

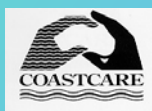
COFFS HARBOUR COASTAL RESERVES Plan of Management

Volume 2

Background Information



February 2000



Coffs Harbour City Council



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DEFINITIONS

Coastal Reserves	Council controlled public reserves adjoining the coastline and tidal estuaries
Council	Coffs Harbour City Council
POM	Plan of Management
DLWC	Department of Land and Water Conservation
NPWS	National Parks and Wildlife Service
MPA	Marine Park Authority (Solitary Islands Marine Park)
SEPP	State Environmental Planning Policy
the Coastal Walk	Solitary Islands Coastal Walk

ACKNOWLEDGEMENTS

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1. CONTEXT

INTRODUCTION

Coffs Harbour City Council is responsible for the management of approximately 630 hectares of coastal Crown reserves spanning some 35 kilometres of coastline. This area represents a significant proportion (38%) of the of the total public open space lands managed by Council.

The Coastal Reserves contain a range of sensitive and dynamic natural systems and are a major focus for the recreational activities of residents and tourists. They require specialised management to ensure protection and to restore the natural environment while also providing for the recreational needs of the community.

The Plan of Management has been prepared to provide guidance for the consistent and coordinated management of the coastal reserve system and to supplement other management documents that relate to the City's public reserve system.

OUTLINE

Section 1 outlines the purpose of the Plan of Management and identifies related studies, policies and consultations undertaken as part of the study.

Section 2 describes the extent of and management status of the lands covered by the study including proposed additions to the reserves system and adjoining lands.

Section 3 describes the natural, heritage and recreational resources contained within the Coastal Reserves and the related management issues.

Section 4 outlines the role of Council, Government agencies and the Community in Coastal Reserve management and identified funding sources for ongoing management and reserve improvements.

Maps and Appendices are attached and provide additional information.

LEGISLATION, POLICIES AND STUDIES

A wide range of legislation, policies and studies relate to the management of the Coastal Reserves and are listed in Table 1. The more relevant legislation and policies are described below.

Crown Lands Act 1989 and Crown Lands Management Policies

The Plan of Management has been prepared under the Crown Lands Act 1989. Included in the Act are the principles for Crown Lands Management (See Appendix 1), requirements for the preparation of plans of management for Crown reserves and the operation of Crown Reserve Trusts.

A number of policies for Crown lands management also apply (See Table 1). Of particular relevance is the NSW North Coast Crown Reserve Management Strategy that covers all crown reserves between Port Macquarie and Tweed Heads. The management strategy seeks to provide the foundation for mutual cooperation and support between State Lands Services, Reserve Trusts and the wider community in the management of Crown Reserves. The broad vision of the Management Strategy is "to protect and enhance the natural and cultural values of NSW Crown Reserves providing a wide range of opportunities.

Further details of the Management Strategy principles are included in Appendix 1.

Local Government Act

The Local Government Act includes requirements for the preparation of Plans of Management for community lands that includes Council owned public reserves. A number community lands are included in the lands covered by this Plan of Management (See Appendix 2). These lands are currently covered by the Coffs Harbour Natural Areas Plan of Management 1996. The Act also sets out requirements for regulation of activities on 'public lands'

which includes public reserves owned or managed by other authorities or community trusts.

NSW Coastal Policy

The NSW Coastal Policy was released in late 1997 and outlines strategies for the coastal zone under 9 broad goals. These goals are:

1. To protect, rehabilitate and improve the natural environment
2. To recognise and accommodate natural processes and climatic change
3. To protect and enhance the aesthetic qualities of the coastal zone
4. To protect and conserve cultural heritage
5. To promote ecologically sustainable development and use of resources
6. To provide for ecologically sustainable human settlement
7. To provide for appropriate public access and use
8. To provide information to enable effective management
9. To provide for integrated planning and management

Most of Council's open space system, including the Coastal Reserves, lie within the coastal zone defined by the Policy.

Under the Policy plans of management should be prepared for all these public reserves. (Appendix 1 details relevant Policy goals and strategies addressed by the Plan of Management and other Council programmes).

