# Lake Wollumboola Protection Association Inc

PO Box 90
Culburra Beach NSW 2540

Phone/Fax: (02) 4447 2185
Email: lakewoll@shoalhaven.net.au

Submission No: 84
Date Received: 9-6-08
Secretary:

Committee Secretary,
Standing Committee on Climate Change,
Water, Environment and the Arts,
PO Box 6021 House of Representatives
Parliament House Canberra, ACT 2600

Dear Secretary,

9th June 2008

**Submission to the Inquiry into climate change and environmental impacts on coastal communities.**

I refer to my letter of the 30th May confirming that I wished to lodge a submission to the Inquiry. Please find attached my submission on behalf of the Lake Wollumboola Protection Association Inc.

This submission addresses all of the Terms of Reference of the Inquiry from a NSW South Coast region perspective, taking into account the knowledge and experience of members of the Association. Narelle Wright took most of the photographs contained in the submission.

Please find attached a copy of the submission together with a CD copy. Attachment 2 is included with the text copy.

Members of the Lake Wollumboola Protection Association Inc (LWPA Inc) have been active since 1993 in initiatives to protect Lake Wollumboola and its catchment. We are a local community environment group involved in advocacy, community education, bushcare, wildlife protection and historical research. Our objective is to achieve protection of the natural environment of Lake Wollumboola and its catchment, with support from the community. The Association is a member organisation of the Nature Conservation Council of NSW.

The contributions by members of the group to the protection of Lake Wollumboola have been widely recognised. The Australian Conservation Foundation awarded its national Peter Rawlinson prize to Frances Bray and Keith Campbell in 2000. The Southern Rivers Catchment Management Authority awarded its Nature Conservation Award to the Lake Wollumboola Bushcare Group in 2007. I received the Dunphy Award, for the best environmental effort by an individual in 2007 from the Nature Conservation Council of NSW.

Yours faithfully,

Frances Bray, PSM BA Dip Ed, B Ed
President
Phone 02 444 72185 francesbray@bigpond.com

# Inquiry into climate change and environmental impacts on coastal communities May 2008.

**Lake Wollumboola**

## Submission on behalf of the Lake Wollumboola Protection Association Inc. by Frances Bray.

## Table of Contents

## Scope of Lake Wollumboola Protection Association Inc submission.

This submission addresses all of the Terms of Reference from a regional perspective, taking into account the knowledge and experience of members of the Association. Primarily the submission discusses issues of concern regarding the natural environment especially the impacts of population expansion, urban development and climate change on the terrestrial environment and coastal lakes and estuaries of the South Coast and their catchments.

The submission concentrates on measures relevant for maintaining and protecting the natural environment of the South Coast of NSW and measures to assist coastal communities to manage and adapt to climate change. Lake Wollumboola and other sensitive locations in the Jervis Bay Region are used as case studies to demonstrate the impacts of development and increased population and to propose the most effective measures to protect them from existing pressures and from climate change.

The submission also touches on issues relating to maintenance of Aboriginal cultural heritage and relating to the character of coastal communities. The marine environment and social and economic issues are mentioned but not addressed in detail.

Mechanisms to promote sustainable use of coastal resources are discussed under Terms of Reference 1 and 2. This discussion is limited to urban development and does not deal with uses such as agriculture or tourism. A summary of recommendations follows the Executive Summary. Recommendations are also highlighted at the beginning of key parts of the submission.

Lake Wollumboola is located at Culburra Beach, on the NSW South Coast, 21 kilometres south east of Nowra, between the Crookhaven River Estuary and Jervis Bay.

## Executive Summary.

There is substantial evidence of irreversible damage to the coastal environment from the impacts of development and population expansion. Measures to better protect the natural environment and cultural heritage of the coast are known. Governments have to some extent moved to implement them. However current levels of activity are overshadowed by the challenges we now face.

Under Term of Reference 1 this submission considers current policies and programs at Commonwealth, NSW State, Regional and local Government levels. A major concern in NSW is the extent to which recent reforms have significantly reduced the capacity of Government and coastal communities to deal with the challenges involved in environment protection and ecologically sustainable development and now climate change. The resulting policy vacuum is a cause of great concern. Leadership on coastal matters has suffered since the abolition of the NSW Coastal Council, at the very time that it was most needed. The comprehensive objectives and strategy of the Coastal Policy particularly those for Ecologically Sustainable Development have been sidelined.

A policy of "Coastal Development" appears to have replaced the "Coastal Protection" Policy.

The current emphasis on facilitating large-scale coastal development must change to enable coastal environments and communities to survive further degradation and the loss of coastal formations, ecosystems and biodiversity that climate change is likely to bring.

The most effective ways of protecting the coastal environment include large-scale expansion of the National Reserve System, the implementation of Regional Planning Strategies and establishment of Regional Bodies to integrate protection, planning and management. It is critical that coastal ecosystems of International, National, State and Regional Conservation importance are conserved and maintained in the National Reserve System.

Regional Planning Strategies are central to ensuring that development is prohibited in sensitive coastal areas whilst at the same time directing the location and pace of settlement and managing population pressures. Regional co-ordinating bodies are essential for facilitating management of natural resources over the entire landscape including public as well as private lands and providing advice and support to local Councils.

With regard to Term of Reference 2, this submission argues that development expansion should not be permitted in the catchments of highly sensitive high conservation value coastal lakes and estuaries in order to protect coastal vegetation and biodiversity, habitat corridors, water quality and lake and estuary processes. Nor should development be permitted in areas prone to coastal hazards. There is overwhelming evidence of the collapse of coastal lake and estuary systems as a result of increased sedimentation, nutrient enrichment and other pollution as a result of urban development and population pressures.

Planning for development in the coastal zone should ensure that development is focused around existing development centres with no new towns or villages allowed to avoid such adverse impacts on sensitive coastal environments.

Both Commonwealth and State/Territory Governments will need to significantly increase the levels of funding available for purchase of high conservation value coastal lands, for improved Regional planning, for protection of Aboriginal heritage, for community education and to assist coastal Regions and local Government to adapt infrastructure and their economies to significantly changed circumstances.

With regard to Term of Reference 3, the submission argues for a Coastal Climate Change Package of both mandatory requirements and guidelines for coastal regions and communities to support them in adapting to climate change. Of critical importance is the reservation of largescale areas to support entire ecosystems, to establish ecological corridors to facilitate connectivity and migration.

Coastal lakes and estuaries, beaches, dunes and rocky reefs and the ecology of the coast with its abundant aquatic life and birdlife and will be transformed. Climate change adaptation requires appropriate science including coastal geomorphology, hydrology and ecology to assess the vulnerability of the coastal zone and accurate mapping of coastal formations, ecology and vegetation, existing development and infrastructure as the basis for priority strategies.

With regard to Term of Reference 4 the discussion focuses on the need for a change in prevailing values and priorities on the part of both Governments and coastal communities. The over-arching commitment to economic growth permeates at all levels of Government and the community, ignoring that fact that the world's natural resources are finite and cannot withstand the pressure continuous growth.

There is a massive gap between the knowledge and understandings of the scientific community and Government agencies and regional communities with regard to impacts of development and growth on the environment and with regard to the impacts of climate change. Governments must make community education and engagement a high priority of a National Coastal Policy.

This part of the submission also deals with mechanisms for the management and location of future population growth and settlement and the role of planning and development controls in maintaining the character of coastal towns and villages, whilst improving their sustainability.

With regard to Term of Reference 5 the submission argues for a National Coastal Policy and Strategy. The future of the coast must be given high priority. Governments must take the lead in developing, implementing and evaluating a co-ordinated National Policy and Strategy.

A National policy should define the guiding principles and aims, set the priorities and strategies in place to enable coastal communities to prepare for the future.

The policy should;

- aim to conserve coastal environments and catchments whilst managing the impacts of climate change to minimise loss of coastal landscapes and catchments, processes and biodiversity through a nationally consistent approach.

- aim to maintain the social and economic resilience of coastal communities and Aboriginal Cultural Heritage and facilitate the capacity of communities to respond to climate change.

A National Coastal Policy would facilitate the development of nationally consistent standards for the quality of governance with regard to ethics, transparency and accountability, equity and the primacy of the public interest over sectional interests, guaranteeing the community's right to know, to be consulted and engaged.

An organizational structure is proposed, including a National Coastal Commission, Coastal Councils established by State and Territory Governments and Regional Coastal Co-ordinating bodies.

## Recommendations

*The National Reserve System*

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

2. **Where coastal ecosystems of high conservation value are not well represented in the National Reserve System, Commonwealth, State and Territory Governments should provide additional funds. The purpose of such funding should be to increase habitat corridors to protect biodiversity from development pressures and to assist in climate change adaptation. A major injection of funds is needed to bring high priority sites currently in private ownership into the Reserve System.**

3. **The Commonwealth Biodiversity Refuges Project to identify new protected areas to reduce the impacts of climate change, should specifically address coastal ecosystems recognized as areas of international, national, state/territory and regional conservation importance and those ecosystems and species at risk from development. Commonwealth acquisition policies should aim to protect these areas whatever their ownership status.**

*Areas of National and International Conservation Significance*

4. **The Commonwealth Government should give consideration to the proposal for World Heritage listing for NSW South Coast Lakes and estuaries and to listing them as areas of National Importance. Creation of this category in the Environment Protection and Biodiversity Conservation Act would be a possible mechanism.**

5. **Coastal wetlands of National Importance as well as of International Importance should be protected under Commonwealth legislation.**

*Threatened species and Endangered Ecological Communities, Migratory species.*

6. **Species and Endangered Ecological Communities listed in the NSW Threatened Species Conservation Act should be afforded protection under the Commonwealth Environment Protection and Biodiversity Conservation Act.**

7. **As a priority the Commonwealth Biodiversity Refuges Project should focus on species and ecological communities listed as threatened under both Commonwealth and State legislation, with particular emphasis on coastal species that would be especially impacted by climate change and sea level rise, such as migratory shorebirds and indigenous water birds.**

**Ecologically Sustainable Development**

8. **Reforms to the Environment Protection and Biodiversity Conservation Act should be considered to ensure that coastal sites of conservation significance are protected from degradation due to development.**

**Natural Resource Management**

9. **The Commonwealth and State/Territory Governments should consider strengthening the regional co-ordinating role of the coastal CMAs to improve outcomes in coastal region environment protection, planning, development and natural resource management, and restoring recent funding cuts understood to be 60 % by the Commonwealth and 26 % by the NSW Government.**

***Major Development Projects in the coastal zone***

10. **Commonwealth and State/Territory Governments should endorse nationally consistent mandatory standards for the assessment and approval of Major Development Projects in the coastal zone to ensure that they are ecologically sustainable, taking climate change impacts into account.**

***Regional Planning Strategies for the Coast.***

11. **Coastal Regional Planning Strategies should be the principal means to achieve integrated, total catchment planning for protection of biodiversity, water quality, cultural heritage, natural resource management and ecologically sustainable development. Regional Strategies are also critical in managing and limiting population increase on the coast to ensure that future settlement is ecologically, socially and economically sustainable. Commonwealth and State/Territory Governments should endorse standards for Regional Strategic Plans for the coast.**

**Aboriginal and Torres Strait Islander Cultural Heritage**

12. **The protection of Aboriginal and Torres St Islander cultural heritage and the involvement of Aboriginal and Torres Strait Islander people in coastal protection and management decisions should be an integral part of a National Coastal Policy and Strategy.**

***Protection and acquisition of high conservation value coastal lands.***

13. **Both the Commonwealth and NSW Government should act urgently to ensure that critical parts of the Lake Wollumboola catchment are acquired for the Reserve system and to ensure that the listing of Lake Wollumboola under the Ramsar Convention is regarded as high priority.**

14. **An increased proportion of NSW coastal waters needs to be protected to ensure all marine bioregions are well represented and afforded the best opportunities to adapt to climate change**

***Biodiversity, Threatened Species and Endangered Ecological Communities***

15. **Urgent consideration should be given to the impacts of the NSW Biodiversity Banking legislation on coastal biodiversity in view of the report from CSIRO "Implications of Climate Change for Australia's National Reserve System- a preliminary Assessment."**

16. **Conservation and management programs for coastal Threatened Species and Endangered Ecological communities especially those at risk from climate change should be accorded high priority and funded accordingly.**

*Natural Resources Commission and the Southern Rivers CMA*

17. **Natural Resource targets should include maintenance of coastal formations, processes and ecosystems such coastal lakes, estuaries and wetlands as well as beaches, dunes, headlands and rocky reefs and direct priorities and funding and to enable evaluation of outcomes.**

18. **Coastal natural resource targets should be fully integrated into coastal planning and development strategies as mandatory requirements.**

19. **Coastal CMAs should promote NRM Community education for the general coastal community as well as the capacity of NRM volunteers and personnel.**

*Local Government.*

20. **Standards of integrity need to be developed for local coastal Councils to minimize political interference in local Government programs for environment protection, NRM, planning and development approvals and climate change adaptation.**

*Coastal catchments- impacts on native vegetation, biodiversity, threatened species and Endangered Ecological Communities.*

21. **The principal ecologically sustainable mechanisms for protecting native vegetation and biodiversity are planning and acquisition measures that prohibit development in such areas and gazette them as part of the reserve system.**

22. **Governments must prevent the continued clearing of large areas of coastal native vegetation for development, to reduce green house gas emissions and as the most effective means of protecting biodiversity and water quality.**

*Impacts on Coastal Lake and Estuary catchments, processes, water quality and biodiversity and mechanisms to promote sustainable use.*

23. **Coastal planning measures should prohibit development expansion in the catchments of sensitive coastal lakes and estuaries especially ICOLLS. The classification system recommended by the NSW Coastal Lakes Inquiry for protection and management of coastal lakes should be investigated for its relevance to coastal lakes and estuaries in other States/Territories.**

24. **Sustainability Assessments of coastal lake catchments already modified by development should be conducted to establish the extent to which cumulative impacts of proposals for development and other land uses are sustainable and before additional development areas are approved.**

25. **Mandatory standards should be required for Water Pollution Controls for all coastal development likely to have impacts on coastal water quality.**

26. **Urban Water Quality Improvement Programs should be established in developed areas on the coast already assessed as causing significant deterioration in sensitive coastal waters.**

27. **Sewerage infrastructure likely to pollute sensitive coastal waters should be progressively reviewed and if necessary removed replaced or realigned.**

***Impacts on coastal environments from direct population pressure and mechanisms to promote sustainable use.***

28. **Lake and Estuary Management Plans should aim to maintain the natural processes of coastal lakes and estuaries, especially the entrance regimes of ICOLLS.**

***Impacts on the coastline-dunes, beaches and rocky reefs.***

29. **Development should be prohibited on coastal dunes and headlands.**

30. **Coastal Management, Foreshore Management Plans and Bushcare/Landcare Programs should aim to protect coastal land forms, water quality, native vegetation, biodiversity and cultural heritage, especially Aboriginal heritage and to manage access and uses.**

***Climate change impacts.***

31. **A National Coastal Policy and Strategy should include development a package of both mandatory requirements and guidelines for climate change adaptation in coastal regions, including the coastline, coastal lakes and estuaries and their catchments. Of critical importance is the reservation of largescale areas to support entire ecosystems, to establish ecological corridors to facilitate connectivity and migration.**

