

Living on the Edge



A Foreshore Management Plan for Port Stephens

AUGUST 2009

FINAL

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A Foreshore Management Plan for
Port Stephens

Prepared by

Umwelt (Australia) Pty Limited

on behalf of

Port Stephens Council and Great Lakes Council

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Executive Summary

Introduction

The Port Stephens Foreshore Management Plan compiles and augments the findings of a large number of previous studies to provide a framework that can be used to protect and enhance the environmental, recreational, aesthetic, economic, and cultural values of the Port Stephens foreshore.

The foreshore is 250 kilometres in length and encompasses the transitional area between the aquatic and terrestrial environments. It contains diverse habitats (beaches, rocky headlands, saltmarsh, mangrove, wetland, etc), is affected by a range of physical processes (wave runup, erosion, sea level rise, etc), and is a focus of development activity and recreational usage. This combination of process sensitivity and escalating natural and socio-economic pressures makes the foreshore highly vulnerable to change over time and potential loss of highly valued foreshore attributes.

Great Lakes Council and Port Stephens Council (in conjunction with the Department of Environment and Climate Change (DECC)) have recognised that a detailed and long term planning guide is required to ensure that the unique values of the estuary and its foreshore are protected for future generations, while at the same time maintaining a robust economy and vibrant growing community.

Other State agencies having significant interests and responsibilities in relation to the foreshore, such as Department of Lands, Marine Parks Authority (MPA), NSW Maritime Authority and Department of Primary Industries (Fisheries) have contributed to the development of the Foreshore Management Plan and will be involved in its implementation.

The Physical Environment

The area addressed by the Port Stephens Foreshore Management Plan is defined as the area extending from 100 metres landward of the tidal high water mark, to 20 metres seaward of the tidal low water mark. It includes the southern western and northern foreshores of the estuary, the foreshores of all tributaries and creeks that flow into the estuary, the foreshore of all wetlands that are functionally related to the estuary, the foreshore of the Karuah River up to its tidal limit, and the foreshore of the Myall River up to Kangaroo Island.

The physical character and processes operating on the shoreline vary markedly around its length. The Inner Port (to the west of Soldiers Point) is dominated by fluvial processes. This section of the port is characterised by wide mud flats with mangrove and saltmarsh. Sediments consist of muddy lithic sands that originate from the Karuah River. These sediments can be resuspended by wind waves and tidal currents, resulting in relatively high turbidity. The Outer Port (to the east of Soldiers Point) is dominated by tidal and wave processes. The form and composition of the sands and mud in the Outer Port are predominantly tidal in origin. The rapid flushing time and sandy bottom result in the high water clarity for which this area is well known. The sandy beaches of the Outer Port are also a draw card for visitors and residents alike.

The diverse physical character of the foreshore means that there is a diverse range of values associated with it, it also means that some areas are more prone to threats than others. In order to provide clear assessment and direction in the current Plan, the foreshore has been divided into 14 Management Zones. The values and assets of the foreshore, the issues affecting each asset, and management actions that address these have been identified for each management zone. In order to enable a systematic review, the assets/values/issues have been divided into the categories of: Ecological Habitats, Aboriginal Heritage, European

Heritage, Visual Amenity, Water Quality, Public Reserves and Facilities, Waterway Access and Facilities for Boat Users, and Foreshore Stability.

The Social Environment

The key considerations with regard to the Port Stephens foreshore social environment are:

- the residential and tourist populations are growing rapidly and will continue to grow over the foreseeable future. Consequently, usage of foreshore reserves and facilities will continue to increase, as will pressures on the natural environment;
- both residents and tourists are attracted to the Port Stephens area (particularly the foreshore) by the natural and peaceful environment, the relatively undeveloped nature of the area, and the recreational activities offered by the waterway, beaches, parks and reserves;
- the number of people who are accessing and using the waterway in boats is increasing. The usage of boat ramps and jetties, as well as foreshore reserves accessible by boat will continue to increase;
- there is a strong sense of community concern and ownership of foreshore reserves, the waterway and the environment in general; and
- people are concerned that future development will impact on the values which currently make the foreshore so attractive and important to them.

Institutional Context

The foreshore of Port Stephens is located in Port Stephens Council area (on the southern shore) and Great Lakes Council area (on the northern shore). Use of the foreshore is considered in the local planning schemes (Local Environment Plans (LEPs) and Development Control Plans (DCPs)) of both Councils. The LEPs are currently being revised and rationalised to give effect to the NSW Department of Planning's regional planning strategy and other NSW planning reforms. Both Councils also manage parts of the foreshore reserve system as Community Land or as Crown land for which they have care agreements.

The area below Mean High Water Mark and many of the foreshore reserves around Port Stephens are Crown land. As such, any use of these areas requires an approval under the *Crown Lands Act 1989*. Crown land can only be occupied, used, sold, leased, licensed, dedicated or reserved or otherwise dealt with under the provisions of the *Crown Lands Act 1989*. The Department of Lands administers the *Crown Lands Act 1989*. It is therefore necessary to consult with the Department and obtain the relevant approvals before undertaking use or development of submerged or foreshore Crown land. Such developments include structures such as public and private jetties, sea walls and boat ramps.

An important element of the institutional arrangements for Port Stephens is the presence of the Port Stephens-Great Lakes Marine Park. The Park was established in 2005 and a zoning plan commenced in 2007. The primary concerns of the MPA are to conserve marine biodiversity and to maintain ecological processes in a comprehensive system of marine parks.

Where other uses are consistent with these objectives, the MPA supports sustainable use of fish and marine vegetation in marine parks and opportunities for public appreciation, enjoyment and understanding of the marine environment.

The management of the foreshore is of great interest to the MPA, as it forms the interface between the marine park and adjoining lands. Development within and adjacent to the foreshore has the potential to alter ecological processes in the marine environment and may be inconsistent with the *Marine Parks Act 1997* and the MPA's management objectives. For this reason, development within the locality of the marine park, regardless of marine park zonings, must consider the *Marine Parks Act 1997*.

Community Contribution

The Port Stephens and Myall Lakes Estuary Management Committee, which is a joint committee of Port Stephens and Great Lakes Councils, was established to provide broad representation of local and State government authorities, estuary user groups and community conservation interests, in planning for the sustainable use of the estuarine waterway and its immediate hinterland.

The Estuary Management Committee supervised the preparation of the Port Stephens and Myall Lakes Estuary Management Plan in 2000. The Foreshore Management Plan was a recommendation of the Estuary Management Plan

The Estuary Management Committee has also been the primary stakeholder reference group during the preparation of the Foreshore Management Plan. Presentations, progress reports and opportunities for discussion have been provided to the Committee throughout the project.

