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INQUIRY INTO CLIMATE CHANGE AND THE ENVIRONMENTAL IMPACTS ON COASTAL COMMUNITIES

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Preamble

For many decades the Parliament of Australia, and to a lesser extent the Commonwealth Government, has shown an interest in environmental pressures on the Australian coast. House of Representatives inquiries in 1980 and 1991 are but two examples of that interest. In addition, there have been other inquiries as well as the Coastal Zone Resource Assessment Commission report in 1993. Questions and comments made by members of both the House and the Senate typify the on-going interest by parliamentarians in the pressures, conditions and governance of our coastline. These interests stem from community concerns across the nation that degradation of coastal resources is a continuing process and that the Commonwealth Government should be doing something about it!

Major difficulties arise when the many recommendations of these inquiries have not been acted upon by successive federal governments. Many ask why this is so. Are there constitutional limitations that inhibit federal intervention in the operations of state and local governments that apparently carry most if not all the responsibility for coastal planning and management in the past and at present? Is it because successive federal governments have not seen the need to engage politically with states to fund negotiated agreements that could limit the pernicious “death by a thousand cuts” that so pervades coastal management? Or is it that federal agencies find the so-called “wicked problem” of coastal zone management (CZM) too complex, too cross-agency, and of a lower priority compared with other “national” issues?

There have been some areas in which federal governments have taken initiatives and made a difference in coastal management (e.g. Great Barrier Reef and Fraser Island, see below). Coastal Action under the Keating Government was in partial response to RAC 1993, but the Howard Government adopted a different approach. Natural Heritage Trust (NHT) Mark 1 saw a more direct investment in coastal Australia especially through local government than NHT Mark 2. Natural Resource Management Ministerial agreement on a national co-operative approach has not led to any significant new investment or commitments by federal or state governments. Yet the intent to improve the quality of coastal conditions as highlighted in successive State of Environment reports (1996, 2001, and 2006) does NOT appear to have been a priority over the past decade. In fact, with some major exceptions, it could be argued that all state governments have been less committed to CZM over this period than they were in the 70s and 80s.

This submission will argue that we have reached a stage when Commonwealth LEADERSHIP in CZM is vital. Coastal problems are NATIONAL, not just state or local. They do have, of course, state, regional and local manifestations. However, the implications of climate change, population growth and demographic change, and infrastructure needs do

require, in my view, national direction and technical and financial support. I will argue that sustainable solutions for many of these problems risk being limited in time and location unless the Commonwealth can offer leadership in the form of consistent guidance and support to achieve sustainable outcomes of benefit to local economies, environments and social interests.

State, regional NRM entities, and especially local councils, do not have the resources to provide continuity of policy thinking, of technical and information back-up, and of funding to meet the challenges of population growth, infrastructure needs and how best their communities can adapt to climate change, especially the insidious effects of rising sea levels. To this end, coordinated use of national R&D facilities such as CSIRO, AIMS, and Geoscience Australia, will be vital in providing information and decision-support tools for application at local and regional levels.

Since 1960, I have devoted most of my professional life to the coast. My science interest is in coastal physical geography with special interest in geomorphology. Since 1989 I served successive state governments in NSW as the Chair of the Coastal Council/Committee until 2004. During this period I participated in discussions between federal and state representatives on the Intergovernmental Coastal Advisory Committee that led to the National Approach to Integrated CZM presented to the NR Ministers in 2004. Earlier I participated in the 1980 HoR Inquiry and in the RAC Inquiry of 1993 (I was initially appointed by the then Minister as a Commissioner with a natural resources expertise but was replaced by an economist). From 1998 to 2001 I was Chair of the National State of Environment Committee. During this period, I also chaired the NSW State Assessment Panel for the Coast and Clean Seas program under NHT Mark 1. I currently serve as interim President of the Australian Coastal Society (see web site for details at www.austaliancoastalsociety.org), and I am a member of the Wentworth Group of Concerned Scientists (see some of my recent presentations on coastal policy issues and background at www.wentworthgroup.org).

In developing this submission, I wish to draw on this background as a means to select from past reviews and reports those elements which I feel could be of value to this Inquiry. In particular, I seek to use these reports to highlight the fact that many past concerns are still very relevant today. Second, I will use my knowledge of Australian coastal conditions to comment in turn on each of the Terms of Reference of this Inquiry. And third, this information will underpin a set of recommendations which I hope will assist the Committee in its deliberations.

Past Reviews and Activities of the Federal Government

The following will focus on matters related to Commonwealth engagement in CZM and investments in coastal activities with the states and local government. It will not cover those areas that have been traditionally of federal interest such as defence, airports and those under offshore agreements with the states, or specific reviews of CZM by various states. Nor will it discuss the history of negotiation and agreement with the Queensland Government on the management of the Great Barrier Reef, the issues of which are discussed from different perspectives in books by Judith Wright---Coral Battleground--- and by Bowen and Bowen in their comprehensive environmental history entitled "The Great Barrier Reef- History, Science

and Heritage”. Yet it will be noted that aspects of so-called integrated planning on the GBR do offer some lessons for the rest of Australia.

Another area which will only be referred to in passing is the use of Commonwealth powers to intervene in decisions of states to permit a development which may not be deemed to be in the national interest. There are occasions when the Federal Environment Minister is requested to intervene under Commonwealth legislation. Recent examples using the limited powers of the EPBC Act 1999 have involved Ministers in issues of community concern in the Tamar estuary in Tasmania and the dredging of Port Philip Bay in Victoria. In 1975 the Commonwealth Government used its export licence powers to stop sand mining on Fraser Island much to the chagrin of the then Queensland Government. This followed a Commission of Inquiry set up by the Whitlam Government under the then Environment Protection Impact of Proposals Act 1974. I was an active participant as an expert witness on coastal geomorphology at this Inquiry. Both the Whitlam and Fraser governments saw the national need to protect the natural heritage of Fraser Island against the economic and employment interests of many in the local community. Fraser Island now has World Heritage status and the decision by the Fraser Government to ban mining in hindsight was a tremendous environmental outcome for Australia.

I would like to comment on the following national reviews, programs and agreements in order to provide context for discussion of the Terms of Reference of the Inquiry:

1. Management of the Australian Coastal Zone. HoR Standing Committee on Environment and Conservation, 1980.
2. The Injured Coastline. Protection of the Coastal Environment. HoR Standing Committee on Environment, Recreation and the Arts, 1991.
3. Coastal Zone Inquiry. Resource Assessment Commission, 1993.
4. NHT Coast and Clean Seas Program 1998-2001.
5. National Cooperative Approach to Integrated Coastal Zone Management—Framework and Implementation Plan, 2006.
6. National State of Environment Reports 1996, 2001, and 2006.

1. Management of the Australian Coastal Zone, 1980

This was the first major review of CZM by the Australian Parliament. It provided the foundations for subsequent reviews, and most importantly highlighted recommendations which were further developed in various ways in 1991 and 1993 reviews and in the National Cooperative Approach of 2006.