Council Strategies, Plans and Policy

The Plan of Management will form an integral part of Council's overall strategic direction and open space land management programmes. It incorporates the relevant principles outlined in Council's Management Plan, the Coffs Harbour Open Space Strategy and the Vision 2020 programme (See Appendix 1). Specific Council policies which relate to Coastal reserve management, for example the 'Dogs and Horses on Beaches' Policy and 'Vehicles on Beaches' Policy, are also included. The Plan of Management will replace these policies.

This Plan is one of a series of 'generic' plans of management which cover the various open space types managed by Council. Other plans cover sportsgrounds, parkland, natural areas, urban bushland, wetlands and tidal foreshores, picnic areas and playgrounds. A number of 'specific' plans of management and/or studies have also been prepared for particular reserve areas. Plans of management and studies for areas within the coastal reserve system are shown in Table 2.

Table 1 : Legislation, Policy and Studies

	LEGISLATION, POLICY OR STUDY
INTERNATIONAL	CAMBA JAMBA
NATIONAL	Commonwealth Coastal Policy 1995 National Strategy for Conservation of Australia's Commonwealth Coastal Policy Biological Diversity National Landcare Programme Native Title Act, 1994
STATE	Crown Lands Act 1989 Coastal Crown Lands Policy, 1986 Crown Lands Foreshore Tenures Policy Crown Lands Recreation Vehicles Areas Policy Crown lands Caravan Parks Policy Food and Beverages Outlets on Crown Reserves – Policy Position Tourist Facilities and Services on Crown Reserves – Policy Position Draft Surf Life Saving Facilities on Crown Recreation Reserves – Policy position Coastal Protection Act 1979 NSW Coastal Policy, 1997 NSW Coastline Hazard Policy Coastline Management Manual Coastal Lands Protection Scheme (Land Acquisition) Environmental Planning and Assessment Act, 1979 State Environmental Planning Policies SEPP 14 Coastal Wetlands SEPP 26 Littoral Rainforest Local Government Act 1993 National Parks and Wildlife Act 1974 Marine Park Act 1997 No 64 Fisheries Management Act 1991 Threatened Species Conservation Act 1995 Aboriginal Land Rights Act, 1983 Heritage Act 1977 Native Vegetation Conservation Bill 1997 Rural Fires Act 1997 Fire Brigades Act 1909 Draft NSW Biodiversity Strategy 1997
NORTH COAST REGION	North Coast REP North Coast Urban Planning Strategy North Coast Crown Reserves Management Strategy

Table 1 : Legislation, Policy and Studies (cont)

	LEGISLATION, POLICY OR STUDY
LOCAL	Coffs Harbour City Council Management Plan Coffs Harbour Local Environmental Plan, 1988 and Draft City Wide LEP 1998 Coffs Harbour Vision 2020 Study 1992 Coffs Harbour Open Space Strategy, 1998 Coffs Harbour Vegetation Study, 1996 Coffs Harbour Draft Regional Vegetation Management Plan (in progress) Coffs Harbour Draft Comprehensive Koala Management Plan, 1997 Coffs Harbour Waterways Catchment Management Committee Strategic Plan 1997 Coffs Harbour Coastal Landscape Heritage Study, 1995 Coffs Harbour Coastal Assessment Report, 1995 (Soil Conservation Service) Specific plans of management and management strategies for Coastal Reserves (See Table 2) Coastal Hazard and Estuary Management Plans: Bonville Creek Estuary Management Plan (proposed) Campbells Beach Coastal Erosion Management Plan Park Beach Coastal Hazard Management Plan Relevant Council Policy (Dogs, Horses and Vehicles on Beaches, etc) Bushfire Management Plans (Operational and Risk Management)