- **The climate change package should include strategies for maintaining existing coastal values, processes and biodiversity, for identifying ecosystems, species and vegetation communities at particular risk and strategies for dealing with threats from bushfire, pests and weeds.**

- **The climate change package should also address climate change impacts on Aboriginal cultural heritage on the coast and strategies for protection and management.**

- **The climate change package should also include education strategies for the general coastal community as well as those already responsible for conservation and natural resource management.**

***Values and community education.***

32. **Governments need to reconsider their commitment to economic growth to enable them to lead coastal communities in making the necessary adjustments to climate change.**

33. **A Community education and engagement strategy for coastal communities should be a major priority of Coastal Policy. Such a strategy should aim to increase understanding of the impacts of population increase, development and climate change on the coastal environment and on coastal communities and to gain support for and engagement in**

**Government action to address the emerging problems and assist in reducing community conflict surrounding environment protection.**

*Management and location of future population growth and settlement*

(See Coastal Region Planning Strategy recommendations)

34. **Sustainable zoning and Development Controls should be developed to protect the environment and character of the coastal villages whilst ensuring they are ecologically sustainable.**

35. **Building standards should be reviewed in the light of climate change impacts on the coastal environment, heritage and energy supply.**

36. **New LEPS should require that stringent planning and management controls are applied including, maintenance of the built character of coastal towns and villages, standards for setbacks from the immediate coast, density, height controls and water pollution controls.**

*Governance and Institutional arrangements for the coastal zone.*

37. **Commonwealth and State Governments should acknowledge that a crisis is looming for coastal environments and communities as a result of over-development and climate change and that such a situation requires co-ordinated and strategic leadership on their part.**

38. **A National Coastal Policy and Strategy is needed. A national Coastal Policy should define the guiding principles and aims, set the priorities and strategies in place to enable coastal communities to prepare for the future. The policy should;**

- **aim to conserve coastal environments and catchments whilst managing the impacts of climate change to minimise loss of coastal landscapes and catchments, processes and biodiversity through a nationally consistent approach.**

- **aim to maintain the social and economic resilience of coastal communities and Aboriginal Cultural Heritage and facilitate the capacity of communities to respond to climate change.**

39. **A national strategy should adopt a nationally consistent integrated approach to protection of the coastal environment, regional planning and natural resource management, governance standards, standards for achievement of outcomes, priorities for action and funding, and to sharing resources and experience and promoting community education and involvement.**

40. **A National Coastal Policy and Strategy should include development of a package of both mandatory requirements and guidelines for climate change adaptation in coastal regions, including the coastline and coastal lakes, estuaries and their catchments.**

41. **A National Coastal Policy and Strategy should be delivered through the following organisational structure as well as other agencies;**

- **A National Coastal Commission, appointed for set time, responsible to the appropriate Ministerial Council.**

- **Coastal Councils established by State and Territory Governments.**

- **Regional Coastal Co-ordinating bodies**

**42. A National Coastal Commission would be responsible to the appropriate Ministerial Council for the development, review and evaluation of a national Coastal Policy and Strategy. It would be required to provide independent advice on the basis of membership drawn from experts in such areas as conservation, environmental, social and economic management of the coastal environment, Aboriginal cultural heritage, as well as State/Territory representation.**

**43. A Coastal Council in each State and the Northern Territory would lead State policy and strategic planning for the coast, co-ordinate delivery of strategies and plans, prepare guidelines, encourage the involvement of volunteers, Aboriginal communities and the public and support Regional Boards such as the Victorian model or a modified CMA model. Such an approach would raise the profile of coastal issues at a regional level and assist in integrating coastal environmental protection, with planning, development and natural resource management, applying a multi-disciplinary and whole of catchment approach.**

**44. A Regional Assistance Program should be considered for coastal communities to assist them to adjust their economies to ecologically sustainable development and climate change impacts.**

## Term of Reference 1 Existing policies and programs related to Coastal Zone Management, taking into account the catchment-coast-ocean continuum.

Discussion of this Term of Reference addresses Commonwealth, NSW State Programs and Shoalhaven City Council Programs of particular relevance to the South Coast Region. Issues in relation to mechanisms to promote sustainable use of the coast, arising out of planning, environment protection and natural resource management programs are also discussed and highlighted in the recommendations.

Powerful indicators of the precarious state of the coastal environment come from several independent Inquiries and Research Reports.

- In 2006 the National Resource Management Ministerial Council released the "National Co-operative Approach to Integrated Coastal Zone Management, Framework and Implementation Plan." The Plan refers to the conclusions of the State of the Environment Report 2001 that "While there are continued efforts to improve coastal management responses, coastal zone condition is not significantly improving and against a number of criteria, continues to decline" and "without a concerted effort by all, Australia's coastal and marine environments are likely to be under increasing pressure over the next decade."

- The NSW Healthy Rivers Commission Coastal Lakes Inquiry 2002 found that urgent action was required if the relatively pristine condition of the South Coast Lakes was to be maintained together with their environmental, recreational, public health and social and economic values.

  The Commission said that despite these coastal lakes being the most sensitive of all NSW estuaries to human intervention, both Government and the community treated them as if they had a limitless capacity to support human activity.

  The results were that of the 90 plus coastal lakes in NSW only one was considered to be in pristine condition. Many were significantly modified and beyond return to natural healthy conditions. South Coast lakes were the least affected by development pressures, because of the limited urban development that had occurred in their catchments. Hard decisions had to be made urgently if the remaining relatively pristine lakes were to be protected from further significant damage.

- The NSW State of the Environment Report states that, "more than 70% of coastal wetlands have been cleared since European arrival such that very little coastal vegetation remains."

- The Australian Wetlands Alliance estimates that at least 60% of coastal wetlands and water bird habitat in NSW is already destroyed and the only two shore bird Ramsar site sites in NSW (Kooragang Nature Reserve and Towra Point) are threatened by heavy industry. Climate change threatens to further reduce wetland habitats. (Letter from Australian Wetlands Alliance to Dr. Refshauge, Deputy Premier, 28th June 1999.)

- Dr. Richard Kingsford and colleagues estimate a 73% decline in migratory birds, over the past 25 years on the coast from Broome in WA to Sydney NSW following aerial survey. The researchers also considered that "the same thing (is) happening with the Australian residents as well" as a consequence of "wetlands and resting places they rely on for food and recuperation along the migratory path are disappearing." Richard Kingsford, ABC AM 10th April 2008.

**Commonwealth responsibilities**

Unfortunately the concerted effort referred to in the 2001 State of the Environment Report has not eventuated and the losses of Australia's coastal and marine environments have continued.

With the impacts of climate change now evident it is more than time for the Commonwealth Government to take a leading role with the States and Territories in developing, co-ordinating and implementing policies and strategies to protect and maintain the coastal environment and coastal communities as far as is possible under the circumstances and to motivate coastal communities to action. The issues of leadership and governance are further discussed under Term of Reference 5.

***The National Reserve System***

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

**Where coastal ecosystems of high conservation value are not well represented in the National Reserve System, Commonwealth, State and Territory Governments should provide additional funds. The purpose of such funding should be to increase habitat corridors to protect biodiversity from development pressures and to assist in climate change adaptation. A major injection of funds is needed to bring high priority sites currently in private ownership into the Reserve System.**

**The Commonwealth Biodiversity Refuges Project to identify new protected areas to reduce the impacts of climate change should specifically address coastal ecosystems recognized as areas of international, national, state/territory and regional conservation importance and those ecosystems and species at risk from development. Commonwealth acquisition policies should aim to protect these areas whatever their ownership status.**

As stated in the NSW State of the Environment Report 2006, National Parks and Nature Reserves have long been recognized, as "the most effective response to clearing and degradation of natural ecosystems is their protection within the reserve system." Reserves are even more important today, given the added challenge of climate change.

On the NSW South Coast some 40% of the coastline is protected in National Parks. However much of the remaining vegetation of high conservation significance has been cleared. What remains is classified as Endangered Ecological Communities under NSW legislation and is further threatened by urban expansion.

A concerted effort is needed to ensure that there is no further loss. Areas of high conservation value should be protected by acquiring them for the National Reserve System, as much of this land is privately owned, in some cases zoned for residential development and without any requirement for it to be managed to protect the conservation values. Acquisition is therefore expensive but nevertheless the best way to achieve conservation outcomes in the future.

The Commonwealth Government has recently announced major commitments to expand the National Reserves System, to provide funding for natural resource management through the Caring for our Country Program and for a Caring for Our Coasts Program. $180 Million over the next five years has been made available for acquisitions for the National Reserves System. $ 250, 000 has been made available to investigate climate change refuges for Australia's native plants and animals.

All these initiatives are important. However the CSIRO has warned of significant loss of biodiversity and threatened species as a result of climate change and the need for additional measures to minimize the loss in its Report, "Implications of Climate Change for Australia's National Reserve System- a preliminary Assessment." Michael Dunlop and Peter Brown report to the Department of Climate Change and the Department of the Environment, Water, Heritage and the Arts, March 2008.

The Report states, "As a result of climate change it is more urgent than ever that key habitats are added to the National Reserve System. New additions need to target a diversity of ecosystems across poorly protected environment types, with particular focus on key species."

The Scientific community has also stressed that at least $ 250 million over five years would be needed for the National Reserve System, significantly more than the Commonwealth Government's allocation. Such an amount is more consistent with the scale and urgency of the issue, especially taking the high costs of coastal lands into account.

The priorities already announced for additions to the National Reserve System suggest that acquisition of coastal lands is not at the forefront of acquisitions. Existing cost efficiency criteria for the scheme almost automatically eliminate purchase of privately owned coastal lands, although most of the coastal lands under the greatest threat are privately owned, often by development interests.

The Commonwealth Government should reconsider its commitments and increase funds for purchase of high conservation value coastal lands.

***Areas of National and International Conservation Significance***

**The Commonwealth Government should give consideration to the proposal for World Heritage listing for NSW South Coast Lakes and estuaries and to listing them as areas of National Importance. Creation of this category in the Environment Protection and Biodiversity Conservation Act would be a possible mechanism.**

**Coastal wetlands of National Importance as well as of International Importance should be protected under Commonwealth legislation.**

It is noted that the Commonwealth proposes to advance the listing of Ningaloo Reef for World Heritage listing and to allocate $25 M to the Great Barrier Reef. The protection of such Icon sites is welcomed.

The Commonwealth Environment Protection and Biodiversity Conservation Act covers amongst other issues, World Heritage listed areas and wetlands of international importance listed under the Ramsar Convention. However there are many other sites of national and possibly international significance that justify protection through the Commonwealth system.

The Commonwealth should give consideration to the proposed World Heritage listing for a group of South Coast Lakes and estuaries and establishing a listing of areas of National importance under the EP and BC Act and including the South Coast Lakes under that category.

In 2003, the NSW Government in its Coastal Lakes Statement of Intent committed to investigating the recommendation made by the Healthy Rivers Commission Coastal Lakes Inquiry that several

coastal lakes and possibly estuaries be considered for World Heritage listing. Pursuit of this recommendation would bring environmental and social and economic benefits to the Region.

Several South Coast coastal lakes, wetlands and their catchments are recognised as being of national importance in the Directory of Important Wetlands of Australia and would potentially meet the criteria for Ramsar listing, because of their unique character and the role they play in regional biodiversity, especially as water bird habitats. However in many cases their catchments remain unprotected.

In NSW the only two Shore bird sites listed under the Ramsar Convention. These sites are at Kooragang Nature Reserve and Towra Point, Botany Bay both severely impacted by heavy industry and expansion of Sydney Airport. While other wetlands are likely to meet Ramsar criteria they are not listed and not adequately protected. This is in part due to the need to obtain the support of private owners but also because the processes in place at both State and Commonwealth level for Ramsar listing seem unnecessarily complicated.

Lake Wollumboola is a case in point. Although the then State Minister for the Environment made a commitment in 2001 to progress the listing of the Lake as a Ramsar wetland, implementation of the commitment is still under consideration by the NSW Government. The Ecological Characteristics Description assesses Lake Wollumboola as meeting five of the nine criteria for Ramsar listing but is not yet publicly available. The delay is in part due to the changing processes and complexities of Commonwealth requirements.

**Lake Wollumboola from Long Bow Point**

***Threatened species and Endangered Ecological Communities, Migratory species.***

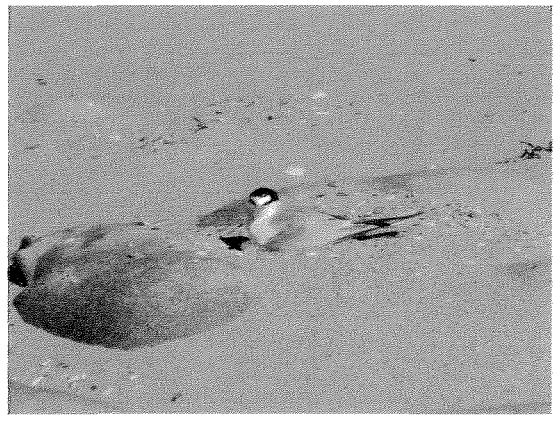
**Species and Endangered Ecological Communities listed in the NSW Threatened Species Conservation Act should be afforded protection under the Commonwealth Environment Protection and Biodiversity Conservation Act.**

**As a priority the Commonwealth Biodiversity Refuges Project should focus on species and ecological communities listed as threatened under both Commonwealth and State legislation, with particular emphasis on coastal species that would be especially impacted by climate change and sea level rise, such as migratory shorebirds and indigenous water birds.**

Threatened Species and Endangered Ecological Communities are listed in both State and Commonwealth legislation. Funding is based on Recovery Plans and Priority Action Statements. However there seems to be a lack of integration between the Commonwealth and State lists, which is impeding protection of Threatened Species and EEC, including those found in coastal environments.

Listing of all State-listed Threatened Species and Communities in the Commonwealth Act would afford additional protection for coastal species especially Migratory bird species, whose habitat is threatened by population and development pressures and sea level rise due to climate change.

> The case of the South east coast sub species of the Little Tern (Sterna Albiforons) demonstrates this lack of co-ordination. This subspecies is distinct from Little Terns in northern Australia because it breeds in Australia on the NSW and eastern Victorian coast and not in Asia. The Little Tern is listed as Endangered under the NSW Threatened Species Conservation Act, but not under the Commonwealth Environment Protection and Biodiversity Conservation Act.
>
> Sea level rise and increased storminess add to existing threats. Development or other actions that cause significant impacts on the Little Tern habitat may invoke the Commonwealth Act on the basis of Migratory Bird Treaties, but are more likely to invoke strong action under the Act in relation to requirements for Threatened Species.



**Little Tern and chick on sand bagged nest**

***Ecologically Sustainable Development***

**Reforms to the Environment Protection and Biodiversity Conservation Act should be considered to ensure that coastal sites of conservation significance are protected from degradation due to development.**

> The approval of the Vincentia Cross Roads site between Jervis Bay and St.Georges Basin for commercial and residential development demonstrates that neither State nor Commonwealth legislation protects such precious, fragile areas from being bull dozed for urban development. This area is recognized as a biodiversity hot spot. Maintaining the environmental integrity of the site was critical not only for the 33 Threatened Species and Endangered Ecological Communities on the site and immediate vicinity but also for maintenance of Habitat Corridors to the Bherwerre Peninsula, including the Commonwealth

Booderee National Park and for maintaining the water quality of nationally significant wetlands of Jervis Bay.