Broader community participation has been sought through meetings and discussions with: multiple local community groups and individuals having interests in different issues and sections of the foreshore; Local Aboriginal Land Councils; Councillors and Council staff; and State Government agencies (e.g. the Department of Lands, the Department of Primary Industries (Fisheries), the DECC, the NSW Maritime Authority, the MPA, etc).

Identified Issues and Management Actions

Hundreds of assets and issues affecting the foreshore have been identified during the fieldwork, community consultation and research undertaken during the preparation of this Plan. The following sections summarise these issues and the management actions that address them.

Assets, threats and challenges that have been identified throughout this Plan, include:

- continuation and re-establishment of safe and easy access to the waterway;
- improving access for pedestrians and cyclists along identified sections of the foreshore (e.g. a formal shoreline walk);
- foreshore erosion, wave runup/flooding and foreshore structures;
- a consistent signage system;
- planning and location of waterway access facilities and facilities for boaters;

- distribution of reserve and facilities usage;
- riparian and aquatic vegetation protection and rehabilitation;
- protection of visual amenity; and
- protection and management of cultural heritage values.

Foreshore Reserves and Facilities – Planning Considerations

The management recommendations in the Foreshore Management Plan draw on detailed documentation and analysis of diverse aspects of the current condition of the foreshore and community aspirations for its future use and the quality of supporting facilities.

Issues and recommendations include:

- the condition and adequacy of facilities within reserves – each facility has been individually assessed;
- public access – sections of the foreshore where public access is passively discouraged or hindered by structures have been identified;
- levels of foreshore reserve usage – reserves which have the potential to be more intensively used and so take the pressure off other reserves have been identified;
- car parks – temporary overflow parking areas have been recommended; and
- walkways/cycleways – extensions to the existing cycleway system have been recommended.

Two overarching planning recommendations apply to the entire foreshore.

The majority of public land along the southern and inner shorelines is zoned 6(a) General Recreation and 7(a) Environmental Protection in the Port Stephens LEP, with other minor areas being zoned 2(a) Residential and 4(a) Industrial – General. The limited section of private land is zoned 1(a) Rural Agriculture. The majority of the privately owned northern shoreline is zoned 1(a) Rural in the Great Lakes LEP. Other foreshore zones include 2 – Village, 7(a) Wetlands and Littoral Forest, and 6(a) Open Space and Recreation. These zones do not recognise the unique combination of conservation, recreational and aesthetic values of the Port Stephens foreshore.

Consequently, a key identified management action is the development of a **Foreshore Protection Zone and/or an Estuary Foreshore DCP** which would allow the management of foreshore values and threats in a holistic way.

The DCP/Protection Zone would allow the management of the estuary foreshore as a continuous land use unit and provide recognition of its extremely important ecological and scenic values, as well as its recreational and social values. It would provide the opportunity to develop a unified and interrelated set of planning requirements and guidelines that address the needs of the estuary shoreline in both the local and regional context. A foreshore protection zone or DCP would also be consistent with the objectives of the adjacent Port Stephens – Great Lakes Marine Park.

The second overarching major management action is exploring the potential for **government acquisition** of private land that has important ecological, recreational and aesthetic values which require long term conservation for the benefit of Port Stephens as a whole.

Ecological Habitats

The extent of natural vegetation along the foreshore of Port Stephens is a key value that has been identified by the local community. The Port Stephens Foreshore supports a large number of significant ecological features, such as threatened species, endangered ecological communities (EECs), State Environmental Planning Policy (SEPP) 14 wetlands, SEPP44 koala habitat, and important shorebird habitat. The Port Stephens Estuary is listed on the Directory of Important Wetlands in recognition of the significant wetland habitats it supports. It is estimated that Port Stephens supports 21 per cent of NSW's mangroves, 13 per cent of saltmarsh and 5 per cent of seagrasses (West, et al 1985). Key threats to foreshore biodiversity include land clearing and urban development, introduced species and tree poisoning.

High priority conservation areas that have been identified along the foreshore include: Bagnalls Beach Reserve, Fly Point Reserve, Mambo Wetlands Reserve, Stony Ridge Reserve, the entire foreshore of Cromartys Bay, the Mallabula foreshore, Tilligerry Nature Reserve and Tilligerry Creek, the foreshore of Twelve Mile Creek, the foreshore of Reedy Creek, the northern foreshore between Karuah and Hawks Nest, Corrie Island Nature Reserve and the Myall Lakes National Park (Fame Point).

Key management actions that have been identified in the Foreshore Management Plan with regard to the protection of biodiversity include the development of a DCP/Foreshore Protection Zone; potential government acquisition of particular areas; individual management plans for the management of conservation and recreational activities in specific areas; tree planting and maintenance of reserves; encouraging native planting on private property; and conservation agreements.

Aboriginal Heritage

Areas of Aboriginal heritage sensitivity have been mapped around the foreshore. These areas include previously recorded sites, areas which have the potential to contain subsurface or previously undiscovered sites, and areas of mythological and contemporary significance to the local Aboriginal community. The major identified actions with regard to Aboriginal heritage are the preparation of a Regional Aboriginal Heritage Study and Plan for the Great Lakes and Port Stephens regions, and the development of a Foreshore Protection Zone/Estuary Foreshore DCP (see above). Such strategic planning is required to achieve sustainable cultural heritage management on a local government area (LGA) scale.

Short term actions include the preparation of *Parks and Reserves Maintenance Guidelines* for Council employees and volunteer groups. The Guidelines would provide information about known and potential cultural heritage sites and how they can be managed appropriately. Other actions apply to specific heritage sites.

European Heritage

There are a number of important European heritage sites along the Port Stephens foreshore. These are associated with various aspects of Port Stephens' history including early European settlement, shipping, and structures and places associated with defence and training during World War II. The Great Lakes Heritage Study addresses the management of significant European heritage sites in foreshore areas within the Great Lakes LGA. The preparation of a similar study is recommended for the Port Stephens LGA.

Visual Amenity

Foreshore residents and people looking across the waterway from the southern foreshore in the Outer Port generally see a spectacular waterway backed by the vegetated slopes and ridgelines of the northern shoreline. The excellent visual amenity enjoyed from the southern shoreline is in a large part brought about by the lack of urban development on the northern shoreline.

Views from the northern shoreline in the Outer Port are characterised by quite dense urban scenes interspersed among natural slopes and foreshore areas. Development on the southern shoreline, similarly, has a substantial impact on the vista observed by the residents and visitors to the northern foreshore.

