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INQUIRY INTO AUSTRALIA'S BIODIVERSITY IN A CHANGING CLIMATE

The Australian Coastal Society (ACS) provides the House Standing Committee on Climate Change, Environment and the Arts with a Submission to the Inquiry into Australia's biodiversity in a changing climate. The Executive Summary of our submission is at **Attachment 1** and the list of our Recommendations to the Inquiry is at **Attachment 2**.

AN INTRODUCTION TO THE AUSTRALIAN COASTAL SOCIETY (ACS)

The ACS has been established to:

- promote knowledge and understanding of the environmental, social and economic value of the Australian coast,
- provide a forum for the exchange of ideas and knowledge among people involved in the management, planning and development of the Australian coast,
- contribute to international, national, state and local debates on coastal issues so as to foster rational, open decision-making in order to achieve sustainable use of coastal resources and responsible stewardship of coastal assets,
- improve public, government and industry understanding of the value of the Australian coast for individual and social well being, the need to maintain and improve coastal ecosystems, and to ensure the use of ecologically sustainable development practices,
- promote the protection and conservation of sites of environmental and cultural significance on the coast and in coastal waters,
- facilitate increased knowledge and skills of people working and studying in coastal natural resource management, planning, development and other relevant industries along the Australian coast,
- serve as a link between various Australian organisations and individuals with interests in the Australian coast,
- support national, state and local coastal conferences, and
- do all things necessary for and incidental to the advancement of those objects.

The Australian Coastal Society has representatives in the following organisations and committees:

- The Coasts and Climate Change Council,
- The Australian Coastal Alliance
- The Coast to Coast national conference organising committee.

Further details on the Society and its activities are available at <http://australiancoastsociety.org/>

Throughout this submission, we have made use of birds for two reasons: one is that they are a highly

visible element of biodiversity, and the second is that they provide a proxy for ecosystem health. Birds are typically apex predators (ie top of the food chain), and thus provide an integrated signal on the state of health of their surrounds. In general, if there is no food available, there are no birds. The absence of food is a signal for low biodiversity. Similarly, if there is no nesting habitat available, there will be few resident bird species (all else being equal). The absence of nesting habitat is a signal for low biodiversity. Birds are recognised as providing an 'early-warning' signal from our environments around the globe by governments, non-government organisations and the community.

Birds have been long recognised internationally as excellent environmental monitors or bio-indicators. They provide signals of environmental changes (including changes in biodiversity) from a wide range of impacts and now are increasingly being used as indicators of climate change elsewhere in the world. Changes in numbers, changes in distributions, changes in breeding season events and migration are all now recognised and used internationally as biological signals from birds about the state of the environment. Some of these types of signals are available in Australia as shown by long-term data sets and extensive surveys. Decreases in species abundances contribute to losses in biodiversity, and these signals are being seen in Australia.

All of the species mentioned or described in this submission are listed marine and/or migratory and/or threatened species under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*, with various listings under State legislations. Importantly, many species are also listed with elevated conservation status in recent IUCN Red List assessments (where elevated equates to increased vulnerability, threatened or endangered status).

Coastal birds provide valuable information on the state of health of coastal ecosystems; seabirds provide similar information about the marine environment; and waterfowl are useful indicators of wetlands. Recent reports of massive decreases in shorebirds in Australia are clear signals that their numbers and their ranges are decreasing at catastrophic rates throughout much of Australia, with few exceptions (where data are available) – we are losing species, losing biodiversity and losing bird habitats. Very few long-term data sets indicate increasing numbers of marine birds, shorebirds or waterfowl.

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 coastal feeding and nesting habitats.

A comprehensive and unified approach to coastal management is essential to mitigate the predicted impacts of climate change, particularly sea-level rise, on Australia's coastal environment. This would produce a holistic, whole of Government approach to managing Australia's coastal environment, the threats and ensuring the conservation of coastal values.

It is critical that coastal management across all levels of government and society are integrated and should be adopted by both State and Local Governments in their strategic responses to climate change. Adopting a proactive, integrated response now will save the State and Federal Governments substantial investment in funding reactive responses to mitigate climate change impacts.

The Australian Government's responses to climate change and particularly coastal issues need to acknowledge and incorporate the significant contributions birds make to Australia. Failure to do so will see some of Australia's remarkable birds follow the example of the Tasmanian Tiger – a situation that is indefensible to future generations of Australians and to the global community.

The ACS proposes that the Australia's coastal environment be declared as a **nationally important ecosystem (NIE)**. Given the wide spectrum of threats working in concert against Australia's coastal environment and associated biodiversity, predicted sea level rises and further human encroachment of coastal habitats, the entire coastal environment will be under greater threat, and designation as a

NIE under the *EPBC Act 1999* would oblige greater efforts by Local, State/Territory and Australian Governments to work for its conservation, including its biodiversity.

Under separate cover, we will provide the Inquiry with a CD of recent scientific studies on the impacts associated with sea-level rise on coastal ecosystems, including biodiversity. The collection of studies also includes studies on the efficacy of various approaches to coastal management. We believe that these scientific studies will be of use to the Inquiry in its investigations on the impacts of climate change on Australia's biodiversity.

Thank you for considering the details identified in this submission. The ACS would welcome the opportunity to provide additional information, scientific papers and analyses in support of statements made herein. We are also happy to discuss any aspect of this submission or to clarify any issues raised in this submission.

Yours sincerely,

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Executive Summary

**House Standing Committee on Climate Change, Environment and the Arts
Inquiry into Australia's biodiversity in a changing climate**

The Australian coastal margin, and the species that depend on an intact, functioning coastal ecosystem are now in a worse condition than they were just a decade ago – there are fewer species 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.

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 biodiversity. 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.

The predicted impacts of climate change in particular sea level rise and resulting loss of coastal margins, especially sandy beaches, initially over the next 50 to 100 years and continuing beyond then, will compound existing conservation issues, and almost certainly result in the loss of numerous coastal species. With no alternative habitats available, these species will be rapidly extirpated and potentially pushed towards extinction.

The ACS believes that the Australian coast should be formally recognised as an **ecosystem of national significance** under the *EPBC Act 1999*, as suggested by the review of the Act. This will address the threats to the coast, the potential loss of biodiversity, and work to conserve the ecosystem services and functions provided by the coastal ecosystems. Formal recognition will not in itself solve the problem, but will ensure greater recognition of the critical habitats present on the coast, and the species that are dependent upon these habitats and ecosystems remaining intact and fully functional.

Hereafter, we make a number of comments against a subset of the Terms of Reference (ToR). The complete Terms of Reference are at [Appendix 1](#).

- TOR 1: Terrestrial, marine and freshwater biodiversity in Australia and its territories, and
- TOR 2: Connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation.

COASTAL MANAGEMENT

The Australian coast is ecotone – a transition zone between the terrestrial and the marine environments. It faces pressures and threats from both the land and from the sea, yet the coast is typically overlooked in management and conservation efforts. This transition zone shares properties and species, contributing to a wide range of ecosystem services such as nutrient cycling, species' nurseries, refugia for species and food production. *In toto*, ecosystem services from coasts and wetlands have been valued amongst the highest economic values per unit area in global assessments of ecosystem services from natural systems (eg Costanza *et al.* 1997 Nature 387, 253-258).