Table 2 : Coastal Reserve Plans of Management and Studies

DOCUMENT	STATUS	COMMENTS
Woolgoolga Lake and Lake Reserves POM	Adopted 1992 (Crown Lands Act)	Walkways and bush regeneration works commenced. Includes lake dredging and estuary opening strategy
Charlesworth Bay Reserve Plan of Management	Adopted 1987 (Crown Lands Act)	Revised in 1996 to delete upper carpark and vehicular access
Hills Beach Reserve Plan of Management	Adopted 1988 (Crown Lands Act)	Final sections of walkway nearing completion
Coffs Creek Reserves Plan of Management	Adopted 1992 (Coast & Estuaries Programme)	Coffs Creek walkway completed. Regeneration in progress.
Park Beach Reserve Draft Plan of Management	Revised draft plan to be exhibited (Crown Lands Act)	Specific business plans for caravan parks also apply
Sawtell Reserve Draft Plan of Management	Adopted Nov1998 (Crown Lands Act)	Specific business plans for caravan parks also apply
Diggers Head Management Strategy	Adopted 1993 (*DLWC)	
Park Beach Coastal Hazard Management Plan	Advertised 1999 (Coast & Estuaries Programme)	Specific study for management of Coastal Erosion
Campbells Beach Coastal Erosion Management Plan	Advertised 1999 (Coast & Estuaries Programme)	Specific study for management of Coastal Erosion
Coffs Harbour Natural Areas Plan of Management	Adopted 1996 (Local Govt Act)	Wetland and foreshore sections to be incorporated into the Coastal Reserves Plan of Management
Coffs Harbour Parkland Plan of Management	Adopted 1996 (Local Govt Act)	Management of mown park areas
Coffs Harbour Picnic Areas Plan of Management	Adopted 1996 (Local Govt Act)	Development and maintenance of picnic facilities
Coffs Harbour Playground Plan of Management	Adopted 1996 (Local Govt Act)	Development and maintenance of playground facilities
North Coast Regional Botanic Garden Management Strategy	Adopted 1997 (*DLWC)	

* DLWC – Department of Land and Water Conservation

COMMUNITY CONSULTATION

Community consultations undertaken for the Plan of Management comprise:

- Preliminary consultations held during May 1998:
 - distribution of a community newsletter
 - invitation of comments from the general community (37 written submissions received)
 - three public workshops held at Woolgoolga, Coffs Harbour and Sawtell (57 participants attended)
 - liaison with government agencies
 - A summary of the comments received during these consultations is included in Appendix 3

- Exhibition of the draft Plan of Management
 - exhibition period of 2 months
 - invitation of submissions on the draft plan
 - information sessions to explain the draft plan

Participants in the consultations included representatives from:

- Dunecare and Landcare Groups,
- Coffs Harbour Beautification Committee,
- Ulitarra Conservation Society,
- adjoining resorts,
- adjoining community reserve trusts,
- Surf Lifesaving Clubs, Fishing Clubs,
- Boardriders Association,
- resident groups (eg. progress associations)
- Interested individuals.

Government agencies and advisory committees consulted were:

- the Department of Land and Water Conservation,
- Solitary Islands Marine Park Authority,
- NSW Fisheries,
- National Parks and Wildlife Service,
- NSW Waterways Authority
- Surf Life Saving Australia,
- the Coffs Harbour Waterways Catchment Management Committee and
- Coffs Harbour Coast and Estuary Committee
- Solitary Islands Coastal Walk Working Party

These consultations helped to identify the significant issues of concern to the community and many of the comments received have been incorporated into the plan. The major issues confirmed or raised through the consultation process include:

- management and protection of coastal vegetation (weed control, unauthorised damage or clearing)
- coastal erosion
- seaweed removal
- fire control
- Dunecare
- use and access to beaches by dogs, horses, vehicles and boats
- pedestrian access and the Coastal Walk
- litter
- surf safety
- funding
- signs, policing of activities and
- public awareness and education

2. LANDS AND STATUS

Lands

Lands Covered by this Plan include:

- coastal Crown reserves for which Council is the Corporate Manager of the appointed Reserve Trust
- Council owned (Community classified) public reserves and
- proposed additions to the existing reserves at Safety Beach, Boambee Creek and Boambee Beach.

The lands and their status are shown in Map 1. Further land descriptions are provided in Appendix 2 Schedule of Lands.

Crown reserves generally extend inland from Mean High Water Mark with the exception of Park Beach Reserve that extends from Mean Low Water Mark. Council managed areas of Woolgoolga Lake Reserve include the bed, banks and estuary waters below Mean High Water Mark. Two caravan parks, at Park Beach and Sawtell, are located on the reserves covered by the plan.