*Natural Resource Management*

**The Commonwealth and State/Territory Governments should consider strengthening the regional co-ordinating role of the coastal CMAs to improve outcomes in coastal region environment protection, planning, development and natural resource management, and restoring recent funding cuts understood to be 60 % by the Commonwealth and 26 % by the NSW Government.**

The recently announced Commonwealth Caring for our Country Program will provide a much-needed focus for funding of coastal natural resource management priorities, a focus significantly lacking in previous grant programs.

However, the Program appears to have unintended consequences for coastal Catchment Management Authorities. The CMAs have an important role in ensuring that Commonwealth and State NRM targets are translated into regional targets and that these are integrated into planning and environment protection strategies as well as grant program. There is a need for the CMA Coastal Program to be expanded not diminished.

The Southern Rivers CMA has suffered a 60% cut in its Commonwealth resources and a 26% cut in its State resources just as its focus on coastal and coastal catchment issues was improving. It should not be forced to compete with other oganizations and community groups for funding. This is destructive of its regional co-ordination role, a role that is inappropriate for the Commonwealth to assume.

The Southern Rivers CMA has a positive approach to community engagement including with Aboriginal Communities more so that other Agencies. It has brought together a group of talented staff, skilled in NRM management at the community level and in building partnerships and capacity. This expertise should not be lost through a misconception regarding the CMA's potential in coastal management.

Allocating funds to Coastal CMAs may be more significant in protecting coastal natural resources than in allocating increased funds to local Councils.

The Catchment Management Authority (CMA) approach should be considered as an alternative regional model for co-ordinating coastal NRM programs. The appointment of independent boards including expert and community representatives, would remove NRM responsibilities from parochial and highly politicized Councils. See local government section.

## NSW State Programs.

In NSW the policy and legislative framework applying to the coast is extremely complex and in a constant state of flux.

It is not possible to address all significant issues to do with NSW Government Agency programs in this submission, so the most critical issues relating both to this Inquiry and to the South Coast region have been selected. The main recommendations for this section are included in comments as part of the Governance Term of Reference.

Policies, Acts and regulations applying specifically to the coast include the Coastal Policy of 1997, the Coastal Protection Act and Package of 2001, the Environment Protection and Assessment Act and the related State Environment and Planning Policies for Coastal Protection, and Major Projects. The National Parks and Wildlife Act, the Threatened Species Conservation Act, the Marine Parks Act, the Local Government Act and the Protection of the Environment Operations Act and Aboriginal Heritage legislation also have implications for the coast.

Appeals against planning and development decisions are decided by the Land and Environment Court. It recently upheld an appeal in relation to a development approval at Sandon Point, on the coast north of Wollongong, that Climate Change impacts should be assessed in the process to consider approvals of Major Projects, against a decision of the NSW Minister for Planning. The NSW Government subsequently appealed the decision and the result is awaited with interest.

Coastal Policy and programs are administered through the Department of Planning, the Department of Environment and Climate Change and the coastal Catchment Management Authorities and local coastal Councils.

The over-riding objective of the NSW Coastal Policy is coastal protection. The principles of Ecologically Sustainable Development underpin the policy. The policy is binding on all levels of Government, including local Councils.

The Coastal Zone as defined in the Coastal Protection Act is limited to1 kilometre from the high water mark on the coast and from the shores of coastal lakes, estuaries and rivers. However this apparent limitation has not restricted the application of a catchment-coast-ocean continuum to most relevant activities, such as the Estuary Management Program and Regional Strategic Plans.

The NSW Coastal Council was established in 1997 but abolished in 2005. The Coastal Council took the lead in coastal policy issues and community education. It monitored and reported on progress with implementation of the Coastal Policy across Government Agencies and local Councils. The Council also provided guidance to Ministers on legislation and strategies for planning and development, scrutinised major development projects impacting on coastal values and on consistency of Local Environment Plans with the Coastal Policy. It also oversighted the Coastal Lands Protection Scheme.

NSW has also taken a leading role with regard to Climate Change mitigation and adaptation with the NSW Greenhouse Plan, the State Plan, the National Biodiversity and climate Change Action Plan and more recently the NSW Biodiversity and Climate Change Adaptation Framework.

***Change from Coastal Protection to Coastal Development Policy.***

State wide and regional planning and development policies have the greatest influence on the condition of the natural environment, especially the coast

Since 1995 in NSW there have been substantial advances in planning, protection and management of the NSW Coast. However despite the achievements, many precious coastal landscapes of high conservation significance and at risk from climate change impacts, remain at risk from increasing development pressures.

The NSW policy and legislative framework for environment protection and conservation, for ecologically sustainable development and natural resource management had the potential for

Government Agencies and CMAs, to lead local Councils and coastal communities in a coast wide strategy to deal with existing and emerging pressures.

However reforms since then have reversed that trend, significantly reducing the capacity of the Government and coastal communities to deal with the challenges involved. The resulting policy vacuum is a cause of great concern.

Leadership on coastal matters has suffered since the abolition of the NSW Coastal Council, at the very time that it was most needed. The comprehensive objectives and strategy of the Coastal Policy particularly those for Ecologically Sustainable Development have been sidelined.

A policy of "Coastal Development" appears to have replaced the "Coastal Protection" Policy.

The scale of donations from developers is undermining the public interest and appears to be adversely influencing decisions at State Government and local Government levels. This potentially corrupting influence seems to permeate not only individual development decisions but also the entire legal framework for environment protection and ecologically sustainable development.

The public interest seems to be subverted to development industry interests with opportunities for public participation, comment and appeal significantly reduced. Coastal communities and environment groups are largely shut out of the planning and development process, at the very time when their engagement is essential.

The situation must change for there to be any hope of protecting the NSW coastal environment in the longterm.

A change of direction is required to deal with current urgent issues as well as planning for the future. The priorities and targets in the State Plan may go some way towards focusing on coastal protection strategies but much more is needed.

It is noted that Victoria has an active Coastal Council and three regional coastal boards, with expert and community representation. These organisations undertake similar roles to the functions previously carried out by the NSW Coastal Council and offer potential as a model for a national approach.

***Major Projects SEPP and Regional Planning Strategies. Department of Planning.***

Two aspects of the NSW reforms are of particular interest, the reforms to the Major Projects SEPP and the Regional Planning Strategies. While both have attracted controversy there are positive as well as negative aspects to these reforms.

***Major Projects SEPP.***

**Commonwealth and State/Territory Governments should endorse nationally consistent mandatory standards for the assessment and approval of Major Development Projects in the coastal zone to ensure that they are ecologically sustainable, taking climate change impacts into account.**

The reforms to the Major Projects SEPP and the revised Coastal SEPP seem to be most damaging to the environment. Constraints that limited development on the coast that were contained in the

original Coastal SEPP 71have been removed. As a result many approvals for major coastal zone developments are inconsistent with the principles of ESD particularly the precautionary principle.

As Major Projects are most likely to have thegreatest impact on coastal environments it is appropriate for the Minister for Planning to have the capacity to call in and make final decisions. However such decisions should only be made on the basis of the most stringent mandatory assessment requirements involving independent expert advice and with limited discretion.

Such standards and requirements should incorporate an holistic catchment approach involving assessments of cumulative impacts, so critical to protecting the water quality and biodiversity of coastal ecosystems.

However the current NSW provisions do not seem to meet the standards required. In the absence of guidelines, the Minister has wide discretion. Developers are able to put their proposals direct to the Minister/Department of Planning without consultation with local Councils or the community. Large-scale projects with significant impacts on the coast and community can be approved on the basis of Concept Plans that do not require environmental impact assessments.

Community consultation and involvement should be mandatory for Major Project applications for developments in the coastal zone. Merit appeals by the public are an essential component of a transparent assessment and decision-making process. Both aspects have been removed or are severely circumscribed in the current round of reforms in NSW.

***Regional Planning Strategies for the Coast.***

**Coastal Regional Planning Strategies should be the principal means to achieve integrated, total catchment planning for protection of biodiversity, water quality, cultural heritage, natural resource management and ecologically sustainable development. Regional Strategies are also critical in managing and limiting population increase on the coast to ensure that future settlement is ecologically, socially and economically sustainable. Commonwealth and State/Territory Governments should endorse standards for Regional Strategic Plans for the coast.**

NSW has introduced Regional Strategies as the basis for planning future environment protection and conservation and natural resource management over the next 25 years. This initiative affords an important opportunity to change the focus from away from developer-driven planning to an integrated catchment-coast-ocean continuum. The Regional Strategies are legally binding on local Councils as there is a requirement that they revise Local Environment Plans by 2009 in a manner consistent with the Strategies and the State-wide LEP zoning template.

The Strategies seek to respond to climate change through a range of initiatives and adaptation strategies, for natural hazards, settlement and housing, protection of rural lands and water and energy use.

The South Coast Regional Strategy also seeks to address a range of challenges including improved environment protection, improved understanding of Aboriginal cultural heritage, sustainable management of natural resources, protection of rural landscapes and better understanding of natural hazards.

There has been a mixed response in different Regions to the release of these Regional Strategies. Concerns have been expressed that the Strategies were not based on Regional Conservation Plans as intended and still allow development expansion outside the designated areas in the future.

There are concerns also regarding alleged trade-offs that allow developers to proceed with extensive urban development in coastal areas proposed for environment protection in exchange for dedication of other areas for national park.

However the integrated approach and prohibition on development expansion in sensitive areas on the coast far are worthy of support. These Strategies offer the best platform yet for protection of the coastal environment and ecologically sustainable development.

The South Coast Regional Strategy has met with considerable acceptance. The most significant aims and requirements of the South Coast Regional Strategy for protecting coastal catchments as well as the coastline are listed below;

- "Protection of high value environments including pristine coastal lakes, estuaries, aquifers, threatened species, vegetation communities and habitat corridors by ensuring that no new urban development occurs in these important areas and their catchments," Local Environment Plans will not include further residential zoning in the catchments of the coastal lakes and estuaries shown on Map 2 unless it can be demonstrated that a neutral or beneficial effect on water quality."

- Development to be focused in and around existing development centres, rather than new areas.

- "No new towns or villages will be supported unless compelling reasons are presented."

- "Limit development in places constrained by coastal processes, flooding, wetlands."

- "Protect the cultural and Aboriginal heritage values and visual character of rural and coastal towns and villages and surrounding landscapes."

The Strategy has incorporated the planning, protection and management measures for coastal lakes as recommended by the NSW Coastal Lakes Inquiry and accepted in principle by the NSW Government. (See Term of Reference 2.)

The Strategy also constrains development in areas subject to potential risks from climate change including sea-level rise and more frequent and intense storm events.

The Strategy also constrains unsustainable population growth in sensitive areas thus reducing pressures on the environment and assisting in the provision of appropriate services and infrastructure.

Of most significance to the Lake Wollumboola catchment is the decision to prohibit development expansion in sensitive coastal areas that are already zoned for urban development.

The Minister for Planning accepted the proposals arising from the South Coast Sensitive Urban Lands Review and incorporated them into the Regional Strategy. An Expert Panel recommended that several critical sites be rezoned as areas for Conservation/National Park/Nature Reserve and possible acquisition.

The Culburra Urban Expansion Area (CUEA) in the Lake Wollumboola catchment is one such site. The Panel found that the Lake Wollumboola catchment part of the CUEA was unsuitable for development and should be rezoned to "Conservation National Park/Nature Reserve." The Panel also recommended that "limited" development be permitted in the Crookhaven River catchment, part of the CUEA, subject to environmental assessments.

The Panel further proposed that negotiations be commenced with the Landowner to achieve a trade-off or Biodiversity Banking arrangement whereby limited development would occur in the Crookhaven River catchment in exchange for dedication of the Lake Wollumboola catchment for national park.

The CUEA is currently zoned for 3,000 plus housing lots, approximately 2,500 in the Lake Wollumboola catchment and approximately 500 in the Crookhaven River catchment.

The decision sets a precedent for protecting inappropriately zoned high conservation value private lands in other areas of the coast. It also challenges the assumption that private owners have the right to determine the use of their land whatever the impact on the environment and community.

Implementation of the CUEA proposals potentially involves significant costs to Government either in the form of compensation or purchase costs for rezoning for land already zoned for urban development. Current Government coastal land acquisition budgets in NSW are severely limited. A radical change of policy will be necessary for all levels of Government if sensitive coastal environments such as the Lake Wollumboola catchment, are to survive development and climate change pressures.

***Aboriginal and Torres Strait Islander Cultural Heritage***

**The protection of Aboriginal and Torres St Islander cultural heritage and the involvement of Aboriginal and Torres Strait Islander people in coastal protection and management decisions should be an integral part of a National Coastal Policy and Strategy.**

Coastal Aboriginal people in NSW were the first to experience contact with British settler communities and to have their traditional lands appropriated and fenced for farming and settlement.

Many Aboriginal coastal communities maintain their close association with the land, both in terms of maintenance of culture and traditional uses such as fishing, and in terms of ownership and management. Aboriginal archaeological sites exist in most coastal areas, including middens, scatters of stone artefacts, rock shelters, burial sites etc. Traditional camp sites continue to be used. The landscape, plants and animals are all of deep spiritual significance for Aboriginal people, part of their creation stories.

Aboriginal people also maintain traditional knowledge of the coastal climate, seasonal cycles and interrelationships of plants and animals and bushfire that are of value in land management today, especially in terms of understanding the impacts of climate change. They have an holistic view of the land, a total catchment approach.

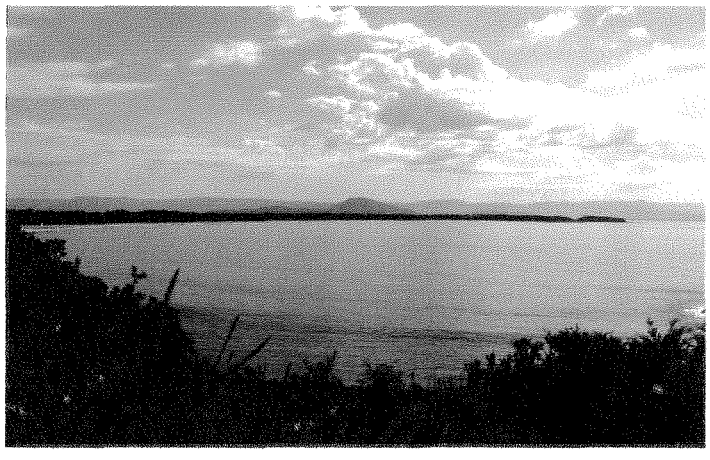
The NSW Government recognises the right of Aboriginal people to own lands that are of cultural significance to them. It has legislated through the National Parks and Wildlife Act to allow for Aboriginal ownership of certain national parks and reserves. The NSW Aboriginal Land Rights Act also enables Aboriginal Land Councils to lodge ownership claims for Crown Land. Aboriginal

ownership is recognition of the cultural significance to Aboriginal people of the land, in terms of their traditions, beliefs and history.