Despite these high values, current management and conservation efforts rarely recognise the inter-connectivity of the coast and the need to explicitly recognise that anthropogenic influences extend beyond human-defined management zones. The lines that managers or agencies draw on maps for managing the Australian landscape typically have little or no relevance to the biological and physical processes in the environment, as the lines are more related to the convenience and capacity to implement activities on the ground, rather than explicitly incorporating ecosystem-scale processes.

Many communities fail to recognise the high level of ecosystem services provided by coasts, instead increasing pressures on these services by the fragmentation of coastal environments and thereby increasing the threat of species loss and decreased biodiversity at local, regional or larger scales.

BIRDS AS INDICATORS OF ENVIRONMENTAL AND ECOSYSTEM HEALTH

Long recognised internationally as excellent environmental monitors or bio-indicators, birds provide signals of environmental changes, including those from climate change. Changes in numbers, changes in distributions, changes in breeding season events (phenology) and migration are all now recognised and used internationally as biological signals from the environment. Some of these types of signals are available in Australia, despite the relatively limited long-term data sets compared to elsewhere on the planet.

Coastal birds provide information on the state of health of coastal ecosystems; seabirds about the marine environment; and waterfowl are useful indicators of wetlands. Recent reports of massive decreases in waterfowl and shorebirds in Australia are clear signals that their numbers and their ranges are decreasing at catastrophic rates throughout much of Australia, with few exceptions (where data are available) – Australia is losing its species, losing its biodiversity and losing their habitats. Very few long-term data sets indicate increasing numbers of marine birds, shorebirds or waterfowl.

CURRENT TRENDS IN DECREASING NUMBERS OF COASTAL BIRDS

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. *In toto*, there has been a rapid and accelerating fragmentation of coastal ecosystems around much of Australia.

AUSTRALIA'S COASTAL 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. At present, approximately 90% of Australia's population live within 100km of the coast – we are a coastal society, and have long considered the coast as one component of our life-style. The ever-increasing 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, result in a severely impacted coastal margin, with many areas beyond rehabilitation and restoration. These impacted areas provide an indication of future conditions unless the coastal margin is appropriately managed and its biodiversity conserved.

The predicted impacts of climate change, in particular sea level rise and resulting loss of coastal margins especially sandy beaches, over the next 50 to 100 years, will compound existing conservation issues, and almost certainly result in the loss of numerous species of coastal shorebirds and seabirds. The predicted sea level rise will permanently flood existing nesting, roosting and foraging habitats for these species. With no alternative habitats available, these species will be rapidly extirpated and potentially pushed towards extinction.

The threats to coastal nesting birds will also adversely affect nesting turtles throughout Australia. Turtles bury their eggs in beach sands above the high-tide line. Continued fragmentation and alienation of nesting habitat arising from human activities, and the erosion of sandy beaches from sea-level rise, storms and extreme events will reduce or, at worst, eliminate suitable nesting habitat for turtles, threatening these species with extinction. The extirpation or extinction of any species reduces the biodiversity at local, regional and continental scales, and is unacceptable in the 21st Century.

Recommendation 1: The Australian coast must be recognised as critical habitat for coastal species and managed appropriately in an integrated manner, recognising its crucial and fundamental role as an ecotone and the critical ecosystem services provided.

Recommendation 2: Increased support is required to collect and analyse long-term (decadal scale) data sets in Australia. The depauperate suite of available data hinders understanding and predictive capacity to identify threats and likely future trends. Long-term data sets (physical and biological) are fundamental to understanding the full spectrum of threats arising from climate change on Australia's biodiversity.

- **TOR 4: Strategies to enhance climate change adaptation, including promoting resilience in ecosystems and human communities, and**
- **TOR 5: Mechanisms to promote the sustainable use of natural resources and ecosystem services in a changing climate.**

FRAGMENTATION

The ever-increasing fragmentation of habitats and the ever-widening spectrum pressure on species raises concerns as to the capacity of Australia's ecosystems to maintain their services and functions into the future. This loss of services and function as a result of human activities introduces uncertainty as to the resilience of Australia's ecosystems and their capacity to recover if given the opportunity. How ecosystems will respond to the threat of climate change and the interactions between existing threats and the contribution of climate change is presently unknown, but we may reasonably assume the outcomes will be significant and likely adverse.

Fragmentation has been identified as the single greatest contributing factor to the loss of Australia's biodiversity (eg *Australian Terrestrial Biodiversity Assessment 2002*, *Australia's Biodiversity Conservation Strategy 2010 - 2030*). As Australia's human population increases, and as the range of human activities increases in concert, so will the fragmentation of remaining habitats in the

Australian landscape. Efforts must be made to reduce habitat fragmentation and the resultant loss of species, ecosystem services and functions if there is any hope of maintaining ecosystems' resilience in the face of the novel threats associated with climate change.

Pressures on Australia's coasts will only increase as our population increases and sea-level rise encroaches on our coastal margin. The result can be predicted to be increased loss of coastal biodiversity.

MISSING DATA AND THE POTENTIAL FOR COMMUNITY CONTRIBUTION

Monitoring should no longer be dismissed as second-class science. Many current data sets are hopelessly inadequate, with too few data collected at insufficient temporal frequency and at too coarse spatial scales to provide the data required for predictive models or to assess past changes. Current data sets will fail future generations of Australians unless there is a marked improvement in their collection and the value placed on these data sets. Long-term data sets spanning decades or longer provide the crucial framework for short-term studies while providing guidance to government and land managers for on-ground activities and conservation strategies. Sadly, these long-term biological data are all but missing in Australia.

There is an urgent need for a long-term commitment to identify and collect the basic data that are required to guide and inform governments and communities into the future, not just for climate change, but also for all environmental issues. Monitoring should not be seen as second-class science. The commitment for data collection must become core government business to ensure future conservation and management policies are based on reliable science-driven information. If this does not happen, Australia's biodiversity is at serious risk.

Under appropriate guidance and instruction, communities can contribute data useful for a number of reasons – potentially even State of the Environment reporting. Members of community groups with sufficient resources and capacity can achieve scientifically valid data from their monitoring efforts. However, governments need to establish and support monitoring efforts, both within government and by community groups and individuals. Long-term biological data sets are rare in Australia, and promoting their collection by communities under appropriate direction and instruction will increase the data available in the future while increasing the involvement of the Australian community, and enhancing the transparency of decision-making processes.

SUSTAINABLE USE?

It will be important to clearly define what is intended by "*sustainable use of natural resources and ecosystem services*" if this phrase is to have meaning. This will require clear pre-defined criteria for implementation of sustainable policies and practices that are capable of assessment of effective progress over time. By what criteria will 'sustainability' be measured? What benchmarks will be used? Over what time period (years, decades, centuries?) will 'sustainability' be required?

The considerable gap in long-term biological data sets will hinder all but a few efforts to establish causal relationships between pressures and the environment. What mechanisms can be used to separate natural variability and environmental change from anthropogenically-induced pressures and activities? Currently, we don't have the broad suite of biological data to make scientifically valid and sound decisions regarding appropriate adaptation to climate change.