The plan excludes estuarine areas below Mean High Water Mark (except Woolgoolga Lake). It also excludes Crown reserves managed by independent community trusts at Woolgoolga Beach Reserve, Moonee Beach Reserve and Boambee Creek Reserve

Zoning

The majority of the lands are zoned 6A Open Space (Existing) under the Coffs Harbour Local Environmental Plan 1988. The objective of this zone is to enable the development of land within this zone for recreational and associated purposes.

The reserves also include areas zoned 7(w) Environmental Protection Wetlands and 7(l) Environmental Protection Littoral Rainforest. These areas correspond to the lands to which State Environmental Planning Policy (SEPP) 14 Coastal

Wetlands and SEPP 26 Littoral Rainforest apply. See Section 3 for details.

Land Reservations

A total of 21 individual Crown Reserves are covered by the plan and include reservations for Public Recreation, Public Recreation and Resting Place and Preservation of Trees and Native Flora. Gazettal of the reserves covers the period between 1900 and 1985.

A single Crown Reserve, excluding special management areas of Park Beach Reserve, Sawtell Reserve, Coffs Creek Reserves and Woolgoolga Lake Reserves is proposed to simplify the land descriptions and better reflect current use and management. The caravan parks and surrounding reserves (Park Beach Reserve and Sawtell Reserve) will be retained under the current reservations and managed under specific plans of management and business plans. The Woolgoolga Lake and Coffs Creek Reserves are to be consolidated into a single reserve for each area and managed under the existing Plans of Management.

Additions to the Reserve System

Three areas of land have been identified for addition to the Coastal Reserves under Council management. The lands are located at Safety Beach, beaches south of Corambirra Point and reserves on Boambee Creek adjoining Coffs Harbour airport.

1. Coastal Protection Lands, Safety Beach

The proposed additional land at Safety Beach is Lot 1 DP 749151 located south and west of Darkum Creek between a Council controlled reserve and the Seven Lakes Golf Course. It comprises approximately 6 hectares of land purchased by the Department of Urban Affairs and Planning (DUAP) under the Coastal Lands Protection Scheme.

In November 1997, Council resolved to support the addition of the lands to the adjoining Council controlled Coastal Crown reserves and to include the lands in the preparation of the Coastal Reserves Plan of Management.

This resolution was made in response to a proposal by Department of Urban Affairs and Planning to transfer a number of coastal protection lands to the Department of Land and Water Conservation to become Crown Reserves managed by Council.

The lands at Safety Beach had been identified by Council's Open Space Strategy as having a number of potential recreational benefits in addition to the natural values of the land. These were the provision of a safe cycle and pedestrian link between Woolgoolga and Mullaway and a small neighbourhood play area in the existing cleared area of the land. The proposed play area would serve the current needs for a level playing area for older children's informal ball games as there is no other suitable area available on the existing reserve. Management of the land by Council would also facilitate maintenance access to the adjoining Council controlled reserves.

Management issues relating to the land are:

- encroachments from the neighbouring golf course
- removal and eventual replacement of unsafe foot bridges
- BMX bike use
- weed control

The proposed use of the land is shown in Appendix 4 and would involve minimal impact on the natural values of the land.

2. Intertidal Zone, Boambee and Sawtell Beach

The eastern boundary of the Coastal Reserves generally lies at the Mean High Water Mark. North of Muttonbird Island the reserves adjoin the Solitary Islands Marine Park (see Adjoining Land Managers). South of Corrambirra Point (Boambee and Sawtell Beaches) the beach area below the Mean High Water Mark is the responsibility of the

Department of Land and Water Conservation and NSW Fisheries.

To assist in rationalising management responsibilities for these beaches it is proposed that the Coastal Reserves on Boambee and Sawtell Beach be extended

to the Mean Low Water Mark, adding the intertidal zone to the area of Crown reserve currently managed by Council. Matters relating to fish habitat within the intertidal area, such as seaweed removal and bait collecting would continue to be regulated by NSW Fisheries. The seaweed removal policy developed for the Plan of Management has been authorised by NSW Fisheries.