Aboriginal people are consulted and actively involved to varying degrees in management of Aboriginal sites and values in National Parks and in other State land management programs.

Protection of Aboriginal archaeological sites and landscape is important recognition of Aboriginal cultural heritage, prior ownership and a significant gesture towards reconciliation.

In recognition of the unbroken and continuing association of local Aboriginal people with the Jervis Bay Region and its cultural significance to them, the Jervis Bay National Park has been identified under the National Parks and Wildlife Act, for hand back to the traditional owners. In addition the Jerrinja Local Aboriginal Land Council, has recently had its land claims agreed with the NSW Government with regard to several sites in the Jervis Bay Region.



**Coolangatta mountain spiritual site**

***Protection and acquisition of high conservation value coastal lands.***

**See Commonwealth section.**

**Both the Commonwealth and NSW Government should act urgently to ensure that critical parts of the Lake Wollumboola catchment are acquired for the Reserve system and to ensure that the listing of Lake Wollumboola under the Ramsar Convention is regarded as high priority.**

**A much greater proportion of NSW coastal waters needs to be protected to ensure all marine bioregions are well represented and afforded the best opportunities to adapt to climate change.**

**National parks**

The expansion of National Parks and Nature Reserves on the South Coast by the NSW Government has been very significant in protecting parts of the southeast forests and the coast and establishing a catchment to coast to ocean continuum. Over 50% of the coastline itself is included in reserves. Some 50% of the South Coast Region is protected in the NSW Reserve system. Much of this land is Sandstone Plateau country, and remains intact because it was not suitable for farming

By contrast, Coastal floodplain and wetland ecosystems and Endangered Ecological Communities have been heavily cleared and are not well represented in reserves.

Meroo, Conjola and Bimberamala National Parks were established in 2001-3 following the South East Forest Agreement. In 2006 there was a major addition to the Jervis Bay National Park.

However the declaration of new national parks has slowed. Statewide budgets for the Coastal Lands Protection Scheme administered by the Department of Planning ($ 3M per annum) and National Parks ($ 2 M per annum) administered by the Department of Environment and Climate Change are severely limited and not capable of funding purchases of such high cost large tracts of coastal land.

The National Parks and Wildlife Service (NPWS) uses special purpose funds to supplement funds for property acquisition. Acquisition strategies are generally aligned with the National Reserve System priorities and criteria. The highly threatened and fragile communities of the western plains are the highest priority for NSW.

The high cost of coastal land, pressure from developers and small lot rural land holders for land to be rezoned and the multi-purpose policy of the NSW Department of Lands are further impediments to the acquisition of coastal ecosystems currently under represented in the Reserve system.

It is acknowledged that private landowners and organizations also play an important role in conserving high conservation value land, especially in contributing to habitat corridors. However it is through acquisition by Governments of large-scale areas of land, that conservation of entire ecosystems can be achieved.

A much greater degree of policy integration across Departments is needed to avoid conflicts between Government agencies. Immediate steps should be taken to resolve the standoff between the Department of Lands and the Department of Environment and Climate Change (DECC) over transfer of high conservation value Crown lands for the Reserve System. Under its policy the Department of Lands intends leasing large areas of the coast for tourist development and other uses.

Several of these sites are already zoned for Conservation/National Park/Nature Reserve and should be transferred to the Reserve System immediately eg Abraham's Bosom at the Beecroft Peninsula which DECC is seeking it for inclusion in the Jervis Bay National Park The bed of Meroo Lake is another example.

A much greater commitment to expansion of the Reserve system in NSW is required, to ensure that unique ecosystems like Lake Wollumboola and its catchment are protected from development expansion and acquired for the Reserve system.

Large coastal areas would need to be protected to provide connectivity to assist in climate change adaptation, so there is a need for government at all levels be prepared to provide considerably more funds for acquisition of private high conservation value coastal lands.

**Marine Parks**

The NSW Government has also expanded Marine Parks on the South Coast with declaration of the Jervis Bay Marine Park and the Bateman's Marine Park in 2007. However Marine Parks are multiple purpose Parks where commercial fishing and other high impact uses are allowed. Sanctuary Zones (IUCN Category 1a) in these two parks cover approximately 20% a small proportion of the overall marine jurisdiction.

A much greater proportion of the NSW coastal waters needs to be protected to ensure all marine bioregions are well represented and afforded the best opportunities to adapt to climate change.

**Coastal Lakes.**

Coast Lakes and their catchments have been a high priority for NSW. In 2003 following the Coastal Lakes Inquiry conducted by the independent Healthy Rivers Commission, the Government released its Coastal Lakes Statement of Intent giving in principle support to the recommendations including a classification system for the protection and management of Coastal lakes.

The decision to include the bed and sand bar of Lake Wollumboola in the Jervis Bay National Park in 2002 was in response to the Inquiry's recommendations. (The south west area of the catchment was included in the Jervis Bay National Park in 1998.)

In 2006, other South Coast lakes were included in the Bateman's Marine Park.

The NSW Government also committed to exploring the recommendation that several South Coast lakes and estuaries be considered for World Heritage listing however any momentum for proposal appears to have dissipated.

Several of the Lakes covered by the proposal are listed in the Directory of Wetlands National Importance, for example Lake Wollumboola, St. Georges Basin and Meroo.

The Coastal Lakes Inquiry also recommended a classification system to generally guide the protection and management of the Lakes and a more detailed program of Sustainability Assessments for particular Lakes and their catchments to assess impact of land uses.

Healthy Rivers Commission Framework proposed four levels of protection and management strategies on the basis of the conservation significance, sensitivity to development pressures and natural or modified condition. Of the South Coast Lakes, 12 lakes were classified as requiring **Comprehensive Protection**, 17 for **Significant Protection**, and 14 considered to be in **Healthy Modified Condition**. Significantly only Lake Illawarra, in the Illawarra area of the South Coast was classified as being in the most disturbed classification, that of **Targetted Repair.**

The Inquiry classified Lake Wollumboola as requiring **"Comprehensive Protection."** This was based on assessment of its extreme natural sensitivity, its largely unmodified catchment and lake condition and its high, recognised conservation values.

The Inquiry also recommended that Sustainability Assessments be conducted to assess the capacity of individual lakes to withstand additional use and development in their catchments. Several Sustainability Assessments have been prepared, including for Lake Wollumboola and Burrill Lakes and together with assessments by the former Department of Natural Resources have informed the coastal lake protection measures now incorporated into the South Coast Regional Strategy. Public release of these assessments would assist in evaluating their potential for assessment of cumulative impacts of proposed developments.

Lake Wollumboola is undergoing assessment by the NSW Department of Environment and Climate Change as a wetland of international significance under the Ramsar Convention following a commitment from the former Minister for the Environment Bob Debus. A draft Ecological

Character Description is nearing completion and public consultations are to commence soon. The Description assesses Lake Wollumboola as meeting five of the nine Ramsar criteria.

See Term of Reference 2 for a summary of the values of Lake Wollumboola and its catchment.

Protection of Aboriginal cultural heritage is an integral part of the NSW National Parks system. Several National Parks are designated in the NPW Act for hand back to Aboriginal ownership. This has occurred in the case of the Guluga and Biamanga National Parks on the far South Coast and consultations are planned with regard to the Jervis Bay National Park. The NPWS has a training program to enable Aboriginal people to qualify as Park Rangers.

The NPWS Discovery Program including the Aboriginal Discovery Program, the School Education Program and the Aboriginal Mentoring Program are key features of NPWS educational and interpretive activities in the Region. It is a policy of the NPWS that local Aboriginal people present Aboriginal culture and heritage to Park visitors. Members of the Lake Wollumboola Protection Association lead Discovery walks at Lake Wollumboola.

Despite the success of the Program, funding is limited.

It is considered that NSW DECC should place greater emphasis on community education as part of all DCC programs. The Discovery Program with its direct engagement with national park environment and heritage is fundamental. However it should be complemented with themes including global sustainability and the cumulative impacts of climate change and their implications for biodiversity and Aboriginal culture and heritage.

***Biodiversity, Threatened Species and Endangered Ecological Communities***

**Urgent consideration should be given to the impacts of the NSW Biodiversity Banking legislation on coastal biodiversity in view of the report from CSIRO "Implications of Climate Change for Australia's National Reserve System- a preliminary Assessment."**

**Conservation and management programs for coastal Threatened Species and Endangered Ecological communities especially those at risk from climate change should be accorded high priority and funded accordingly.**

Reference has already been made to the need for integration between State and Commonwealth listings of Threatened Species and Endangered Ecological Communities.

Given the precarious state of so many species in NSW, and the likelihood of many more becoming threatened as a result of climate change, it is reasonable to expect that the Threatened Species Legislation would be strengthened.

However the NSW Government is in the process of introducing a scheme that seems to push coastal Threatened species and Endangered Ecological Communities towards extinction. Biodiversity Banking amendments for coastal areas made to the Threatened Species Conservation Act sacrifice Threatened Species and Endangered Ecological Communities to allow development in one coastal area, in exchange for protection of these species and communities at another coastal site. The intention that "Red Flag" areas would be quarantined from future development have been watered down as the Director-General of DECC has been given discretion to vary the rules for such areas.

The scheme involves less stringent requirements for developers and miners with regard to land clearing than apply to farmers. These provisions are not only inequitable but will lead to extensive clearing of coastal vegetation.

The NSW Biodiversity Banking legislation seems to be totally contrary to the findings and recommendations of the CSIRO Report, "Implications of Climate Change for Australia's National Reserve System- a preliminary Assessment."

With regard to Threatened Species, the NSW DECC has prioritized its Threatened Species Conservation program in the face of mounting losses and reduced resources.

Members of the Lake Wollumboola Protection Association are directly involved in two such programs at Lake Wollumboola for coastal Threatened Species, the NPWS Shorebird Recovery Program and the Shoalhaven Green and Golden Bell Frog Program.

The Shorebird Program focuses on Shorebirds that nest on the South Coast, including the Migratory Little Tern, Hooded Plovers and Pied and Sooty Oyster Catchers.

The last three seasons at Lake Wollumboola have been particularly successful, with the size of the colony and the number of chicks successfully fledged increasing with each successive season.

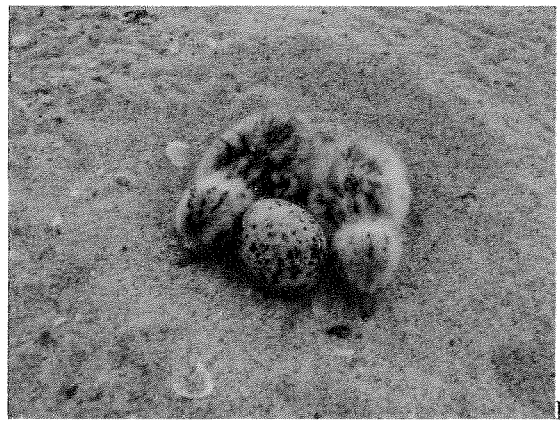
**Table 1: Little Tern nesting data for Lake Wollumboola colony from 1998/99 season through to the 2007/08 season.**

(note – 2007/08 season incomplete, therefore fledgling numbers may increase = increased breeding success)

| Season | 98/99 | 99/00 | 00/01 | 01/02 | 02/03 | 03/04 | 04/05 | 05/06 | 06/07 | 07/08 |
|---|---|---|---|---|---|---|---|---|---|---|
| Breeding Pairs (BP) | 41 | 34 | 45 | 40 | 40 | 6 | 2 | 25 | 34 | 50 |
| Eggs | 111 | 114 | 298 | 218 | 158 | 29 | 3 | 79 | 93 | 162 |
| Fledglings (F) | 36 | 35 | 21 | 26 | 0 | 2 | 1 | 40 | 48 | *62 |
| **Breeding success (F/BP)** | **0.9** | **1.0** | **0.5** | **0.7** | **0.0** | **0.3** | **0.5** | **1.6** | **1.4** | **1.1*** |

(Adapted from Table 1. "Lake Wollumboola Little Tern Conservation Program application for National Trust Heritage Award 2008, which included estimates to 5th February 2008 with Fledgling numbers to that date estimated as *55+.)

This success is attributed to the co-ordinated effort of DECC, Shoalhaven City Council and Shorebird volunteers from the local community at Culburra Beach. The Southern Rivers CMA also provided funding assistance.



**Little Tern chicks and egg**

The National Trust recognized the Shorebird Recovery Program by awarding it the Trust's Landscape Conservation Award for 2008. The application presented a case study of the Lake Wollumboola Little Tern program. In the mid 1980's the Little Tern population on the NSW coast was estimated to be a round 110 breeding pairs. By the mid 1990's there had been a slight increase to around 170 pairs. NSW NPWS prepared a Recovery Plan. Intensive management of Little Tern nesting sites including Lake Wollumboola commenced in the late 1990's.

Careful management has enabled the Little Tern to successfully breed and fledge young on a busy and heavily used beach. The management program, which included distribution of information to the community, eradication of foxes, and daily checks by volunteers of the nesting site was instrumental in the success rate.

However with sea level rise due to climate change, Little Terns are amongst the most threatened. Nests are already lost to increasingly frequent high seas and wave washover, despite the efforts of volunteers to raise the threatened nests.

The provision of funds for this important conservation and community education program has improved recently. However much greater certainty of support is required both with regard to the appointment of NSWS Co-ordinators and for the Volunteers.

The Recovery Plan for the Green and Golden Bell frog identified the Shoalhaven population as a key population for conservation. Management plans including for the Crookhaven Flood Plain including Lake Wollumboola have been developed. A member of the Association first observed Green and Golden Bell Frogs breeding and basking in large numbers in the northern wetlands at Lake Wollumboola and adjacent gardens at Culburra Beach in 1991. They continued to be observed up until 2003.

***Natural Resources Commission and the Southern Rivers CMA***

**Natural Resource targets should include maintenance of coastal formations, processes and ecosystems such coastal lakes, estuaries and wetlands as well as beaches, dunes, headlands and rocky reefs and direct priorities and funding and to enable evaluation of outcomes.**

**Coastal natural resource targets should be fully integrated into coastal planning and development strategies as mandatory requirements.**

**Coastal CMAs should promote NRM Community education for the general coastal community as well as the capacity of NRM volunteers and personnel.**

The NSW Government has adopted thirteen statewide targets for natural resource management covering Biodiversity, Water, Land and Community to be achieved by 2015, developed by the Natural Resources Commission. These targets are integrated with the State Plan and are mandatory for Catchment Management Authorities.

The targets will have limited impact on maintaining or improving the condition of the natural environment and its resilience to climate change pressures unless local coastal Councils incorporate them into Local Environment Plans currently under revision.

Targets are specific to coastal catchments, aiming for no decline in marine waters and ecosystems, maintenance of important wetlands and their extent and improvement in the condition of estuaries and coastal lake ecosystems. These targets support a catchment to coast to ocean continuum.

National targets should include maintenance of coastal formations, processes and ecosystems such as beaches and dunes, headlands and rocky reefs. It is a matter for concern that these coastal features are not specifically addressed, as the targets direct the priorities of Commonwealth and State for natural resource management. These environments are likely to be significantly impacted by climate change and therefore require urgent consideration.