The increasing spectrum of threats adversely affecting coastal birds arises largely from the social fabric of the Australian community. The observed long term decreases in long-lived coastal birds indicate a crisis situation in the conservation of coastal birds and in the conservation and management of the Australian coastal zone.

There is no 'sustainability' in current planning or management in the coastal areas of Australia. There is no pro-active approach to minimise environmental harm and conserve biodiversity. Where

is the *Australian Biodiversity Strategy 2010 – 2020* in the mix of planning and management for the coastal areas of Australia? With Australia's population predicted to increase to between 28 and 40 million people by 2050, there is no strategic approach to accommodating this population, the infrastructure or the resultant increase in the pressures faced by the Australian coastal zone. It is very easy to predict further habitat fragmentation and a concomitant decrease in biodiversity, by whatever metric is used, into the future.

There is a basic lack of recognition of the importance of ecosystem services in current management practices because no economic value is given or recognised to intact functioning ecosystems in current planning or land management frameworks. Wetlands are still being drained in support of inappropriate and unsustainable land use and farming practices and coastal development is destroying fragile coastal zones for canal estates

CUMULATIVE IMPACTS

How can we deal with cumulative impacts in the face of climate change? The current Federal legislation (the Environmental Protection and Biodiversity Act 1999) cannot deal with cumulative impacts – the, “death by a thousand cuts” scenario that is resulting in the loss of habitats and their species throughout Australia. Each assessment of a proposal is considered in isolation and independent of the other threats and pressures acting on a species or an area. This shortcoming will be considerably exacerbated under the additional pressures associated with climate change, and will likely result in an acceleration in species and habitat loss.

Recommendation 3: Cumulative impacts must be considered in all facets of land management and conservation strategies to overcome the continued fragmentation of habitats, resulting in the common ‘death by a thousand cuts’ situations.

Recommendation 4: Federal and State Governments should increase the capacity for communities and non-government organisations to collect scientifically-robust data to complement the data collection by agencies.

Recommendation 5: There is an urgent need to define ‘sustainable’, ‘sustainability’ and all variants. Scientifically-valid criteria, benchmarks and milestones must be identified and defined to facilitate objective assessments of the efficacy of any land-use strategy, conservation measures or management regimes. Unless and until these criteria are identified, there is no legitimate basis for claiming ‘success’ in any efforts to conserve habitat or biodiversity.

- TOR 6: **An assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate.**

THE FAILURE OF CURRENT MANAGEMENT TO CONSERVE BIODIVERSITY

The current elevated conservation status of many of Australia's plant and animal species, and of a number of ecological communities is testament that the current land use regime has comprehensively failed Australia's biodiversity. This poor management had led to the current situation of a plethora of threatened species and ecological communities at various risks of extinction, dramatically fragmented landscapes and habitats, a decrease in ecosystem services and the elevated risks of imminent species extinctions and accelerated biodiversity loss arising from climate change in Australia.

Land and water across Australia are generally ‘managed’ by a plethora of Councils, State and Federal Governments and their agencies with limited coordination and minimal (if any) recognition of biological reality, particularly of connectivity. The land (and its waterways, lakes, coasts and islands etc) is divided into management zones that have no relevance to the biological processes at work. This approach allows no recognition of the interconnection of different ecosystems, their

communities, how they function or the ecosystem services they provide.

There is an urgent need to manage Australia's biodiversity and resources on a biological basis – the current approach where arbitrary lines are drawn on maps (eg boundaries of Local Government Areas, NRMs, coastal reserves etc), where management ends at the high-water mark or the edge of river etc, lead to inefficient and unproductive management strategies, inappropriate land use, a dysfunctional and uncoordinated, non-integrated *ad hoc* and reactive approach to land and water management.

There is a near-complete absence of recognition of the continuity and connectivity among ecosystems – typical management regimes focus upon single species or single issues (such as recovery plans), rather than an integrated approach except in the rare cases of habitat management. A more appropriate strategy would be to have ecosystem-based management regimes that incorporate explicitly the interconnections present in the real world, reflecting ecosystem services and maintaining the connectivities among biological and physical environmental components.

Future management of Australia, including the coastal zone, must incorporate biological and biogeochemical realities – rainfall in the mountains hundreds of kilometres inland will eventually reach the coast. There is an intimate connection between terrestrial and marine ecosystems. The coastal zone is the interface between them and is currently under massive threat, with the concomitant threats to biodiversity.

CUMULATIVE IMPACTS REVISITED

Cumulative impacts arise from synergistic interactions, and can be additive, multiplicative or inhibitory in their actions. Responses can be linear or non-linear. These complexities ensure predicted changes are likely to vary considerably from those observed. There is a critical need to recognise the complexity and interaction of these impacts and minimising the pressures from anthropogenic processes will reduce the likelihood of loss of biodiversity and ecosystem services.

The spectrum and intensity of anthropogenic and natural threats to coastal biodiversity will change and increase over time and space in the future, requiring a proactive approach to threat management and conservation efforts in coastal zones in a timely manner. Virtually all existing threats will be 'enhanced' by climate-change related events, further stressing the coastal zone and coastal species. Proactive strategies and management practices will be cheaper (economically) and more effective than reactive responses. Reactive responses are often 'band-aid' solutions that address an issue in isolation rather than a strategic approach to address the underlying process.

RAINFALL, WATER USE AND CONFLICT BETWEEN ENVIRONMENTAL AND HUMAN 'NEEDS'

Australia will experience changes in rainfall into the future. Impacts of these changes will include an increased frequency and severity of droughts and major changes in water flows in many major catchments across the continent. This in turn will result in further habitat loss, particularly in the more 'climatically-challenged' areas where ecosystems and environmental water flows are already under serious stress. Additional loss of habitat and water resources in these areas will, for example, have an adverse effect on wetlands and bird species, further threatening Australia's biodiversity.

CONFLICT OF INTEREST IN COUNCILS

Serious conflicts of interest exist for Local Governments in their roles as planners, managers, rate collectors and enforcers of planning schemes and regulations. Inevitably, developments are approved with an eye on future income from an increased rate base. As a consequence, the environment, particularly the coastal zone has suffered drastic fragmentation and decreased quality for natural resources. The environment will always lose to development and progress. There is an urgent need to divorce these conflicting roles from Local Government to reduce the threats to Australia's coastal zone and its biodiversity.

Australia is a coastal society, with more than 85% of the human population living within 100km of the coast. The increasing human population will result in increasing pressures on coastal councils to provide services and improve the quality of living for current and future residents – typically at the expense of the natural environment.

Even if the best-intentioned Council attempts to ‘balance’ environmental values with development, the incremental approvals over time result in loss of natural values, including biodiversity. For example, an approach where 50% of the extant values or habitat is “protected” is insufficient, as after just five iterations of such an ‘precautionary’ approach, just 3% of the original habitat remains, and rarely do we see half of any habitat, especially coastal habitats, set aside for conservation purposes. The phrase ‘death by a thousand cuts’ is particularly relevant to coastal management and conservation of the remaining values and habitats.

