowland parts of Kakadu are vulnerable to changed salinity as a result of sea level rise and saline intrusion into groundwater. Sea level rise will lead to a further extension of tidal rivers and pose a significant threat to freshwater wetland systems, resulting in conversion of freshwater wetlands to saline mudflats. Up to 80% of freshwater wetlands in Kakadu could be lost, with rises in average temperatures of 2–3 °C.
- Climate change impacts are already being observed in the Great Barrier Reef. Average annual rainfall has already declined over the past century and rainfall intensity has increased. The Great Barrier Reef ecosystem is highly vulnerable to climate change and impacts are already being observed on plants, animals and habitats; for example, coral bleaching events are occurring more frequently and consequential changes to the biodiversity are being observed.⁶⁶

66 Australian National University (ANU), *Implications of Climate Change for Australia's World Heritage Properties: A Preliminary Assessment*, p. 46, p. 55.

- 5.89 As part of the inquiry process, the Committee undertook site inspections of both areas and received briefings on park management issues, including environmental and climate change impacts. Government agencies and other bodies with interests in these areas also made detailed submissions to the inquiry.

Great Barrier Reef Marine Park

- 5.90 The Great Barrier Reef is internationally renowned. Its network of reefs represents the largest and most complex coral reef system in the world. Figure 5.2 provides an overview of the significant features of the Great Barrier Reef. To date, the reef has suffered two significant mass coral bleaching and mortality events (1992 and 2002).⁶⁷
- 5.91 The significant environmental values of the reef also provide the basis for substantial economic activity, particularly from tourism:
- Around two million tourists visit the Reef each year, supporting an industry generating approximately \$5 billion annually and 50,000 jobs. Ten major commercial fisheries operate in the Reef, contributing around \$140 million to the economy each year. Recreational use of the Reef, including fishing, generates around \$150 million each year, with more than 14 million visits occurring in 2007.⁶⁸
- 5.92 The Great Barrier Reef Marine Park Authority (GBRMPA) is the Commonwealth agency responsible for overall management of the Great Barrier Reef Marine Park and the World Heritage Area, and the Queensland Government, particularly the Queensland Parks and Wildlife Service, provides day-to-day management. Many other stakeholders – including research institutions, commercial and recreational fishing bodies, tourism associations and industry, Indigenous traditional owners, and community members – are also involved in different aspects of management.

67 Reef and Rainforest Research Centre, *Submission 30*, p. 8.

68 *Maintaining a Healthy and Resilient Great Barrier Reef: The Commonwealth and Queensland Governments' Interim Response to the Great Barrier Reef Outlook Report 2009*, Australian Government and Queensland Government, 2009, p. 1.

Figure 5.2 Summary of significant features of the Great Barrier Reef

Six of the world's seven species of marine turtle

The largest green turtle breeding area in the world

One of the world's most important dugong populations

Over 43,000 km² (estimated) of seagrass meadows

A breeding area for humpback and other whale species

Over 2,900 coral reefs built from over 360 species of hard coral

More than 1,500 species of fish

1,500 species of sponges equalling 30% of Australia's diversity in sponges

2,200 species of native plants which is 25% of Queensland's total native plant species

800 species of echinoderms (e.g. sea stars) = 13% of the world's total species

Over 5,000 species of molluscs

Over one-third of all the world's soft coral and sea pen species (80 species)

Over 175 species of birds

Approximately 500 species of seaweeds

Over 2,000 km² of mangroves including 54% of the world's mangrove diversity

Spectacular seascapes and landscapes, e.g. Hinchinbrook Island, the Whitsundays

Extensive diversity of reef morphologies and geomorphic processes

Complex cross-shelf and longshore connectivity

Source Australian National University, Implications of Climate Change for Australia's World Heritage Properties: A Preliminary Assessment, p. 55

5.93 GBRMPA has completed a detailed climate change vulnerability assessment of the reef⁶⁹ and is now implementing the Great Barrier Reef Climate Change Action Plan, in partnership with the Department of Climate Change. The plan is organised around four objectives: targeted science, a resilient Great Barrier Reef ecosystem, adaptation of industries and regional communities, and reduced climate footprints.⁷⁰

69 J Johnson and P Marshall (eds), *Climate Change and the Great Barrier Reef: A Vulnerability Assessment*, GBRMPA, 2007.

70 *Great Barrier Reef Climate Change Action Plan 2007-2011*, GBRMPA, 2007.

5.94 In its submission to the inquiry, GBRMPA raised a series of concerns with the Committee relating to improved management of the reef.⁷¹

5.95 A recent major study, *The Great Barrier Reef Outlook Report 2009*, identifies climate change, catchment runoff, loss of coastal habitats and fisheries management as key challenges facing the reef.⁷² The report highlights that the Great Barrier Reef is 'one of the most diverse and remarkable ecosystems in the world and remains one of the most healthy coral reef ecosystems'. However, it notes that the reef is 'gradually declining, especially inshore as a result of poor water quality and the compounding effects of climate change':

Almost all the biodiversity of the Great Barrier Reef will be affected by climate change, with coral reef habitats the most vulnerable. Coral bleaching resulting from increasing sea temperature and lower rates of calcification in skeleton-building organisms, such as corals, because of ocean acidification are the effects of most concern and are already evident.

The Great Barrier Reef continues to be exposed to increased levels of sediments, nutrients and pesticides, which are having significant effects inshore close to developed coasts, such as causing die-backs of mangroves and increasing algae on coral reefs.⁷³

5.96 The Australian Government and the Queensland Government released a joint response to the outlook report, outlining a 'cooperative and re-energised approach' to further protecting the reef.⁷⁴ The Committee notes that part of this response included a new Reef Water Quality Protection Plan, a joint plan of action to halt and reverse the decline in the quality of water flowing into the reef. Under the plan, the Australian Government and the Queensland Government have committed, by 2013, to halve runoff of harmful nutrients and pesticides and ensure at least 80 per cent of agricultural enterprises and 50 per cent of grazing enterprises adopt land management practices that will reduce runoff.⁷⁵

71 GBRMPA, *Submission 81*, pp. 1-16.

72 The outlook report is a new legislative requirement established by recent amendments to the *Great Barrier Reef Marine Park Act 1975*. Under the act, reports must be prepared by GBRMPA every five years, be independently peer reviewed and tabled in Parliament.

73 *Great Barrier Reef Outlook Report 2009*, GBRMPA, 2009, pp. i-ii.

74 *Maintaining a Healthy and Resilient Great Barrier Reef: The Commonwealth and Queensland Governments' Interim Response to the Great Barrier Reef Outlook Report 2009*, Australian Government and Queensland Government, 2009, p. 3.

75 See *Reef Water Quality Protection Plan 2009: For the Great Barrier Reef World Heritage Area and Adjacent Catchments*, Australian Government and Queensland Government, 2009.

- 5.97 *A Reef Plan Monitoring and Evaluation Strategy* has also been developed and a *Monitoring and Reporting Program* designed, ready for implementation in late 2009. This will enable the governments to measure the success of the plan's implementation and publicly report on progress towards the plan's goals and objectives.
- 5.98 The Committee is also aware that a focus of the Caring for our Country program is on further reducing sediment and nutrient discharge from agricultural lands into the Great Barrier Reef lagoon. The Australian Government's Reef Rescue commitment is part of the Caring for our Country initiative. Some \$200 million has been committed for over five years to reduce the decline in water quality by providing assistance to land managers in the reef catchments to accelerate the uptake of improved land management practices.⁷⁶ The Australian Government's Water for the Future initiative further provides assistance in this area. The *Great Barrier Reef Marine Park Act 1975* was also recently amended to strengthen legal, governance and policy frameworks relating to management and long-term protection of the reef.⁷⁷
- 5.99 The Committee is pleased to note these recent efforts to step up action to further protect the reef. The Committee agrees that improving the quality of water flowing into the reef is one of the most important things we can do to help this region withstand the impacts of climate change.
- 5.100 The Committee further notes that a new Great Barrier Reef Intergovernmental Agreement between the Australian Government and Queensland Government was signed in June 2009.⁷⁸ Implementation of the agreement will be driven by the Great Barrier Reef Ministerial Council.

Great Barrier Reef as a best practice case study for integrated coastal zone management

- 5.101 As the recent *Great Barrier Reef Outlook Report* notes, the Great Barrier Reef Marine Park is 'considered by many to be a leading example of world's best practice management'. However, 'the effectiveness of management is challenged because complex factors that have their origin beyond the Great Barrier Reef Region, namely climate change, catchment runoff and

76 *Caring for our Country Business Plan: 2009-10*, p. 63.

77 See background on *Great Barrier Reef Marine Park Amendment Act 2007* and *Great Barrier Reef Marine Park and Other Legislation Amendment Act 2008* at <<http://www.environment.gov.au/coasts/gbr/review/index.html>>

78 Great Barrier Reef Intergovernmental Agreement, an agreement between the Commonwealth of Australia and the State of Queensland, June 2009, DEWHA website accessed 3 September 2009 <<http://www.environment.gov.au/coasts/gbr/publications/pubs/gbr-agreement-2009.pdf>>

coastal development cause some of the highest risks to the ecosystem'.⁷⁹ This is the dilemma facing coastal zone management more broadly.

5.102 Of particular interest to the Committee is the Great Barrier Reef as a case study for integrated coastal zone management in Australia. The key challenges facing the reef – climate change impacts on biodiversity, continued declining water quality from catchment runoff, a loss of coastal habitat as a result of coastal development and population pressures – are also key challenges facing the coastal zone more generally. Further, the reef is an excellent example of integrated coastal zone management, with both the Australian and Queensland governments having direct legislative responsibilities for the reef, with joint management arrangements formalised under an intergovernmental agreement. Government bodies also work closely with industry, researchers and the broader community.

5.103 Further, the Great Barrier Reef provides a benchmark for consideration of potential climate change impacts on the coastal zone in Australia, as it has been the subject of a large number of detailed reports on such impacts, encompassing environmental and broader socioeconomic aspects. Strategies to minimise impacts, through improving and maintaining resilience, have also been developed.

5.104 Interestingly, the *Great Barrier Reef Outlook Report* identifies land use planning as one of the major barriers to successful management of the reef:

There are well developed planning systems in place for all issues except for coastal development where the fractured nature of the planning regime causes problems. Lack of consistency across jurisdictions is the weakest aspect of planning.⁸⁰

5.105 As GBRMPA emphasised in its submission to the inquiry:

There are 21 local government councils in the Great Barrier Reef catchment, which can lead to inconsistency in addressing land use and coastal development issues affecting the Great Barrier Reef.⁸¹

5.106 The GBRMPA submission made several recommendations with a focus on improving coastal land use planning:

79 'Great Barrier Reef Outlook Report 2009: Information Sheet – overview', GBRMPA website accessed 3 September 2009

<http://www.gbrmpa.gov.au/__data/assets/pdf_file/0020/40763/Overview.pdf>

80 *Great Barrier Reef Outlook Report 2009: In Brief*, GBRMPA, 2009, p. 14.