The Southern Rivers CMA (SRCMA) applies the targets through its CAP and in its funding decisions. The full range of CMA programs involve coastal catchment issues. The Coastal program itself it specific to the immediate coastline. The SRCMA objectives for the coast are that;

- By 2016 the condition of coastlines will be maintained or improved through the development and implementation of NRM Plans.
- By 2016 active management will protect or improve key aquatic habitat areas (EECs and species) in partnership with relevant authorities and user groups.
- By 2007 a research strategy will be developed to improve the scientific knowledge and understanding of coastal estuarine and marine environments and processes, to be progressively implemented by 20016.

Coastal NRM issues should have a higher priority, not only so funds are allocated to coastal management issues but also to ensure that greater attention is paid to coastal communities.

The SRCMA's primary focus is maintaining the condition of Native Vegetation and assisting farming communities to operate within the Native Vegetation Act. The Coastal Program is relatively new and as a result the condition of the coastal environment has not featured as a high priority in CMA programs.

As discussed earlier, the emphasis on partnerships distinguishes the CMA approach from other government authorities and Councils with the result that it is well placed to initiate community education programs targeted to the general community.

Community education initiatives currently focus on the needs of groups and organizations already involved in NRM projects. This is appropriate however the understanding and support of the wider community is needed for such programs to flourish and expand.

The SRCMA should also target the largely urban populations of coastal communities for NRM community education as distinct from the farming and rural communities that are currently the focus of CMA programs. See Term of reference 4.

The SRCMA has a strong commitment to maintenance of Aboriginal cultural heritage and to Aboriginal engagement in land management. The CMA recognizes the value to the community generally of Aboriginal knowledge of the land and land management practices. The CMA is actively involved in supporting leadership through group and individual activities, in supporting Aboriginal employment and enterprises and involving aboriginal people in advisory and decision-making capacities.

*Local Government*

**Standards of integrity need to be developed for local coastal Councils to minimize political interference in local Government programs for environment protection, NRM and planning, development approvals and climate change adaptation**

Responsibilities for planning, development, environment protection and natural resource management may be better co-ordinated by a Regional body, such as a CMA or alternative body that would be more independent and expert than an elected local Council.

The Shoalhaven City Council local government area covers 160 kilometres of the South Coast, extending from the Great Dividing Range and escarpment to the coast.

The NSW Local Government Act 1993 requires that Councils manage, develop, protect, restore, enhance and conserve the environment consistent with Ecologically Sustainable Development Principles.

Shoalhaven City Council (SCC) has a comprehensive environmental management program with its biodiversity, land assessment, water quality and ecology, and coast and estuaries sub-programs as well as its planning and development responsibilities being the most relevant to catchment to coast management.

In the Shoalhaven there is considerable pressure on the natural environment from expanding human settlement.

However the majority of SCC Councillors are strong advocates of development expansion, and their policies and personal interests not only impact on planning and development but reach into the detail of natural resources management.

There are grave concerns whether regional coastal councils are capable of responding appropriately to the big issues facing coastal environments and communities.

Communities are entitled to expect that their local Council would undertake responsibilities to the highest standards in the interests of the entire community, not on the basis of vested interests and cronyism. Communities are also entitled to expect that decision-making is open, unbiased and accountable and that the public's right to be consulted and participate in decisions is respected. In the case of decisions that impact on the environment, the community is entitled to expect that decisions will be made on the basis of State policy, expert scientific advice and objective assessment.

The conduct of the majority group of SCC Councillors is currently under public scrutiny for perceived conflicts of interest regarding donations from developers prior to the 2004 council election and decisions on planning and development issues. Over $91,000.00 of donations were received, making this group the fifth highest local government recipients of developer donations for the 2004 NSW local government election.

The Shoalhaven public has been made aware of a very high level of staff dissatisfaction and resignations due to Councillor policies and behaviour after the results of a Staff survey were leaked to the press. The concerns related especially to staff involved with planning, development and environmental protection issues.

The following examples demonstrate the scope of the problem.

- The responsibility of Council staff to make delegated decisions on the basis of their expertise and independence rather than on a political basis has been undermined by a clause inserted by Councillors into the Council of Conduct that directs Staff to make delegated decisions "as if they were the elected Council."

- Appointments to Estuary Management and other NRM Committees are highly politicised, with the result that no recognized community environmentalists have been appointed.

- The majority of Councillors voted to abolish the Threatened Species Officer position apparently because they did not value the independent role of the position in assessing potential impacts on Threatened Species from development applications as required by law. Council reversed this decision only after an adverse assessment of the costs of hiring consultants to undertake this work and extensive staff and community protests.

- The majority Councillors did not act on staff advice and voted instead to exclude an established Bushcare Group from continuing its successful work on the shores at Jervis Bay. Instead Council has agreed that several local residents who want to retain their views and have apparently damaged foreshore vegetation should assume responsibility for the site.

Despite challenges at the political level, Council staff conduct several successful NRM programs including the Estuary Management Program, the Coastal Management Program and the Bushcare Program.

Estuary Management Plans and Plans for the Shoalhaven River have been approved, consistent with the NSW Estuary Management Manual.

Water quality is a particularly sensitive issue, especially for the intermittently opening and closing lakes in the region. Water quality studies of St. Georges Basin for SCC by Geosciences Australia show the nutrient enrichment has occurred and has changed the ecology of poorly flushed areas such as Erowal Bay.

Management of intermittently opening and closing lakes is an issue of considerable controversy in several communities. See Term of Reference 2.

SCC is developing a comprehensive Coastal Management Plan. The issues so far identified in the Study include immediate and longterm coastal erosion hazards, geotechnical issues, threats to coastal amenity values, sustainable communities.

The Plan deals with immediate and longer-term threats from climate change. It covers threats to homes from coastal erosion and geo-technical instability, beach access and conflicts regarding uses, protection of natural landscapes, including identification of EECs and their condition, weed management, regeneration of dune and wetland vegetation, impacts of urban development on dunes, and estuarine habitats, and conflicts regarding amenity and socio-economic values, including differing purposes of reserve management, vegetation and views, stormwater management.

Draft Maps have been developed and made available to the community. These indicate 50 and 100 year hazard zones from sea level rise and increased storminess.

Development of this Plan is timely as cyclonic strength rain and storms in February triggered the collapse of a coastal cliff at Culburra Beach, which took several gardens with it. This has alerted some in the local community to the increasing risk from sea level rise and increased storminess.

The SCC Bushcare program supports 70 groups of volunteers undertaking weed removal and bush regeneration in coastal reserves, mainly in public reserves on the coast. In 2007 Shoalhaven City Council won the Southern Rivers CMA local government Bushcare Award and the Lake Wollumboola Bushcare Group, including members of the Association, won the Nature Conservation Award.

SCC has also endorsed a Plan to reduce its carbon footprint and to incorporate climate change adaptation measures into its programs.

## Term of reference 2. The environmental impacts of coastal population growth and mechanisms to promote sustainable use of the coast.

This section of the submission deals with the impacts or potential impacts of urban development and increased use as a result of increased population on the coastal environment. Mechanisms to promote sustainable use of coastal resources are discussed throughout this section.

The comments regarding impacts of development on the natural environment are derived from expert advice provided as part of the Long Bow Point Commission of Inquiry 1996-2000 and South Coast Sensitive Urban Lands Review 2006 and extensive experience over 15 years with coastal issues in the Jervis Bay region. **Attachment 1** lists the references and sources of expert advice.

The pressures on the immediate coastal environment are increasing substantially as the population increases.

By comparison with other coastal Regions the size of most of the coastal villages in the Jervis Bay Region is small, ranging from 150 to 6,000 permanent residents. The population is swelled by Weekend and holiday residents swell the population threefold in the summer. Tourism visitation is also increasing. The two main causes of adverse impacts on the environment arise from planning and development decisions and from increased population and use. The impacts are discussed in detail, with examples from the Jervis Bay Region.

Coastal formations including lakes, wetlands and other sensitive water bodies and their catchments and on beaches, dunes and reefs are all affected.

By comparison with other coastal Regions the size of most of the coastal villages in the Jervis Bay Region is small, ranging from 150 to 6,000 permanent residents. The population is swelled by weekend residents and holiday residents in summer treble the population of these villages. Tourism visitation is also increasing. The pressures on the immediate coastal environment are increasing substantially as the population increases.

***Impacts on entire coastal systems- lakes estuaries and wetlands and mechanisms to promote sustainable use.***

The NSW Coastal Lakes Inquiry and research and inquiries in other States, have documented the declining condition of sensitive coastal lakes and estuaries, with the evidence clearly pointing to increases in coastal population growth and ecologically unsustainable urban development in sensitive coastal locations. See earlier comments.

Despite the NSW South Coast Lakes being in better condition than those of the north coast many are at risk of further decline.

There is overwhelming evidence that coastal lake systems collapse with nutrient enrichment and persistent intervention in their natural processes, and that the costs of remedying the situation are high, but usually ineffective.

Dr. Graham Harris of CSIRO reported a "sort of ecological collapse that recently turned part of the Gippsland Lakes into toxic "green pea soup" as a result of pollution from land uses in the catchment. (Report in "Waves Vol 6 No 3 Spring 1999.) The CSIRO study also showed that it is not simply a matter of returning the nutrient load back to the point where the threshold was reached. For Port Phillip Bay, a 200% reduction would be required, a reduction not considered achievable.

Dr Harris went on to say,

> **"Our most important recent advance is the discovery that there is a point of no return, or hysteresis, where the system flips from one type to another. Once you reach this point, it becomes extraordinarily difficult, if not impossible, to change the estuary back the way it used to be".**

Eminent NSW ecologist, Mr Geoff Sainty in his submission to the South Coast Sensitive Urban Lands Review, 2006 expressed concerns regarding the decline of Coila Lake, on the NSW South Coast as a result of significant urban development and cleared agricultural land in its catchment. He considers this is the result of single cell algae dominating the water column;

> **"Unlike Lake Wollumboola, it (Coila) has spectacularly decreased in 'health' in recent years. Turbidity remains high in Coila and it is no longer suitable for swimming and each summer and presents an on-going health hazard. Its catchment includes a significant urban area and cleared agricultural land."**

Lake Illawarra and Saltwater Lagoon in NSW are further examples together with the Peel Estuary in Western Australia, where coastal lake processes and ecological systems have collapsed as a result of land uses in the catchment. Lake Illawarra for example has been changed into a permanently open Lake in an attempt to maintain continuous flushing of nutrients caused by over-development in the catchment. Yet more development in the catchment is under way and planned.

The NSW Government and local Councils have spent over $20 M over the past ten years in effort to solve the problems of Lake Illawarra with no guarantee that the works would be successful. So there are high longterm costs to the community and to Government if other coastal lakes become degraded beyond recovery.

Evidence to the Long Bow Point Commission of Inquiry concerning the potential impacts of development on Lake Wollumboola and its catchment are described to clarify why such impacts occur.

***Coastal catchments- impacts on native vegetation, biodiversity, threatened species and Endangered Ecological Communities.***

**The principal ecologically sustainable mechanisms for protecting native vegetation and biodiversity are planning and acquisition measures that prohibit development in such areas and gazette them as part of the reserve system.**

**Governments must prevent the continued clearing of large areas of coastal native vegetation for development, to reduce green house gas emissions and as the most effective means of protecting biodiversity and water quality.**

Whilst the NSW Native Vegetation Act is focused on the retention of remnant native vegetation on agricultural lands the destruction of native vegetation for development in the Coastal zone goes relatively unchecked.

Coastal zone development has changed from the low impact coastal cottages of the 1960's. It is now characterised by whole new towns with residential subdivisions and commercial centres or large scale tourist resorts. Large areas of coastal forests, heath land, dunes, are clear-felled and wetlands filled.

Hard surfaces replace trees and other natural vegetation. Habitat clearing is recognized as a Threatening process under the NSW Threatened Species Conservation Act yet massive clearing of native vegetation is permitted for development.

Retention of native vegetation is central to the reduction of green house gas emissions and to assisting the environment to adapt to climate change. Protection of native vegetation should have prominence in any climate change strategy.

Intensive development also significantly reduces important environmental functions performed by native vegetation. These functions include habitat for fauna, preventing excess evaporation, preventing soil erosion, contributing to water quality, lowering the water table and preventing salinity, maintaining the water quality and ecology of coastal lakes and estuaries and contributing to clean air, all essential components of a healthy environment.

Native vegetation is also critical to the aesthetic character of the South Coast Region with majestic forests reaching from the mountains to the beaches and headlands of the coast.

***The Stocklands development at Vincentia Crossroads.***

The Stocklands development at Vincentia is considered to be an example of the destructive impacts of urban development on the coastal environment. Extensive clearing of mature coastal forest has commenced on the site.

The site was part of a Habitat Corridor in the Jervis Bay Regional Environment Plan, contributing to the longterm survival and biological diversity of native flora and fauna species. It is possible that local extinction of some flora and fauna species could now occur on the Bherwerre Peninsula isolating the Commonwealth Booderee National Park and areas of Jervis Bay National Park.

The site studies (ERM 2006) confirm that this site and the surrounding Region are one of, if not the most significant area for threatened species currently known within New South

Wales. (Gaia Research 2006) 35 threatened species have been identified in the surrounding area and 24 species listed under the Threatened Species Conservation Act NSW (1997) have been detected on the 127 hectare site.

***Coastal Lake and Estuary catchments, processes, water quality and biodiversity and mechanisms to promote sustainable use. Lake Wollumboola case study.***

**Coastal planning measures should prohibit development expansion in the catchments of sensitive coastal lakes and estuaries especially ICOLLS. The classification system recommended by the NSW Coastal Lakes Inquiry for protection and management of coastal lakes should be investigated for its relevance to coastal lakes and estuaries in other States/Territories.**

**Sustainability Assessments of coastal lake catchments already modified by development should be conducted, to establish the extent to which cumulative impacts of proposals for development and other land uses are sustainable and before additional development areas are approved.**

**Mandatory standards should be required for Water Pollution Controls for all coastal development likely to have impacts on coastal water quality.**

**Urban Water Quality Improvement Programs should be established in developed areas on the coast already assessed as causing significant deterioration in sensitive coastal waters.**

**Sewerage infrastructure likely to pollute sensitive coastal waters should be progressively reviewed and if necessary removed replaced or realigned.**

**Impacts on Lake Wollumboola Catchment.**

Expansion of urban development in the Lake Wollumboola catchment, would mean destruction of relatively undisturbed native forest dominated by Currambene-Bateman's Lowland Forest which the Southern Rivers Catchment CMA Action Plan identifies as a priority vegetation community targeted for conservation. It would also result in loss of significant wetlands and heath habitat, displacement of threatened fauna and loss of individual specimens. There would be a significant loss of biodiversity with over 300 flora species and over 300 fauna species, including an estimated 33 Threatened fauna species and four Endangered Ecological Communities and Eight SEPP 14 wetlands.

The Report of the Long Bow Point Commission of Inquiry 2000 concluded that the mitigation measures proposed for the sub division including an Environment Protection Zone around the Lake shore would not fully protect habitat corridors, and that such impacts were unacceptable.

Protection of the Lake Wollumboola catchment together with the adjacent Crookhaven River catchment is important to maintaining the habitat corridor that links the Jervis Bay National Park north to Comerong Island Nature Reserve in the Crookhaven/Shoalhaven River estuary and on to Seven Mile Beach National Park as well as providing a reserve corridor south and west from the coast to the mountains and Morton National Park.