The vista across the inner bays of Port Stephens and along the banks of the estuarine creeks are generally characterised by tidal flats, mangroves and saltmarsh, with sections these areas bordered by urban development. The leases and sheds of the oyster industry also form part of the character of these areas.

Visual amenity from the perspective of boaters on the waterway and from the opposite shoreline can be best protected by effective urban planning, including concentrating new development within existing urban areas and minimising development on ridgelines and the immediate foreshore. Appropriate landscaping and vegetative screening of existing foreshore development and surrounds also contributes to visual amenity from across the water.

Some of the factors which affect the visual amenity of the immediate foreshore zone include:

- the extent of foreshore reserve and foreshore vegetation;
- the landscaping and facilities within foreshore reserves;
- unauthorised waterfront structures;
- water quality;
- stormwater outlets;
- foreshore erosion and foreshore structures;
- urban development; and
- signage.

Detailed management actions to address these threats include a review of foreshore signage with a view to reducing the overall number of signs and establishing a consistent design

theme. Additionally, the recommended Foreshore Protection Zone/Estuary Foreshore DCP would address the threats to visual amenity on a whole of foreshore basis.

Waterway Access and Facilities for Boat Users

The following management actions have been identified with regard to Port Stephens waterway access facilities:

- Undertake a boat ramp usage survey by installing classified traffic counters at all boat ramps during a peak and an off-peak period in order to reliably establish usage patterns and volumes.
- Upgrade and standardise all signage at boat ramps (include directions to alternative facilities).
- Disseminate information about the range of waterway access facilities (and reserves easily accessible by boaters) available around Port Stephens with a view to distributing usage of facilities more evenly around the entire foreshore.
- Install and upgrade dinghy racks in appropriate locations.
- Investigate suitable sites for new marinas (and slipways) and dry boat storage sites on both the southern side and northern side of Port Stephens.
- Undertake environmental audits of all marinas and slipways. Enforce a strict compliance timetable.
- Upgrade Shoal Bay Boat Ramp.
- Upgrade the Shoal Bay Jetty.
- Encourage the use of Bagnalls Beach by passive watercraft users.
- Upgrade Salamander Bay Boat Ramp to a more user friendly local scale facility.
- Upgrade Soldiers Point Boat Ramp to a regional scale facility (as per *Soldiers Point Infrastructure and Foreshore Management Plan* (in progress)).
- Upgrade Taylors Beach Boat Ramp to a more user friendly local scale facility.
- Construct jetty at Soldiers Point (as per *Soldiers Point Infrastructure and Foreshore Management Plan* (in progress)).
- Undertake structural maintenance on Taylors Beach Jetty as recommended in PB&P (1997).
- Investigate former oyster leasees in Cromarty Bay, Tilligerry Creek, Oyster Cove and Karuah for boat ramp/marina/slipway dry boat storage locations.
- Upgrade Lilli Pilli Boat Ramp to a more user friendly local scale facility.
- Upgrade Lemon Tree Passage Boat Ramp to a regional scale facility. Incorporate upgrade to Lemon Tree Passage Jetty.

- Upgrade Foster Park Boat Ramp to a more user friendly local scale facility.
- Remove Caswell Reserve Boat Ramp.
- Remove informal/unauthorised boat ramps along Tanilba Bay foreshore.
- Upgrade the Karuah Boat Ramp to a regional scale facility. Incorporate upgrade to adjacent Karuah Jetty.
- Construct a local scale boat ramp at North Arm Cove.
- Upgrade the local scale boat ramps at Bundabah and Lower Pindimar.
- Construct a local scale boat ramp at Pindimar.
- Undertake improvements to boat ramps and jetties at Tea Gardens, Winda Woppa and Hawks Nest as recommended in the *Waterways Shore Facilities Management Strategy for the Southern Areas of Great Lakes Council from Karuah to Bulahdelah*.

The planning and maintenance of waterway access facilities would also be addressed in the recommended Foreshore Protection Zone/Estuary Foreshore DCP.

Foreshore Stability

Community consultation has identified foreshore erosion as another major concern to Port Stephens residents. Shoreline erosion has been identified as a significant issue in the Outer Port of Port Stephens for many decades and there are anecdotal reports of the Jimmys Beach/Yacaaba sandy barrier being overtopped by storm waves at the end of the nineteenth century. Erosion of the foreshore is also an issue in the Inner Port. The Tanilba Bay foreshore and the banks of lower Tilligerry Creek are of particular concern to local residents.

Existing foreshore erosion has been attributed to a range of factors, including:

- Historical major storm events that have dramatically changed shoaling patterns in the Port, affecting ongoing the pattern of wave refraction and wave height along the shoreline.
- Exposure of sandy shorelines with a long fetch to strong wind driven waves or ocean waves.
- Changes to tidal currents.
- Flood flows.
- Vegetation changes that allow landward loss of sand blown from the foreshore.
- Local impacts of foreshore structures.
- Medium term movements of beach sand and storminess associated with the el nino Southern Oscillation.
- Increases in sea level already recorded over the last century.

Predicted climate change and associated sea level rise (current DECC estimates are 40 centimetres above 1990 mean sea level by 2040 and 90 centimetres above 1990 mean sea level by 2100) are expected to exacerbate foreshore erosion and recession hazards on sandy shorelines. The inundation hazard for low lying foreshores will also increase.

The effects of these shoreline process hazards on valued attributes and uses of the Port Stephens foreshore are not fully defined at the local scale, but are likely to include:

- Reduced effectiveness of existing sea walls and other foreshore protection structures (overtopping and undermining). Changes to the design requirements for these structures are needed and are discussed in the Foreshore Management Plan.
- Loss of beach width.
- Erosion of foreshore parks and reduced public access along the shoreline, including along shore access and the condition of steps and ramps from reserves onto the beach.
- Toppling of some trees and loss of habitat in areas affected by erosion/recession.
- More frequent inundation of foreshore reserve areas (picnic and playground facilities, dinghy storage areas, car parking).

The majority of formally constructed seawalls around Port Stephens are unauthorised and not designed or constructed to accepted coastal engineering standards. The majority of the walls built by private land owners are vertical and rigid. Current engineering and environmental standards do not favour rigid vertical structures because:

- they restrict access across the foreshore and can pose a risk to public safety. Some seawalls are of a height that requires a safety rail, particularly in areas that are used by the public, e.g. Sandy Point. The majority of Council-built rock revetments also do not meet current coastal engineering standards;
- they reflect wave energy, often causing the erosion and disappearance of the beach in front of the wall;
- they can induce erosion on adjacent unprotected areas (and erosion around the ends of a seawall can lead to their collapse);
- scour at the base of a seawall can result in its catastrophic failure;
- they remove the natural intertidal habitat; and
- *ad hoc* design, placement and materials can detract from visual amenity and may cause pollution of the adjacent estuarine waters.