3. Crown Lands adjoining Coffs Harbour Airport

These lands comprise Vacant Crown Land located between Coffs Harbour Airport and Boambee Creek. They adjoin Council controlled Crown Reserves on Boambee Creek and Boambee Beach. The majority of the land contains coastal vegetation. These lands are affected by the obstacle height limitation zones set out in the Coffs Harbour Airport Management Plan. Council needs to undertake selective pruning and some replacement of tall species with low growing native species in this area to ensure safety for air traffic using the adjacent runway. The remaining areas of the land will be managed as natural vegetation with appropriate access provisions.

Other Proposed Reserves

1. Moonee Creek

Privately owned lands south of Moonee Creek have been identified as an important addition to the coastal reserve system. The land would provide a link between Moonee Beach Reserve and Green Bluff Reserve. This area contains a range of values including littoral rainforest, and aboriginal middens. It is envisaged that the land will be acquired through the Coastal Protection Scheme and managed by Moonee Beach Reserve Trust. Because the land will not be managed by Council it is not included in the Plan of Management.

2. *Jetty Foreshores*

Part of the Jetty Foreshores picnic area is managed by Council under License from the Department of Land and Water Conservation. The remaining Jetty foreshore reserves are currently managed by an Administrator. The future development and management of these areas is to be determined through the preparation, in 1999, of a Plan of Management for the foreshore areas. The future involvement of Council in managing the reserves will be determined through this process.

Adjoining Land Managers and Land Uses

Solitary Islands Marine Park

Coastal Reserves adjoin the Solitary Islands Marine Park from Mutton Bird Island to the north and from Mean High Water Mark seaward. The Marine Park was declared in 1997 and replaced the Solitary Islands Marine Reserve which defined various user zones within the park. New regulations for activities within these zones have been released and a revised zoning plan is to be prepared during 1999. (Appendix 5 shows the extent of the Marine Park and the current management zones.) The proposed revised zoning plan will consider the current beach access for dogs, horses and vehicles.

As part of the Plan of Management consultations, discussions with the Marine Park Authority has resulted in agreed policies and authorisations for seaweed removal and beach cleaning in the intertidal zone. Council Rangers share joint responsibility with Marine Park Rangers for the regulation of activities in the intertidal zone and adjoining waters under various legislation and the benefits of a cooperative approach involving liaison between Marine Park and Council Rangers has been discussed.

The installation of Marine Park signs on the Coastal Reserves and the potential to include Marine Park information in future information brochures for the Coastal Reserves has also been considered with a long term goal of combining information in a more appropriate way. Where possible, signs will be combined and designed to

reduce impacts on the visual amenity of the reserves.

National Parks and Nature Reserves

The Coastal Reserves adjoin Bongil Bongil National Park to the south and Moonee Beach Nature Reserve at Emerald Beach and Sandy Beach in the north. Complementary management between Council and the National Parks and Wildlife Service to facilitate the management of vegetation, fire and access, has been discussed. There is also the opportunity to provide consistency in walkway design and construction for the Solitary Island Coastal Walk which passes through both the Coastal Reserves and National Parks and Wildlife Service lands.

Urban Development

The majority of the reserves adjoin existing or proposed urban development areas and provide a focus for recreational activities and coastal views. As a result, a range of management issues need to be addressed. These include the impacts of pedestrian, vehicle, horse, dog and boat access, vegetation clearing and encroachments from private property, fire protection, public safety and recreation facilities.

3. VALUES, RESOURCES AND MANAGEMENT ISSUES

INTRODUCTION

The NSW North Coast Crown Reserve Strategy emphasises a value based approach to Crown Reserve Management where the intrinsic values of Crown Reserves are protected and enhanced. The values of Coffs Harbour Coastal Reserves are inherent in the natural and historic characteristics of the land and the recreational opportunities provided. A range of management issues result from these characteristics.

This section describes the conservation, scenic, heritage, recreation, tourism and economic values of the Coastal Reserves in terms of the resources and management issues involved.

The reserves also adjoin the high value conservation areas of the Solitary Islands Marine Park, Moonee Beach Nature Reserve and Bongil Bongil National Park.

LANDFORM AND SOILS

The majority of the Coastal Reserves comprise a complex and specialised natural system of beaches, dunes, hind dunes, headlands and estuaries. The Coffs Harbour coastline has particular value on the NSW North Coast. It comprises a series of relatively small bays, shorter beaches, and more frequent and predominant headlands than generally found elsewhere in the region. This creates a coastline of specialised biogeographic characteristics and high scenic quality.