81 GBRMPA, *Submission 81*, p. 5.

Special attention should be given to effective implementation and performance evaluation of statutory (coastal) planning processes that recognise and implement measures that preserve natural ecosystem functions, [and] manage the coastal development and catchment impacts likely to affect the Great Barrier Reef ...

Queensland and Commonwealth management outcomes should include limits on catchment development (based on resource condition targets and supported by end of catchment and inshore water quality monitoring), and limits or constraints on development in areas of critical connectivity, buffer or high ecological value to manage exponential development and population growth in coastal communities and catchments.

Current Queensland and Commonwealth policies should consider the implications of all coastal development proposals of their potential impacts with respect to the loss of coastal habitats, and economic and social impacts on coastal communities, and the long-term impacts on marine based industries.⁸²

- 5.107 The Committee reinforces the need for continued management efforts to further improve the resilience of the Great Barrier Reef to the impacts of climate change, including addressing the problems of water quality from catchment runoff and loss of coastal habitat as a result of coastal development. The Committee also emphasises the need for improvements in state and local land use planning in terms of coastal development in the region, particularly given the lack of consistency across different local council jurisdictions, as identified by GBRMPA. This could be achieved through improved regional/strategic planning under the auspices of the Great Barrier Reef Intergovernmental Agreement between the Australian Government and Queensland Government.

82 GBRMPA, *Submission 81*, p. 6, p. 7, p. 11.

Recommendation 29

5.108 The Committee recommends that the Australian Government:

- **continue working with the Queensland Government and local councils under the existing Great Barrier Reef Intergovernmental Agreement to improve land use planning in the catchment**
- **commission analysis of the Great Barrier Reef as a case study for integrated coastal zone management (ICZM) in Australia. The study should draw out possible directions for ICZM in Australia with regard to:**
 - ⇒ **addressing challenges associated with climate change impacts on biodiversity**
 - ⇒ **declining water quality from catchment runoff and loss of coastal habitat from coastal development and population pressures**
 - ⇒ **building cooperative partnerships between Commonwealth, state and local government, and other stakeholders**
 - ⇒ **establishing governance and institutional frameworks**

Kakadu National Park

5.109 Kakadu National Park is co-managed by the Commonwealth Director of National Parks and Indigenous traditional owners. The low-lying coastal plains in Kakadu are particularly vulnerable to saltwater intrusion, posing a significant threat to its freshwater wetland systems. As the Northern Territory Government submission noted:

the wetland system of Kakadu depends on a finely balanced interaction between freshwater and marine environments, in certain areas, the natural levees that act as a barrier between Kakadu's freshwater and saltwater systems are only 20cm high. Sea level rises of another 59cm by 2100 would adversely affect 90 percent of the Kakadu wetland system.⁸³

5.110 The Committee is not aware of a detailed climate change vulnerability assessment having been undertaken for Kakadu National Park. As a recent report on the implications of climate change for Australia's World Heritage properties concluded, the 'vulnerability of freshwater wetlands

83 Northern Territory Government, *Submission 106*, p. 14.

to further saline intrusion is unknown and additional research into this is urgently required'.⁸⁴ The Committee agrees that urgent research into this issue is required.

5.111 The Committee understands that Kakadu National Park has been identified as a case study under the 'first pass' National Coastal Vulnerability Assessment. This study should provide useful initial background for a more detailed assessment. The Committee also notes that the *Kakadu National Park Management Plan 2007-2014* identifies the following areas for action:

- obtain expert engineering and environmental advice on measures needed to protect significant freshwater habitats from salt water intrusion. Work with Bininj and stakeholders to make decisions about the need for intervention and the choice of available options ...
- Work with relevant experts and stakeholders to investigate climate change impacts and consider, and where possible implement, appropriate actions and responses.⁸⁵

Recommendation 30

5.112 **The Committee recommends that the Australian Government urgently commission a detailed climate change vulnerability assessment for Kakadu National Park, in consultation with the park's traditional owners and other stakeholders and drawing on the results of the 'first pass' National Coastal Vulnerability Assessment of the park. This assessment should specifically focus on the vulnerability of Kakadu's freshwater wetland systems to saltwater intrusion. A key outcome of the assessment should be the development of a Climate Change Action Plan for Kakadu National Park, with coordinated input from the Australian Government and Northern Territory Government, Indigenous land owners, researchers and other stakeholders.**

Coastal Ramsar sites and other wetlands

5.113 Ramsar wetlands – that is, wetlands listed under the international Convention on Wetlands of International Importance (Ramsar

84 ANU, *Implications of Climate Change for Australia's World Heritage Properties: A Preliminary Assessment*, Commonwealth of Australia, 2009, p. 53.

85 *Kakadu National Park Management Plan 2007-2014*, Director of National Parks, 2007, p. 61, p. 62.

Convention, 1971) – are recognised as a matter of national environmental significance under the EPBC Act. Consequently, an action that has, will have or is likely to have, a significant impact on the ecological character of a Ramsar wetland must be referred to the Minister and undergo an environmental assessment and approval process.

5.114 Australia currently has 65 Ramsar wetlands and more than 900 wetlands listed as ‘nationally important’ in the Directory of Important Wetlands in Australia.⁸⁶ Marine and coastal zone wetlands are defined as:

- Marine waters – permanent shallow waters less than six metres deep at low tide; includes sea bays, straits.
- Subtidal aquatic beds; includes kelp beds, seagrasses, tropical marine meadows.
- Coral reefs.
- Rocky marine shores; includes rocky offshore islands, sea cliffs.
- Sand, shingle or pebble beaches; includes sand bars, spits, sandy islets.
- Estuarine waters; permanent waters of estuaries and estuarine systems of deltas.
- Intertidal mud, sand or salt flats.
- Intertidal marshes; includes salt-marshes, salt meadows, saltings, raised salt marshes, tidal brackish and freshwater marshes.
- Intertidal forested wetlands; includes mangrove swamps, nipa swamps, tidal freshwater swamp forests.
- Brackish to saline lagoons and marshes with one or more relatively narrow connections with the sea.
- Freshwater lagoons and marshes in the coastal zone.
- Non-tidal freshwater forested wetlands.⁸⁷

5.115 Coastal wetlands play a vital role in coastal and marine biodiversity:

It is widely recognised that healthy aquatic systems are fundamental to the ability of both terrestrial and marine systems to continue to provide ecosystem goods and services to the community. Wetlands provide a buffer against coastal erosion and storm surges, mitigate flooding by slowing and absorbing floodwaters, and act as filters for many pollutants, nutrients and sediments. These roles will only increase in importance as human

86 DEWHA website accessed 26 August 2009
<<http://www.environment.gov.au/water/topics/wetlands/database/diwa.html>>

87 DEWHA website accessed 26 August 2009
<<http://www.environment.gov.au/water/topics/wetlands/database/diwa.html>>

use of the coastal zone intensifies, and as climate change increases the risk of floods and storm surges.⁸⁸

5.116 Inquiry participants raised a number of concerns about coastal Ramsar wetlands and other significant coastal wetlands, including:

- the various categorisations of coastal wetland across Australia (eg Ramsar listed wetlands, nationally important wetlands, state significant wetlands) and the varying levels of protection this afforded

In terms of the things we thought we could put forward to this committee regarding positive actions, we think there should be mandatory protection of wetlands – full stop.⁸⁹

- why more coastal wetlands (eg nationally important wetlands) are not included as Ramsar sites and the complexity of the listing process

Coastal wetlands of National Importance as well as of International Importance should be protected under Commonwealth legislation ... While other wetlands are likely to meet Ramsar criteria they are not listed and not adequately protected. This is in part due to the need to obtain the support of private owners but also because the processes in place at both State and Commonwealth level for Ramsar listing seem unnecessarily complicated.⁹⁰

- the proximity of housing and other developments to coastal Ramsar sites and other significant coastal wetlands – for example, the Committee noted development in the Port Geographe area (south-west WA) in close proximity to the Vasse-Wonnerup Ramsar site:

We face a massive development proposal at the moment. That is going to be built on a partial piece of wetland that is not Ramsar listed. We currently have a submission in to the federal minister to declare that little extra piece of wetland part of the Ramsar listing.⁹¹

88 Reef and Rainforest Research Centre, *Submission 30*, p. 10.

89 Mr Anderson, Cairns Local Marine Advisory Committee, *Transcript of Evidence*, 29 April 2009, p. 27.

90 Lake Wollumboola Protection Association, *Submission 84*, p. 8, p. 17.

91 Mr Fuller, Global Warming Group Queenscliffe, *Transcript of Evidence*, 21 May 2009, p. 4.

Sensitive coastal wetlands require increased buffer zones to protect threatened and endangered ecological communities from urban encroachment.⁹²

- adequate protection of coastal Ramsar sites and other wetlands

Provide statutory protection for Queensland's wetlands ... Queensland is the only Australian state in which wetlands do not have statutory protection. Although they are nominally protected by a range of treaties and legislation ... a number of weaknesses in the state's Wetlands Decision Support System continue to allow development to occur in and around wetland areas.⁹³

- lack of clarity and public awareness about what actions impacting on a Ramsar wetland should be referred to the Minister for environmental assessment under the EPBC Act
- providing adequate volumes of water to coastal Ramsar sites
- lack of management plans for some Ramsar sites

5.117 In terms of housing developments encroaching on coastal Ramsar sites, the Committee was particularly concerned about a canal development in the Port Geographe area, in south-west Western Australia, located in close proximity to the Vasse-Wonnerup Ramsar site. As Professor Short commented:

Some of the big issues at Mandurah are those canal estates, and at Port Geographe, which are not only very low-lying but also cutting into acid sulphate soils and with all sorts of other issues. As you may be aware, they were banned in New South Wales back in 1970 but all other states are still going ahead and building canal estates. Those estates are very low-lying and not only are they alienating wetlands but some are exposing acid sulphate soils, so they are a major issue. Because they are low-lying, they will be very prone to sea level rise.⁹⁴

5.118 The Committee was concerned about the continuing construction of canal estates more generally in some states, given the increased vulnerability of such developments to projected sea level rise and their environmental impact. As the Victorian Coastal Council noted in their submission to the inquiry:

92 Coastwatchers Association, *Submission 33*, p. 5.

93 Reef and Rainforest Research Centre, *Submission 30*, p. 11.

94 Professor Short, *Transcript of Evidence*, 26 February 2009, p. 9.

Canal estates are ... discouraged in the [Victorian Coastal] Strategy as they often have major adverse impacts on the host estuary and cause the loss of estuarine habitat, wetlands or saltmarsh, and subsequent continuing pollution and disturbance of estuarine waters by urban runoff, boating activities, etc. Canal estates, like waterfront developments in general, also have adverse effects on wader populations (loss of habitat, disturbance of nesting birds).⁹⁵



Canal development at Port Geographe, WA, as inspected by Committee members

5.119 In Broome, the Committee heard from representatives of Environs Kimberley and the Roebuck Bay Working Group, who drew attention to several issues facing fragile wetlands, mudflats and monsoon environments in Broome and the wider Kimberley region. The West Kimberley Nature Project, commencing in October 2009, will assess managing threats such as fire, feral animals and weeds in monsoonal vine thickets, and freshwater soaks and wetlands.⁹⁶ The Roebuck Bay Working Group, with 52 members, recognises that competing values exist in the

95 Victorian Coastal Council, *Submission 83*, p. 10.

96 Ms Williams, Environs Kimberley, *Transcript of Evidence*, 27 August 2009, p. 1.

Ramsar-listed site (for example, those of tourism, recreational boating and fishing, cultural site protection, shipping, increasing population) which are additional to the pressures resulting from climate change:

Roebuck Bay is already showing signs of stress: the lyngbya-blue green algae in the bay, the oil spill, the coastal erosion, the rubbish accumulation, increasing boat activity, shorebird disturbance, the threat of marine pests. It is one of the fastest growing towns in Australia. I honestly do not think the solution is that hard. We need to resolve the tenure issues and who is going to manage it.⁹⁷

5.120 Some inquiry participants also pointed to major concerns about climate change impacts on coastal wetlands in terms of inundation and the need for buffers to allow for migration of habitat, particularly for birds.

5.121 The recent *Ramsar Snapshot Study* provided a preliminary review of the current status and management of all Australian Ramsar sites. The report concluded that

it is ... likely that there are many wetlands that would fulfil Ramsar listing criteria and could be included in Australia's Ramsar estate ...

to date there is no national scale assessment of the extent and distribution of wetlands ...

Currently there is no systematic way to characterise threats and impacts or to compare the magnitude of impacts of threats among sites. There is a clear need to develop a systematic method of describing, comparing and reporting impact magnitude among wetlands in future rolling reviews of Australia's Ramsar wetland estate.⁹⁸

5.122 Similarly, the interim review report of the EPBC Act also highlighted concerns about Australia's wetlands:

submissions suggested that wetlands of national importance ... be listed as new matters of NES [national environmental significance] ...

The breadth of the definition and the scope of the Minister's power to declare wetlands as 'declared Ramsar wetlands' under the Act indicates that many more areas could be listed as Ramsar wetlands, including areas in northern Australia. However, it is

97 Ms Curran, Roebuck Bay Working Group, *Transcript of Evidence*, 27 August 2009, p. 37.

98 *Ramsar Snapshot Study: Final Report*, BMT WBM Pty Ltd, prepared for the Commonwealth Department of the Environment and Water Resources, 2007, p. 5-1, 5-2.

important to note that this matter of NES only applies to wetlands of *international* importance. This potentially leaves a regulatory gap in the protection of Australian wetlands, as some will be nationally significant, but will fail to meet the criteria for international importance and will not be protected at a Commonwealth level.⁹⁹

5.123 The report concluded that 'it would seem that there are strong arguments in support of extending the protections afforded under the EPBC Act to wetlands and rivers that are declared to be of national importance'.¹⁰⁰

5.124 The Committee notes that the Australian Government is currently going through a 'rolling review' of all the Ramsar sites to look at their management requirements:

We have a review underway at present and they are reporting by May next year on 20 of those sites, as a pilot for how we can move forward on the rest of the listed Ramsar sites.¹⁰¹

5.125 The Committee further notes that improved environmental management of Ramsar sites is a priority under the Australian Government's Caring for our Country program, as discussed earlier.

5.126 The Committee is also aware that National Guidelines for Ramsar Wetlands are currently being developed by the Australian Government in consultation with the states and territories to improve management of Australia's Ramsar sites, consistent with Australia's commitments under the Ramsar Convention and responsibilities under the EPBC Act. The guidelines are being developed as a series of modules on relevant topics.¹⁰²

5.127 The Coorong and Lakes Alexandrina and Albert Ramsar site is of particular concern to the Australian community. As the Conservation Council of SA emphasised, there needs to be '[i]mmediate implementation of real and defined strategies to ensure the recovery of the Coorong and Lower Lakes'.¹⁰³ The Committee acknowledges the significant work being undertaken by the Australian Government in this area through the

99 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, p. 148, p. 155.

100 *Independent Review of the Environment Protection and Biodiversity Conservation Act 1999: Interim Report*, p. 155.

101 Mr Forbes, DEWHA, *Transcript of Evidence*, 18 June 2009, p. 18.

102 DEWHA website accessed 26 August 2009
<<http://www.environment.gov.au/water/topics/wetlands/ramsar-convention/australian-guidelines.html>>

103 Conservation Council of SA, *Submission 71*, p. 4.

\$12.9 billion Water for the Future program, National Water Initiative and the *Water Act 2007* (Cth).¹⁰⁴

Recommendation 31

5.128 **The Committee recommends that the Australian Government:**

- **require that all Ramsar listed wetlands have effective and operational management plans and that resources are allocated by governments to monitor the implementation of these plans**
- **increase the number of coastal wetlands classified as Ramsar sites, particularly those classified as Nationally Important wetlands**
- **work with state and territory governments through the Natural Resource Management Ministerial Council, and in consultation with other stakeholders, to improve the management and monitoring of coastal wetlands, particularly Ramsar sites located in close proximity to development**
- **improve public awareness about what actions impacting on a Ramsar wetland should be referred to the Minister under the *Environment Protection and Biodiversity Conservation Act 1999***
- **ensure that the National Guidelines for Ramsar Wetlands also include modules on the process for nominating Ramsar wetlands**
- **develop a climate change action plan for coastal Ramsar wetlands and Nationally Important wetlands**

Migratory and resident shorebirds

5.129 Migratory species protected under international agreements are a matter of national environmental significance listed under the EPBC Act. Migratory species protected under the act include those listed in the China-Australia Migratory Bird Agreement (CAMBA), Japan-Australia Migratory Bird Agreement (JAMBA) and Republic of Korea-Australia Migratory Bird Agreement (ROKAMBA). Of interest to the inquiry are Australia's migratory and resident shorebirds:

104 DEWHA website accessed 26 August 2009 <<http://www.environment.gov.au/water/policy-programs/index.html>>

We have some species of shorebirds and coastal birds that travel to Australia from as far away as Siberia and Alaska and rely on the wellbeing of our coastal environments in the summer months before they return to breed in the Northern Hemisphere. We also have species of birds that are present year-round – 365 days of the year – that rely on the beaches and coastal areas of Australia to breed, feed and rest upon. With these species sharing common habitats, we have the mechanism by which we can provide them with protection – both resident and migratory species – by protecting their habitats.¹⁰⁵

- 5.130 By way of background, some 17 shorebird species spend their entire lives within Australia and are known as ‘residents’, although they may make substantial movements within Australia and a further 36 species make regular international movements to Australia.¹⁰⁶ In terms of estimates of numbers of migratory shorebirds:

Typically, we have an annual estimate of somewhere between 3½ million and five million shorebirds that migrate into and out of Australia each year. These birds migrate between Australia and northern Siberia. Some of them weigh as little as 15 grams ... They will travel between southeast Australia and Siberia in six weeks, and they will do the round trip for 15 years. We are seeing incredible decreases in these species.¹⁰⁷

- 5.131 Figure 5.3 provides a list of migratory and resident shorebirds of Australia.

- 5.132 Importantly, as Birds Australia emphasised, ‘clearly state, local and federal governments have a greater capacity to protect resident species because of the year-round presence of such species’.¹⁰⁸

105 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2009, p. 2.

106 J Oldland et al, *Shorebird Conservation in Australia*, Birds Australia Conservation Statement, No. 14, 2009, p. 2.

107 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2009, p. 6.

108 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2009, p. 2.

Figure 5.3 Migratory and resident shorebirds of Australia

Residents	Regular Migrants
Bush Stone-curlew	Pacific Golden Plover
Beach Stone-curlew	Grey Plover
Australian Pied Oystercatcher	Double-banded Plover
Sooty Oystercatcher	Lesser Sand Plover
Black-winged Stilt	Greater Sand Plover
Red-necked Avocet	Oriental Plover
Banded Stilt	Latham's Snipe
Red-capped Plover	Pin-tailed Snipe
Inland Dotterel	Swinhoe's Snipe
Black-fronted Dotterel	Black-tailed Godwit
Hooded Plover	Bar-tailed Godwit
Red-kneed Dotterel	Little Curlew
Banded Lapwing	Whimbrel
Masked Lapwing	Eastern Curlew
Plains-wanderer	Terek Sandpiper
Comb-crested Jacana	Common Sandpiper
Australian Painted Snipe	Grey-tailed Tattler
	Wandering Tattler
	Common Greenshank
	Marsh Sandpiper
	Common Redshank
	Wood Sandpiper
	Ruddy Turnstone
	Asian Dowitcher
	Great Knot
	Red Knot
	Sanderling
	Red-necked Stint
	Long-toed Stint
	Pectoral Sandpiper
	Sharp-tailed Sandpiper
	Curlew Sandpiper
	Broad-billed Sandpiper
	Ruff
	Red-necked Phalarope
	Oriental Pratincole
	Australian Pratincole

Source: J Oldland et al, *Shorebird Conservation in Australia, Birds Australia Conservation Statement, No. 14, 2009, p. 2*



Committee members with Ms Allison Russell-French, President of Birds Australia, Dr Graeme Hamilton, CEO of Birds Australia, and Dr Eric Woehler, Chair of Birds Tasmania, at Pitt Water-Orielton Lagoon coastal Ramsar site, near Hobart

5.133 Birds Australia made a detailed submission to the inquiry, raising serious concerns about the state of Australia’s migratory and resident shorebirds:

The existing framework of legislation, policies, management strategies and recovery plans at Local, State and Federal levels of Government in Australia is demonstrably failing to protect Australia’s coastal birds and their habitat ...