In addition to seawalls, there are a large number of private jetties, boat ramps and access ways that are unauthorised. While these are generally not impacting on coastal processes or foreshore stability, they do have a major impact on public access and visual amenity and have potential to impact on public safety.

All of these foreshore structures require a licence from the Department of Lands where they are situated below Mean High Water or on Crown land. Consultation with the MPA is also required for structures in Port Stephens below Mean High Water.

It is likely that many people who construct foreshore structures are unaware that a rigorous authorisation process is required. Additionally, neither the Port Stephens nor the Great Lakes Council have a relevant DCP or standard guidelines that provides information about the appropriate location, design and construction of foreshore protection structures or other structures such as private jetties and boat ramps. Suggestions regarding the content of DCP/guidelines for foreshore stabilisation and protection are detailed in this Plan as well as the Foreshore Reference Document.

While the majority of existing structures do not meet current coastal engineering standards and/or are unauthorised, their large scale removal is likely to be difficult for the following reasons:

- the costs involved would be very high because major engineering works would often be required to restore the natural foreshore profile or an appropriate protection system, on top of the cost of structure removal;
- the complexities involved in identifying the individual/authority responsible for funding and undertaking such work is likely to be prohibitive;
- individual private owners are likely to vigorously oppose the removal of foreshore structures; and
- the removal of concentrations of foreshore structures (and foreshore rehabilitation) would need to be undertaken on a whole of foreshore (or section of foreshore) basis in order to effectively deal with the wider coastal processes. This would be a major and controversial undertaking.

It is therefore considered appropriate that a program of foreshore rehabilitation be commenced as part of a holistic plan to improve public access around the foreshore.

Structural design guidelines for the rehabilitation of seawall structures around Port Stephens are provided in this Plan and the Foreshore Reference Document. The construction of seawalls or rock revetment on previously unprotected sections of the foreshore should be undertaken only as a last resort. The potential impacts on coastal processes, ecological habitats, public access and safety and visual amenity should be thoroughly assessed. Sections of the foreshore where it is considered foreshore structures would be inappropriate are identified in this Plan. Similarly, the number of private jetties and boat ramps should be minimised, with a focus on shared and public facilities. The provision of adequate public facilities would decrease the need for private ones, and so reduce the visual amenity and ecological impacts of numerous private structures.

In addition to guidelines regarding foreshore protection structures, it is considered that a community education program that informs residents about the important ecological values of a naturally vegetated foreshore would be worthwhile.

Water Quality

The principle risks to water quality in Port Stephens are:

- urban stormwater (nutrients, biological pollutants from domestic animals, sediment, litter and chemicals);
- rural runoff (nutrients, biological pollutants such as faecal coliforms from livestock, sediment);

- run-off from on-site wastewater treatment systems;
- drainage from oxidised acid sulphate soils; and
- point source discharges from marinas (and slipways) and municipal wastewater treatment plants.

Many of these risks have been addressed in existing plans and policies, e.g. Port Stephens Council's *Urban Stormwater and Rural Water Quality Management Plan (Stormwater Plan)*, *Policy and Code of Practice for Erosion and Sediment Control for the Central Coast, Hunter, Karuah, Great Lakes and Manning Region LGAs*, and *Water Sensitive Urban Design (WSUD)* principles, and LEP/DCP requirements with regard to acid sulphate soils.

Nelson Bay Harbour was identified as a major concern with regard to water quality during community consultation. The harbour area is relatively poorly flushed and there have been problems with its water quality since its construction in 1986. Identified management actions involve the preparation of a Management Plan, the formation of a working party of all stakeholders, preparing protocols for minor oil spills, installing additional litter bins, etc.

Other identified management actions to maintain or improve water quality include:

- convert off-leash dog exercise areas located along the foreshore to on-leash exercise areas;
- prepare a Stormwater Management Plan for the villages of North Arm Cove, Bundabah, Lower Pindimar and Pindimar;
- ensure the Erosion and Sediment Control Policy is implemented in all developments adjacent to the foreshore;
- undertake environmental audits of all Port Stephens marinas and slipways;
- undertake environmental audits of industrial estates and the environmental management of large foreshore car parks;
- install trash racks, gross pollutant traps or other water quality improvement devices in the stormwater system; and
- implement catchment wide initiatives such as ensuring that fuel and stormwater management systems at Williamstown RAAF are in place and effective.

Document Structure

The Port Stephens Foreshore Management Plan consists of the following:

- The Port Stephens Foreshore Management Plan (the current document);
- The Port Stephens Foreshore Reference Document (detailed results of field studies and literature reviews). Some of the information included in the Reference Document has been produced at the regional scale and it is acknowledged that some inaccuracies may occur when the information is applied at the local scale. In such situations, more detailed local survey and on ground assessment would be conducted before preparing detailed local scale designs and assessments under the relevant legislation;

- Port Stephens Asset Inventory (Access Database) which identifies all foreshore assets; and
- Port Stephens GIS layers (MapInfo format, linked to Inventory).

The current document is divided into three Parts:

- **Part 1** explains why the Foreshore Management Plan is required, what it aims to provide, and how it was produced;
- **Part 2** describes the current character of the foreshore, the values (assets) of the foreshore, and the issues affecting these values; and
- **Part 3** summarises the issues affecting each foreshore management zone, and presents a prioritised list of management actions.

It is intended that this Plan be a living document. It has been set up so that it can be updated regularly (every three years) and so remain a workable document.

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APPENDICES

- 1 Plans and Policies Relevant to the Management of the Port Stephens Foreshore**
- 2 Government Agencies Responsible for the Management of Port Stephens Foreshore**
- 3 Community Information Brochure**
- 4 Suggested Content for Parks and Reserves Maintenance and Guidelines (Environmental)**

ATTACHMENTS

- 1 The Port Stephens Foreshore Reference Document**

Part 1 – Introduction

1.0 Introduction

The Port Stephens estuary is located on the lower north coast of New South Wales (see **Figure 1.1**). It is an extensive water body that is characterised by clear water and white sandy beaches in the Outer Port (east of Soldiers Point) (see **Figure 1.2**), and tidal flats and mangroves in the inner part of the port (west of Soldiers Point). The foreshore of the estuary is more than 250 kilometres in length and exhibits a range of landscapes including sandy embayments, rocky headlands, and estuarine creeks lined with mangroves and saltmarsh. It has many unique natural, cultural, social and economic values which attract residents and visitors in ever increasing numbers. The increasing residential and tourist population that utilises the area has resulted in increasing pressures on the natural environment. Great Lakes Council and Port Stephens Council (in conjunction with the Department of Environment and Climate Change (DECC)) has recognised that a detailed and long term planning guide is required to ensure that the unique values of the estuary and its foreshore are protected for future generations, while at the same time maintaining a robust economy and vibrant growing community.