Soils within the Coastal Reserves comprise:

- quaternary beach and dune sands
- humic grey silts and gleyed duplex soils found in low lying swamps and estuarine environs
- shallow headland lithosols
- yellow-red duplex soils derived from greywacke and mudstone bedrock that commonly underlies the mainland areas.

Dunal sands and headland lithosols are particularly erosive when vegetation cover is disturbed. Erosion is accelerated by high exposure to coastal winds and storms typical at these locations.

Acid sulphate soils also occur in the Coastal Reserves and need to be taken into consideration for any works involving excavation where these soils may be exposed eg. retaining wall construction, dredging and drainage works. Acid sulphate soil potential is shown on Map 2.

FLORA

Vegetation Communities

Vegetation communities found within the coastal reserve system range from frontal dune complex and dwarf headland heath to littoral rainforest, wetland communities and coastal Eucalypt forest. They include rare and threatened species and species or vegetation communities significant on a local, regional or habitat basis.

Appendix 6 and Map 3 detail the distribution and species composition of the vegetation communities as mapped by Fisher and Body (1996). Significant vegetation, wetland communities and littoral rainforest are shown on Map 4.

Management issues relating to native flora on Coastal Reserves are discussed below and include:

- vegetation restoration and regeneration
- the control of a range of invasive weeds including Bitou Bush
- garden refuse dumping
- clearing or damage to vegetation especially adjoining housing
- access control
- fire management

Local and Regional Significance

Regionally significant vegetation occurring on the reserves includes Brush Box, heath/grassland communities and wet heath (Fisher & Body 1996). The extensive areas of the foredune complex at Boambee Beach is also considered of regional significance because of its size (Ecograph 1998).

Locally significant communities identified by Fisher and Body are Tuckerroo littoral rainforest and *Juncus* sedgeland. Frontal dune communities are important for stabilising the mobile sand environment and protecting inland vegetation and land uses from the impacts of storms and salt laden winds.

Littoral Rainforest

State Environmental Planning Policy (SEPP) 26 – Littoral Rainforest makes special provisions for the protection of 8 specifically identified littoral rainforest sites in Coffs Harbour and the surrounding 100m buffer area (excluding existing residential development). These sites all occur within the coastal reserve system and are located at:

- Arrawarra
- Woolgoolga Back Beach
- Sapphire
- Diggers Head
- Pine Brush Creek
- Sawtell Beach

Mapping of these areas was carried out by large scale aerial photography and therefore does not represent the true extent of the vegetation. Ground truthing is required.

Littoral Rainforest not covered by SEPP 26 has also been mapped by Fisher and Body at Dolmans Point, Sawtell Reserve and north Charlesworth Bay. Littoral rainforest species are also common components of dunal and headland vegetation in protected locations.

Coastal Wetlands

State Environmental Planning Policy (SEPP) 14 Coastal Wetlands provides protection for specific coastal wetland sites in NSW. SEPP14 wetland sites in Coastal Reserves are located within the tidal limits of Arrawarra Creek, Willis Creek, Coffs Creek and Boambee Creek. As is the case with SEPP

26 mapping, the SEPP 14 wetland boundaries require ground truthing to represent the true on-ground extent of the communities.

Threatened Species

The National Parks and Wildlife Service has provided a list of threatened or significant plant species which are known to be in or have the potential to occur in the Coastal Reserves. (See Appendix 7).

A species recovery plan has been prepared for *Thesium australe* that is known to occur at Macauleys Headland on the Coastal Reserve.

The plan sets out local government responsibilities for:

- surveillance
- habitat protection
- rehabilitation
- fire exclusion (pending fire response trials for *Thesium*)
- weed control.

Species recovery plans have also been prepared for *Acronychia littoralis*, *Phaius australis* and *P. tancarvilleae* (Swamp Orchids) locations outside the Coffs Harbour area and for *Zieria prostrata* located on National Parks land in Coffs Harbour. These species are likely to occur or have occurred in the Coastal Reserves and could be used in restoration planting as part of the recovery of populations of these species.