An increasing number of resident and migratory shorebird and seabird species are decreasing in their distribution and abundance, resulting in an ever-elevating conservation status. The Australian coastal margin, and the species that depend on intact, functioning coastal ecosystems are now in a worse condition than they were just a decade ago – there are fewer birds of fewer species, less suitable nesting, feeding and roosting habitats available, and a greater spectrum of threats of greater intensity and frequency

operating. There has been a rapid and accelerating fragmentation of coastal ecosystems around much of Australia.¹⁰⁹

5.134 Key issues raised by Birds Australia included:

- loss of habitat and proximity of development and human population

The ever-increasing proportion of Australia's human population living in close proximity to the coastal margins is the major contemporary contributor to these long-term, widespread population decreases in Australia's coastal birds. The greater number of people, resulting in more vehicles, more predatory and disruptive domestic animals (eg dogs and cats), increased clearing of native vegetation for housing, associated infrastructure and aesthetics all result in a severely impacted coastal margin, with many areas beyond rehabilitation and restoration.¹¹⁰

- modification and degradation of habitat

You will not find a beach-nesting bird along the Gold Coast or Sunshine Coast at all.¹¹¹

- disturbance of shorebirds affecting breeding, feeding and roosting

What we are seeing for many of our coastal breeding species are decreases in the order of 20 to 50 per cent or more in the last 20 years. Long-lived species that are decreasing generally show very low breeding success. The birds are present year after year, but they are not getting any chicks away because of four-wheel drives, dogs, people, human disturbance and loss of habitat ... The birds are there year after year. People see the birds year after year. There is not a problem. The birds were there last year, the birds are here this year and the birds will be here next year. However, in actual fact the birds are not capable of producing chicks to replace themselves when they die. We face the situation as was described in the US of what is called 'blink-out': the birds are there one day but they are gone the next. When the adult birds die, there are no young birds there to take their place.¹¹²

109 Birds Australia, *Submission 61*, p. 2, p. 3.

110 Birds Australia, *Submission 61*, p. 3.

111 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2009, p. 13.

112 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2009, p. 4.

- climate change

Sea level rise in particular will destroy much of the existing remaining coastal habitats for beach-nesting birds. Many of these birds breed only a few centimetres above the high-water mark. Many of these birds nest in shallow cups in sandy beaches and, if you like, are obligate or dependent upon sandy beaches. They cannot just go somewhere else to breed. If the beach is not there to breed, they cannot breed ... the development and construction of coastal infrastructure such as roads and houses will stop that inward migration of the coastline. So, as the sea level rises, essentially what you are going to end up with is a seawall rather than the capacity for the coastline to find its new line inland of where it is now.¹¹³

5.135 As Dr Woehler, Chair of Birds Tasmania, commented, Australia's birds really are the 'canaries in the coal mine' with regard to climate change impacts on biodiversity:

canaries were taken into mines to provide early warning systems to the miners in terms of the dangers inherent in the build-up of dangerous gases. Today about 15 per cent of all bird species on the planet earth have a conservation status: vulnerable, endangered or critically endangered. Very clearly, birds are giving us a very good signal about the deteriorating state of health of our environment.¹¹⁴

5.136 The Committee also received evidence from representatives of Environs Kimberley, the Roebuck Bay Working Group and the Broome Bird Observatory as to the extent of migratory shorebirds in the Broome area and the potentially devastating impacts of climate change, sea level rise and development pressures on fly-ways and nesting habits of both resident and migratory birds.¹¹⁵ Ms Spencer, from the Broome Bird Observatory, noted that 'there are approximately 700 bird species in Australia and more than 300 can be seen in Broome', and, 'of the about 24 species of shore birds in Australia, 20 species occur in internationally significant numbers in Roebuck Bay'.¹¹⁶

113 Dr Woehler, *Birds Australia, Transcript of Evidence*, 18 August 2009, p. 4, p. 7.

114 Dr Woehler, *Birds Australia, Transcript of Evidence*, 18 August 2009, p. 3.

115 See especially Mr Pritchard, Ms Williams and Ms Lowe, *Environs Kimberley, Transcript of Evidence*, 27 August 2009, pp. 2-5.

116 Ms Spencer, *Broome Bird Observatory, Transcript of Evidence*, 27 August 2009, p. 37.

- 5.137 A recent study by the University of NSW has indicated that migratory shorebirds and Australia's one million resident shorebirds 'have suffered a massive collapse in numbers over the past 25 years':

A large-scale aerial survey study covering a third of the continent has identified that migratory shorebird populations plummeted by 73 per cent between 1983 and 2006, while Australia's 15 species of resident shorebirds (for example avocets and stilts) have declined by 81 per cent. This is the first long-term analysis of shorebird populations and health at an almost continental scale and reveals a disturbing trend of serious long-term decline.¹¹⁷

- 5.138 The Committee is aware that a Wildlife Conservation Plan for Migratory Shorebirds was prepared under the EPBC Act in 2006, setting out research and management actions in this area. The objectives of the plan are to:

Increase international cooperation for migratory shorebirds and ensure that countries of the East Asian-Australasian Flyway work together to conserve migratory shorebirds and their habitat.

Identify, protect and sustainably manage a network of important habitat for migratory shorebirds across Australia to ensure that healthy populations remain viable into the future.

Increase biological and ecological knowledge of migratory shorebirds, their populations, habitats and threats in Australia to better inform management and support the long term survival of these species.

Raise awareness of migratory shorebirds and the importance of conserving them, and increase engagement of decision makers and the community in Australia in activities to conserve and protect migratory shorebirds and their habitat.¹¹⁸

- 5.139 The Committee further notes the importance of the Australian Government's support for the East Asian-Australasian Flyway initiative, which was launched in November 2006. The Flyway Partnership represents the major international framework for the conservation of migratory waterbirds and their habitat in the flyway.¹¹⁹

117 *Wetlands Australia: National Wetlands Update 2009*, Issue No. 17, DEWHA, 2009, p. 4. See also *The State of Australia's Birds 2008*, P Olsen, Birds Australia, 2008.

118 *Wildlife Conservation Plan for Migratory Shorebirds*, Department of the Environment and Heritage, February 2006.

119 See the Partnership for the Conservation of Migratory Waterbirds and the Sustainable Use of their Habitats in the East Asian – Australasian Flyway, DEWHA website accessed 26 August

5.140 The Committee is also aware of the Australian Government's support for the Shorebird 2020 project, seeking to 'coordinate national shorebird monitoring in Australia in order to detect population trends nationally and at individual areas'.¹²⁰

5.141 The Committee commends the work of community groups, such as Birds Australia, and volunteers in this area, particularly for the important role they play in promoting community education, participation and conservation awareness. The Committee also commends these groups' crucial monitoring and data collection role. As Birds Australia commented:

Fundamental to all management and conservation strategies and policies are scientifically robust long-term data sets that serve to guide the formulation and assessment of management and conservation priorities ...

Monitoring can be achieved by members of community groups with sufficient resources and capacity. However governments need to establish and support monitoring efforts including with community groups and individuals for collection of data sets on resident and migratory shorebird numbers in Australia. Promotion of community involvement could attain the collection of meaningful scientific data.¹²¹

5.142 The Committee agrees that shorebird monitoring is essential for identifying important wetlands and changes in shorebird populations and distributions. As discussed above, protecting wetland habitat for these birds is crucial. The Committee further notes Birds Australia's recommendation for formally listing the coastal shorebird and seabird community as a threatened ecological community under the EPBC Act, reflecting the wide spectrum of threats facing this avian community.¹²²

5.143 The Committee also agrees with Birds Australia that there would be value in further understanding the scale of ecotourism in Australia, in this case with regard to bird watching:

2009 <<http://www.environment.gov.au/biodiversity/migratory/waterbirds/flyway-partnership/index.html>>

120 Shorebirds 2020 website accessed 26 August 2009 <<http://www.shorebirds.org.au>> The project is supported by Birds Australia and the Australasian Wader Studies Group, through funding from the Australian Government's Caring for our Country and World Wildlife Fund Australia.

121 Birds Australia, *Submission 61*, p. 13.

122 Birds Australia, *Submission 61*, p. 12.

In the US, ecotourism and in particular just bird watching in itself are a multibillion-dollar-a-year industry in terms of the travel, the accommodation and the equipment ... Unfortunately, in Australia we do not undertake the collection of statistical data to give us a sense of the scale of ecotourism in Australia ... there would be a very good case for identifying the role of, the scale of and the dollar value associated with ecotourism as an argument for further funding for appropriate management.¹²³

- 5.144 Birds Australia further recommended that 'coastal buffers and coastal setbacks to protect remaining coastal habitats and species' be established 'to allow greater flexibility by coastal species to deal with a changing environment driven by climate warming and sea level rise'.¹²⁴

Recommendation 32

- 5.145 **The Committee recommends that the Australian Government:**
- **work through the Natural Resource Management Ministerial Council and in consultation with Birds Australia and other stakeholders to implement a National Shorebirds Protection Strategy. The strategy should focus on tightening restrictions on beach driving and access to bird breeding habitat, preserving habitat, identifying suitable buffer zones for migration of coastal bird habitat, managing pest animals and increased public education**
 - **provide further funding to Birds Australia and other research groups to ensure continued monitoring and data collection with regard to migratory and resident shorebirds**
 - **provide funding to strengthen partnerships between domestic and international shorebird conservation groups to increase awareness and conservation efforts in other countries**
 - **commission a detailed climate change impact study on Australia's migratory and resident shorebirds**
 - **in its consideration of amendments to the *Environment Protection and Biodiversity Conservation Act 1999* following the independent review, give consideration to the formal**

123 Dr Woehler, Birds Australia, *Transcript of Evidence*, 18 August 2008, p. 11.

124 Birds Australia, *Submission 61*, p. 13.

listing of coastal shorebird and sea bird communities as threatened species/ecological communities under the act

Environmental impacts on coastal and marine biodiversity

5.146 A number of environmental groups gave evidence to the inquiry, often on behalf of a large number of member organisations. These groups included:

- Australian Conservation Foundation
- WWF-Australia
- Australian Network of Environmental Defender's Offices
- Coolum District Coast Care
- Nature Conservation Council of New South Wales
- Sunshine Coast Environment Council
- Coastwatchers Association
- Global Warming Group Queenscliffe
- Gwandalan/Summerland Point Action Group
- Catherine Hill Bay Progress Association and Dune Care
- Western Australia Conservation Council
- North East Bioregional Network
- Conservation Council of South Australia
- Lake Wollumboola Protection Association
- Environs Kimberley
- Mannering Park Progress Association
- Save the Kimberley

5.147 The Committee commends these groups for their contribution to the inquiry. The major environmental threats facing the coastal zone as identified by these groups and other inquiry participants are:

- loss of coastal habitat as a result of coastal development and population pressures

- land and marine based sources of pollution
 - climate change impacts on coastal and marine biodiversity
 - redistribution of water resources
 - introduced pest plants and animals
 - resource use
 - changed fire regimes¹²⁵
- 5.148 Of particular interest here are the issues of loss of coastal habitat as a result of coastal development and population pressures, land and marine based sources of pollution, and climate change impacts on coastal and marine biodiversity. The other areas are being addressed under a range of existing programs, as discussed earlier.