The Port Stephens Foreshore Management Plan provides this guide. This Plan has been funded by Port Stephens Council (Port Stephens Environment Levy), Great Lakes Council, and the DECC (NSW Government Estuary Management Program). The project has been managed by Port Stephens Council in consultation with the Port Stephens Estuary Management Committee.

1.1 The Study Area

The Port Stephens foreshore is the transitional area between the aquatic and terrestrial environment. It contains diverse habitats (saltmarsh, mangrove, wetland, etc), is affected by a range of physical processes (wave runup, erosion, sea level rise, etc), and is a focus of development activity and recreational usage. This combination of process sensitivity and escalating natural and socio-economic pressures makes the foreshore highly vulnerable to change and potential loss of critical values.

Management and conservation of these values is made even more complex by the fact that the estuary and foreshore are owned and/or managed by a number of different government agencies, private individuals, reserve trusts and other organisations.

The Port Stephens Foreshore Management Plan (the current Plan) defines the foreshore as the area extending from 100 metres landward of the tidal high water mark, to 20 metres seaward of the tidal low water mark (see **Figure 1.2**). For those parts of the estuary with a steeply graded bed, the absolute high tide line and the absolute low tide line are relatively close together. However, where the estuary bed grades gently, e.g. to the west of Soldiers Point, absolute low tide may be hundreds of metres seaward of absolute high tide. Thus the width of the aquatic component of the study area varies considerably around the shoreline.

For the purposes of the current Plan, the Port Stephens foreshore includes the southern, western and northern foreshores of the estuary, the foreshores of all tributaries and creeks that flow into the estuary, the foreshore of all wetlands that are functionally related to the estuary, the foreshore of the Karuah River up to its tidal limit (4 kilometres upstream of Allworth), and the foreshore of the Myall River up to Kangaroo Island (approximately 5 kilometres upstream from Tea Gardens). The remainder of the Myall River and the Myall Lakes National Park are not included in the study area.

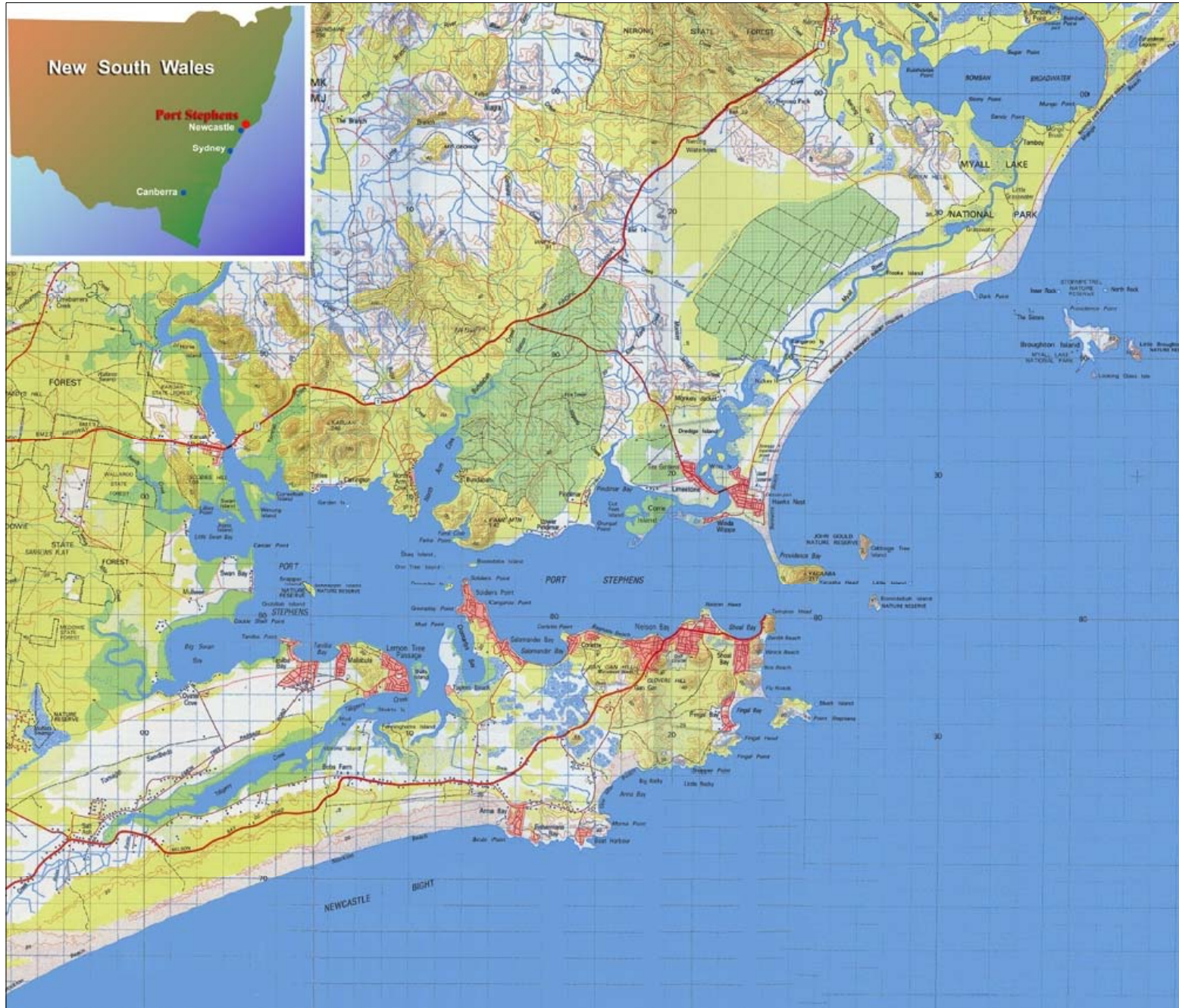
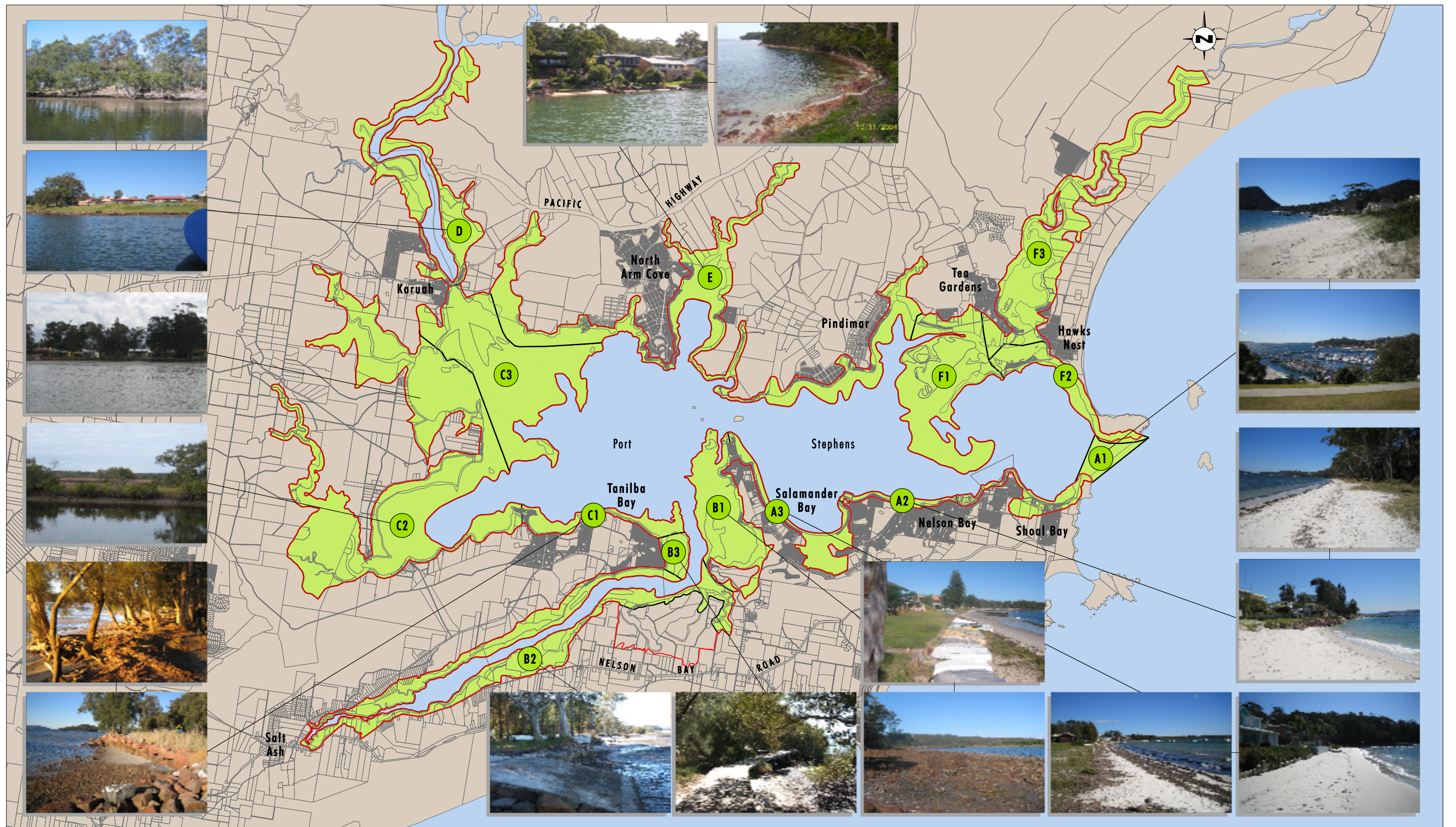