In light of predicted sea level rise, and the ever-increasing proportion of Australia’s human population living close to, and using the coastal margins for recreation, the direct and unarguable result will be a greater spectrum of threats to all species of coastal birds and increased frequency and intensity of these threats. Several species already have an elevated conservation status, and their conservation under predicted sea level rise, increased storm frequency, and increased contact with human recreational activity must be managed sympathetically with all aspects of coastal management, including coastal development. Failure to do so will see a loss of coastal species, and in a worst-case scenario, the extinction of species.

The destructive human recreational activities are in themselves sufficient to extirpate local and regional populations of coastal birds, but in conjunction with sea level rise and the predicted increased frequency and intensity of extreme events associated with climate change, they are likely to dramatically increase the probability of the extinction of endemic species and subspecies.

SEA-LEVEL RISES AND ADAPTATION

Rising sea levels will result in inland ‘migration’ of Australia’s coastline – where the absence of infrastructure allows. Seawalls, roads, housing and other infrastructure will serve as an impediment to beaches migrating inland and taking with them their flora and fauna. Governments and Councils should be promoting coastal conservation with appropriate conservation of low-lying coastal areas and incorporate coastal setbacks for all coastal developments to incorporate rising sea levels over the next century. This approach will reduce their liability in the future, as it will prevent coastal developments too close to the coastline and allow for the ongoing conservation of coastal species.

The establishment of coastal buffer zones specifically designed to be lost over next 50 to 100 years as sea levels rise will provide a mechanism for human communities and coastal shorebirds and seabirds to adapt to a rapidly changing coastal zone. It is very likely that many islands and coastal margins presently used for nesting, feeding and roosting will simply disappear – and with the loss of these important habitats, will be the concomitant loss of many coastal species. While some species may adapt rapidly in adopting alternative nesting and feeding sites, the absence of feeding habitat will be far more critical and will contribute to the reduction/extirpation/extinction of extant coastal species of flora and fauna.

All coastal development must be considered in light of predicted climate change impacts particularly sea-level rises approaching 80cm and concomitant landward movement of the coastline, typically at rates of 10s to 100s of times the rate of sea level rise, resulting in increased rates of coastal erosion. Local Governments need to revise their Planning Schemes, incorporating ‘worst-case’ scenarios as an appropriate, precautionary approach to coastal planning and management to incorporate increased rates of coastal erosion. Failure to do so will result in extensive loss of biodiversity.

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. Unfortunately, such long-term (eg decadal-scale) biological data sets in Australia are few. There is an urgent need to identify what data sets are needed over what temporal and spatial scales, in order to provide the confidence in long-term management of coastal zone values including biodiversity.

There should be promotion of community involvement in future coastal management. Involvement does not imply responsibility. Increased community involvement and engagement with all aspects of coastal management, including stewardship and monitoring, will contribute to greater levels of awareness and an increased likelihood of community members adopting 'sustainable' practices and maintaining/improving environmental health into the future.

There is a critical need to adopt a proactive precautionary approach to coastal management and the conservation of natural resources –current reactive management approaches will fail comprehensively under the rapidly changing environmental conditions likely to be experienced under predicted climate change and sea level rise scenarios. There is sufficient information available now to argue such a case – the next step is to overcome the massive inertia of current management regimes and their reluctance to accept and implement change.

STRATEGIC REVIEW OF GOVERNMENT LAND-USE POLICY

The existing framework of legislation, policies, management strategies and recovery plans at Local, State and Australian levels of Government in Australia are failing to protect Australia's coast. A comprehensive strategic review of every Government Policy on all land use strategies including Recovery and Management Plans presently in effect is essential to mitigate the predicted impacts of climate change. This should aim to produce a holistic, whole of Government approach to managing these impacts both for human populations and our biodiversity. Many existing policies, plans and land use strategies are becoming increasingly inappropriate and inconsistent with what we now know about the predicted changes to temperature, rainfall, wind patterns and sea level rise. Existing land management regimes and land uses must be reassessed in light of predicted changes to Australia's climate over the next 40 to 100 years.

Recommendation 6: There is an urgent need for integrated coastal management in Australia. This management regime will require the integration of Federal (where relevant), State and Local Governments conservation efforts and management strategies, and recognise the role for community contribution to these efforts and strategies.

Recommendation 7: The integration must explicitly incorporate the bio-physical connectivity of the environment, recognising the role of the coast as an ecotone in the Australian landscape.

Recommendation 8: Coastal Councils/Local Governments in Australia must urgently adopt and implement appropriate strategies for their coastal areas. There is a need to provide for the inland migration of Australia's coastline, providing for coastal ecosystems and the species that depend upon them, to follow the migration of the coastal zone under the effects of rising sea-levels.

- **TOR 7: Mechanisms to enhance community engagement**

Resources are critically required to enforce all conservation measures identified and established. It is all too typical for conservation measures to be identified, promulgated but never adequately resourced, resulting in 'best practice' on paper, but not on the ground where it matters. Conservation should never have to rely on volunteer efforts of locals or community groups protecting an area such as Coastcare or "Friends of" groups. By abdicating their responsibility, Australian and State/Territory governments continuously place unrealistic burdens on concerned citizens and community groups, and this burden sends a clear message to observers as to the conservation priorities (and the lack thereof) by Government.

We have attached our submission to the Caring For Our Country review (2011) to further illustrate and expand on the issues and limitations to community engagement and involvement in conserving Australia's coastal biodiversity. Our submission is attached at **Appendix 2**.

AUSTRALIA'S COAST IS AN ECOSYSTEM OF NATIONAL SIGNIFICANCE (ENS)

The review of the *EPBC Act 1999*, completed in 2009 identified the potential role for the conservation of Australia's biodiversity at a landscape scale through the protection of ecosystems of national significance. We quote from the final report (Fact Sheet 3), "*To be eligible for listing as an ecosystem of national significance, an ecosystem would have to meet one or more of the following criteria:*

"The ecosystem is of significant national value for one or more of the following reasons:

- it has high comparative biological diversity within its ecosystem type;*
- it provides critical nationally important ecosystem functions;*
- it has significant potential contribution to building resilient sustainable landscapes;*
- it contains high value remnants of a particular type of habitat;*
- it contains high value areas that create connectivity between other ecosystems;*
- it is significant in building a comprehensive, adequate and representative system of habitat types in Australia;*
- it provides habitat critical to the long-term survival of a significant number of threatened species listed under this Act;*
- it is a climate change refuge of national significance; and/or*
- it is under severe and imminent threat."*

The ACS believes that the Australian coastal zone meets at least five of the above reasons or criteria (dot points 2, 5, 6, 7 and 9, underlined above) with sufficient merit to easily qualify as an ENS. Here we briefly summarise these reasons.

- it provides critical nationally important ecosystem functions;*
- it contains high value areas that create connectivity between other ecosystems;*

We have clearly identified the critical roles the coastal zone has with regards to ecosystem functions and services due to it being an ecotone, the interface between the terrestrial and marine environments. The wide range of ecosystem services and functions have been recognised internationally as having significant economic value. The coastal zone connects the terrestrial environments' biodiversity and ecosystem services and functions with those of the marine environments.