If development were to occur, this important habitat corridor would be cleared for housing and bushfire asset protection. Adjoining natural areas up to 500 metres away would be degraded as a

consequence of vandalism, rubbish dumping, clearing for views, trail bike riding, timber gathering, and exotic plant invasion and killing of wildlife by dogs and cats.

Urban development in these bushfire-prone areas is also likely to increase the frequency of bushfires, through arson and unintended fires, with a resulting loss in biodiversity. Arson has resulted in many fires in the Jervis Bay region in recent years.


**Downs Creek Lake Wollumboola**

**Lake Wollumboola values compared to Ramsar listing criteria.**

- A unique, natural wetland. It is the largest shallow saline lagoon on the South Coast. The Lake's intermittently closing and opening regime is distinguished by long periods of closure, generating a complex ecology.

- Supports endangered species and threatened ecological communities.

  Internationally significant habitat for water and shorebirds, both migratory and indigenous.

  33 species of migratory birds, 12 NSW Threatened bird species, including Little Tern.

  Other threatened species. Green and Golden Bell Frog, wetland plant, Wilsonia Rotundifolia Endangered Ecological Communities including Salt Marsh, Swamp Oak Coastal Flood Plain Forest, and Bangalay Sand Forest fringe the Lake shores.

- Supports biological diversity. Seagrass Ruppia, diverse algae species, 80 species of birds.

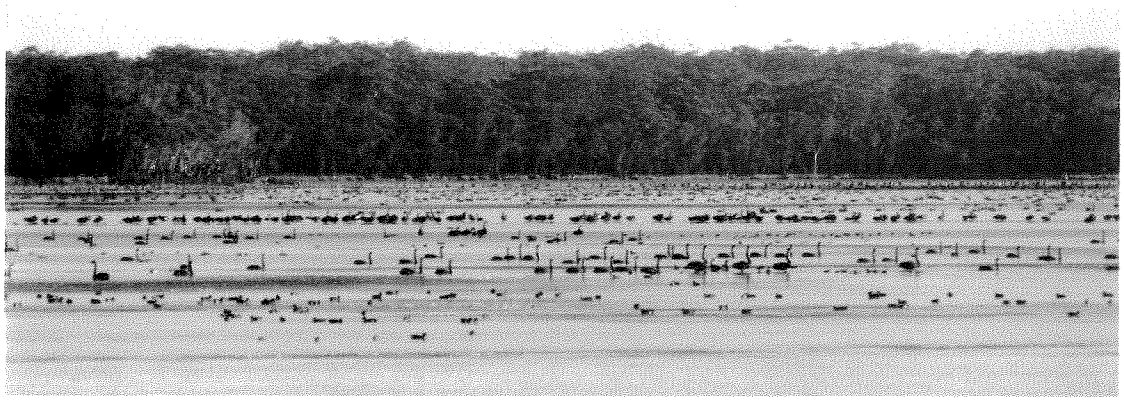
- Supports plant or animal species at a critical stage of their life cycles and provides refuge during adverse conditions.

  Little Tern nesting site, breeding habitat for GGB frogs, drought refuge of waterbirds, including Black Swan, Chestnut and Grey Teal, Hard Head Duck, Black Duck and Eurasian Coot.

- Regularly supports 1% of the individuals in a population or subspecies of water birds

  Largest population of Black Swan on NSW coast, near to 14,000. Over 1% of Chestnut and Grey Teal populations.

- Estimated to support at least 20,000 birds at one time. (In the absence adequate data this criterion criterion may not be met.)



**Black Swan and Teal at Lake Wollumboola**

## Impacts on Lake Wollumboola

Coastal lake and estuarine processes, hydrology and ecology are attuned to the natural condition and runoff regime of the catchment. Once soil vegetation, rainfall and runoff regimes are changed, then estuarine processes, water quality and ecology of the receiving creeks, wetlands and coastal lakes and estuaries are changed forever.

Urban development radically changes this relationship with disastrous results, particularly for Intermittently opening and closing Lakes and Lagoons, (ICOLLS) like Lake Wollumboola.

Development of Lake Wollumboola's catchment would mean that runoff to the creeks, wetlands and Lake would be more frequent, high volume and enriched by nutrients, sediments and organic and other pollutants.

The ancient soils of many coastal areas like Lake Wollumboola have been leached of nutrients over millions of years. They absorb runoff, but are highly susceptible to erosion once disturbed.

The coastal forest, heath and wetland vegetation are also low in nutrients having evolved with the low nutrient condition of the soils.

With development and land clearing, the soils erode causing increased sediment and nutrient enrichment to sensitive water bodies accustomed to little or no such loads. Pollutants accumulate once development is established from impermeable surfaces such as roofs, roads and other hard surfaces and from use of fertilizers for lawns and gardens with introduced species.

The natural flow regime is changed to one characterised by increased runoff volume, increased runoff peaks and velocities, and changes in frequency and timing. These changes are likely to have significant impacts on site soil moisture, on native vegetation including Endangered ecological communities and fauna on site.

The unique character of ICOLLS makes them particularly susceptible to the impacts of urban development and associated population pressures although all coastal lakes and estuaries have degrees of sensitivity.

The specific changes to Lake Wollumboola from development expansion would be;

- Changes to the cyclical opening and closing regime, resulting in changes in the fresh water/salt water regime, and changes to the ecology.

- Changes in salinity and reduction in the frequency and levels of floods leading to downgrading of wetland and riparian vegetation including Endangered Ecological Communities that provide habitat for threatened species.

- Sediments, organic material and other pollutants would increase adding to the sediments accumulated over time as a result of the characteristic long periods of closure and limited flushing capacity.

- Increases in nutrients would promote dominance of single cell algae that would float throughout the water column, competing with seagrasses for light and oxygen and causing decline and death of seagrass and all other life. (as microalgae are wholly dependent on nutrients available in the water column. Geoscience Australia 2005)

- Large inputs of phosphorus would trigger blooms of blue-green algae if conditions of salinity temperature and light were favourable.

- Increased organic loads would increase oxygen demand and remobilise phosphorus from the sediments into the water column triggering the death of respiring organisms such as fish, prawns and invertebrates.

- Any major increase in organic load would cause denitrification to cease and ammonia to be produced. This is the main mechanism for removal of nitrogen from the Lake and the increase in ammonia would be detrimental to fish and other animals and promote algal blooms.

- More frequent episodes of Hydrogen Sulphide release direct to the atmosphere would occur causing public concern regarding the odour.
- Reduction of and changes to fish and other aquatic species due to timing of artificial openings favouring some species over others.

- Increase in frequency of fish kills due to more frequent sudden lowering of water levels.

- Permanent change to the seagrass/algae cycle causing smothering, decline and death of protected seagrass beds.

- Degradation of SEPP 14 wetlands from contamination of ground water, weed invasion, affecting Threatened Ecological Communities, Salt marsh etc and Endangered Fauna species eg Green and Golden Bell Frog.

- Loss of habitat, numbers and species diversity, and possible local extinction of indigenous and migratory bird species, reducing a critical link in the East Asian/Australasian flyway.

- Loss of habitat and drought refuge for indigenous water birds

Proposals for urban development in sensitive coastal areas usually present methods of reducing water pollution in ways that make them more acceptable to the public, whilst disguising their limitations. Such controls are described as "best practice water sensitive urban design," rather than called what they are, water pollution controls (WPCs).

WPCs are essential where development proceeds, however they cannot and do not meet the objective of "no net increase in pollutant loads" set in State guidelines for development approvals in sensitive coastal environments. The most stringent standards and requirements should apply,

It is recognised that WPCs are not as effective in practice as claimed. In this Region, such measures would need to be 90% effective to remove sediments and nutrients to natural levels. Expert advice is that this is not possible. These measures often fail during the construction period and during heavy rainfall they are completed and if necessary maintenance is not conducted.

WPC measures cannot replicate natural flow conditions. Expert advice accepted by the Long Bow Point COI was that to meet the objective of no net increase in nutrients and solids, the WPCs would need to achieve removal efficiencies of 92% for total phosphorus and 95% for total nitrogen.

As reaffirmed by Professor Bill Maher, University of Canberra in 2006, there was no evidence that these rates of efficiency could be achieved. Evaluation of typical removal efficiencies for WPCs proposed for Long Bow Point, would be around 60% for phosphorus and much less for total nitrogen.

The Commissioner's Report in March 2000 concluded that:

> *"The weight of evidence, based on the experience of responsible water agencies, such as the EPA and DLWC as well as consultants with lengthy experience in WPCP design and performance, is that the proposal is likely to increase nutrient and other loadings to Lake Wollumboola. Also that mitigation measures including WPCPs, the Environment Protection Zone and other initiatives are uncertain and unlikely to consistently meet predicted high performance goals of no net increase in pollutants."*

Major failure of WPCs does occur. If there is a failure during construction when large areas are bare of vegetation, serious water pollution can result as occurred in the case of the Henry Kendall Coastal Village at Erowal Bay, St. Georges Basin.

The partly constructed water pollution control ponds at the Village completely collapsed in May 2003. The collapse sent tonnes of clay laden water into the wetlands and waters of Erowal Bay. The contractor was prosecuted however it is likely that the damage remains. Geoscience Australia's research in 2003 and 2004 shows high levels of nutrient and organic enrichment in Erowal Bay.

***Urban Water Quality Improvement Program***

Many old coastal sub-divisions do not have water pollution controls incorporated into the original designs. Road construction and maintenance programs often involve un-vegetated road shoulders, dumping of road base and clearing of roadside vegetation. In addition to runoff from homes and other development, such measures cause erosion and pollution of receiving waters. Urban water quality improvement programs and community education can mitigate such impacts.

***Sewerage Infrastructure.***

The Healthy Rivers Commission Coastal Lakes Inquiry recommended in 2002 that progressive removal or substantial mitigation of sewage discharges and overflows should be undertaken as necessary effective actions for the future health of Coastal Lakes classified for "Comprehensive" or "Significant Protection."

Sewerage infrastructure in most coastal areas is located at low-lying points so that any overflows drain into Lakes and wetlands. There have been several sewage overflows in recent years into Lake Wollumboola and the adjacent Curley's Bay, due to failures in old infrastructure. Such overflows cause water pollution from nutrients and pathogens, possible fish kills and close down the oyster industry.

Shoalhaven City Council's Reclaimed Water Management Scheme (REMS) pipes treated sewage to dairy farms on the Shoalhaven flood plain for use as irrigated fertiliser, thus reducing pollution of coastal waters.

During times of heavy rain the treated sewage is piped to the ocean via an ocean outfall at Culburra Beach. The environmental impacts are likely to cause nutrient enrichment and changes to species composition in the receiving waters.

***Direct population pressures***

**Lake and Estuary Management Plans should aim to maintain the natural processes of coastal lakes and estuaries, especially the entrance regimes of ICOLLS.**

**Artificial opening Lake Wollumboola**

Too frequent openings would over time change the Lake processes, water quality and the ecology including seagrass coverage, aquatic species and bird life.

Coastal Lakes particularly ICOLLS are particularly susceptible to intervention by in their natural processes. The most common radical interventions include artificial openings, which drain the Lakes and create tidal conditions and the construction of rock training walls to keep them permanently open.

The unauthorised opening of many South Coast Lakes by local community members is a significant issue with likely long term effects. Increased population and development on the shores of Coastal lakes would result in pressure on authorities to open coastal lakes to more frequently to prevent flooding.

Intermittently closing and opening Lakes and Lagoons have a natural opening and closing cycle and open to the sea unassisted following periods of heavy rain. The ecology of such Lakes in attuned to the closing and opening regime.

Most Councils have Estuary Management Plans and Entrance opening policies to allow for the Lakes to be opened in the least damaging way should high water levels threaten to flood homes or infrastructure.

Despite policies of maintaining natural opening regimes, community members intervene and open lakes before they reach the natural opening level. Provision is made for Council to open Lakes in accordance with Entrance opening policies, where homes or significant infrastructure are threatened with flooding. However in many cases lakes are opened for non-essential reasons, to create an offshore bar to improve surfing, to encourage fish and prawns into the Lakes etc.

Solutions to prevent unauthorised openings include heavy fines, however it is very difficult for the culprits to be caught in the act.

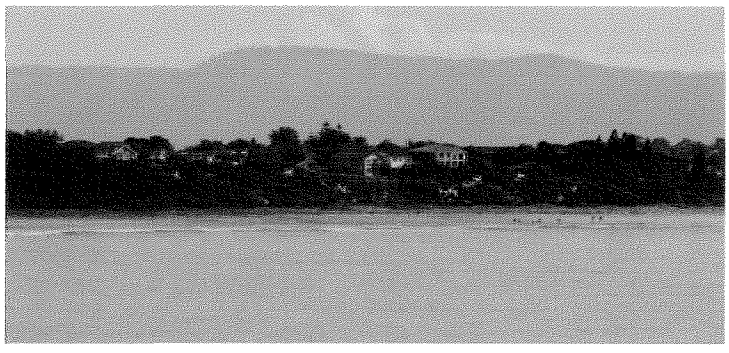
Interventions may be justified in the case of a Lake already significantly modified by urban development. Rock training walls now keep the entrance to Lake Illawarra permanently open to alleviate the growth of nuisance algae from significantly increased nutrient levels from development.

Concerted community education programs are more likely to be successful in countering the misconceptions in many coastal communities about ICOLLS. The Southern Rivers CMA in consultation with the then Department of Natural Resources produced an excellent Pamphlet "Coastal Lakes and Lagoons. An open and shut case." This explains the processes and ecology of coastal lakes to local communities. This Pamphlet should be widely distributed to coastal communities.

***Beaches and dunes***

**Development should be prohibited on coastal dunes and headlands**

**Coastal Management, Foreshore Management Plans and Bushcare/Landcare Programs should aim to protect coastal land forms, water quality, native vegetation, biodiversity and cultural heritage, especially Aboriginal heritage and to manage access and uses.**



**Houses on Culburra Beach dune**

Coastal landforms, processes and biodiversity are under threat from increased development and use.

The very structure of dunes and rocky headlands have been destabilised and eroded and as a result of construction of houses, roads and infrastructure. Many of these homes are unoccupied holiday houses on coastal dunes and cliffs.

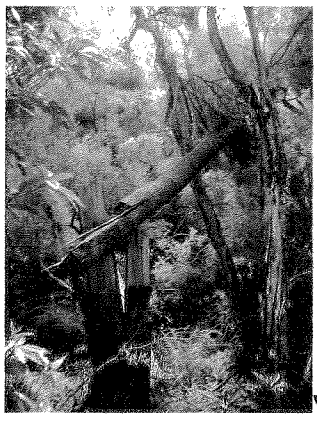
Development oriented Councils seem to find loop-holes in planning and development controls to allow gross overdevelopment. SCC rezoned parts of the dunes at Culburra Beach immediately prior to the introduction of SEPP 71. This land was regenerated at public expense following coastal erosion and sand mining. Construction of houses resulted in the dunes being excavated to enable large houses to be built. Lawn and other exotics replace dune vegetation although in some case Council has required areas to be revegetated.

Public access has been reduced and large houses now dominate the landscape vista from the beach.