What is so relevant about the work of the Standing Committee in 1980 was that they recognised the coastal zone as “a significant national asset providing wide-ranging and valuable resources”, with many coastal regions “under threat of degradation either by natural processes or by man’s activities in the coastal zone”. This conclusion is as relevant today as then except the threats of climate change must be added to those considered in 1980.

In the 1980 report, the Committee stressed threats arising from ad hoc decision making amongst competing users; the “serious lack of information”; inadequate resources to prepare and implement management plans; the absence of a Commonwealth Coastal Policy; and most revealing to me, that there was “no agency or unit within the Commonwealth public service

responsible for co-ordination of Commonwealth activities in the coastal zone". Nothing has really changed to prevent the Standing Committee in 2008 making the same findings.

Recommendations in the 1980 report powerfully reflected the view of the Committee that something had to be done to improve the "conservation and preservation" of the Australian coastline. Whilst this view strongly resonated amongst coastal practitioners across the nation, it was largely ignored at a federal level and received mixed response from the states. In fact it could be argued that state actions were independent of this review and flowed from other factors such as the impact of storms in the 1970s along the east coast, and the passion of some state leaders to expand the coastal "national" park system, or introduce innovative statutory policies and legislation (for instance the prescriptive SEPP No.14 Coastal Wetlands in NSW or the land surrender provisions in Queensland coastal legislation).

A key recommendation of the 1980 review was to establish an Australian Coastal Management Council. This recommendation has been on the minds of many since 1980 such as Associate Professor Wescott of Deakin University who has published on this idea; it also emerged in the RAC Inquiry in 1993 (see below). What this recommendation reflects is an understanding that CZM embraces so many facets of Australian life. It is seen as a means to bring together agency, institutional, information and research interests, and amongst other things would:

"... determine guidelines for allocation of any Commonwealth funds that may become available to the States for programs in accordance with national priorities".

This last point was probably influenced to some extent by the Committee's consideration of the US Coastal Zone Management Act 1972 (as detailed in Appendix V of the 1980 report). My own view is that the US system works well in a federation and needs to be again considered by this Inquiry (see below for further comment).

Recommendation (1): that this Inquiry closely examine the relevance of the findings and recommendations of the 1980 HoR Standing Committee, especially in regard to (a) the necessity to improve the dissemination of information; (b) the advantages of an Australian Coastal Council; and (c) for a role by the Commonwealth in using some form of agreed guidelines for the allocation of national funds.

2. The Injured Coastline, 1991

This report followed extensive consideration by the Standing Committee of matters related to the environmental degradation of the Australian coastline and coastal waters. It gave particular attention to issues of pollution. However, its terms of reference again allowed it to review and comment on existing management regimes in CZM and "the role of the Commonwealth Government in ensuring proper management of the coastal zone".

This report reviewed previous inquiries and examined particular pressures on the coastal environment. It made good use of information and recommendations in the 1980 Inquiry. The Injured Coastline report was able to look more closely at the management interests of state and local governments, with NSW and Western Australia serving as case studies. This led the Inquiry into closely examining problems with existing management systems. Again the continuing relevance of these problems is still seen in management regimes in 2008 even

though some of the worst of the pollution problems discussed in 1991 have been addressed (e.g. beach sewerage pollution in Sydney).

In 1991, the Committee found that existing “ad hoc, hodge-podge pattern of development slowly nibbles away at a precious and beautiful resource, the natural coastline”. The absence of a national perspective towards the entire Australian coastline was seen as undervaluing the resource in the national interest leading to the loss of those valuable assets for the enjoyment and use by future generations. Of continued relevance was the finding that:

“... existing coastal management arrangements are fragmented and poorly coordinated and fail to encompass a holistic approach... There is a pressing need for improved co-ordination at all levels of government as well as inter-disciplinary co-ordination”.

The 1991 report identified as major contributors to the fragmented nature of decision-making, the multiplicity of public agencies often very protective of their domains; the existence of arbitrary administrative boundaries which often do not coincide for the various management and planning function of agencies and different levels of government; and the failure to consider cumulative effects of decisions (the so-called tyranny of small decisions) in assessing developments of any scale.

Recommendations contained within the Injured Coastline complement those of the 1980 report. The need for an agreed cooperative strategy was recommended, and significantly this is to include local government (R.8, see later NHT1 tripartite agreement). Instead of a council, the committee proposed a National Working Group on Coastal Management (R.10). But of great interest to me is Recommendation 9:

“The Commonwealth provide financial assistance to State and local governments as part of a National Coastal Zone Management Strategy”.

It was argued that financial support schemes must incorporate “specific performance criteria in order to qualify for initial and further grants”. This is where the Committee linked possible funding to the development by state and local governments of regional coastal management plans based on a total catchment approach and effective public participation (see R.1). The then EPA was to administer these grants in accordance with national guidelines and standards. This agency was to be given the responsibility for improving coordination. All this is similar to the role played by the National Oceanic and Atmospheric Administration (NOAA) in the US under the CZM Act 1972.

Recommendation 12 returned to the idea that the Commonwealth “should enact a Coastal Zone Management Act which establishes its interest in the coastal zone [similar to the US], following agreement with the States and local government on the development of a national coastal management strategy”. The recommendation outlined what should be in such legislation. From my perspective it has been disturbing to see over the years how untested this recommendation has been given perceived objections from the states and the reluctance of a federal Minister or agency to serve as its champion.

This Committee, in agreement with the 1980 report, emphasised the need for a very prominent role for the Commonwealth in maintaining information and databases and communicating information (see R.2). It commented that the lack of data on the coastal zone “is a reflection of the larger problem that Australia lacks baseline data over much of the continent”, a point taken up in successive SOE reports. Since 1991, there have been attempts to address this issue through the initiatives such as the CRC for Coasts (which failed to be

renewed because it was a public good CRC at a time when the then Minister was not keen to support such CRCs); through the work of Geoscience Australia in developing Oz Estuaries now Oz Coasts; through the aborted attempt by CSIRO in 2005 to establish AVCA—A Vital Coast Australia; and the rejection by the then Minister for the Environment of a CERF proposal from a consortium led by CSIRO and GA including several university research groups to establish a National Coastal Information System (NCIS).

Finally the Injured Coastline report noted that it is “well aware of the high levels of disillusionment and impatience within the Australian community about further public inquiries into the coastal environment when there has been little action as a result of earlier reviews”. Yet in 1993 we had the RAC Inquiry and with some minor exceptions there remains the frustration that the Commonwealth and the states have not seen it necessary to act on the recommendations of these reviews.

Recommendation (2): that the Inquiry examines the present day relevance of proposals contained in the Injured Coastline, in particular, the model of performance based funding for regional plans linked to the activities of local government, and how such a proposal would best function under federal legislation.