FIGURE 1.1
Locality Plan



Source: LPI NSW (2000), Great Lakes Council, Port Stephens Council
 Note: Seaward study area boundary defined by -2 metre (AHD) contour.

0 2 4 6km
 1:120 000

Legend
 Study Area
A Management Zone

FIGURE 1.2
Foreshore Area and Management Zones

In order to provide clear assessment and direction in the current Plan, the foreshore has been divided into 14 Management Zones. These are described in detail in **Section 2.0** and shown on **Figure 1.2**.

The values and assets of the foreshore, the issues affecting each asset, and management actions that address these have been identified on the basis of each Management Zone. This identification of assets, issues and management action has also been undertaken on a 'whole of foreshore' basis. The Plan therefore provides a 'big picture' perspective as well as a more detailed assessment of the values and threats affecting each section of the foreshore.

1.2 Background

This section explains the need for a Foreshore Management Plan and describes the coastal management framework of which it is part.

1.2.1 The Port Stephens – Myall Lakes Estuary Management Plan

Port Stephens and Great Lakes Councils are following the key steps of the NSW Estuary Management Program in developing and implementing sustainable management strategies for this highly valued estuary in their Local Government Areas (LGAs).

An Estuary Management Committee, comprising representatives of local government, state government, estuary users and other community representatives was established in the late 1990s. The Estuary Management Committee supervised the preparation of the Port Stephens and Myall Lakes Estuary Management Plan in 2000 and has also supervised the preparation of the Foreshore Management Plan. The Committee members have drawn on their local observations, experience and their ongoing involvement in the management of the estuary's natural resources and community values to provide a valuable reference panel for the Foreshore Management Plan project.

The current Plan is a direct recommendation of the *Port Stephens – Myall Lakes Estuary Management Plan* (Umwelt 2000a). The *Estuary Management Plan* guides the use and development of the estuary and its surrounds with the aim of protecting and enhancing the environment and lifestyle that is so highly valued by the local community and visitors to the area. The Plan identified the 'naturalness' of the foreshore of the estuary as one of its greatest assets. The preparation of a comprehensive Foreshore Management Plan was identified as a priority planning action. The 'naturalness' of the foreshore relates to physical, biodiversity and cultural heritage values as well as social and economic values.

The Estuary Management Plan identified a variety of values considered to be at risk as a result of the absence of an integrated management framework for the foreshore area and sufficiently comprehensive background information to guide this framework. These values included Aboriginal heritage, riparian vegetation, nearshore water quality, visual amenity of the foreshore (views to and from the waterway) and recreational access for both local residents and visitors. Threats to these values include foreshore erosion, illegal foreshore structures and overcrowding and poor design or location of some recreational facilities.

These and many other issues/values have been addressed in the current Plan.