Vehicles are not permitted on Shoalhaven beaches. However in other areas in NSW such access is extremely damaging to beach and dune structure and to habitat values. Nesting shorebirds are particularly affected. Vehicles on beaches also present safety hazards for other beach users.

***Conflicts concerning Coastal vegetation and biodiversity.***

Urban encroachment, vandalism of vegetation, and weed invasions occur as a result of resident's preference for exotic gardens and palm trees, views and tidy suburban landscapes. These result in the destruction of dune and riparian vegetation and loss of habitat and native species.



**Vandalised Casuarina**

Foxes, cats and semi-wild dogs thrive in coastal villages, where they prey on small native animals and birds as well as threatening shorebird nests.

Conflict often exists in coastal villages between those who appreciate and wish to maintain and protect the natural environment and those who want to change it to meet their ideal of a tropical suburbia. In Culburra Beach such conflict is on-going with some residents opposing some bush regeneration activities in Council reserves.

Increasingly SCC seems to act in support those opposed to protection of native vegetation in Council reserves, rather than its longstanding Bushcare Groups as indicated previously.

Another area of conflict between conservation and uses that is exacerbated by increased population is the NPWS Shorebird Program.

While the majority of visitors to the Lake Wollumboola Little Tern nesting site during the summer site express support for the protective measures and appreciation of the program, a group of people in the community, oppose the protective measures because they consider they interfere with their use of the beach. See **Attachment 2** pro forma submission to the NPWS from some members of the Culburra Beach community regarding the management measures included in the draft Jervis Bay National Park Plan of Management.

The NPWS Shorebird Recovery Program targets species that breed on open beaches and are therefore the most vulnerable to human disturbance. Studies of the impact of human activity on water birds relevant to the Lake Wollumboola situation show that;

- All kinds of boating, people walking with or without dogs and aircraft have been found to scare birds.

- Disturbance increases with size, speed and noise of boats, with birds being flushed by power boats at about 200 metres, and jet skis at greater distances. Sail boats and kite surfing also cause disturbance.

- Walkers scare birds at shorter distances than boats, although walkers with dogs cause more disturbance.

The effects on the birds from disturbance range from increasing energy use, reducing foraging and feeding time, to permanently driving birds, especially sensitive species away from the site. Reduced body size impacts particularly on migratory birds. Breeding activity is also affected, and birds like the Little Terns may abandon their nests due to frequent disturbance.

Conservation strategies critical to the survival of these threatened species must be maintained. These include fox eradication, prohibiting dogs on Shorebird beaches, fencing off nesting sites with string and electric fences and warning notices.

As well as causing disturbance to birdlife and to other recreational users, power boating causes water pollution, turbidity, erosion and damage to seagrass and wetland vegetation.

## 3. The Impact of climate change on coastal areas and strategies to deal with climate change adaptation, particularly in response to projected sea level rise.

**A National Coastal Policy and Strategy should include development a package of both mandatory requirements and guidelines for climate change adaptation in coastal regions, including the coastline, coastal lakes and estuaries and their catchments,**

- **The climate change package should include strategies for maintaining existing coastal values, processes and biodiversity, for identifying ecosystems, species and vegetation communities at particular risk and strategies for dealing with threats from bushfire, pests and weeds.**

- **The climate change package should also address climate change impacts on Aboriginal cultural heritage on the coast and strategies for protection and management.**

- **The climate change package should also include education strategies for the general coastal community as well as those already responsible for conservation and natural resource management.**

Comments contained in this section are made on the basis of knowledge of the environment of the Jervis Bay Region and advice on the likely impacts of climate change on the South Coast Region.

Sources of information include the Inter-governmental Panel on Climate Change Reports, Commonwealth and State publications including the NSW Government /CSIRO publication "Climate Change in the Southern Rivers Catchment," 2007, the "NSW Biodiversity and Climate Change Adaptation Framework," 2007 and the just published, "High resolution terrain mapping of the NSW Central and Hunter coasts for assessments of potential climate change impacts." NSW Government 2008.

The expert advice provided at seminars and papers by Associate Professor Colin Woodroffe, University of Wollongong and of Emeritas Professor Bruce Thom has been particularly valuable in increasing understanding of the impacts of climate change on the natural coastal environment, especially coastal lakes and estuaries.

The climatic consequences of global warming for the South Coast of NSW by 2030 as indicated in the NSW Government /CSIRO publication "Climate Change in the Southern Rivers Catchment," 2007 predicted to be;

- Increase in average temperatures of +0.2 --+1.8 degrees, more hot days and fewer frost days.
- Decline in annual rainfall, reduction in rainfall runoff and stream flows.
- Droughts likely to be more severe.
- Risk of Bushfires is likely to increase.
- Intense storm and extreme rainfall are likely to increase.

With the warming of the oceans and melting of icesheets and glaciers, the sea level is estimated to rise 0.18-0.59 metres by 2100, although these estimates are considered by some as being too conservative in view of the observed rate of icesheet melt from Antarctica and Greenland.

The expected impacts from sea level rise are likely to be increased erosion including the loss of sandy beaches and cliffs, increased flooding both from storm surges and from more frequent high tides, changes in catchment runoff conditions, changes in estuarine tidal regimes, the entrance conditions of coastal lakes and estuaries, changes to the ecology of lakes, estuaries and wetlands, including landward migration of mangroves and salt marshes and reduction in biodiversity.

The impacts of climate change on the coast will also impact significantly on Aboriginal cultural heritage. The South Coast with its sheltered Lakes, estuaries and bays supported relatively high populations of Aboriginal people prior to colonisation. Middens and camp sites are located on many beaches and close to head lands and estuaries. Entire landscapes including sacred mountains along the coast are all part of Aboriginal cultural heritage.

Climate change including sea level rise will have significant impacts on Aboriginal cultural heritage. Middens are already degraded by public access to beaches and are likely to be further eroded by higher sea levels and increased storminess.

Climate change will also affect seasonal cycles and associated cycles of plants and animals. This will not only change biodiversity and species but will also impact on traditional cultural responsibilities for maintaining species and on traditional food gathering.

It is critical therefore that a National Coastal Policy accord high priority to addressing impacts of climate change on Aboriginal cultural heritage and appropriate methods protecting it. Aboriginal traditional owners and Aboriginal communities must have a decision-making role in assessing impacts and formulating strategies.

***Climate Change impacts on Coastal Lakes***

The formation of coastal lakes, estuaries and wetlands on the South Coast of NSW and in Eastern Victoria is a legacy of past climate changes.

The geological and geomorphological evidence provides some indication of the changes that are likely to occur to Lake Wollumboola as a result of climate change.

Following the last ice age as the ice melted, the sea level gradually rose. Strong waves from the rising waters and wind action built up sand barriers that partially closed a shallow river valley flooding it, resulting in the formation of an intermittently closed and open lagoon. (ICOLL).

**Lake Wollumboola Sandbar vulnerable to sea level rise**

Several scenarios arising from climate change especially sea level rise, are possible for Lake Wollumboola.

- The existing opening and closing regime is likely to change radically. Increases in sea level and storminess may mean that the sand bar is swept away altogether and the Lake becomes part of the ocean.

- Increased sea levels and increased storminess would result in more extremes in berm dynamics. Tides may change and waves increase, changing the frequency of overtopping and alternately flattening or severely eroding the sand bar and increasing deposition.

- More gradual increases may result in increased height of the sand bar, which may advance inland, thus potentially increasing the Lake level and causing inundation of wetlands, sewerage infrastructure and homes.

- The muddy and sandy substrate of the Lake is likely to change affecting invertebrates and other organisms.

- Decline in annual rainfall would result in less runoff and longer periods of low water levels.

- Greater extremes of water quality are likely to occur, with hypersalinity more frequent than fresh conditions.
- The ecology would change including the inter-relationship between the dominant sea tassel Ruppiah and Algae species.

- Wetland vegetation including Salt Marsh, and the Endangered plant Wilsonia Rotundifolia and other Endangered Ecological Communities currently fringing the shore would be lost or would significantly retreat.

- Diversity of species of fish and other marine life would change and reduce.

- Fauna dependent on the Lake are likely to become locally extinct including the Endangered Green and Golden Bell Frog.

- Shorebird and water habitat would be reduced or changed. It is likely that the 12 Threatened Bird Species, especially Migratory species that depend on the Lake as well as other sites, would be lost.

- Changes to the sand bar may make it unsuitable as a nesting site for the Endangered Little Tern, which together with loss of other nesting sites on the South Coast would lead to extinction of the South Eastern Australia sub-species.

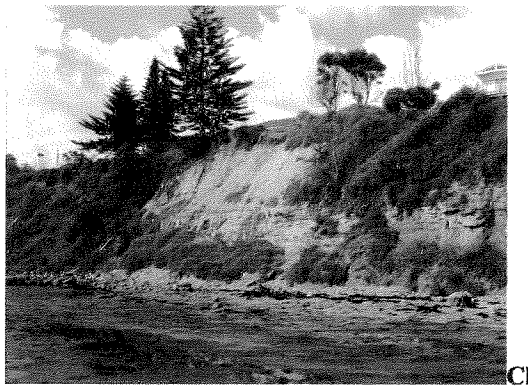
Climate change will also impact on the biodiversity of the catchment of Lake Wollumboola and other coastal lakes and estuaries as climate dictates to a large extent the range of flora and fauna.

Studies indicate possible extinction of species with very specific habitat needs. Changes will occur in the distribution of plant and animal species, with species and communities that are already threatened, reaching a more critical stage and in many cases becoming extinct. Other species, including weed and pest species will migrate into new areas. Increased incidence of Bushfire will place a further strain on biodiversity.

***Climate Change impacts on beaches, headlands and rocky reefs***

The geological record and severe storm events indicate what is likely to happen to beaches and rocky headlands as a result of climate change and sea level rise. In the 1970's and 1980's storm conditions caused severe erosion of beaches on the South Coast. Gardens and protective barriers on properties at Callala Beach on the dunes of Jervis Bay were washed away. At Culburra Beach, the beach and dunes were severely eroded. These have been regenerated however intensive urban development has continued to be permitted on the dunes at both these sites despite their history.

Increased storminess is likely to increase the abrasive impact of waves and rocks at the base of cliffs causing their collapse.



**Cliff collapse Culburra Beach**

In February 2008, after cyclone type storm conditions, heavy seas and extremely heavy and prolonged rain the part of the cliff at Penguin Head Culburra Beach slumped onto the rock shelf below. It took with it large areas of cliff top gardens of two houses.

Existing rocky reefs are likely to be inundated by rising sea levels and increased storminess. The abundant reef life will be lost.

***Strategies to assist climate change adaptation.***

The most important strategies to assist the natural environment in adapting to climate change are consistent with those proposed for maintaining the condition of natural areas and biodiversity.

Climate change adaptation requires appropriate science including coastal geomorphology, hydrology and ecology to assess the vulnerability of the coastal zone and accurate mapping of coastal formations, ecology, vegetation, existing development and infrastructure as the basis for priority strategies.

The following Adaptation Strategies for the coastline, lakes and estuaries are suggested as part of a National Coastal Climate Change package.

- Mandatory Planning Controls to prevent further development expansion in sensitive coastal areas to facilitate species migration, including coastal lake and estuary shores and catchments, dunes, and floodplain.

- Requirements that Plans for Lakes and Estuaries support maintenance of the existing natural processes and enabling adjustment to changes in tides and sea levels, and prevent practices that would damage beaches, dunes, cliff faces and wetlands. For example rock walls and mechanisms to control entrances should not be permitted.

- Requirements that Plans for Lakes and Estuaries emphasise strategies directed at maintaining the existing diversity of species, especially those most threatened to give them the best chance of adjusting. Eg strengthening efforts to conserve coastal Threatened Species such as the Little Tern.

- Large scale protected areas to support whole ecosystems and to provide ecological corridors to facilitate connectivity and migration. Action on this scale requires significant expansion of the National Reserve System, including improved links between existing national parks and expansion of conservation areas on private land.

- Ecological corridors should specifically provide for protection of and migration from sensitive coastal areas and catchments, indicating a need for north south connectivity along the coast as well as east-west links to the ranges.

- Identifying, establishing needs and options for conservation of ecosystems and species at most risk. ( likely to be species/communities already listed as Threatened).

- Intensifying understanding of how existing threats such as bushfire, pest and weeds can be better managed to reduce impacts.

- Intensifying education of the general coastal community, as well as those already involved in conservation and natural resource management.

## Term of Reference 4. Mechanisms to promote sustainable coastal communities.

It is generally estimated that over 80% of the Australian community live in the coastal zone. There are many challenges to achieving environmentally, socially and economically sustainable coastal communities. Current levels of population growth are already degrading the coastal environment and there is increasing demand for improved infrastructure and service provision, with limited appreciation of the impacts.

The pressures of climate change, water and energy supply and uncertainties in the global economy are already exerting further pressures on coastal communities in the Region.

Generally Governments are not focused on the scale of the looming problems.

This part of the submission considers community values and the implications for sustainability.

***Values and community education.***

**Governments need to reconsider their commitment to economic growth to enable them to lead coastal communities in making the necessary adjustments to climate change.**

**A Community education and engagement strategy for coastal communities should be a major priority of Coastal Policy. Such a strategy should aim to increase understanding of the impacts of population increase, development and climate change on the coastal environment and on coastal communities and to gain support for and engagement in Government action to address the emerging problems and assist in reducing community conflict surrounding environment protection.**

The prevailing values and priorities of Governments and coastal communities have a direct bearing not only on the ecological sustainability of the coast, but also on the social and economic sustainability of communities.

To have credibility in leading communities to make the necessary adjustments, Governments will also need to reconsider their underlying values. Otherwise the capacity of Governments to protect the environment and prepare the community to respond to climate change will be severely limited.

The cultural imperative that economic growth and development is necessary and inevitable and that a critical mass of population is necessary whatever the cost to the environment, appears to be the

driving force behind environmental degradation. The over-arching commitment to economic growth permeates at all levels of Government and the community, ignoring that fact that the world's natural resources are finite and cannot withstand the pressure continuous growth.

For many coastal residents facing high rates of unemployment, especially youth unemployment, increased urban development is regarded as the obvious way to improve productivity and employment opportunities especially for young people.

Yet expansion of urban development distracts attention from other opportunities to diversify coastal economies, including nature and cultural tourism, the provision of services and Internet-based businesses. Urban expansion may provide additional employment in the short term however it also brings increased population and greater competition and demand for jobs and at great cost to the environment.

Most people moving to the South Coast of NSW are here because they value the lifestyle and environment and recreational opportunities. Residents are mainly urban dwellers with limited understanding of the values, natural processes and fragility of the environment, the impact they have on it and how they can help to maintain it.

There is an increased awareness of climate change but in general such issues are of peripheral interest to the majority of people. For example the majority of Shoalhaven City Councillors maintained steadfast opposition to policy or programs responding to climate change until recently.

There is a massive gap between the knowledge and understandings of the scientific community, Government Agencies and the environment movement and most members of South Coast communities. This gap often leads to conflict over environment and development issues and obstructs implementation of State and Council programs.