3. Resource Assessment Commission Coastal Zone Inquiry

The RAC in 1993 conducted a very comprehensive review of CZM in Australia. I was involved in various ways including coordination of the input from NSW. Its terms of reference were provided by the then Prime Minister (see p.2) and included an interest in “integrated management” and the need to take into account past reviews.

As with previous reviews, the RAC noted that “our Coastal Zone is under serious strain” (see Final Report Overview, p.1). It stated we are faced with legacies of decisions that we cannot afford to repeat. The RAC goes on to stress the Coastal Zone as a national asset, as irreplaceable capital to pass on to the next generation undiminished. The economic rhetoric in the overview is strong:

“If our forebears had known what we know now, and had not squandered what they did, the returns to us today would be higher than they are”.

RAC recommendations are outlined and discussed in Chapter 19 of their report. I will select a few key points from these recommendations which I believe to be pertinent to the current Inquiry.

- It provided a role for COAG to achieve what the RAC terms a National Coastal Action Program, including how the program is to be implemented
- COAG to agree to national objectives and principles for CZM
- All governments to have CZM objectives consistent with these objectives
- Criteria for CZM to be consistent with objectives by state and local governments and be consistent with principles in the National Coastal Action Program
- That the Commonwealth enact a Coastal Resources Management Act which would , amongst other things provide for Commonwealth funding for CZM (see R.07)
- A National Coastal Management Agency be established involving an independent chairperson and to be advised by a National Coastal Consultative Council, and that

there be an interdepartmental Commonwealth Coastal Management Committee to deal with its responsibilities in the coastal zone

- State and local governments review existing coastal management arrangements with a view to ensuring appropriate levels of coordination, distribution of functions between agencies, and determine how best to achieve what is termed an “Integrated Local Area Planning Approach”, and to engage community groups in the formulation of policies and programs
- Establish a Coastcare program
- Local authority land use planning mechanisms be more flexible and pay more heed to resource management and other considerations including infrastructure and other services (see p.378)
- That a regional approach be used given the limitations of administrative boundaries in CZM involving the development of “regional coastal zone strategies”, the responsibility for which should rest with state governments.

The RAC also reviewed a range of other important matters related to the use by and of the coastal zone including indigenous issues, research, approvals processes, quarantine and economic and financial instruments. No systematic consideration was given to the impact of climate change despite the release of the first meeting of the Prime Minister’s Science Council in October 1989 on Global Climatic Change—Issues for Australia [I was the author of the chapter on coasts in that report].

It is also interesting to note that one of the RAC Commissioners, Bob Graham, presented a dissenting, alternative view in the final report. He believed the Inquiry was too focussed on what he termed the “big picture” and failed to make the connections with the litany of management problems seen at a local level. He is particularly concerned about the ways in which coastal degradation is linked to a very large number of small problems. To him the recommendations did not go far enough. To this end he went into some detail as to what constitutes a strategic approach, what should be in the guidelines and how they can best be implemented. His report forms a view on “best practice”.

Unfortunately, the bulk of the recommendations and the dissenting report have been confined to the dustbin of history. There are several reasons for this including a reluctance to take on the states, the view of the then Prime Minister towards RAC Inquiries, and a change in Government in 1996.

Recommendation (3) : that the Inquiry look closely at material contained in the RAC 1993 report, including the dissenting report, and in particular, examine firstly the relevance of administrative arrangements that potentially would involve more efficient and effective consultation across all levels of government; secondly, the need to introduce local and regional “integrated” plans following nationally accepted objectives and criteria as outlined in the report; and thirdly, the need to develop some best practice guidelines that would ensure better on ground environmental outcomes as suggested by Commissioner Graham.

4. NHT Coast and Clean Seas Program, 1998-2001

During the first period of the NHT, the then Minister for the Environment, Senator Robert Hill, took direct responsibility for the coastal component. There were a number of programs,

some of which came out of recommendations of previous inquiries. A good example was the idea of a national Coastcare program suggested by the RAC (R.13).

Unlike other NHT Mark 1 programs, Coast and Cleans Seas was based on a tripartite agreement between states and territories AND local government. This is important as the program recognised that local government was the prime deliverer of CZM in Australia. The Minister decided that he had to have a direct way to support the on-ground activities of councils while at the same time satisfy two other stakeholders: interested state agencies and community groups such as the growing Dunecare movement in NSW. Although state assessment panels were established to assist in the evaluation of projects under the different parts of C&CS, all ranked proposals were submitted to the Minister for his determination.

There were a number of parts to C&CS over this 4 year period. Coastcare was community based and it is estimated that around 2000 groups involving as many as 60000 people took part at various time (Dr Bev Clark, Flinders University did her PhD on this Coastcare program). It embraced Dunecare. A team of coastal facilitators mostly located in local councils was able to provide on-ground local management of many problems confronting local communities (e.g. weed control).

C&CS also had coastal planning and introduced pest components. But by far the biggest component in funding terms was the Clean Seas program. I think around \$70+ million of approximately \$120m of C&CS was spent on projects that supported local councils for the most part. I chaired the NSW Assessment Panel and we must have allocated through the Minister about \$27m. These projects required matching commitments in cash or kind from councils. Some major contributions were made to improving water quality around our coastline through these grants. I am aware of improvements along the NSW coast, especially in Eurobodalla, Shoalhaven, Mosman, Lake Macquarie and Tweed councils, and have been informed of similar benefits to the environment in other states especially in Tasmania (the so-called Harradine effect under NHT1).

Despite some special pleading from many in the coastal fraternity, C&CS was abolished under NHT 2 (Senator Hill was now Minister for Defence and the coast lost its champion), although small vestiges remained (e.g. the Coastal Catchment Initiative or CCI). There was a clear call from others in NRM for the Regional Model and for more strategic investment by the Commonwealth following criticism of the perceived ad hoc grants allocation to farmers and others under NHT 1. There had been no explicit criticism of C&CS. However, the regional model of NHT 2 was based on bilateral agreements between states and territories. Local government was essentially excluded as a partner.

The new Caring for our Country initiative of the Rudd Government is persisting with the regional model although its functions are now under review. I understand that bilateral negotiations are continuing and I am not aware of any interest at this stage in entering into tripartite arrangements with local government through ALGA or state LG organisations. My experience is that under the regional model of NHT 2 the Australian coast lost a significant proportion of Commonwealth funding compared to investment to coastal communities, councils and the states under NHT 1.

The emphasis in allocations under the regional model of NHT 2 was for on-ground works on private land. There is no doubt that in principle such investments were needed, although their effectiveness has been recently queried by the Auditor-General. What were missing were

plans from many coastal NRM bodies to invest in coastal public land management including waterways and nearshore environments to follow on from the initial achievements of NHT 1. The Auditor-General had not commented adversely on those investments. Some NRM entities have begun to put resources into CZM but current reviews of federal and state funding is limiting implementation at this time.