Coastal development and population impacts on coastal and marine biodiversity

- 5.149 Coastal development and rapid population growth within the highly sensitive environmental settings that characterise coastal areas are 'often associated with biodiversity loss, water degradation (coastal waters, wetlands, lakes and rivers), habitat fragmentation and loss, conversion of rural lands, and degraded scenic values'.¹²⁶
- 5.150 The message that the Committee heard repeatedly was that coastal development and population pressures were having a dramatic impact on the coastal environment and that poor coastal land use planning practices were a significant factor in this regard:

Much of our submission focus is around coastal development and planning, including concerns with coastal population growth.¹²⁷

population increase is one of the main drivers of environmental degradation in the coastal zone in Australia ... There is lack of long-term strategic planning in the coastal zone. At present the

125 *The National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan* identifies seven areas for national collaboration: integration across the catchment-coast-ocean continuum, land and marine based sources of pollution, climate change, introduced pest plants and animals, planning for population change, capacity building, and monitoring and evaluation. (Some of these matters represent environmental pressures and others relate more broadly to governance issues.)

126 N Gurrán et al, *Meeting the Sea Change Challenge: Best Practice Models of Local and Regional Planning for Sea Change Communities* (Report No. 2 for the NSCT), University of Sydney Planning Research Centre, 2006, p. 2 – *Exhibit 20*.

127 Ms Pettett, Conservation Council of SA, *Transcript of Evidence*, 8 October 2008, p. 30.

condition of our coastal environments is degrading at an alarming rate due to overdevelopment and population increase. Planning schemes need to be based on genuinely ecologically sustainable principles.¹²⁸

There is substantial evidence of irreversible damage to the coastal environment from the impacts of development and population expansion.¹²⁹

The Taskforce is concerned about the impact of urban growth and development on the environment in coastal areas. The level of development is placing many coastal environments at risk of serious degradation.¹³⁰

...we are already seeing some pressure on the population gaining access to the foreshore, and that is an extremely important element of recreation in the town. That is where most of the local population take their recreation. They go down to the beach in the evening. It is getting congested, particularly during the peak tourism time. The increase in population is going to make that a lot worse. In the future we are going to have trouble providing sufficient access, because it will have to be handled and controlled in a fashion that means it does not start to harm the very thing we are trying to get near to.¹³¹

- 5.151 As the 2001 State of the Environment report concluded, '[d]evelopment of Australia's coastal strip is one of the major strategic issues confronting the conservation and management of the coastal zone'.¹³² Similarly, as the 2006 State of the Environment Report warned:

if current population trends continue, 42.3 per cent of the Nowra to Noosa coastline will be urbanised by the year 2050, with the resulting loss of much of Australia's temperate and tropical coastal systems ... The rate and scale of this change will bring irreversible impacts to coastal zone environments and, ironically, threaten many of the natural values which draw people to live on the coast.¹³³

128 North East Bioregional Network, *Submission 70*, p. 1.

129 Lake Wollumboola Protection Association, *Submission 84*, p. 4.

130 NSCT, *Submission 79*, p. 17.

131 Mr Butcher, Shire of Broome, *Transcript of Evidence*, 26 August 2009, p. 32.

132 *State of the Environment 2001*, p 38.

133 DEWHA quoting 2006 State of the Environment report, *Submission 103*, p. 2.

- 5.152 By way of an example of projected population increase in the coastal zone, the NSW Government pointed to the projected increase in their coastal population over the next 10 years:

NSW Government projections suggest ... an increase of around 960,000 people living in coastal areas or coastal hinterland by 2021. Most of this increase will be in Sydney, Newcastle and Wollongong (735,000 people) in terms of absolute numbers, but the fastest rate of growth will occur on the Mid-North Coast, and in the Richmond-Tweed areas (... 152,000 additional people).¹³⁴

- 5.153 In suggesting possible ways to address this problem, inquiry participants particularly emphasised sustainable development principles, limited urban footprints, and improved state and local government land use planning policies through strategic and regional planning.

The direction that the coastal strategy provides is where there is capacity for growth, where there are towns that only have a medium level capacity for growth, and where there are townships that have very limited capacity for growth. The Coastal Spaces policy is really that strategic framework for our 87 settlements across the coast to direct population to where it can be best accommodated ... we really believe that you cannot continue to funnel people into the coast and then manage the impacts afterwards. Population impacts on the coast are significant and we are really trying to manage them in a way they can best be addressed, where there is existing infrastructure and services, and where the impacts on the natural environment can be minimised.¹³⁵

To minimise the impact of this growth it must be planned well in advance and carefully controlled, with a focus on expanding existing coastal centres, and minimising the spread of new development outside of these areas.¹³⁶

Strategic planning at the local and regional level, consistent with a collective vision for the coast is part of the solution towards controlling the environmental impacts of population growth and helping steer coastal communities towards sustainability.¹³⁷

134 NSW Government, *Submission 55*, p. 3.

135 Ms Mears, Victorian Coastal Council, *Transcript of Evidence*, 20 May 2009, pp. 11-12.

136 Professor Short, *Submission 4*, p. 1.

137 Professor Tomlinson and Mr Lazarow, *Submission 58*, p. 5.

All coastal parks should now implement no vehicle access policies or severely limit vehicle access to beach and dune areas to minimise coastal degradation.¹³⁸

The direct and indirect impacts of developments on coastal and marine habitats (e.g, seagrasses, mangroves, salt marshes) and their biodiversity are assessed and managed differently across jurisdictions and agencies. Identical habitats and communities can be subjected to rigorous development assessment and approvals processes in one jurisdiction without any effective management in another jurisdiction.¹³⁹

- 5.154 The Committee notes the loss of coastal habitat as a result of development and population pressures and the major threat that future development and population growth pose for the coastal zone. This again raises the issue of coastal zone land use planning policies and the need for strategic/regional planning based on ESD principles and integrated coastal zone management. It also points to the need for sustainable coastal communities and the merits of policies that limit urban footprints. These matters are further discussed below and in Chapter 6.
- 5.155 The Committee also believes that, in a national cooperative approach to coastal zone management, federal, state and local government could consider limits on catchment development, based on resource condition targets and supported by water quality monitoring; and limits or constraints on development in areas of critical connectivity or high ecological value to manage development and population growth in coastal communities and catchments.

Land and marine based sources of pollution

- 5.156 Declining water quality as a result of agricultural and stormwater runoff was raised as an area of major concern in evidence to the Committee:

Pollution control measures for whole of catchment need to be in place to overcome continued nutrient and sediment problems and address the legacy of history of fragmented decisions.¹⁴⁰

- 5.157 This issue was of particular concern to GBRMPA, as discussed earlier, in its management of the Great Barrier Reef Marine Park, and also to South

138 Conservation Council of SA, *Submission 71*, p. 6.

139 NT Government, *Submission 106*, p. 21.

140 Professor Thom, *Submission 6*, p. 21.

Australian representatives in seeking to reduce pollution from stormwater runoff and improve water security in the state through stormwater harvesting.

- 5.158 The Committee undertook a site inspection of the Salisbury Stormwater Project in South Australia, which seeks to 're-use up to 6.3 billion litres of stormwater each year that is currently discharged to Gulf St Vincent'.¹⁴¹ The project provides for stormwater to be cleansed in local wetlands before being injected into the aquifers below the northern Adelaide plains, to replenish these aquifers. The wetlands therefore act as filters for urban and polluted stormwater that would otherwise run into Gulf St Vincent.
- 5.159 The Committee earlier recommended the implementation of a set of national coastal zone environmental accounts, with a particular emphasis on monitoring of estuarine and marine environments in Australia's waterways and catchments.

Climate change impacts on coastal and marine biodiversity

- 5.160 Australia's unique biodiversity, already under threat from a wide range of stressors, 'now faces a further threat from a rapidly changing climate'.¹⁴²
- 5.161 Inquiry participants raised a number of concerns about climate change impacts on coastal and marine biodiversity, including the need to:

- ensure appropriate coastal connectivity, habitat corridors and buffer zones to allow for the migration of coastal ecosystems

The presence of coastal infrastructure will exacerbate habitat loss by preventing the inland migration of habitat which would often occur naturally as a result of sea-level rise ... Consideration should be given to which forms of infrastructure may be more easily moved (for example, roads) to at least accommodate some habitat migration.¹⁴³

- focus on the landscape scale and ecosystem based, bioregional planning
we also support landscape-scale planning based on bioregions in Australia. The current planning systems in Australia are ad hoc

141 Media release by Senator the Hon Penny Wong, Minister for Climate Change and Water, 'Salisbury Stormwater Project to reduce Murray River reliance', 8 October 2008.

142 *Australia's Biodiversity and Climate Change: Summary for Policy Makers 2009*, Summary of a report to the Natural Resource Management Ministerial Council, Department of Climate Change, Commonwealth of Australia, 2009, p. 1.

143 ACE CRC, *Submission 46*, p. 1, p. 4.

and based on political rather than environmental boundaries, so we would like to see that changed.¹⁴⁴

- undertake further research on climate change impacts on biodiversity

Understanding of how climate change will impact on coastal ecosystems ... represents a significant gap in understanding. The response of these ecosystems to the changes, and what adaptation measures are available and are effective, is still largely unknown.¹⁴⁵

- build resilience through maintaining well-functioning ecosystems

we should not forget a whole range of other issues that affect the coast today, including weeds ... pollution, biodiversity conservation, and catchment management. My view is that a well managed coast will be more resilient and more adaptable to climate change in the future.¹⁴⁶

- adapt to changing geographic distributions of species and ecological communities
- develop new policy and management approaches to biodiversity conservation to respond to the challenges of climate change and the possible rapid rate of change within natural systems
- remove or minimise existing stressors, such as land clearing and invasive species

5.162 The key themes of a recent report on climate change and biodiversity are highly relevant to coastal and marine biodiversity:

Changing ecosystems, changing coastlines

- management objectives for the future aimed at maintaining all species in their present locations and ecosystems in their present composition will no longer be appropriate.