Some put their perceived interests above maintenance of the natural environment, and vehemently oppose restrictions on uses. In the worst cases these attitudes result in vandalism of native vegetation and harassment of environmental groups. The organized objections to the creation of Marine Parks, and objections to any protection zones for Lake Wollumboola are current examples.

It is likely that the extent of conflict in the community generally and especially in small coastal communities will significantly increase, as the impacts of climate change and competition for resources increases.

It is critical also that Governments work to raise the level of understanding in the general community, to gain community acceptance for programs regarding climate change impacts on the coastal environment and coastal communities and to reduce community conflict around these issues.

Community education and engagement should be a major priority of Coastal Policy. A Coastal Community education strategy should be developed incorporating Television and Radio, the still the preferred means of accessing information by the majority of residents in this Region.

So far community education programs in Regional areas regarding NRM and climate change focus on expanding the knowledge of those already involved in these issues. People who participate in such programs are members of the landcare/bushcare network, supporters of national parks, NPWS Shorebird volunteers, conservation groups, some elements of the tourist industry and some parts of the farming community and oyster growers.

A mass media project could be based around concept of "Duty of Care," why our environment is so sensitive, how we are impacting through population expansion, unsustainable development and energy use resulting in climate change, what Governments need to do to plan for climate change impacts, what communities and individuals need to do to protect and manage our environment.

***Management and location of future population growth and settlement***

(See recommendations on Coastal Region Planning.)

**Regional Planning Strategies should be the principal means by which population increase on the coast is managed and limited to ensure that future settlement is ecologically, socially and economically sustainable.**

Together with community education the most significant mechanism to achieve sustainable coastal communities into the future is active management and location of future population growth and settlement, rather than simply accommodating anticipated population increases.

The Precautionary principle should apply with assessments that establish whether projected population increases would be ecologically sustainable.

The NSW Government Agencies and local Councils need to keep population projections under review to ensure that land is not rezoned for development well in advance of needs. Strategies must provide certainty that the development footprint will not expand to accommodate unsustainable growth. Loop-holes in existing Regional Strategies which potentially allow development in the future to occur in sensitive locations should be closed.

The South Coast Regional Strategy 2007 estimated a population of around 166,000 for the South Coast with an estimated 60,000 residents or a 36 % increase in the next 25 years.

The Strategy drew attention to the large amount of vacant land in the region zoned for residential development that was located both adjacent to major regional centres and in sensitive and isolated places not serviced by major centres or towns. The analysis showed that Councils were rezoning land for development well in advance of population growth and in sensitive coastal locations where more development is unsustainable.

The Jervis Bay Settlement Strategy in 2003 reported on a slowing of growth since 1991. Shoalhaven City Council is now reporting that, "Analysis between the 2001 and 2006 censuses showed an unusual and low growth in population numbers for the city." The rate of growth has slowed from 1.72 % in 2001 to 1.02 % for Shoalhaven as a whole with the rate of growth for Area 2, which includes Culburra Beach being a negative growth of 0.59%.

If this trend continues it suggests that current estimates of additional land for population growth in the next 25 years are too high and should be reviewed.

The high vacancy rates of many coastal villages also need to be taken into account in planning for future development. Many people with existing holiday homes intend to move to the Region after they retire so much of the anticipated population increase is already catered for. Vacancy figures quoted in the Jervis Bay Settlement Strategy 2003 give a vacancy rate of 38.6 % for Culburra Beach/Orient Point and 44.3 % for Vincentia.

Another factor in support of centralising development in around existing centres is the prohibitive expense of providing infrastructure for expansion of coastal towns and villages when they are half empty most of the time.

Other factors such as the international economic uncertainty and oil shortages may also combine to potentially reduce population expansion in coastal regions.

In the Shoalhaven population numbers in the 65-84 age group have increased, and to a lesser extent in the 18-65 year age group. There has been a decrease in infants and youth. The levels of educational attainment in this Region are substantially lower than the State average. This combination of an aging population and relatively low education levels has implications both in terms of the mix of services required and most importantly the capacity of coastal communities to adapt to the changes facing them.

***Role of Regional Planning.***

**Sustainable zoning and Development Controls should to be developed to protect the environment and character of the coastal villages whilst ensuring they are ecologically sustainable.**

**Building standards should be reviewed in the light of climate change impacts on the coastal environment, heritage and energy supply.**

**New LEPS should require that stringent planning and management controls are applied including, maintenance of the built character of coastal centres towns and villages, standards for setbacks from the immediate coast, density, height controls and water pollution controls.**

The principles of the South Coast Regional Strategy provide a useful guide to other coastal regions as the basis for decisions regarding the location of new settlement. The key principles are that no new towns should be created, that new urban development should be directed away from sensitive areas and located adjacent to or within existing major centres, and that zonings and land use design in coastal communities should sustain the environment and maximise resource efficiency.

Mechanisms for locating new development away from the immediate coast include consolidating development in existing areas, and centralising in regional centres provision of major infrastructure and services such as schools and medical care. It is essential that subsidised public transport is provided for the existing small communities on the coast for such measures to work. Most south coast villages have to rely on car transport, which is increasingly unsuitable and expensive for elderly populations.

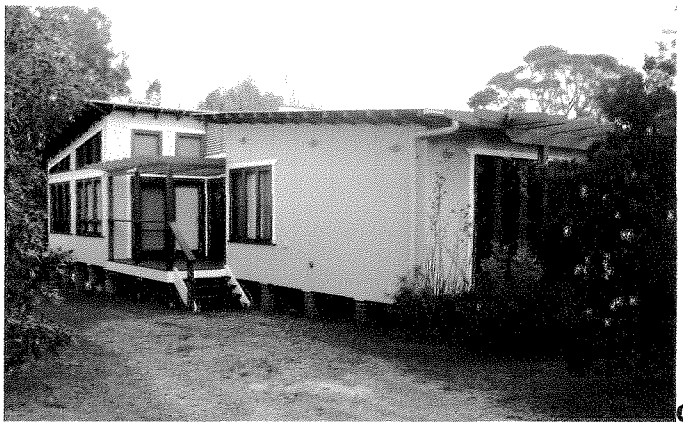
The Coastal Design Guidelines for NSW, 2003 prepared under the auspices of the former Coastal Council, focus on urban design in coastal areas, ensuring that the character and environment as well as the social and economic context are considered as part of coastal planning. These are a most valuable guide for the detailed design of coastal communities and the development of appropriate controls. However their impact on coastal planning appears to have been limited. Consideration should be given to up-grading the status of these guidelines and using them as part of community development strategies for the coast.

Other mechanisms for reducing the ecological footprint include medium density housing in and around major regional centres, and seniors living as long as they are in the appropriate location and not isolated from transport and shops and community facilities.

Requirements for higher density development must be sensitive, ensuring that the existing character and heritage of coastal villages and towns is not destroyed in the process. Trends towards increased suburban sub-division and densities, and increased building to site ratios, increased height limits, large car based shopping centres and unsympathetic design a may suit developers but they are neither sustainable nor compatible with the character of existing coastal villages.

Many coastal developments such as those at Shellharbour feature large houses on small blocks, with high energy requirements, with no native vegetation corridors and dominating the coastal landscape and local heritage.

By contrast coastal beach cottages in existing villages are light on the landscape, energy efficient and part of coastal village heritage. They should be protected in development control plans with flexibility to allow restoration and sensitive adaptation.



**Coastal cottage old and new**

Over the past year SCC has angered residents of South Coast coastal villages such as Huskisson and Ulladulla with its approvals for higher densities over entire villages and increased height limits without regard to environmental pressures and the existing village character. High rise, increased densities, suburban sub-divisions would overwhelm the fibro cottages of small coastal communities.

## Term of Reference 5. Governance and Institutional arrangements for the coastal zone.

**Commonwealth and State Governments should acknowledge that a crisis is looming for coastal environments and communities as a result of over-development and climate change and that such a situation requires co-ordinated and strategic leadership on their part.**

**A National Coastal Policy and Strategy is needed. A national Coastal Policy should define the guiding principles and aims, set the priorities and strategies in place to enable coastal communities to prepare for the future. The policy should;**

- **aim to conserve coastal environments and catchments whilst managing the impacts of climate change to minimise loss of coastal landscapes and catchments, processes and biodiversity through a nationally consistent approach.**

- **aim to maintain the social and economic resilience of coastal communities and Aboriginal Cultural Heritage and facilitate the capacity of communities to respond to climate change.**

**A national strategy should adopt a nationally consistent integrated approach to protection of the coastal environment, regional planning and natural resource management, governance standards, standards for achievement of outcomes, priorities for action and funding, and to sharing resources and experience and promoting community education and involvement.**

**A national strategy should include development a package of both mandatory requirements and guidelines for climate change adaptation in coastal regions, including the coastline and coastal lakes, estuaries and their catchments.**

**The package should include strategies for maintaining existing coastal values, processes and biodiversity, for identifying ecosystems, species and vegetation communities at particular risk and strategies for dealing with threats from bushfire, pests and also address climate change impacts on Aboriginal cultural heritage on the coast and strategies for protection and adaptation.** See previous recommendation.

**The following organisational structure is proposed;**

- **A National Coastal Commission, appointed for set time, responsible to the appropriate Ministerial Council.**
- **Coastal Councils established by State and Territory Governments.**
- **Regional Coastal Co-ordinating bodies.**

**Governments need to reconsider their underlying values based on economic growth.**

Although arrangements have been in place for a National co-operative approach to integrated coastal zone management, it is obvious that current arrangements at national, State, Regional and local level are not capable of coping with the crisis that is looming for coastal communities and environments.

Penny Figgis of the IUCN has warned of the need for climate change policy that not only focuses on reducing greenhouse emissions but faces up to the threat to life as we currently know it, "we are facing a global extinction crisis … And as one of the epicentres of biodiversity on Earth, and as a developed country, we need to do all the things we can do to head off that outcome." Sydney Morning Herald, 31st March 2008.

The future of the coast does not appear to have pricked the national consciousness as a high priority issue requiring urgent attention. Participants in the 2020 Summit did not apparently regard coastal environments and communities as issues of concern despite the fact that over 80% of Australians live on the coast and are already or will be significantly affected by major changes to the coast from unsustainable development and climate change.

The future of the coast must be given high priority. It is up to Governments to take the lead in developing a co-ordinated National Policy and Strategy, communicating with and engaging the community, and confronting the necessary change in values, priorities and behaviour.

At the very time when leadership and integrity in public policy are most needed there are serious concerns regarding standards of governance in NSW applying to environment and planning policy and decision-making, especially with regard to the coast. Developer donations are both perceived and shown by the ICAC Inquiry into Wollongong Council, to be influencing decision-making. SCC

has also been warned that it may warrant investigation by the Department of Local Government. As a consequence of the pressure from vested interests the public interest and engagement of the community is ignored.

A National Coastal Policy would facilitate the development of nationally consistent standards for the quality of governance with regard to ethics, transparency, accountability, equity and the primacy of the public interest over sectional interests, guaranteeing the community's right to know, to be consulted and engaged. A National policy should also define the guiding principles and aims, set the priorities and strategies in place to enable coastal communities to prepare for the future.

Consideration needs to be given to the Commonwealth undertaking a leading role defining outcomes, establishing mandatory standards and priorities for conservation of ecosystems, biodiversity, Threatened Species and Endangered Ecological Communities, etc both within and outside the National Reserve System, and for Regional Planning, including mandatory requirements for areas to be conserved from development, and criteria for assessment and approval of Major Projects in the Coastal Zone.

Both Commonwealth and State/Territory Governments will need to significantly increase the levels of funding available for purchase of high conservation value coastal lands, for improved Regional planning, for protection of Aboriginal heritage, for community education and to assist coastal Regions and local Government to adapt infrastructure and their economies to significantly changes circumstances.

Community education is considered to be high priority aiming to increase understanding of the impacts of population increase and climate change on the coastal environment and on coastal communities and to gain support for and engagement in Government action to address the emerging problems.

**A National Coastal Commission would be responsible to the appropriate Ministerial Council for the development, review and evaluation of a national Coastal Policy and Strategy. It would be required to provide independent advice on the basis of membership drawn from experts in such areas as conservation, environmental, social and economic management of the coastal environment, Aboriginal cultural heritage, as well as State/Territory representation.**

**A Coastal Council in each State and the Northern Territory would lead State policy and strategic planning for the coast, co-ordinate delivery of strategies and plans, prepare guidelines, encourage the involvement of volunteers, Aboriginal communities and the public and support Regional Boards such as the Victorian model or a modified or modified CMA model. Such an approach would raise the profile of coastal issues at a regional level and assist in integrating coastal environmental protection, with planning, development and natural resource management, applying a multi-disciplinary and whole of catchment approach.**

**A Regional Assistance Program should be considered for coastal communities to assist them to adjust their economies to ecologically sustainable development and climate change impacts.**

**Regional Coastal Co-ordinating bodies.**

At the State and Regional level two models for achieving a stronger strategic role appear worthy of consideration, as a means of integrating priorities for protection of the coastal zone and its biodiversity, planning, management and social and economic well being of the coast and engaging the communities directly affected. These include;

- Adaptation of Catchment Management Boards and Authorities with their current responsibilities for coastal zone issues augmented with regional strategic planning, education and advocacy, partnering and facilitation and the provision of expert advice on coastal issues.

- The Victorian Model, with a State Coastal Council taking a strategic leadership role in State-wide coastal planning, monitoring of programs and community engagement, and supporting Regional Coastal Boards.

The role of the Regional Boards includes regional strategic planning, education and advocacy, partnering and facilitation and the provision of expert advice on coastal issues.

Regional Coastal co-ordinating bodies would be especially important in integrated delivery of a Regional Assistance Program for coastal communities to assist them to adjust their economies to environmental sustainability and climate change.

Commonwealth and State Governments have taken a pro-active approach to supporting regional adjustment in the past, where there has been pressing needs. The farming community and the timber industry are two sectors that have benefited. The time has come for the coastal environment and regional coastal communities to receive such support.

Accordingly it is recommended that the Commonwealth, State/Territory Governments should consider such a program.

**Attachment 1**

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Attachment 2

The General Manager
Shoalhaven City Council
PO BOX 457
Nowra NSW 2541

The Nowra Area Manager
National Parks and Wildlife Service
PO Box 707
Nowra NSW 2541

Dear Sir

In response to the draft proposal concerning issues relating to Lake Woolumboola, I would like to give my opinion.

1. SAY YES to all activities on the Lake.
2. SAY NO to all draft proposal's on Lake Woolumboola.
3. SAY BIG NO to Ramsar.
4. SAY YES to give people back the Lake bed, and the sand flat between the Lake and the Sea, it's a public beach.
5. SAY NO to electric fences and sand bagging.
6. SAY NO to 1080 fox baits every where.
7. SAY YES to dog walking on sand flat and beach to Kinghorn.
8. SAY NO to favouritism by Lake Woolumboola Protection Association Incorporated. (a small minority group)
9. SAY YES to board walks around the lake and facilities. (better spent funds)
10. SAY BIGGEST NO to locking up our lake and our voice.

LEAVE IT ALONE; GIVE IT BACK TO THE COMMUNITY, ITS EVERYONES LAKE.

Nature's Law is Nature's law; and has dealt with things nature's own way, for millions of years.
Nature doesn't make the mistakes only we make the mistakes.

Your's truly,
Community Member.