Another somewhat sad outcome of the switch from NHT1 to NHT2 was the loss of Coastcare as a grants program. Envirofund was established as a more generic program for funding small community projects. Although Landcare Australia Limited retained the Coastcare brand, there was not the same sense of a coastal community network or social movement as there was under NHT 1. Moreover and with sad consequences, many of the dedicated coastal facilitators were not employed under Envirofund and the connection with local councils including invaluable infrastructure support, was broken. Hopefully the new Coastcare grants scheme under the Rudd Government will restore that which has been lost.

Recommendation (4): that the Inquiry considers the benefits to CZM that arose out of the tripartite arrangements and investments under the C&CS program of NHT 1; in its deliberations it is suggested that the Committee examine the effectiveness of a network of dedicated coastal facilitators that are linked to both local councils and regional NRM bodies and who can assist communities develop and implement projects that meet the strategic interest of national, state, regional and local governments.

5. National Cooperative Approach to ICZM

In 2006, the Natural Resources Ministerial Council released the Framework and Implementation Plan of the National Cooperative Approach to Integrated Coastal Zone Management (ICZM). Earlier versions had been considered by Ministers for the Environment and commented upon at national coastal conferences. The long awaited final report was the product of many years of discussion by the Intergovernmental Coastal Advisory Group (ICAG). I attended many meetings of the Group as Chair of the NSW Coastal Council. It consisted of representatives of the federal department on environment (various names over 6 or more years), state agency representatives (depending on the state the representative may be from environment, planning or works), and ALGA. The composition changed over the years with the exception of the representative from Tasmania.

Much of the impetus for the document flowed from concerns raised in SOE 2001 (see below). However, the prime driver for developing a so-called ICZM approach stemmed from the consistent views of representatives over this period of the national need to treat coastal issues in more holistic and less fragmented ways than is the norm in Australia. In essence this position reflects the position of the RAC in 1993. As stated in the document:

“The fundamental goal of ICZM is to maintain, restore or improve the quality of coastal ecosystems and the societies they support. A defining feature of ICZM is that it seeks to address both development and conservation needs within a geographically specific place- a single community, estuary or nation-and within a specified timeframe” (p.7).

The Framework document espouses quite strongly ESD outcomes, which by the early 2000s had been built into federal and state legislation as principles or objectives. The national

cooperative approach was to “provide a strategic tool for guiding national, state, regional and local coastal zone outcomes and add value to existing initiatives” (p.8). To this end ICAG developed an Implementation Plan to address the various pressures that affect the sustainable use of coastal resources.

Besides population growth, and the need to protect the coastal resource base, the document identified climate change as a driver requiring attention by Australians involved in managing and using the coastal zone.

“Climate change scenarios, if realised, will fundamentally affect natural, economic and social systems resulting in significant changes to the way the coastal zone is managed and used” (p.9).

As the Framework was signed off by the NRM Ministerial Council, this was the first time that there was national recognition by the Commonwealth, the states and territories and local government that climate change was an issue to embrace as part of CZM. Despite consideration by the PMSC in 1989, it took over another decade for concerns on potential impacts to be considered a national factor in planning and management. Why was this?

The Framework and Implementation Plan for ICZM in 2006 identified key themes for national action and six priority areas for national collaboration (confusingly listed as 5 in the Table of Contents, but included the catchment-coast-ocean continuum in the text). The discussion of the themes and priority areas will be considered in more detail in the next section of my submission on the terms of reference.

What is relevant at this point is to note three things: one is the struggle that many states had to obtain final sign off for a variety of reasons (from memory it took two states nearly 2 years to endorse the document); the second and most critical was that successive Commonwealth Environment Ministers refused to provide any funding to assist the implementation. As Minister Kemp said at Coast to Coast 2004 in Hobart, repeated by Minister Campbell in May 2006, the Framework and Plan is “cost neutral”. A third factor was that groups designated to implement actions in the Implementation Plan included a range of committees that had little interest or “ownership” of the issues.

Thus there were no incentives or direct leadership from the Commonwealth to support state and local councils in ICZM by making the Framework and Implementation Plan operational. To the contrary, this was a time when the federal government was closing down the Coast CRC; was showing little interest in a coastal CERF designed to support the Framework; in not developing a National Coastal Policy, an idea of Minister Campbell; nor in the initiative of CSIRO in AVCA (as noted above). Furthermore, there is evidence that State governments have simply ignored the agreement on the document that was endorsed by the NRM Ministerial Council.

Recommendation (5): that the Inquiry considers adopting the principle of ICZM as developed and agreed to by all parties to the Framework document and Implementation Plan, and examine the factors which have inhibited its acceptance as a basis for investment in the health and productivity of the coastal zone.

6. State of Environment Reports

There have been three SOE reports since 1996. I chaired the Committee responsible for the report in 2001. The most recent report was in 2006. The EPBC Act requires a report every 5 years.

As noted above, the 2001 report provided stimulus to the work of ICAG. What is evident in all three reports is that the pressures on the Australian coast and marine waters, the condition of coastal ecosystems, and responses to improve the management and land use planning of the coastal zone, leaves a lot to be desired. Several key SOE points should be noted:

- Management is still fragmented (2001)
- Human settlement and tourism is creating further loss of coastal habitat (2001)
- Nutrient loads and sediment runoff from catchments continues to adversely affect reefs and estuaries (2001)
- Our ability to measure condition has not improved since SOE 1996
- There are no surprises or new issues since 2001 (2006)
- That climate change will cause major impacts to the coast under current forecasts and “thus planning for adaptation to climatic variability should be a priority” (p.58 SOE 2006).

What is useful in these SOE reports is the view that problems identified in the 1990s are still prevalent, that climate change is an additional worrying factor, and the great need “to resolve existing problems remains as strong as ever in order to stem the slow decline of environmental quality” (p.58 SOE 2006).

Recommendation (6): that the Inquiry notes the documentation in all three SOE reports on pressures, conditions and responses associated with the health and management of Australian coastal environments; the Inquiry should also observe that these reports all flag deteriorating circumstances that unless addressed by all levels of government then future SOE reports are most unlikely to document improved conditions.

Climate Change and Environmental Impacts on Coastal Communities

The terms of reference for this Standing Committee Inquiry provide broad scope for consideration of a wide range of pressures on coastal communities around Australia. It is my view that this Inquiry has the potential to not just build on the reviews of the past, but to inform all levels of government that unless certain planning, management and institutional steps are taken the nation will continue to experience degradation of one of its most valued natural assets, the coast.

Climate change provides an additional stimulus for national action in addressing in a direct way coastal issues. The formation of a Department of Climate Change highlights the importance that the Rudd Government is placing on issues of mitigation and adaptation arising from potential impacts on Australia, including coastal communities and environments. So much is at stake in terms of vulnerable property assets, water security, endangered

habitats, tourism, etc. Following Stern and others, the cost of inaction now will escalate in the future unless we seek ways to manage and plan for adverse impacts of climate change.