1.2.2 The Management Framework

The Port Stephens Foreshore Management Plan is part of the strategy by Port Stephens and Great Lakes Councils to implement the principles of ecologically sustainable development. These principles are set out in the *Local Government Act 1993*, the NSW Coastal Policy and the NSW Estuary Policy. These principles are:

- *The precautionary principle*: the lack of full scientific evidence should not be used as a justification for the postponement of the introduction of measures to prevent or mitigate environmental degradation.
- *Intergenerational equity*: Each generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for future generations.
- *Conservation of biological diversity and ecological integrity*: Measures should be taken to prevent and protect against the extinction of plant and animal species due to human activities.
- *Improved valuation and pricing of environmental resources*: The quality and value of environmental resources should be maintained and enhanced through appropriate management, preventing degradation and damage.

The current Plan is consistent with and supports the natural resource framework guided by the NSW Coastal Policy and NSW Estuary Policy. Other relevant plans and policies are:

- The Hunter – Central Rivers Catchment Action Plan (Hunter – Central Rivers Catchment Management Authority (CMA));
- The Lower Hunter Regional Strategy (Department of Planning);
- The Port Stephens – Great Lakes Marine Park Zoning (Marine Parks Authority (MPA));
- State Environmental Planning Policies (SEPP71, SEPP44 and SEPP14, SEPP26 and the NSW Infrastructure SEPP);
- Principles of Crown land management (*Crown Lands Act 1989*), Crown Land Foreshore Tenures Policy (Non-Commercial Occupations) and Crown Lands Policy for Marinas and Waterfront Commercial Tenures (Department of Lands);
- Port Stephens Local Environmental Plan (LEP) and relevant Development Control Plans (DCPs) (Port Stephens Council);
- Great Lakes LEP and relevant DCPs (Great Lakes Council);
- Port Stephens Environment Management Plan (Port Stephens Council); and
- other site specific plans/studies (e.g. Port Stephens Council Comprehensive Koala Plan of Management, Shoal Bay Foreshore Management Plan and Landscape Strategy, Soldiers Point Plan of Management, Nelson Bay Foreshore Plan of Management, etc.).

These plans and policies are described in detail in **Appendix 1**. A number of government agencies are responsible for the implementation of these plans and policies and for the management of the Port Stephens foreshore. A description of each agency's responsibilities with regard to the foreshore is contained in **Appendix 2**.

1.3 Why Another Plan?

This Plan seeks to bring together actions and management needs that have been identified in the documents identified in **Section 1.2** and to provide additional information where necessary to fill knowledge and management gaps. The Plan will:

- provide a systematic and co-ordinated plan for the management of a substantial length of foreshore that is located across two LGAs with separate Local Environment Plans and DCPs, and is an area of responsibility and interest for numerous government agencies and organisations;
- provide a plan which focuses on the foreshore, an area which warrants particular attention because it is the focus of commercial development, urban development, tourist attractions, and recreational activity, as well as the location of precious natural resources. This concentration of resources and use means that threats to the unique values of Port Stephens are also concentrated in the foreshore area;
- address the increasing population, changes in demographic structure (e.g. general affluence is increasing which means that more people can afford to buy their own boats), and the population's expectations regarding adequate public facilities that will continue to put pressure on the Port Stephens Foreshore; and
- take into consideration regional planning strategies that include large growth areas adjacent to Port Stephens, e.g. Raymond Terrace and Medowie. Port Stephens is becoming more easily accessible, particularly the north side as the Pacific Highway is upgraded. Another planning influence considered is the declaration of the Port Stephens – Great Lakes Marine Park. All of these factors will affect the level of pressure on the foreshore, and so the need for sustainable management.

1.4 Objectives

The objective of this Foreshore Management Plan is to provide a guide for the long term management of the Port Stephens Estuary foreshore in order to protect and enhance its environmental, recreational, aesthetic, economic, and cultural values.

The specific objectives are to:

- increase community awareness and understanding of the issues and processes affecting the foreshore, and to provide opportunities for the community to engage in decision making about foreshore management issues;
- provide community groups with a strategic context for their work (i.e. to provide individual groups with an understanding of how their work fits in with the work and projects of other organisations, and how their work enhances the foreshore as a whole);
- recommend actions that are consistent and integrated with other current strategic planning and policy initiatives in the region;
- provide for structured and prioritised management of key issues on the foreshore, identify responsible stakeholders and properly assess the costs and benefits of management actions; and
- provide detailed and practical advice on management actions for local areas.

These objectives are consistent with, and contribute to, the objectives of the NSW Coastal and Estuary Policies, and the other plans and policies described in **Section 1.2.2**.

1.5 Approach and Scope

The production of this Plan has involved two stages:

- Stage 1. Data Collection. This involved identifying all foreshore assets and issues through literature review, field studies, and community consultation. The data was incorporated into a Foreshore Inventory and GIS map layers; and
- Stage 2. Prioritisation and Management Actions. This involved identifying management actions to rehabilitate, protect and enhance the foreshore values identified during Stage 1.

1.5.1 Community Contribution

While the *Port Stephens-Myall Lakes Estuary Management Plan* provided an overview of the issues associated with the foreshore, preliminary meetings with community groups, Council and government agencies clarified the scope and significance of the issues, and identified others that had emerged since the completion of the *Estuary Management Plan* in 2000.

The preparation of this study has been supervised by the Port Stephens and Myall Lakes Estuary Management Committee, which is a joint committee of Port Stephens and Great Lakes Councils. The committee was established to provide broad representation of local and State government authorities, estuary user groups and community conservation interests, in planning for the sustainable use of the estuarine waterway and its immediate hinterland.

The Estuary Management Committee has also been the primary stakeholder reference group for this project. Presentations, progress reports and opportunities for discussion have been provided throughout the project.

Broader community participation has been sought through several channels:

- At the commencement of the project, an introductory brochure, outlining the scope and objectives of the project and the extent of the project area was prepared (a copy of this brochure is included in **Appendix 3**). This brochure was distributed to community groups identified by environmental officers at Port Stephens and Great Lakes Councils, together with an invitation to provide written input. The option of a face to face meeting was also offered to these groups. Forty nine detailed written submissions were received from local community groups. These submissions contributed important local knowledge, identified additional sources of information (reference and individuals) and highlighted the values and concerns of local residents. The key points of these detailed submissions were collated and were subsequently discussed with the Port Stephens Estuary Management Committee, as well as with individual community groups. The points raised in these submissions have been taken into account in preparing the action plans for each part of the foreshore.
- Additional copies of the introductory brochure were made available to interested individual residents on request. This resulted in further written submissions about issues to be addressed by the Plan, and enhanced attendance at local area community meetings (see below, such as North Arm Cove and Tea Gardens).