- it is significant in building a comprehensive, adequate and representative system of habitat types in Australia;*

Coastal habitat is protected under a wide range of State and Local Governments' management regimes, with little integration within States, and as far as the ACS is aware, nil integration at the Federal or continental scale. Different management regimes and strategies applied to the coastal zone have resulted in *ad-hoc* and ineffectual conservation of coastal biodiversity and ecosystem services and functions. A Federal, continental-scale approach to coastal conservation and management would ensure the greater conservation of existing biodiversity and resultant ecosystem services. An obvious strategy would be a unified approach to sea-level rise for the Australian continent, rather than the disparate approach currently adopted by the States and Territories.

- *it provides habitat critical to the long-term survival of a significant number of threatened species listed under this Act;*

The coastal zone of Australia is critical breeding habitat for a wide range of species listed under the *EPBC Act 1999*. These numerous species include migratory and resident shorebirds and seabirds, and marine turtles. Sea-level rise and increasing anthropogenic pressures on these coastal species will likely reduce the potential for the long-term survival of many of these species – the loss of critical nesting and/or feeding habitat will result in the loss of species and the concomitant loss of biodiversity.

- *it is under severe and imminent threat.”*

There can be no doubt that climate change and in particular, sea-level rise, poses a severe and immediate threat to the Australian coast, especially sandy beaches and mangroves. These will be the first to be threatened by rising sea-levels, increased frequencies of storm surges and extreme events. These threats will compound and exacerbate existing anthropogenic pressures and threats.

The ACS believes that the Australian coast should be formally recognised as an ecosystem of national significance under the *EPBC Act 1999*, as suggested by the review of the Act. This will address the threats to the coast, the potential loss of biodiversity, and work to conserve the ecosystem services and functions provided by the coastal ecosystems. Formal recognition will not in itself solve the problem, but will ensure greater recognition of the critical habitats present on the coast, and the species that are dependent upon these habitats and ecosystems remaining intact and fully functional.

The Australian coast would also meet the remaining reasons/criteria, but to lesser extents. We have identified the five reasons that are most evident and most critical.

Recommendation 9: Australia's coast must be formally declared an ecosystem of national significance under the *EPBC Act 1999*, as a matter of urgency.

Attachment 2 – Recommendations from the Australian Coastal Society submission

Recommendation 1: The Australian coast must be recognised as critical habitat for coastal species and managed appropriately in an integrated manner, recognising its crucial and fundamental role as an ecotone and the critical ecosystem services provided.

Recommendation 2: Increased support is required to collect and analyse long-term (decadal scale) data sets in Australia. The depauperate suite of available data hinders understanding and predictive capacity to identify threats and likely future trends. Long-term data sets (physical and biological) are fundamental to understanding the full spectrum of threats arising from climate change on Australia's biodiversity.

Recommendation 3: Cumulative impacts must be considered in all facets of land management and conservation strategies to overcome the continued fragmentation of habitats, resulting in the common 'death by a thousand cuts' situations.

Recommendation 4: Federal and State Governments should increase the capacity for communities and non-government organisations to collect scientifically-robust data to complement the data collection by agencies.

Recommendation 5: There is an urgent need to define 'sustainable', 'sustainability' and all variants. Scientifically-valid criteria, benchmarks and milestones must be identified and defined to facilitate objective assessments of the efficacy of any land-use strategy, conservation measures or management regimes. Unless and until these criteria are identified, there is no legitimate basis for claiming 'success' in any efforts to conserve habitat or biodiversity.

Recommendation 6: There is an urgent need for integrated coastal management in Australia. This management regime will require the integration of Federal (where relevant), State and Local Governments conservation efforts and management strategies, and recognise the role for community contribution to these efforts and strategies.

Recommendation 7: The integration must explicitly incorporate the bio-physical connectivity of the environment, recognising the role of the coast as an ecotone in the Australian landscape.

Recommendation 8: Coastal Councils/Local Governments in Australia must urgently adopt and implement appropriate strategies for their coastal areas. There is a need to provide for the inland migration of Australia's coastline, providing for coastal ecosystems and the species that depend upon them, to follow the migration of the coastal zone under the effects of rising sea-levels.

Recommendation 9: Australia's coast must be formally declared an **ecosystem of national significance** under the *EPBC Act 1999*, as a matter of urgency.

Appendix 1.

House of Representatives Inquiry into Australia's biodiversity in a changing climate

Terms of Reference

The Committee will inquire into and report on biodiversity in a change climate, in relation to nationally important ecosystems. The inquiry will have particular regard to:

- terrestrial, marine and freshwater biodiversity in Australia and its territories
- connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation
- how climate change impacts on biodiversity may flow on to affect human communities and the economy
- strategies to enhance climate change adaptation, including promoting resilience in ecosystems and human communities
- mechanisms to promote the sustainable use of natural resources and ecosystem services in a changing climate
- an assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate
- mechanisms to enhance community engagement.

The scope of the committee's inquiry shall include some case studies of 'nationally important ecosystems', as defined by submissions to the inquiry.

Appendix 2.

ACS submission to the Caring For Our Country review (attached overleaf).



23 May 2011

Caring for our Country Review team
Australian Government Land & Coasts Division
GPO Box 858
CANBERRA ACT 2601

RESPONSE TO THE REVIEW OF CARING FOR OUR COUNTRY 2011

The Australian Coastal Society (ACS) welcomes the opportunity to provide a response to the Australian Government's 2011 Review of Caring for our Country: Australia's Natural Resource Management Investment Initiative.

ACS is 'a voice for the Australian coast – *dedicated to healthy ecosystems, vibrant communities, and sustainable use of coastal resources*'. The Society promotes knowledge and understanding of the environmental, social and economic value of the Australian coast, and encourages sustainable use of coastal resources and responsible stewardship of coastal assets.

The ACS submission is guided by the discussion points posed in the Caring for Our Country (CfoC) discussion paper, and addresses both strategic and on-ground issues.

COASTAL CONTEXT

Coastal Values

The coast is an icon of Australian culture and holds important social, cultural, environmental and economic values. The Australian Coastal Society believes the coast is important for all Australians now and into the future as a place where we work, live and play. Healthy coastal environments are vital to support use of coastal resources and the Australian way of life. As the Natural Resource Management Ministerial Council (2006) explains "the capacity to ensure ecologically sustainable use and development of the coastal zone is imperative for all Australians, both now and into the future."

Population and development pressures on the coast

More than 85% of Australians live on or near the coast. The Australian Bureau of Statistics (2010) notes that the Australian coastline is under increasing pressure from urbanisation, with the coastal zone being one of Australia's fastest areas of population growth.

Coastal areas outside capital cities are experiencing significant pressure with almost six million people living on or near the coast, and a growth rate up to 60% higher than the national average. Coastal areas are also subject to high seasonal visitor populations and periods of peak demand. Rapid population growth and peak visitor populations apply pressure for economic growth and place strong demands on councils to meet infrastructure and services needs. Regional councils often lack the rate base, developer contributions and other resources to meet the multifaceted challenges associated with coastal growth.