Fundamentally, the Commonwealth does not possess sweeping reserve powers to intervene on the array of local, regional and state responsibilities that have historically permitted the perpetuation of fragmented, disintegrated CZM. Just as in health or education, it may not be at all appropriate to require federal leadership through a process of micro-management. But it is possible to put forward a case for negotiated agreement that offers conditional financial and technical support where there is a strategic need for consistent national action to address the continued pressures that impact adversely on coastal environments. There are examples where the Commonwealth has taken such action, for instance the Roads to Recovery Program.

Recommendation (7): that the Inquiry consider ways in which other Commonwealth funded programs that support state and local governments could serve as a model for a federal coastal action program similar to that proposed in previous HoR and RAC reviews.

Existing Policies and Programs.

CZM at state and local government levels varies considerably around Australia. The coastal edition of the publication *Waves in 2006* for the Coast to Coast 2006 Conference in Melbourne demonstrated these differences. There have been several changes since then, none of which were based on the 2006 ICZM Framework agreement of NRM Ministers. The creation of the Seachange Task Force and its publications also highlight the plethora of practices and issues in each state and how they are differently understood and managed in the political and administrative contexts of a particular jurisdiction in the absence of any federal direction or guidance.

Some states are undergoing reviews of their CZM systems (Victoria, Queensland). Others like NSW stick to their policy framework and details but dramatically change administrative structures. No doubt the Inquiry will receive submissions that offer details on state processes, policies and programs.

I am most familiar with NSW and it saddens me to say that despite some very effective policies and strategic thinking, the current administrative arrangements are far less coordinated than they were prior to 2005. The disaggregation of DIPNR into three separate departments in 2005 created a bureaucratic environment that was less conducive to ICZM than existed before.

Land use planning, natural resource management and infrastructure planning formed one department in DIPNR in 2003 and came under a senior Minister. Using internal processes, regional strategies were developed along the coast. The initial intention in DIPNR was to provide a strategic basis for statutory local plans (LEPs) that would be linked with Conservation Plans of the Dept. of Environment and the Coastal Zone Management Plans as set out in the Coastal Protection Act 1979 (as amended in 2002). This was a model that had the potential of developing powerful, coherent ICZM outcomes for the next 25 years and

included some consideration of climate change impacts (see for instance the Far North Coast Regional Strategy 2006).

The NSW regional strategies were to include the emerging Catchment Action Plans of the new CMAs. However, all this fell apart to a large extent when Premier Carr and other senior Ministers left office. Staff discussions became much more difficult as other conflicting forces started to prevail across agencies and Ministers. Regional strategies have subsequently been released as products of the Department of Planning. Their ability to drive integration across portfolio interests and to offer coastal communities commitments beyond the short term is now questionable.

This is the real world of operating under changing political leadership at a state level. Similar issues arise in local councils. Policies and processes of one council can be dramatically changed with new administrative or political leadership. Inquiries into the decision systems of coastal councils such as Warringah, Tweed and Wollongong in NSW reveal the difficulties staff may face in trying to achieve public good outcomes consistent with state policies and good governance. Even when a council seeks to embrace new thinking such as standards for assessing new developments in areas potentially subject to sea level rise, the senior staff of the council may create obstacles. This was demonstrated last year in the case of Gold Coast Council on the ABC Radio National program on climate change and local councils (Background Briefing 16 December).

Interestingly, SE Queensland offers two models for functioning at a catchment scale. The Healthy Waterways Partnership, initially driven by a forceful champion in the Lord Mayor, is a classic case where local and state agencies assisted by good science, can monitor impacts and thus drive management responses (refer to Healthy Waterways web site for details www.healthywaterways.org). The then Treasurer also drove the SEQ regional plan which attempts to integrate planning, resource management and infrastructure investment over the next 25 years. This is a very ambitious whole of government, whole of catchment undertaking and will require enormous political will to be implemented. Such a model became impossible in NSW after 2005.

Recommendation (8): that the Inquiry examine closely the catchment and planning models used in SE Queensland, in comparison with the regional strategies and other plans for local, coastal, regional and catchment planning in NSW, with a view to determining the effectiveness at a national level of a regional model that integrates land use planning, natural resource and conservation planning and management, monitoring, and infrastructure planning.

Catchment-Coast-Ocean Continuum

NRM at the regional catchment scale has been the cornerstone of NHT 2. The Commonwealth in association with the states under bilateral agreements have invested heavily in the regional model. The rationale for such investment is outlined in the 2006 Framework document referred to above (see p.23 of the document).

Commonwealth interests in the GBR and adjacent catchment health have been the driver for considerable action from a range of stakeholders. Such endeavours demonstrate that where a

particular set of problems arise in the national interest, authorities and processes can be developed to achieve outcomes to improve environments along the coast and offshore. The degree of success here is debateable, but one could argue that had the continuum approach not been adopted then we would be worse off than we are today. The approach used here is a foundation for future action.

The Framework document (2006) outlines a set of actions to implement objectives for the Priority Area No 1 –integration across the catchment-coast-ocean continuum. These are all very desirable actions. What is missing is the will to organise administrative boundaries and units in coastal areas to address their practicality. Amalgamation of LGAs and their relation to new regional NRM bodies is one issue. Both Queensland and Victoria have undertaken LGA boundary reform, but not with the purpose of achieving integration of local government and other government functions that overlap with local government. In coastal Australia, land-use planning boundaries do not often mirror natural boundaries.

Many catchment activities are undertaken by those with little concern for downstream consequences. This reflects a failure to understand the connectedness between physical and biological processes in a catchment as it extends into estuaries and coastal lakes, and seaward, with land use practices. Historically this has led to sedimentation and nutrient flows into estuaries and offshore with adverse environmental consequences. Even within estuaries, decisions to locate industrial plants and sewerage schemes have been made without appreciating the impacts on water quality (see *Injured Coastline* 1991 for details). The logical imperative is to plan and monitor in a catchment to sea framework.

To achieve the aim of better catchment scale integration, regional NRM bodies need to be empowered and resourced to manage the whole, interconnected system, and not, as is the case at present, only component parts. Not all states have statutory NRM bodies. In NSW, for instance, their statutory powers are limited to vegetation management in areas other than urban or areas designated to be urban or national parks. Cooperation with state NRM and planning agencies and councils is through agreements which are not monitored for effectiveness, at least at this stage. In other states, such as Victoria and Queensland, there are examples of better coordination through more extended powers to CMAs in Victoria (e.g. management of lake entrances which resides with councils in NSW), and the GBR catchment planning programs and work of the Healthy Waterways Partnership in SEQ.

Recommendation (9): that the Inquiry examines cases in Australia where there are programs that seek to integrate catchment- to- sea planning, management and monitoring, and utilise the actions listed in the Framework document 2006 as a guide to how different levels of government may best achieve integration across various components of the catchment-to-sea system.