Resilience

- a central strategy is giving ecosystems the best possible chance to adapt by enhancing their resilience. Approaches to building resilience include managing appropriate connectivity of fragmented ecosystems, enhancing the National Reserve System, protecting key refugia, implementing more effective

144 Mr Dudley, North East Bioregional Network, *Transcript of Evidence*, 28 January 2009, p. 29.

145 Queensland Government, *Submission 91*, p. 9.

146 Mr Clarke, Great Ocean Road Coast Committee, *Transcript of Evidence*, 20 May 2009, p. 72.

control of invasive species, and developing appropriate fire and other disturbance management regimes.

Risk assessments

- risk assessments are a key approach to identify especially vulnerable species and ecosystems. Risk spreading conservation strategies, coupled with active adaptive management approaches, are an effective way to deal with an uncertain climatic future.

Reorientation of policy

- reorientation of policy and legislative frameworks, and reform of institutional and governance architecture, are essential. These actions can support novel strategies for biodiversity conservation—such as integrated regional approaches tailored for regional differences in environments, climate change impacts and socio-economic trends.¹⁴⁷

5.163 The report recommends the need to:

Reform our management of biodiversity

We need to adapt the way we manage biodiversity to meet existing and new threats—some existing policy and management tools remain effective, others need a major rethink, and new approaches need to be developed in order to enhance the resilience of our ecosystems.

Strengthen the national commitment to conserve Australia's biodiversity

Climate change has radical implications for how we think about conservation. We need wide public discussion to agree on a new national vision for Australia's biodiversity, and on the resources and institutions needed to implement it.

Invest in our life support system

We are pushing the limits of our natural life support system. Our environment has suffered low levels of capital reinvestment for decades. We must renew public and private investment in this capital.

147 *Australia's Biodiversity and Climate Change: Summary for Policy Makers 2009*, pp. 1-2. See also *Australia's Biodiversity Conservation Strategy: 2010-2020 – Consultation Draft*, Natural Resource Management Ministerial Council (2009); *National Biodiversity and Climate Change Action Plan: 2004-2007*, Natural Resource Management Ministerial Council (2004); and AJ Hobday et al, *Impacts of Climate Change on Australian Marine Life*, Australian Greenhouse Office (2006).

Build innovative and flexible governance systems

*Our current governance arrangements for conserving biodiversity are not designed to deal with the challenges of climate change. We need to build agile and innovative structures and approaches.*¹⁴⁸

- 5.164 As discussed in the previous chapter, 'biodiversity' is identified as a priority theme under the National Climate Change Adaptation Framework. In terms of biodiversity, the National Climate Change Adaptation Research Facility (NCCARF) has established adaptation research networks and host institutions for the following:
- terrestrial biodiversity, James Cook University
 - water resources and freshwater biodiversity, Griffith University
 - marine biodiversity and resources, University of Tasmania
- 5.165 These networks are currently finalising national adaptation research plans. The Committee further notes that one of the research themes of the CSIRO Adaptation Flagship is managing species and natural ecosystems, focusing on three areas:
- Predicting the responses of natural ecosystems to climate change, and developing adaptation options to improve their resilience.
 - Reducing the threats posed by invasive species, bushfires and habitat loss through development of well prioritised response strategies.
 - Incorporating climate change adaptation measures into conservation and natural resource management policies and strategies.¹⁴⁹
- 5.166 The Committee is also aware that one of the components of the 'first pass' National Coastal Vulnerability Assessment is an assessment of the impacts of climate change on biodiversity in the coastal zone.

148 *Australia's Biodiversity and Climate Change: Summary for Policy Makers 2009*, pp. 19-20.

149 CSIRO website <<http://www.csiro.au/resources/CAF-factsheet.html>>

Recommendation 33

5.167 The Committee recommends that the Australian Government:

- **work with the Natural Resource Management Ministerial Council and other stakeholders to develop an action plan to:**
 - ⇒ **ensure that coastal buffers, coastal habitat corridors and high ecological value areas are identified and included in Commonwealth, state and local government management processes**
 - ⇒ **ensure appropriate infrastructure planning and that land is made available to allow for the migration of coastal ecosystems**
 - ⇒ **promote cooperative ecosystem-based planning and management approaches across jurisdictions**
 - ⇒ **implement a nationally consistent coastal and marine biodiversity monitoring and reporting framework**
 - ⇒ **develop a targeted strategy to address key gaps in knowledge of coastal and marine biodiversity and improve access and sharing of knowledge and data**
 - ⇒ **develop regional climate change adaptation policies and plans and integrate them into coastal and marine bioregional planning processes**
- **ensure that all future national coastal zone policy incorporates these priorities, as well as future revised national sustainability, biodiversity, climate change and environmental policy frameworks**

Natural Resource Management bodies

5.168 There are 56 regional Natural Resource Management (NRM) bodies – also called Catchment Management Authorities (CMAs) – recognised by the Australian Government. Each state and territory has taken a different approach to the development of these bodies (for example, not all states have statutory NRM bodies). NRM bodies seek to:

- **scale up to catchment, landscape or regional scale;**
- **work across issues, land tenures and industries in an integrated way; and**

- bring diverse stakeholders together across both the government and community sectors to develop shared understandings and more collaborative approaches.¹⁵⁰

5.169 The Australian Government has made a commitment to provide these organisations with secure base-level funding for the first five years of the Caring for our Country program, through to 2012-13. They will 'collectively be provided with up to \$138 million in 2009-10 to achieve Caring for our Country targets within their regions'. They will also 'be required to provide investment proposals that deliver on those targets'.¹⁵¹

5.170 The Committee was interested in the role of NRM bodies in coastal zone management, although limited evidence was received in this area. Further, somewhat disappointingly, only a few NRM bodies made a submission to the inquiry.

5.171 In terms of the evidence the Committee did receive, concerns were raised that some NRM regions reflected administrative rather than ecological regions:

in Tasmania ... the NRM regions were actually based on the distribution of telephone books from the early days, even though there was in existence a contemporary and biologically valid bioregionalisation for Tasmania that would have provided a more biologically sound basis for land management practices and strategies for the state ... In other parts of Australia – for example, the Northern Territory – a single NRM covers everything from Kakadu to the middle of the desert.¹⁵²

5.172 Another concern related to a lack of coordination between some NRM bodies and local councils and involvement in state regional planning:

the whole issue of the relationship between regional bodies, CMAs and local government is quite varied across the whole country. Some of them do it very well – they have local government members actually on the CMA board and spend quite a lot of time trying to work closely with the local government partners to create integrated projects – but in a number of other cases there is a sense of some sort of competition between the different roles and

150 A Campbell, *Managing Australian Landscapes in a Changing Climate: A Climate Change Primer for Regional Natural Resource Management Bodies*, Department of Climate Change, Commonwealth of Australia, 2008, p. 14.

151 *Caring for our Country Business Plan: 2009-10*, p. 20.

152 Dr Woehler, *Birds Australia, Transcript of Evidence*, 18 August 2009, p. 8.

responsibilities of the bodies. There is certainly room for improvement there.¹⁵³

there is probably potential there for better integration between NRM and council in sharing resources and perhaps delineating responsibilities as a way to get better value out of the system. At the moment it is very rare to see a council officer who liaises regularly with their NRM counterpart.¹⁵⁴

- 5.173 A lack of focus on coastal and marine issues by some NRM bodies was a further concern:

We have eight NRM boards in South Australia, of which seven have coast, and there is an exceptionally limited understanding. Some of the members on these boards did not even realise that they had any responsibility at all when it came to coastal areas, yet they do.¹⁵⁵

Unfortunately generally across the board we have not really had that integration between catchment, coast and marine. Catchment management authorities in theory should be able to deal with that but generally they have not had the expertise to deal with coastal marine issues. Generally their policies and planning have been largely based around catchments.¹⁵⁶

- 5.174 However, the Southern Rivers Catchment Management Authority noted that its catchment action plan for the region included 'targets for coastal and marine'. It also had a coastal and marine program in place to 'protect and improve the health of coastal, estuarine and marine environments on the NSW south coast', with this program having strong linkages to its other programs on biodiversity, water, soil and land, and community partnerships.¹⁵⁷ The Tasmanian Government also commented that the 'three NRM Regions in the State ... have invested in a number of initiatives that have provided better knowledge and understanding of processes influencing the coastal zone'.¹⁵⁸

153 Ms Rankin, DEWHA, *Transcript of Evidence*, 18 June 2009, p. 14.

154 Professor Tomlinson, *Transcript of Evidence*, 28 April 2009, p. 47.

155 Ms Pettett, Conservation Council SA, *Transcript of Evidence*, 8 October 2009, p. 44.

156 Mr Smyth, ACF, *Transcript of Evidence*, 25 March 2009, p. 48.

157 Southern Rivers Catchment Management Authority, *Submission 52*, p. 1.

158 Tasmanian Government, *Submission 93*, p. 1.

Recommendation 34

- 5.175 **The Committee recommends that coastal based Natural Resource Management bodies seeking funding under the Caring for our Country program have coastal and marine priorities, as well as coastal zone management principles integrated in their management plans.**

Socioeconomic issues related to the coastal zone

- 5.176 The growth in population along the Australian coastline and resulting intensification of land use is increasing pressure on both the natural and socioeconomic environment.¹⁵⁹

- 5.177 Socioeconomic issues with regard to the coastal zone also take in cultural values and heritage concerns. The strong message in a number of submissions to the inquiry was a desire to retain the cultural values of coastal communities – to preserve local character and sense of place. This was often a major reason why people had settled there in the first place. Those giving evidence to the inquiry also emphasised the need to further investigate the impacts of climate change on cultural heritage. As the Tasmanian Government noted:

Rising sea levels as a result of climate change are likely to have significant impacts on Aboriginal heritage and sacred sites which are often located in coastal areas, Stone arrangements, pits, pathways, shell middens and walls are frequently found in coastal areas or beside estuaries, Rock shelters, caves and engravings may also be threatened by rising sea levels. Coastal erosion may reduce access to Aboriginal heritage sites.¹⁶⁰

- 5.178 Similarly, the Gippsland Coastal Board commented:

our coastal region is not alone in containing a great number of indigenous and non-indigenous cultural assets that need to be protected from the combined threats of sea level rise, erosion and

159 The concept of the 'environment' is commonly understood to refer to the natural environment but may also take in the social and economic environment.