- The commencement of the project was announced in a press release issued by Port Stephens Council, resulting in local press coverage.

Face to face community participation was targeted to provide opportunities for local residents to meet the project team and to provide specific local knowledge and/or feedback on the process and on issues. Meetings were scheduled both by the project team and on request from local communities. The following meetings provided briefings about the project and invited feedback:

- Local community meetings. Multiple meetings and presentations were conducted to raise awareness and seek input about local issues. The meetings had both a locality specific and an issue specific focus. The groups involved in these discussions included:
 - Nelson Bay Chamber of Commerce.
 - Port Stephens Tourism Organisation.
 - Nelson Bay Rotary Club.
 - Salamander Bay and Soldiers Point Precinct Committee.
 - Tilligerry Precinct Committee and Tilligerry Habitat Association.
 - Residents of Karuah and North Arm Cove. Information about the project has also been circulated to residents of these areas in local newsletters.
 - Residents and community associations of Tea Gardens, Jimmys Beach and Pindimar. A combined community meeting was held at Tea Gardens, with a presentation on the issues being considered during the preparation of the Foreshore Management Plan, followed by discussion of important local concerns. Information about this meeting was printed in The Nota, as well as in the newsletters of local community organisations.
 - Discussions were also held with representatives of local recreational fishing organisations, including an inspection of boat ramp facilities.
 - Discussions were held with representatives of the Port Stephens Econetwork.
 - Two meetings and discussions with the NSW Maritime Authority Waterway Users Group provided opportunities for representatives of local recreational boating and fishing organisations, commercial operators and volunteer rescue organisations to discuss issues that should be addressed in the Foreshore Management Plan.
 - Members of the Volunteer Coastal Patrol assisted with assessments of foreshore condition, and also discussed concerns about boating safety.
 - Researchers from Sydney University and other organisations were consulted about their work in relation to beach erosion and sedimentary processes affecting the foreshore.
- Local Aboriginal Land Councils. A preliminary meeting was held with Karuah Local Aboriginal Land Council (Karuah LALC) and Worimi Local Aboriginal Land Council (Worimi LALC) to inform them about the objectives of the Foreshore Management Plan and to identify particular issues and places of concern to the Land Councils. The Land Councils participated in the targeted field surveys and discussions were held in-field

regarding the appropriate management of Aboriginal heritage in the Port Stephens foreshore area.

- Councillors and Council Staff. Detailed discussions have been held with representatives of relevant divisions of Port Stephens Council and Great Lakes Shire Council, including environmental planning, strategic planning, asset management, parks and reserves management, environmental engineering (flooding, stormwater), and Council ecologists. Initial contact was facilitated by the Environmental Programs Co-ordinator in each Council. In the early stages of the project, Council officers were also invited to provide information about the significance of issues of concern and existing Council responses to those issues. Several responses were received from staff of Port Stephens Council. These were followed up with further discussion. Councillors from Port Stephens Council and Great Lakes Council are members of the Port Stephens Estuary Management Committee. They have been briefed throughout the project on the approach and potential management responses.
- State Government Agencies. Multiple State government agencies have interests or statutory responsibilities for aspects of foreshore management. Specific meetings and discussion have been held with the following agencies to clarify issues, research, data and policy development within each organisation (see also **Appendix 2** for information about the roles and responsibilities of State agencies).
 - Department of Lands. Principal issues included Crown land assessments in preparation for parts of the Foreshore, leasing requirements, Lands Department involvement in the approval, maintenance and management of foreshore structures.
 - NSW Department of Primary Industries. Discussion focused on the management of derelict oyster leases within the foreshore project area, as well as management of recreational fishing activity around the foreshore.
 - DECC. Issues discussed included the location, condition and conservation status of Aboriginal sites and EECs around the foreshore, foreshore erosion issues and current approved management responses.
 - MPA. All of Port Stephens has been included in the Port Stephens – Great Lakes Marine Park, declared in November 2005. The Marine Park is the immediate neighbour of all the foreshore reserves included in this project.
 - NSW Maritime Authority. The Authority has particular interests in the suitability and safety of boat ramps, wharves and moorings, as well as management of effluent pump out. The Authority facilitates regular meetings with waterway user groups, raising awareness of new policy and regulation and seeking feedback on the appropriateness of facilities.
 - Department of Planning. Discussion focused on the implications of the Regional Strategy for recreational demand (foreshore and waterway access) in Port Stephens, as well as on the likely intensification of development in major centres.
 - Hunter Central Rivers CMA. The Foreshore Management Plan presents detailed information about a specific issue identified in the Port Stephens and Myall Lakes Estuary Management Plan (the lack of an integrated management strategy for foreshore issues). Consultation with the CMA has focused on co-ordination, to ensure that information about the CMA programs (including targets and benchmarks and investment programs) is taken into account in the Foreshore Management Plan where necessary.

1.5.2 Identifying Assets, Issues and Management Actions

The assets and issues identified during Stage 1 were divided into eight categories:

- Ecological Habitats;
- Aboriginal Heritage;
- European Heritage;
- Visual Amenity;
- Water Quality;
- Public Reserves and Facilities;
- Waterway Access and Facilities for Boat Users; and
- Foreshore Stability.

The distribution and condition of each of the values (assets) within these categories was identified, mapped and analysed. The types of pressures and threats affecting each of these was analysed and the drivers behind each of these identified and explained. A list of key issues affecting the foreshore was thus produced and continually refined as community consultation, field studies and literature reviews progressed.

All of this data was incorporated into a Foreshore Inventory database (Microsoft Access) and individual Geographic Information System (GIS) (MapInfo) layers. The GIS and database are linked to allow quick identification of the assets and issues affecting the various sections of the foreshore.

This document summarises the key values and issues/threats affecting the foreshore (management context) and then recommends management actions to deal with these issues/threats. The management actions are presented in a prioritised table which details the indicative cost and the responsible government agency for each action.

A **Reference Document** that contains the detailed results of specialist studies into ecological habitats, Aboriginal heritage, European heritage and foreshore stability has been prepared to support and inform this Plan. The Reference Document relies principally on the results of previous studies and existing information (for instance held in State Agency and Local Government data bases). Some of this information has been produced at a regional scale and there are limits to its accuracy at the local scale. Any action proposed by the Plan on any privately owned site would be subject to closer scrutiny, with on ground assessments to provide a level of detail necessary to meet statutory assessment requirements.