Environmental Impacts of Coastal Population Growth

Previous inquiries have noted, with considerable force, that population growth is a significant factor in the degradation of coastal environments. Concepts such as “death by a thousand cuts” and “tyranny of small decisions” arise in CZM from an appreciation of pressures and

impacts on coastal resources and values. Those coastal areas that are attractive to settlement are also the subject to the forces of “contested space”. This means that there is frequently a clash of values between those seeking to protect coastal values as they perceive them and those seeking to meet the market demand for property, tourist and recreational development. There are also clashes between those keen to progress the “old” coastal economies of fishing, agriculture, mining and holiday homes (e.g. caravan parks), and those “new” interests keen to develop high rise apartment complexes, eco-tourist resorts, Greenfield housing estates and canal estates.

Australia has experienced all these changes in the post WW2 period. The emergence and continued growth of the Gold Coast reflects one end of the spectrum of mega-development. With over 1500 people per week moving into SEQ, pressures on environmental conditions remains and has led to major investments to protect coastal assets such as beaches and tidal waterways. Other forms of coastal settlement including the commuting belts near cities, all the way to isolated hamlets, reflect choices made by Australians to live on or near our beaches, estuaries, coastal lakes and headlands. Nicole Gurran of Sydney University has described these various settlement types in the context of population expansion as part of her research for the Sea Change Task Force. Other important studies of the dynamics of population change in coastal Australia are those by Bernard Salt, *The Big Shift*, 2003, and by Burnley and Murphy, *Sea Change*, 2004.

As a coastal nation undergoing continued migration from overseas, there is the expectation that population in coastal areas outside metropolitan centres will continue to grow. Regional plans in most states are based on the assumption of continued growth. For instance, the Far North Coast Regional Strategy in NSW refers to the need for planning to accommodate 60000+ more people and 51000 new homes over the next 25 years whilst the South Coast strategy expects 45000 new homes over this period. The SEQ plan and the Coastal Spaces program in Victoria are also linked to more people seeking to live, holiday and work in coastal areas. North and south of Perth there have been and probably will continue to be growth rates in excess of 3 % per year. Pressures on some councils have been so great as to consider a population cap (Noosa), but others such as Shoalhaven do all they can to promote growth.

In addition, there is the expectation that for many coastal areas, the population will age. Whilst this tendency is not evident to a degree that many believe will happen demographers and planners are having to factor into plans this possibility. The impact of an older community on services is apparent in their thinking (see the NSW coastal regional strategies). It also raises broader issues of sustainability for coastal communities, to be discussed below.

Population growth in coastal areas has had and potentially will continue to have, a number of adverse impacts on coastal environments. These are well documented in previous federal reports from 1980 to 2006 and need not be repeated here. What is clear to me is the lack of consistent mechanisms across jurisdictions to address the consequences of continued development. The following may be of relevance to this Inquiry:

- Some states have prescriptive land use zones in coastal areas of high habitat value which prevent property owners from selling or using their land or parts of their land for development (e.g. SEPP 14 Wetlands in NSW).
- There is considerable flexibility and criteria in the way state Ministers can call in developments and take away powers of local councils as consent authorities.

- Many LGAs are dominated by developer interests as shown in local council inquiries in NSW; this may reflect the growth mentality of those in a community that can benefit personally from continued development (especially areas where there is a high proportion of male employment in the building industry).
- There is considerable variability in the ways states and councils obtain levies from developers in order to maintain and improve environmental conditions that have been affected by the development.
- Cumulative impacts are rarely assessed as part of the development process especially where developers are responsible for Environmental Impact Statements.
- NRM entities such as CMAs have little or no consent powers over the spread and impact of development in coastal areas.
- Public land management and protection of environmental values in areas subject to development as approved by councils, the Minister or the courts, mostly become the responsibility of councils; there is often concern that rate pegging or a general inability to raise levies inhibits councils in exercising this responsibility (for instance there is no equivalent to the NSW s94 contributions in WA); this raises questions of the need for rate relief for areas to be protected and for federal local government grant support.

Recommendation (10): (a) that the Inquiry obtain from ABS and the States up-to-date data on population trends at LGA level around the Australian coast up to 2030; (b) that the Inquiry review those issues which arise from the challenges facing councils in managing coastal lands and waters as they are impacted from developments that meet the demands for new housing near the coast; and in particular (c) the Inquiry examine the diversity of funding mechanisms available to coastal local councils in the different Australian states to determine if there is need for a COAG agreement or some grant mechanism to ensure councils have a stronger and consistent capacity to manage the challenges of population growth and demographic change as well as other challenges.

Impacts of Climate Change

Previous HoR inquiries on coastal matters have not examined the potential impacts on coastal environments and communities of climate change, despite warnings that emanated from scientists as far back as 1987 (Greenhouse 87 conference) and 1989 (PMSC).

The work of the IPCC involving substantial contributions from scientists in Australia, and the higher level of certainty that human activities are driving the globe into warmer and more hazardous conditions, has resulted in a stronger policy response to the threats and opportunities of climate change. Australia, a major emitter of greenhouse gases per person, is also very vulnerable to impacts given its geographical position affecting security of water supplies, and population concentrations on the coast. This means that we must now plan ADAPTATION strategies and seek ways to reduce our national exposure to negative impacts.

Difficulties facing formulation and implementation of adaptation strategies relate to scientific uncertainty, the need for consistent national information and guidelines, institutional structures and funding arrangements from federal to state to local governments.

With each new IPCC report new information is available to help decision makers. The use of bands to project temperature or sea level rise is inevitable given the uncertainties of future emissions. However, in adaptation planning it makes sense to work with worst case scenarios and see what they mean in terms of consequences on properties, investment and the need to take local action to reduce risk. But IPCC reports can be conservative. New data on ice sheet melting, for instance, is suggesting a rate of increase in sea level above the top band of IPCC 2007. This is scary stuff as discussed by scientists at Greenhouse 07 in Sydney. Moreover, inertia in ocean warming indicates sea level will continue to rise beyond a plateau in emissions of greenhouse gases. All this has potentially damaging consequences for icon environments such as the GBR which is subject to pressures from the land runoff of nutrients and sediments, sea waters becoming more acid as CO₂ increases and higher temperatures leading to coral bleaching (see recent book by John Veron, 2008, on threats to the GBR).

At present, we do not have a consistent national information system that can help guide decisions for different coastal regions. Crude estimates of properties at risk from climate change around our coast as presented to PMSEC in 2006, based on elevation and insurance calculations, number c. 700000, but is this an under or over estimate? We need to better communicate what we know and seek to know more!

John Church of CSIRO using satellite altimeter data has shown regional variations in rates of sea level rise around the Australian coast. On top of this there are periodic sea level anomalies that raise tidal levels again with considerable spatial variability. We must know more about this new work, but importantly find ways to communicate the information to stakeholders. This point highlights the need to plan for different probabilities of shoreline erosion risk as discussed by Peter Cowell of Sydney University and myself in a paper in the *Journal of Coastal Research*, January, 2006.