160 Tasmanian Government, *Submission 93*, p. 3.

storms. Please consider how we are going to identify, protect, and, if necessary, relocate these valuable parts of Australia's heritage.¹⁶¹

- 5.179 Manly Council recommended that funding be made available to 'identify Aboriginal Heritage sites at risk of climate change on the coastal zone, and to identify conservation measures in response'.¹⁶²

Recommendation 35

- 5.180 **The Committee recommends that the Australian Government, in consultation with Indigenous Australians and other coastal stakeholders, commission work to provide a national repository identifying Indigenous and non-Indigenous cultural heritage sites in vulnerable coastal areas.**

National Sea Change Taskforce

- 5.181 The National Sea Change Taskforce (NSCT) has a particular interest in socioeconomic issues relating to the coastal zone, as well as pressures on coastal ecosystems. This reflects the group's broader interest in ecological sustainable development and promoting sustainable coastal communities.
- 5.182 The NSCT was established in 2004 as a national body to represent the interests of coastal councils and communities experiencing the effects of rapid growth and development. The taskforce has 'more than 68 member councils from around Australia', which collectively 'represent more than four million residents'.¹⁶³ The NSCT has initiated several significant studies on Australian coastal communities of relevance to this inquiry:
- N Gurrán et al, *Planning for Climate Change: Leading Practice Principles and Models for Sea Change Communities in Coastal Australia* (2008)¹⁶⁴
 - 'A policy framework for coastal Australia: discussion paper' (2007)¹⁶⁵

161 Gippsland Coastal Council, *Submission 38a*, p. 2.

162 Manly Council, *Submission 72*, p. 9.

163 NSCT website accessed 26 August 2009
<<http://www.seachangetaskforce.org.au/Home.html>>

164 N Gurrán et al, *Planning for Climate Change: Leading Practice Principles and Models for Sea Change Communities in Coastal Australia* (Report No. 3 for the NSCT), University of Sydney, 2008 – Exhibit 21.

165 NSCT, 'A policy framework for coastal Australia: discussion paper', 2007, NSCT website accessed 26 August 2009
<<http://www.seachangetaskforce.org.au/Publications/Draft%20Policy%20Framework-May%202007.pdf>>

- *Coastal Management in Australia: Key Institutional and Governance Issues for Coastal Natural Resource Management and Planning* (2006)¹⁶⁶
- *Meeting the Sea Change Challenge: Best Practice Models of Local and Regional Planning for Sea Change Communities* (2006)¹⁶⁷
- *Meeting the Sea Change Challenge: Sea Change Communities in Coastal Australia* (2005)¹⁶⁸
- *Managing Sea Change: The Challenge of Growth* (2004)¹⁶⁹

5.183 The NSCT emphasised the need for a coordinated national approach to coastal zone management that encompasses not just environmental issues but also socioeconomic issues affecting coastal areas:

Commonwealth, State and local policy and planning instruments addressing the sea change phenomenon focus on biophysical aspects, particularly environmental protection and to a lesser degree, settlement structure and urban design. Social issues, such as building community cohesion, catering to the needs of aging populations, or housing affordability, are not well addressed within the scope of current policy or planning instruments.

Similarly, although some planning instruments aim to preserve agricultural land or to provide for tourism development, economic goals are not well-articulated or integrated within coastal policy and planning frameworks (though some of the local plans examined do contain economic objectives and strategies).

This failure to integrate social and economic objectives and strategies within coastal policies and the land use plans applying to coastal areas reflects broader difficulties associated with achieving the spectrum of sustainability goals. Given the evidence of social and economic disadvantage in sea change localities, and the likelihood that such disadvantage will continue without effective interventions, broadening coastal policy and planning

166 *Coastal Management in Australia: Key Institutional and Governance Issues for Coastal Natural Resource Management and Planning*, N Lazarow et al, eds, CRC for Coastal Zone, Estuary and Waterway Management, supported by the ANU and the NSCT, 2006 – *Exhibit 10*.

167 N Gurrán et al, *Meeting the Sea Change Challenge: Best Practice Models of Local and Regional Planning for Sea Change Communities* (Report No. 2 for the NSCT), University of Sydney Planning Research Centre, 2006 – *Exhibit 20*.

168 N Gurrán et al, *Meeting the Sea Change Challenge: Sea Change Communities in Coastal Australia* (Report No. 1 for the NSCT), University of Sydney Planning Research Centre, 2005 – *Exhibit 19*.

169 NSCT, *Managing Sea Change: The Challenge of Growth*, 2004.

processes to properly include social and economic dimensions is a priority.¹⁷⁰

5.184 The NSCT further pointed out that:

non-metropolitan coastal communities are often characterised by lower incomes, higher unemployment levels and a higher level of socio-economic disadvantage than the Australian population as a whole. Non metropolitan coastal areas also have a higher proportion of families receiving income support benefits. Coastal councils and their communities are at the forefront of Australia's ageing population and its impacts.¹⁷¹

5.185 This has serious implications for coastal councils in terms of their resources:

Local Government Authorities in coastal areas do not have the resources necessary to meet the increase in demand for community infrastructure and services required to meet the needs of an ageing population.¹⁷²

5.186 Importantly, as the NSCT further noted, the social profile of non-metropolitan coastal communities also 'compounds their susceptibility to the environmental and economic consequences of climate change':

non-metropolitan coastal areas are exposed to the cumulative effects of physical exposure, higher levels of social disadvantage and reduced capacity to adapt to climate risk.¹⁷³

5.187 This has consequences for those in temporary housing such as caravans and manufactured homes, which are at particular risk in the event of a major natural disaster. Such accommodation forms an 'important source of housing for low income Australians and retirees, particularly along the coast'.¹⁷⁴ Without proper insurance or ownership of land there is a high likelihood that tenants will face long term displacement in the event of a disaster.

5.188 The Department of Families, Housing, Community Services and Indigenous Affairs also noted that the impacts of climate change will 'negatively affect communities, households, and individuals, particularly

170 NSCT, *Submission 79*, pp. 11-12.

171 NSCT, *Submission 79*, p. 4.

172 NSCT, *Submission 79*, p. 27.

173 NSCT, *Submission 79*, p. 4.

174 NSCT, *Submission 79*, p. 21.

those with low incomes' and that these issues are 'particularly acute for coastal communities'.¹⁷⁵

- 5.189 In its submission, the NSCT recommended that 'further research on understanding and responding to social vulnerability to climate change impacts be undertaken, with priority assistance given to coastal areas where physical exposure, socio-economic disadvantage, and population instability coincide'.¹⁷⁶ The Committee agrees that such research is essential.

Recommendation 36

- 5.190 **The Committee recommends that the Australian Government urgently commission further research on socioeconomic vulnerability to climate change impacts, particularly in coastal communities.**
- 5.191 The NSCT also noted that the current national coastal policy framework, as set out in the *National Cooperative Approach to Integrated Coastal Zone Management: Framework and Implementation Plan*, needed to take a much broader approach to 'social and economic issues related to the coastal zone'.¹⁷⁷
- 5.192 The NSCT concluded that a broader approach to national coastal zone management needed to address five key challenges facing coastal councils and their communities: infrastructure, environment and heritage, community wellbeing, economy and tourism, and governance.¹⁷⁸ The Committee agrees that the principles of ESD and ICZM underpinning Australian coastal policy necessitate a broader approach to coastal zone management encompassing environmental, social and economic dimensions. This issue is further discussed in Chapter 6.

National sustainability policies and programs relating to coastal communities

- 5.193 A number of major Australian Government initiatives are currently underway that seek to promote sustainable communities more broadly.

175 Department of Families, Housing, Community Services and Indigenous Affairs, *Submission 99*, p. 3.

176 NSCT, *Submission 79*, p. 25.

177 NSCT, *Submission 79*, p. 4.

178 NSCT, *Submission 79*, pp. 10-11.

These initiatives cross several portfolios. For example, the Committee notes that the Department of Climate Change,¹⁷⁹ Department of the Environment, Water, Heritage and the Arts,¹⁸⁰ Department of Infrastructure, Transport, Regional Development and Local Government, Department of Innovation, Industry, Science and Research, and Department of Resources, Energy and Tourism administer a number of major programs that seek to encourage energy, water, building and transport efficiency and to promote sustainability in these sectors across all regions of Australia.

- 5.194 Other possible initiatives to encourage energy efficiency, particularly in the coastal zone, as suggested in evidence to the Committee included using wave and tidal power:

Waves are a powerful source of energy to power turbines, to produce clean renewable energy technology. Just two turbines, located well offshore on the ocean floor, could generate enough electricity to supply 10,000 coastal homes.¹⁸¹

- 5.195 While the Committee notes the significance of these initiatives in promoting sustainable coastal communities, a discussion of these broader initiatives is outside the inquiry terms of reference. Instead, the Committee's particular area of interest was in sustainability initiatives in the planning and settlement area, as this is a significant issue for the coastal zone. The Committee points to three key national initiatives in this area:

- the establishment of the Major Cities Unit in April 2008 within the Infrastructure, Transport, Regional Development and Local Government portfolio and development of a National Urban Policy:

The Major Cities Unit has been established to identify opportunities where federal leadership can make a difference to the prosperity of our cities and the wellbeing of their residents.

179 See, for example, the Renewable Energy Target scheme, and National Greenhouse and Energy Reporting legislation <<http://www.climatechange.gov.au/renewabletarget/index.html>> and <<http://www.climatechange.gov.au/reporting/index.html>>

180 See, for example, the Water for the Future program and the LivingGreener website <<http://www.environment.gov.au/water/index.html>> and <<http://www.livinggreener.gov.au>> See also a list of programs administered by DEWHA aimed at making Australian homes and communities more sustainable, *Submission 103*, p. 9, and *Living Sustainably: The Australian Government's National Action Plan for Education for Sustainability*, DEWHA, 2009.

181 Coastwatchers Association, *Submission 33*, p. 6.

The issues surrounding the infrastructure and governance of our major cities are complex and require the input of Local, State and Federal government, the integration of services and infrastructure bodies, and industry and community participation. The Unit will provide a more coordinated and integrated approach to the planning and infrastructure needs of major cities.

The unit aims to develop and implement specific, measurable outcomes to improve the environmental sustainability, liveability and productivity of the major cities of Australia.