Impacts

As the *Report for the National Seachange Taskforce* (Gurran et al, 2005) explains, “population growth is not always a positive phenomenon in coastal localities [as] the focus of... development on the narrow and particularly fragile coastal strip means that environmental impacts in these settings are very significant”.

Negative impacts from increasing human activities in the coastal zone can include: biodiversity loss and land clearance (loss of flora, fauna and habitat), fragmentation and isolation of coastal environments, loss of ecosystem services, changes to coastal processes, pollution and acid sulphate soil development.

Urbanisation impacts on the coast include erosion and blow-out formation from factors such as informal pedestrian traffic and recreational vehicle use, increased weed invasion, increased predation and disturbance of indigenous fauna.

Climate change and sea level rise brings a further suite of issues for the coast.

Climate change

In 2009, the Department of Climate Change released the report *Climate Change Risks to Australia's Coasts – a first pass national assessment*. The report states:

“Rising sea levels will bring significant change to Australia's coastal zone in coming decades. Many coastal environments such as beaches, estuaries, coral reefs, wetlands and low-lying islands are closely linked to sea level. There is a lack of knowledge in many cases as to how these environments will respond to sea-level rise, but the risk of beach loss, salinisation of wetlands and inundation of low-lying areas and reefs beyond their capacity to keep pace must be considered in regional decision-making.

“Extreme weather events are also likely to become more intense with climate change, with larger and more damaging storm surge and the possible extension of cyclones further south along both the east and west coasts.”

But probably of greater relevance to this review is the proposed response:

“Where possible, avoidance of future risk is the most cost-effective adaptation response, particularly where development has not yet occurred. While little analysis has been done to date, the application of planning and building regulations to constrain an increase in risk from climate change impacts will deliver considerable savings in damages avoided. In this context planning approaches need to build resilience of natural ecosystems as they also provide a buffer to communities from changes in sea level.”

“Engagement of all stakeholders – governments, individuals, and the private sector – is essential if we are to develop and implement a comprehensive, well considered and carefully staged national coastal adaptation agenda. Leadership from governments will be required in a national partnership to maintain the public good assets in the coastal zone for future generations. States, territories, local government, industry and communities will have a primary role in on-ground coastal adaptation action.”

The ACS supports this approach and would like to see it fully adopted through all levels of Government and where possible delivery enhanced through mechanisms such as Caring for our Country.

Australian Coastal Society Policy Statement

The Australian Coastal Society developed a policy statement on Coastal Planning and Infrastructure reform for the 2010 Federal election. The policy urges that progressive and cooperative reforms to address the pressures of a growing coastal population and the inevitable challenge of sea level rise. The ACS recommends the following three steps be introduced by the Australian Government as a matter of urgency if the Australian community is to successfully meet the challenge of sustainable use of natural and built assets around the country's coast:

- Formulate a National Coastal Policy supported by an Intergovernmental Agreement on Coasts
- Establish a National Coastal Information System
- Form a National Coastal Commission empowered under a federal Coastal Commission Act.

National priorities in Caring for our Country (Discussion Point 1)

- I. What is an effective and appropriate focus for the Australian Government to achieve an environment that is healthier, better protected, well-managed, resilient and can provide essential ecosystem services in a changing climate?*
- II. How could the Australian Government's role in regional natural resource management planning be improved while retaining measurable strategic outcomes at a national scale?*

National leadership in coastal NRM

The Australian Coastal Society strongly advocates for a national approach to coastal management. As the Resource Assessment Commission Coastal Zone Inquiry noted in 1993:

A national approach will ensure that government agencies have common objectives for coastal zone management, thus minimising duplication and conflict. It will ensure more effective use of financial and human resources, by pooling experience, resources and knowledge. It will also provide a framework for national leadership and financial support and for the mobilisation of community and industry involvement throughout the coastal zone.

An integrated, hierarchical approach to coastal zone management, working across tiers of government, but lead by the Australian Government is the best way forward for coastal zone management.

Coast to remain a national priority

It is imperative that the coast remains a national priority under Caring for our Country (and future NRM programs) given the challenges faced by the coastal zone and the environmental, social and economic importance of the coast to Australia.

As a coastal society, we need to build on the Coastcare model to engender a greater level of stewardship for these resources if we are to sustain them in the future.

Whilst dedicated funding under CfoC for Coastal Community Engagement has allowed for continued delivery of outcomes in the coastal zone, the lack of a dedicated National Coastcare Facilitator network has meant that in many cases this work is largely disconnected from national priorities and could be considered a step backwards from previous coastal engagement models and management efforts.

The ACS reinforces the importance of the House of Representatives Committee Report (2009) - "*Managing our coastal zone in a changing climate – the time to act is now*" and urges the Australian Government to incorporate, where possible, the report's recommendations in planning future NRM programs. Recommendations of particular relevance to future NRM programs are outlined in Appendix 1.

Setting annual priorities and ways of investing (Discussion point 2)

- I. What mix of investment timeframes and approaches would be most beneficial?*
 - II. In what ways could the Australian Government improve the way it prioritises investments, encourages partnerships and identifies national priorities?*
 - III. How could the packaging of Australian Government natural resource management activities be improved to provide administrative efficiencies for all partners or enhance outcomes?*
- Natural resource management activities require longer term investment. There is a need to recognise the difficulty of fitting natural resource management activities and programs into annual investment cycles. Supporting multi-year investment as part of a longer term program is one way to alleviate this difficulty and allow some flexibility for delivery agents to deal with the obstacles that arise during project delivery, for example seasonal variability which affects timing of on-ground activities, etc.
 - Longer timeframes for project delivery (3-5 years) would also be of benefit to local government as this would enable Councils to build activities into the Council work plans and budget deliberations.
 - Investment time frames also need to consider community involvement in the context of seasonal time frames. Feedback from groups is that they are experiencing fatigue with administrative burdens and funding cycles out of sync with seasonal requirements (e.g. seed collection, plant ordering, planting times etc). Increasing communication with states and regions regarding timing of community grant processes could improve the timing for grant announcements/approvals and project timeframes.

Unrealistic timelines and over-excessive administrative processes can see groups disengaging with NRM processes.