It is also important to assess the risk of both flooding under scenarios of sea level rise. This is what I term the "Venice Effect". There will be increasing frequency of inundation on high tides of low lying lands as is occurring in Venice. More intense storms may lead to floods similar to that experienced by Newcastle in 2007. They will have enormously devastating impacts on coastal communities when they coincide with high spring tides as sea levels rise.

We now possess the technology to assess elevation at high resolution. ANZLIC in association with a team from the Academy of Technological Sciences and Engineering and the Academy of Science are reviewing proposals for national digital elevation modelling (DEM). This activity stemmed from a COAG decision to examine the value to Australia of a comprehensive DEM. Of concern to COAG were issues of coastal vulnerability to climate change, storm surges and tsunamis. Airborne Laser Scanning (LIDAR) is the preferred technology for obtaining high resolution elevations at to 15cm at 1m area. Already many areas are being mapped using LIDAR such as the Central Coast of NSW for the Department of Planning. Some areas are mapped for organisations under different levels of confidentiality. The Department of Climate Change is sponsoring vulnerability assessment, including the use of LIDAR. All this information needs to be accessible through a federal agency such as Geoscience Australia.

A coastal information system could also be the source of guidelines to assist managers adapt to climate change. Some states and councils are adopting for planning purposes an upper level for expected sea level rise by 2100. They vary from less 0.5m to 1m+. There is no mechanism for guiding such actions at a national level based on emerging scientific information relevant

to different regions. Technical expertise must be available at a national centre to assist decision makers with modelling and collection of field data relevant to ICZM, including modelling probabilities of inundation and shoreline change for different sections of the Australian coast.

The absence of a national ICZM framework that can implement guidelines in the best interests of the nation limits the capacity of Australia to adapt to climate change. There is no national information system linked to user needs as proposed by CSIRO and GA in 2006. Oz Estuaries in GA may be seen as the start of such a system as is the work of ERIN, but neither have developed a comprehensive approach that will support local and regional decision making. Furthermore the dysfunctional nature of state coastal administration given the existence of so-called silos inhibits the capacity of the country to respond in a consistent and integrated way to coastal planning and management issues across various levels of government. Whilst there are some notable exceptions to this statement, it is none the less true that our ability to plan to adapt to say a metre rise in sea level is unclear.

We will reach “tipping points” in each and every coastal community around our coast as sea level continues to rise. Each tipping point needs to be assessed in relation to the nation’s capacity to pay. When will barrages be needed at Port Philip or Botany Bay? When will the very low third runway at Sydney Airport need to be elevated? When will houses around Swansea need to be relocated as here a 1m sea level rise will inundate 100% of properties adjoining Lake Macquarie? And when will levees, pumps and seawalls be demanded by property owners at risk of inundation or erosion? Already communities like Gosford are experiencing more drain flooding by sea water at high tides causing corrosion and the need to replace infrastructure (Cr Robert Bell, personal communication).

Recommendation(11): that the Inquiry (a) note the lack of a national coastal information system based on emerging science which if organised to provide support for decision makers, could be used to develop guidelines following an agreed nationally consistent technical base for coastal planning and management; (b) examine and support the application of a national DEM program in coastal vulnerable areas and ensure that the information is publicly available; and (c) following consultation with federal science agencies, such as CSIRO, BoM, and GA, advise Government on the urgency to establish a comprehensive coastal information centre which can offer both technical and funding support to local authorities and others managing the coast.

Governance and Institutional Structures

Much of what has been said and commented upon by previous inquiries, and by academics in CZM, highlights a dysfunctional system for integrating science, information, policy, and decision making in planning and management. As a federation with a constitution that has limited federal engagement in coastal matters, we understand what are the limitations in developing a national coastal policy, legislation. Information system, advisory council or whatever has been recommended in the past.

The 1980 HoR Inquiry discussed the US model. The 1991 Inquiry recommended the adoption of an Act of federal parliament similar to the US CZM Act 1972 as amended. Constitutionally the US is able to have direct involvement in land and water management and federal agencies

exist to make this happen in the coastal zone and elsewhere. The Department of Commerce has powers in port management; the US Army Corps of Engineers has a long tradition of coastal protection; and as noted above, NOAA manages the funding and criteria for grants to the states under the Act. Clearly this model made an impression on those involved in previous inquiries including the RAC.

The thinking behind the US model as applied to a federation is to give the federal government powers and responsibilities to ensure:

- Technical and financial support to those involved in local CZM according to best information available.
- That there is a high level of consistency in the management of the coast by all federal, state, regional and local authorities—the so-called consistency provision.

Both requirements are needed in Australia. The situation in 2008 is no different institutionally to 1993, with three notable exceptions:

- We do have a COAG agreement (2006) to proceed with evaluating coastal vulnerability, and a ICZM Framework and Plan (2006) agreed by all NR Ministers despite issues of funding and who is to implement actions.
- Local councils have better articulated their difficulties in managing areas of population growth, especially through the efforts of the Sea Change Task Force.
- Following an appreciation of climate change science, adaptation to impacts of climate change is now on the agenda of the Rudd Government, and the urgency to get agreed action is appreciated more and more by coastal communities even if the full consequences to these communities remains uncertain.

These three points offer a foundation for better institutional integration. This will require strong leadership from the Commonwealth Government because there will be resistance from within and between agencies of all levels of government, and possibly from sectors in the development industry who see advantages commercially in working in an investment climate with few environmental constraints.

Coastal planning and management crosses many institutional lines. Nowhere is it the province of a single agency as it encompasses land use planning, development assessment, land and water surveys of habitat conditions, fishing, tourism, port operations, beach safety, weed control, property protection, and provision of public access and so on. To achieve ICZM there must be mechanisms to consult across agencies which have different statutory powers in different states. But we should go beyond consultation and provision of information and advice. The challenges of CZM today and for future generations requires the formulation of a national system that rewards best practice based on criteria informed by science and priorities for federal expenditure. What would make up such a system that would go some way to addressing these challenges? The following 5 step model is offered for consideration by the Inquiry:

1. A Commonwealth National Coastal Policy, to be developed in consultation with the states and local government through COAG, that defines the national need for direction and sets out the principles, objectives and actions that a federal government must undertake to address the challenges of ICZM for Australia.
2. Consider the advantages of the Commonwealth enacting a CZM Act which establishes its interest in the coastal zone across all areas of national interest (not exclusively environmental) along the lines set out in R.9 and R.12 para.6.37 of the HoR Report on

the Injured Coastline, to include indemnification provisions for actions taken in good faith by public authorities that have followed agreed national guidelines and criteria similar to provisions in s 733 of the NSW Local Government Act 1993 (as upheld by the High Court in 2005).