The Major Cities Unit will work hand in hand with Infrastructure Australia, the new body charged with prioritising billions of dollars of investment in infrastructure around the nation. It will be central to the development of a strong relationship across the Commonwealth Government, all levels of government and the private sector.¹⁸²

- the establishment of the Built Environment Industry and Innovation Council (BEIIC) in September 2008:

The BEIIC acts as an advisory body to the Minister for Innovation, Industry, Science and Research and as an innovation advocate for the industry. The Council considers industry innovation challenges like climate change, sustainability and industry competitiveness as well as issues such as regulatory reform, workforce capability, skills needs, access to new technologies and other priorities for the industry.¹⁸³

- the establishment of 'sustainable cities and coasts' as a key research theme of the CSIRO Adaptation Flagship. The research focus in this area includes:
 - New building and infrastructure design, and adaptation of built infrastructure at building, development and urban system scales.
 - Developing exemplar sustainable urban development projects to promote the uptake of climate adaptation knowledge for integrated urban planning, design and development.

182 Infrastructure Australia website accessed 25 August 2009
<<http://www.infrastructureaustralia.gov.au/mcu.aspx>>

183 DITRD LG website accessed 25 August 2009
<<http://www.innovation.gov.au/Section/Industry/Pages/BuiltEnvironmentIndustryInnovationCouncil.aspx>>

- Integration of social, economic and environmental analyses to assist communities, industry and governments to adapt to the impacts of climate change at regional scales.¹⁸⁴

5.196 The Committee is aware that COAG, supported by the Local Government and Planning Ministers Council, is also undertaking important initiatives in this area, including the National Strategy for Energy Efficiency¹⁸⁵ and National Partnership Agreement on Energy Efficiency.¹⁸⁶ In April 2009, COAG further agreed to:

establish a Taskforce to examine existing strategic planning frameworks within jurisdictions to ensure they support the ongoing integration of state and national infrastructure in major metropolitan cities with land-use planning and urban development.¹⁸⁷

5.197 Similarly, the newly formed Australian Council of Local Governments is focusing on 'sustainable development through effective town planning including improved building and urban design'.¹⁸⁸

Building sustainable coastal communities

5.198 In 2005, the former House of Representatives Standing Committee on Environment and Heritage conducted an inquiry into:

issues and policies related to the development of sustainable cities to the year 2025, particularly:

- The environmental and social impacts of sprawling urban development;
- The major determinants of urban settlement patterns and desirable patterns of development for the growth of Australian cities;

184 CSIRO website accessed 25 August 2009 <<http://www.csiro.au/resources/CAF-factsheet.html>>

185 COAG meeting, Hobart, 30 April 2009, 'Communique', p. 7 <http://www.coag.gov.au/coag_meeting_outcomes/2009-04-30/docs/20090430_communique.pdf>

186 COAG meeting, Darwin, 2 July 2009, 'Communique', p. 10 <http://www.coag.gov.au/coag_meeting_outcomes/2009-07-02/docs/20090702_communique.pdf>

187 COAG meeting, Hobart, 30 April 2009, 'Communique', p. 10 <http://www.coag.gov.au/coag_meeting_outcomes/2009-04-30/docs/20090430_communique.pdf>

188 ACLG, 'Session outcomes', 18 November 2008, p. 2 <http://www.aclg.gov.au/media_centre/session_outcomes.aspx>

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- A blueprint for ecologically sustainable patterns of settlement, with particular reference to eco-efficiency and equity in the provision of services and infrastructure;
 - Measures to reduce the environmental, social and economic costs of continuing urban expansion; and
 - Mechanisms for the Commonwealth to bring about urban development reform and promote ecologically sustainable patterns of settlement.¹⁸⁹
- 5.199 In its report of the inquiry, entitled *Sustainable Cities*, tabled in August 2005, the Committee recommended that the Australian Government:
- establish an Australian Sustainability Charter that sets key national targets across a number of areas, including water, transport, energy, building design and planning.
 - encourage a Council of Australian Governments agreement to the charter and its key targets.¹⁹⁰
- 5.200 (The Committee's 2007 report, *Sustainability for Survival: Creating a Climate for Change – Inquiry into a Sustainability Charter*, provided further details on the implementation of such a charter.¹⁹¹)
- 5.201 At the time of report printing, the Committee had not received a response from the current government (nor the previous government) to either of these reports. However, the Committee notes that major Australian Government initiatives in this area to promote ecologically sustainable patterns of settlement, as discussed above, have been established since the tabling of these reports.
- 5.202 The Australia 2020 Summit also proposed the establishment of a Sustainability Commission and national sustainability reform agenda. The Australian Government's response to this proposal was that:
- The Government is currently considering options for a Sustainability Council/Commission for aspects of environmental sustainability that are influenced by Commonwealth legislation, policy or programs.¹⁹²
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189 House of Representatives Standing Committee on Environment and Heritage, *Sustainable Cities*, Commonwealth of Australia, 2005.

190 House of Representatives Standing Committee on Environment and Heritage, *Sustainable Cities*, p. 31.

191 House of Representatives Standing Committee on Environment and Heritage, *Sustainability for Survival: Creating a Climate for Change – Inquiry into a Sustainability Charter*, Commonwealth of Australia, 2007.

192 *Responding to the Australia 2020 Summit*, Commonwealth of Australia, 2009, p. 77.

- 5.203 The Committee acknowledges that the issue of a national sustainability charter is much broader than the terms of reference for this inquiry, which concerns sustainable coastal communities. However, it still sees merit in an overall national sustainability framework and Australian Sustainability Charter, as recommended in earlier reports.
- 5.204 The Committee commends the Victorian Government's *Victorian Coastal Strategy 2008* as providing an excellent model for the characteristics of a 'sustainable coastal community':¹⁹³

A sustainable coastal community is one which encourages:

Social and cultural wellbeing

- a sense of community and valued lifestyle even in communities where many residents are not permanent ...
- use and maintenance of heritage places and protection and celebration of significant cultural heritage sites
- high quality coastal public infrastructure which is well designed, maintained and used as a community asset throughout the year ...

Economic activity

- a healthy, diverse economy supporting the requirements of local, regional and visitor populations ...
- innovative tourism, business and rural activities that demonstrate sustainability practices and do not compromise the integrity and diversity of natural assets
- public or community transport designed to meet local and regional needs and to support links between coastal towns, regional centres and key tourism sites ...

Appropriate development

- consolidated urban development within settlements that have capacity for growth and the protection of non-urban landscapes between settlements
- building design and development that minimises the impact on natural ecosystems, landscapes and native flora and fauna
- building design and development that is sensitive and responsive to the coastal character of the settlement and significant landscapes, features and values
- development that is set back from the coast and low-lying areas to accommodate coastal features, vegetation and climate change risks and impacts

193 Victorian Coastal Council, *Victorian Coastal Strategy 2008*, Victorian Government, 2008—*Exhibit 167*.

- environmentally sensitive design in residential development and subdivision that seeks to minimise the development impact and footprint ...

Environment protection and conservation

- the protection and conservation of significant natural and cultural features and values
- the maintenance and enhancement of biodiversity to deliver healthier waterways and coastal, estuarine and marine environments¹⁹⁴

5.205 The *Victorian Coastal Strategy 2008* also sets out a policy framework and detailed actions for promoting sustainable coastal communities. The Committee believes that these action items provide an excellent reference point for other jurisdictions in seeking to build sustainable coastal communities – see Figure 5.4.

5.206 Of interest too is the National Sea Change Taskforce's 'Sea Change Sustainability Charter', which sets the following guiding principles and strategies:

Guiding Principles

- develop innovative and best practice strategic planning at regional and local levels
- preserve local character and sense of place
- provide for the timely provision of resources to meet the needs of high growth communities for infrastructure and services
- integrate coastal management and conservation objectives with economic development
- support community wellbeing
- ensure community ownership and participation in key planning decisions affecting the coast

Strategies

- commitment of all spheres of government
- focus on sustainability
- inclusive governance structures
- coordinated approach¹⁹⁵

194 Victorian Coastal Council, *Victorian Coastal Strategy 2008*, pp. 59-60 – *Exhibit 167*.

195 NSCT, 'A policy framework for coastal Australia: discussion paper', 2007, pp. 15-16, NSCT website accessed 26 August 2009
<<http://www.seachangetaskforce.org.au/Publications/Draft%20Policy%20Framework-May%202007.pdf>>

Figure 5.4 Actions to promote sustainable coastal communities

- a Incorporate settlement boundaries into planning schemes by 2010.
- b Investigate options to reduce economic, environmental and social impacts of old and inappropriate subdivisions along the coast which are environmentally vulnerable and pose fire and health risks.
- c Identify mechanisms and strategies to strengthen community resilience and social cohesion and to preserve a sense of place, particularly within communities experiencing rapid change due to the sea change phenomenon.
- d Encourage economic development research targeted to the specific needs of small- to medium sized communities situated within highly sensitive environmental contexts.
- e Develop a planning research program to investigate and provide information to planners and managers on the following issues:
 - impacts and implications of population growth and seasonally fluctuating population levels on: short and longer term planning and management strategies and the carrying capacity of coastal Crown land and the broader coastal environmental
 - the impacts of sea change communities, ageing coastal populations and the implication for service delivery and infrastructure as part of a review and refinement of the coastal settlement framework
 - land tenure and changes in property ownership and development patterns to determine and better understand the trends in coastal settlement growth dynamics
 - residential land availability and demand, particularly in settlements with high spatial growth capacity within 1.5 hours of Melbourne
 - the predicted impacts of climate change on built coastal environments, including economic and social implications.
- f. Review the siting and design guidelines for structures on the Victorian coast (VCC, 1998) to provide a product that promotes environmentally sensitive design, sympathetic to coastal locations, which address the following:
 - incorporating energy and materials efficiency and water-sensitive urban design techniques, including solar access, natural light and ventilation, use of local materials and services, rainwater capture and water recycling
 - coastal character and the appropriateness of new built form for the existing sense of place • protecting significant views of waterways and from waterways
 - the coastal environment and coastal landscapes as a dominant setting
 - the spaces around buildings and maintaining the coastal landscape between towns along the coast, avoiding 'ribbon' development
 - continuity of the built and natural public realms
 - effects of extreme coastal weather on the built environment and outdoor spaces
 - effects of different use-patterns and seasonal occupation.

Source Victorian Coastal Council, Victorian Coastal Strategy 2008, Victorian Government, 2008, p. 61—Exhibit 167

Recommendation 37

5.207 The Committee recommends that the Australian Government:

- consider the Victorian Government's model of a sustainable coastal community as part of the proposed Intergovernmental Agreement on the Coastal Zone to be concluded through the Council of Australian Governments
- ensure an early response to the recommendations provided in the *Sustainability for Survival: Creating a Climate for Change – Inquiry into a Sustainability Charter* report and the *Sustainable Cities* report