- Given that CfoC is a national program and funded by the Australian Government, it is highly appropriate that funding should (at least in part) be directed to address national priorities. The process of selecting priorities however, seemed to be a little *ad hoc* and appeared, at least in some part, to be based on poor science or political will, for example investment in Tasmanian Devils and cane toads. Whilst there will always be a need to respond to emerging issues (or politically expedient issues), there is a need to ensure that future investment is based on the best science and includes a risk-based approach to investment. From an external perspective, funding appears to have been based on the previous State of the Environment (SoE) reporting. However, as the SoE was not previously fully resourced to provide a national picture and didn't include an ongoing monitoring program of our natural assets (more a snap shot of current investment), this process is flawed and hence may have directed investment away from key areas that may have been a higher priority.
- Baseline data and benchmarks to measure any environmental 'improvement' are lacking Australia wide, particularly in the coastal zone. This presents challenges for the government to determine the effectiveness of funds spent on any restoration, rehabilitation or management program, such as CfoC. In addition to this, the time frame for which environmental change / improvement occurs, is significantly longer than any funding cycle. More emphasis needs to be placed on the collection of suitable long term data sets to help measure environmental change.
- We applaud the Australian Government's announcement in May 2010 to establish a National Plan for Environmental Information as the first step toward a long-term commitment to reform Australia's environmental information base and build this critical infrastructure for the future. To enhance the CfoC program in the future, improvement of the target setting process to include more up to date scientific information would be beneficial. Future NRM programs need to demonstrate that they are both based on scientifically robust information and that processes for choosing national targets are transparent.
- One particularly concerning gap in the national priorities (which has in some States been addressed at least in part) is that of investment in marine ecosystems. Australia's ocean territory is the world's third largest, spanning three oceans and covering around 12 million square kilometres. Whilst it is agreed that investment upstream – for example through catchment management or through programs such as Reef Rescue, result in a downstream improvement in the condition of our coasts and oceans, this only goes part of the way to address the many threats to our coastal waters and marine ecosystems. Marine ecosystems deserve their own investment targets to address issues such as poor knowledge and understanding of marine biodiversity values, the myriad of threats to the marine environment as well as poor management practices.
- A more collaborative approach to priority setting which incorporates knowledge within states and regions to inform nation priority setting process, would ensure better outcomes for all stakeholders and the coast. This approach would allow for the utilisation and integration of relevant regional and state coastal data. Between 2003 and 2005, the previous Australian Government rolled out regional arrangements with a huge focus on the development of Regional NRM Plans that were informed and endorsed by not only the Australian and State Governments, but also by the community as a result of extensive public consultation. It is suggested that in phase 2 of CfoC, Regional NRM Plans be reinvigorated to not only meet national priorities, but to facilitate funding investment to again meet regional priorities (including foundational activities and research needs). This is many instances levels *the national playing field* by encouraging investment into programs that may lack capacity for funding from other sources whilst encouraging regional ownership and participation in programs.
- In addition to the Regional NRM Plans, which exist around the country, some stakeholders have taken further steps to collect information on their regional natural assets to further inform management actions. For example, in SA extensive work has been undertaken between the state government, regional NRM boards and the coastal community to assess coastal conservation values and threats and develop GIS based coastal action plans highlighting high priorities for coastal NRM action through a cooperative management approach. Despite this extensive information base, it has been difficult for state agencies, regional bodies and local groups to align these priorities with CfoC targets, particularly given the hot spot approach and strong emphasis on coastal volunteers. Whilst national priorities are important, we believe that many community groups have been unable to find a direction or niche under the new arrangements, and that regionally significant issues have been unable to meet the current funding arrangements under CfoC.

- A particular issue at the regional level was the CfoC focus on Coastal Hot Spots which limited funding for water quality improvement initiatives to specific areas. In many cases, this reduced momentum that had been built through previous initiatives and has led to a further decline in coastal water quality in areas outside hot spots. We believe the same could be said for other target areas.
- In the past, research organisations also found immense value in the linkages with NRM regional bodies through NHT2 funding. Through these relationships, research organisations were able to be a part of the planning processes for NRM outcomes and were far more involved as a stakeholder. This opportunity no longer exists with CfoC funding. This has been further exacerbated in coastal management by the loss of a dedicated National Coastcare Facilitator network. Having a local person to directly liaise with provided the opportunity for research providers to align their project ideas across a range of community groups within the regions and support other groups through the linkages provided by the NRM regional body.
- The Australian Government is to be applauded for a funding model that encourages greater collaboration and the development of long-term partnerships to deliver integrated management approaches for the delivery of national priorities. It is noted that previously competition between organisations encouraged multiple applications and competition between stakeholders, however there appears to have been a shift in this as the CfoC program has moved into subsequent years. There are now more productive working relationships and integrated programs. The model may, however require further leadership from the Australian Government into a more guided / hierarchical approach which delivers Integrated Coastal Zone Management (ICZM). This would define roles and responsibilities more clearly for all coastal stakeholders and reduce the variability in commitment and action across local and state government and regional bodies.

Community engagement and Landcare support (Discussion point 3)

- I. In your experience, what is the current state of community capacity to deliver natural resource management?*
 - II. What are the best vehicles to deliver knowledge and capacity to program delivery agents?*
 - III. What should be the respective roles of regional, state and commonwealth government, industry and NGOs in building and maintaining capacity for natural resource management?*
- CfoC has a very strong emphasis on community engagement and volunteer involvement. Community members contribute a huge amount of knowledge and good will in volunteering but they are experiencing burn out and disenfranchisement as a result of the continuing demands on their time and energy.
 - Such a large focus on volunteers to provide the on-ground components of NRM is not sustainable in the long term, and can lead to inefficiencies and the desired level of management and environmental improvement not being met in short and long term. Volunteers should not be relied on to drive NRM objectives and to undertake significant land management activities that should be the work of state agencies or local authorities.
 - Nationally the volunteer base is aging and younger generations are not engaging with volunteering in the same way. Future NRM programs will need to respond to the changing nature of volunteering. New, innovative approaches that engage younger generations will need to be investigated if younger generations are going to be attracted into NRM volunteering activities.
 - Community volunteers need to be more valued if volunteers are to remain a significant part of the NRM vision and delivery.
 - Mechanisms for sharing information amongst volunteer groups are also important. It would be valuable to capture the local knowledge that is held with groups and recognise/value this. There is considerable knowledge and innovation occurring at the grass root level. How this can be captured, stored and accessed is important to consider.
 - Again the importance of a dedicated National Coastcare Facilitator network should be noted. Having a local person to directly liaise with coastal community groups, NGO's, seafood and maritime industry, local, state and commonwealth governments to collate and disseminate knowledge, and

align project ideas to national, state and regional priorities was invaluable. This is a significant gap under the current CfoC delivery model.

Engaging Indigenous Australian (Discussion point 4)

- I. What are the challenges for Indigenous groups under the current Caring for our Country model?*
- II. In what ways could the Australian Government improve Indigenous Australian's participation in NRM?*
- III. Are the targets that are Indigenous-specific appropriate and do they effectively engage Indigenous Australians in NRM?*

The ACS supports the engagement of Indigenous Australians and the delivery of Caring for Country outcomes on land and sea country. The society recognises the cultural heritage values of sites such as middens and fish traps as well as fisheries resources such as fish, shell fish and turtles.

Challenges for Indigenous groups under current CfoC model include:

- The location of culturally significant sites. Many sites are located on non-Indigenous owned lands and may be located in freehold, public or even crown lands. For these sites arrangements for funding are complicated and it is difficult for Indigenous groups (or indeed non-Indigenous groups that support Indigenous Australians to work on culturally significant sites) to access funding to undertake works on non-Indigenous owned land.
- Capacity – whilst there are numerous training opportunities available to Indigenous Australians to help 'Close the Gap' there is still a considerable gap in capacity for Indigenous Australian to own and run their own successful businesses. There are some excellent examples – such as Giringun and Dhimurru, but there is still considerable work to be done to mentor, support and encourage similar groups throughout Australia. To build capacity, it is suggested that 'half-way' models that allow some flexibility on auspicing and working on non-Indigenous owned lands (where appropriate permission and permits have been granted) would allow a larger number of currently disconnected Indigenous Australian groups to Care for Country.
- Recording Traditional [Cultural] Knowledge (TK) and Ecological Knowledge (TEK). For many Indigenous groups access to information is becoming scarcer as knowledge holders pass away. Sharing this knowledge outside of family groups or with other land managers can be fraught with issues – particularly if there is deemed to be an intrinsic value to the knowledge. The development of guidelines by the Australian Government with respect to the access to, use and storage of knowledge may help alleviate this issue.