3. Establish within an existing federal agency a Coastal Division that is responsible for coordination of federal interests including the monitoring of environmental conditions using a scheme of Environmental Accounts ; it could be headed by a Coastal Commissioner with Deputy Secretary status; it should receive and evaluate requests for financial and other assistance to assist states, regional entities and local government in CZM following agreed national guidelines and criteria including those linked to potential impacts of climate change; and following consultation with other federal agencies as appropriate, recommend to a designated Minister grants for approval.
4. Reinforce the capacity of a federal science agency to serve as the manager of a National Coastal Information System (NCIS) which will be in a position to fund new science on coastal physical, economic and social systems (similar to NOAA in the US?).
5. Establish an external Coastal Advisory Council consisting of various stakeholder interests, to review and to offer technical advice on all activities under the Policy and the CZM Act, and the effectiveness of the NCIS and monitoring; to meet at least once a year in consultation with the Coastal Commissioner or equivalent officer; and to report to COAG through a designated Federal Minister.

Introduction of these 5 steps would make possible an approach to ICZM in Australia that goes far beyond the agreed Framework document by NRM Ministers in 2006. Note if legislation is to be enacted, it should be new legislation and not simply amendments to the EPBC Act 1999 or NHT legislation as their scope limits the ability of the Commonwealth to directly support coastal programs across the range of CZM interests

Recommendation (12): that the Inquiry considers the 5 step model outlined in this submission as a mechanism to improve the governance of the coastal zone.

Sustainable Coastal Communities.

To achieve sustainability in coastal Australia, consideration must be given to:

- Population growth and demographic ageing of many “sea change” areas, including the need to ensure effective delivery of services and provision of infrastructure required for continued community well-being, preferably in areas with minimum risk to flooding, sea-level rise inundation and shoreline erosion..
- Existence of conflicts over land use with developer pressure to both intensify settlement with high rise apartments and expand into Greenfield sites, all with the potential to adversely impact on waterways or high conservation lands unless carefully planned and managed for immediate and cumulative impacts.
- Desire of many with the ability to pay and not be insured to occupy, protect and develop property in hazardous areas close to beaches and estuary foreshores with potential adverse effects on beach habitats, amenity and access and a possible legal claim for compensation when property is damaged or destroyed.

- Expansion of recreational boating putting pressure on governments to open estuary and lake entrances and develop marina and canal estates with possible adverse impacts on the ecology.
 - Passion of communities to invest personal resources into maintaining or improving coastal habitats often without sound scientific support.
 - The need to maintain as part of Australian coastal culture “access to and along the foreshore” often at the expense of private property interests—we should resist developments that are “gated” and deny public access to beaches, headlands and estuary foreshores (compulsory and voluntary acquisition is now underway in NSW to achieve this aim under the long established Coastal Lands Protection Scheme).
 - 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—if coastal CMAs had this as their primary focus in the CAPs it would be an achievement for ICZM.
 - Water security for growing coastal communities must be secured by a range of supply and demand measures, including use of desalinisation, recycling (see REMS scheme in Shoalhaven part funded under NHT 1), water sensitive urban design like that advocated by the Healthy Waterways program in SEQ, and other conservation measures that enhance the presence of native plants that are drought tolerant.
 - Whether it is necessary for a national coastal policy to include the need to protect coastal agricultural lands that may otherwise be lost to urban development or rural residential settlement.
 - The importance of knowing how coastal economies are functioning and their contribution to the state and national GDP in ways similar to that used in California (see www.coastaleconomics.org) in comparison with dependency on welfare.
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- The need to introduce and offer incentives for developers to apply the principles of sustainable urban design that ensures adaptation to climate change impacts and reduces risk of property damage from storms and rising water levels, and provides best and affordable energy savings—the NSW Coastal Design Guidelines 2002 helped developers and councils appreciate these concerns.
 - To accept the need to adopt new institutional structures and criteria that can be consistently applied around the Australian coast so that no state or local consent authority or a developer can exploit for short term profit planning provisions that lead to future liabilities and environmental costs to the nation.
 - For the nation to have a system of Environmental Accounts, perhaps modelled on the Healthy Waterways program in SEQ, to report on changes and capacity of coastal regions to achieve sustainability.

These are some of the elements which I feel could contribute to higher levels of coastal sustainability in a world of global warming and economic and population growth in Australia.

Recommendation (13): that the Inquiry consider the range of elements that constitute progress towards community sustainability in coastal Australia, and offer advice on how

governments at all levels can work towards sustainability in the context of other recommendations.

Recommendations

Recommendation (1): that this Inquiry closely examine the relevance of the findings and recommendations of the 1980 HoR Standing Committee, especially in regard to (a) the necessity to improve the dissemination of information; (b) the advantages of an Australian Coastal Council; and (c) for a role by the Commonwealth in using some form of agreed guidelines for the allocation of national funds.

Recommendation (2): that the Inquiry examines the present day relevance of proposals contained in the Injured Coastline, in particular, the model of performance based funding for regional plans linked to the activities of local government, and how such a proposal would best function under federal legislation.

Recommendation (3) : that the Inquiry look closely at material contained in the RAC 1993 report, including the dissenting report, and in particular, examine firstly the relevance of administrative arrangements that potentially would involve more efficient and effective consultation across all levels of government; secondly, the need to introduce local and regional “integrated” plans following nationally accepted objectives and criteria as outlined in the report; and thirdly, the need to develop some best practice guidelines that would ensure better on ground environmental outcomes as suggested by Commissioner Graham.

Recommendation (4): that the Inquiry considers the benefits to CZM that arose out of the tripartite arrangements and investments under the C&CS program of NHT 1; in its deliberations it is suggested that the Committee examine the effectiveness of a network of dedicated coastal facilitators that are linked to both local councils and regional NRM bodies and who can assist communities develop and implement projects that meet the strategic interest of national, state, regional and local governments.

Recommendation (5): that the Inquiry considers adopting the principle of ICZM as developed and agreed to by all parties to the Framework document and Implementation Plan, and examine the factors which have inhibited its acceptance as a basis for investment in the health and productivity of the coastal zone.

Recommendation (6): that the Inquiry notes the documentation in all three SOE reports on pressures, conditions and responses associated with the health and management of Australian coastal environments; the Inquiry should also observe that these reports all flag deteriorating circumstances that unless addressed by all levels of government then future SOE reports are most unlikely to document improved conditions.

Recommendation (7): that the Inquiry consider ways in which other Commonwealth funded programs that support state and local governments could serve as a model for a federal coastal action program similar to that proposed in previous HoR and RAC reviews.

Recommendation (8): that the Inquiry examine closely the catchment and planning models used in SE Queensland, in comparison with the regional strategies and other plans for local, coastal, regional and catchment planning in NSW, with a view to determining the effectiveness at a national level of a regional model that integrates land use planning, natural resource and conservation planning and management, monitoring, and infrastructure planning.

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Recommendation (12): that the Inquiry considers the 5 step model outlined in this submission as a mechanism to improve the governance of the coastal zone.

Recommendation (13): that the Inquiry consider the range of elements that constitute progress towards community sustainability in coastal Australia, and offer advice on how governments at all levels can work towards sustainability in the context of other recommendations.