Working effectively with state and territory governments, engaging with local government (Discussion point 5)

- I. How can the Australian Government better engage with other levels of government on natural resource management outcomes?*
- II. How can overlaps or duplication of effort be avoided?*

- The loss of Australian Government Coastcare facilitators has had a big impact the level of communication, collaboration and engagement across the three levels of government. Local/regional Coastcare facilitators were able to communicate and share information more readily. It is much more difficult to achieve this when there is no dedicated leader with time and resources to encourage cross-regional collaboration, and communicate Australian Government initiatives.
- At the higher level, the loss of organisations such as the CRC for Coastal Zone, Estuary and Waterway Management (Coastal CRC) and Marine and Coastal Community Network have severely impacted on the communication of coastal management outcomes and an increase in duplicated effort. Whilst organisations such as the Australian Coastal Society and National Coastal Alliance are attempting to fill this gap, this success is limited by funding for dedicated resources.
- The loss of the bilateral agreements between the Australian, state and territory governments has been an issue which has resulted in the disengagement of some states (for example Queensland and Tasmania) at a political level in the delivery of activities such as coastal and wetland management and the conservation of threatened species. Without the bilateral agreements and

Regional NRM Plans, the Australian (CfoC) and state / territory government funding priorities rarely align, adding funding pressure to an already stretched NRM delivery system.

- The arrangements between Regional Bodies and Local Government are far more complex with issues relating to Local Government's statutory responsibilities, capacity and limited funding (particularly in regional / rural areas) to address issues outside their day-to-day management responsibilities. Local government is integral to the delivery of coastal zone management and on-ground initiatives at the local level. Local governments should also be encouraged to build relationships with the coastal community and Coastcare groups. However, funding is required for further capacity building of local government particularly, with respect to issues such as coastal planning, sea level rise and climate change mitigation. With more capacity building, local government would be better equipped to prevent future issues in the coastal zone and engage in addressing existing problems through on-ground works.
- Where possible, it is suggested that Australian Government funding provided to state and territory governments through CfoC should be aligned with the *Framework for a National Cooperative Approach to Integrated Coastal Zone Management*:
 - integration across the catchment coast ocean continuum
 - land and marine based sources of pollution
 - climate change
 - pest plants and animals
 - planning for population change
 - capacity building.

Otherwise, there is a huge variation in adoption and approaches across states, territories and local government.

- Overlap and duplication is an ongoing issue and one that is, at least in part, addressed by the better continuity of staff and organisations such as Regional Groups. Better partnerships and collaboration have also been built through the CfoC process that through time will reduce overlaps and duplication of effort. Improved communication of results (through project close-out) is also a potential focus for improvement of delivery along with the adoption and use of reporting tools such as EnQuire (currently only used in Queensland) at a national level.
- Communication should be seen as a core element of delivery for all organisations implementing NRM and should be resourced appropriately.

Regional base-level funding (Discussion point 6)

1. How could the regional natural resource management delivery model be improved?

The ACS supports the regional NRM delivery model and the continuation of regional base-level funding. The Society supports the certainty provided to Regional NRM Groups through a guaranteed base-level funding allocation over a 5-year period.

Like the National Landcare Facilitator Network, the ACS also supports the reinstatement of a National Coastcare Facilitator Network to be housed within Regional NRM Groups to provide the link between national NRM priorities and local action.

PROFESSOR NICK HARVEY
Vice-President, Australian Coast Society Ltd

Appendix 1:

Recommendations of relevance to future NRM initiatives, as outlined in the report “*Managing our coastal zone in a changing climate – the time to act is now*”

Rec no	Recommendation
26	The Committee recommends that the Australian Government: • Give consideration in future [Caring for our Country] funding rounds to projects that: ○ Involve working with state/territory & local governments to improve coastal land use planning ○ Seek to address loss of coastal habitat as a result of coastal development and population pressures
27	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.
28	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
29	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.
31	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

Appendix 1 (continued):

Recommendations of relevance to future NRM initiatives, as outlined in the report “*Managing our coastal zone in a changing climate – the time to act is now*”

Rec no	Recommendation
32	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 listing of coastal shorebird and sea bird communities as threatened species/ecological communities under the act
33	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 28 • 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
34	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.
40	The Committee recommends that the Australian Government undertake an awareness campaign to alert coastal communities to the key challenges facing the coastal zone and the value of community engagement in addressing these challenges. The campaign should aim to build understanding and awareness of coastal management issues to encourage the continued membership and support of volunteer networks in the coastal zone.
41	The Committee recommends that the Australian Government nominate 2012 as the Year of the Coast, to further build community awareness about the issues facing the coastal zone. The Australian Government should work with coastal stakeholders, volunteer groups and the general community in determining key activities as part of this initiative.
42	The Committee recommends that the National Coastal Zone Database be expanded over time to include information on environmental data and management and planning information relevant to the coastal zone.

Appendix 1 (continued):

Recommendations of relevance to future NRM initiatives, as outlined in the report “*Managing our coastal zone in a changing climate – the time to act is now*”

Rec no	Recommendation
44	The Committee recommends that the Australian Government, in cooperation with state, territory and local governments, and in consultation with coastal stakeholders, develop an Intergovernmental Agreement on the Coastal Zone to be endorsed by the Council of Australian Governments. The intergovernmental agreement should: • Define the roles and responsibilities of the three tiers of government—federal, state and local—involved in coastal zone management • Include a formal mechanism for community consultation • Incorporate principles based on strategic regional coastal planning and landscape scale/ecosystem based coastal zone management • Include an effective implementation plan with resources allocated to ensure that objectives are realised • Be overseen by a new Coastal Zone Ministerial Council • Be made public
45	The Committee recommends that the Australian Government: • Ensure that the Intergovernmental Agreement on the Coastal Zone forms the basis for a National Coastal Zone Policy and Strategy, which should set out the principles, objectives and actions that must be undertaken to address the challenges of integrated coastal zone management for Australia • Establish a broad based National Catchment-Coast-Marine Management program to provide funding for initiatives relating to: • Sustainable coastal communities • Climate change and biodiversity • Implementation of projects to progress integrated coastal zone management • Establish a National Coastal Zone Management Unit within the Department of Environment, Water, Heritage and the Arts to support the implementation of these national initiatives • Develop a Coastal Sustainability Charter based on the Victorian Government model
46	The Committee recommends the Australian Government establish a National Coastal Advisory Council to: • Provide independent advice to government • Advise the new coastal unit within the Department of the Environment, Water, Heritage and the Arts • Ensure community input into national coastal zone policy, planning and management
47	The Committee recommends that proposals for a National Oceans and Coast Act and a statutory Coastal Council be the subject of ongoing consideration once the Intergovernmental Coastal Zone Agreement is determined.