Other species recovery plans are being prepared for *Quassia* sp B, *Olearia flocktoniae*, *Allocasuarina defungens*, *Marsdenia longiloba*, and *Eleocharis tetraquetra*.

A population of *Zieria* sp. aff. *Smithii* A. at Diggers Head has recently been included on Part 2 of Schedule 1 of the Threatened Species Act as a threatened population. National Parks and Wildlife Service has advised that a species recovery plan *Zieria* sp. aff. *Smithii* A. is to be prepared by November 2001.

National Parks and Wildlife Service has recommended that a register of threatened species occurring on Coastal Reserves be established to assist in threatened species data collection. The register would be maintained to monitor the status and extent of the species and the implementation of species recovery plan actions.

Vegetation Management and Restoration

Until the 1970's and 80's, common land use practices on the coastal reserve lands included grazing, housing, frequent use of fire and sandmining that resulted in significant impacts on the natural vegetation. Vegetation protection and restoration commenced during 1970's as a response to declining biodiversity and damage to property and the land by coastal processes. This involved Soil Conservation Service and Council activities in the 1980's. Coastal protection works have increased in recent years under the Crown Lands Act 1989, various Government policies and Government sponsored funding and employment programmes.

A bush regeneration status report is being prepared by Council and will determine vegetation restoration priorities based on an assessment of the significance, condition, impacts and current or previous work by Council or Community groups. Projects currently underway are listed in Appendix 8 and include dune rehabilitation, littoral rainforest and headland restoration. These include a range of weed control, regeneration and revegetation projects together with construction of walkways, fencing, signs and information displays. The projects comprise:

- volunteer community group projects (Dunecare, Landcare, Ulitarra Conservation Society)
- Coastcare funded projects employing bush regeneration contractors
- Work for the Dole schemes
- Bitou Bush aerial spraying programmes
- Works by Council bush regeneration staff
- Headland vegetation restoration

Bitou Bush Control

Bitou Bush was introduced into the dunal system following sand mining in the 1960's and has become a significant threat to native coastal vegetation and dune stability. Council's Bitou Bush control programme aims to control Bitou Bush on Council land by 2001 with follow up weed control and native vegetation planting to 2003. It combines aerial spraying and Coastal Wattle seeding with manual control and planting to suit various sites. The success of the programme relies on continued funding, and the assistance of Care groups and bush regeneration staff to carry out follow up weed control and wattle seed collection.

Aerial spraying commenced in 1996 at Boambee Beach and uses low concentration herbicides in winter. It is restricted to locations where a clearance of 100m to housing can be achieved. The current and proposed aerial spraying areas are shown in Appendix 8. The Department of Agriculture is also implementing a number of biological control programmes as a supplement to herbicide and manual removal of Bitou Bush.

Fire Management

The current approach to fire management in Council reserves as outlined in Council's Natural Areas Plan of Management is to:

- ensure adequate fire control access is provided
- provide fuel reduced and fuel free zones between houses and bushland.
- exclude fuel reduction burning from Council reserves except in special circumstances.

This approach provides for protection of private property and protects vegetation from too frequent burning. Fire management is implemented in conjunction with the Coffs Harbour Fire Control Committee and Fire Control Officer.

To address the issues of suitable fire regimes for native vegetation, a further specialised study is required to assist fuel reduction and natural regeneration without impacting on the species diversity or longevity of the vegetation. The study should take into consideration the vegetation type, desirable fire regimes, fire hazard to private property and fire history. (See Appendix 9 for guidelines for fire management in Council controlled reserves and an example of suitable fire regimes for different vegetation types.)

FAUNA

Fauna Species

The coastal reserve system provides habitat for a range of fauna, including birds, reptiles, marsupials and marine species. Wetlands provide a particularly rich habitat for wading, nesting and nectar eating birds, bats, frogs as well as providing a nursery for coastal fish stocks. Intertidal areas form an important part of the marine ecology and support a range of organisms.

Primary Koala habitat identified by the City wide draft Comprehensive Koala Management Plan (NPWS 1997) occurs in eucalypt forest on the western edge of the Coastal Reserves, particularly in the Boambee Creek area (see Map 4).

An indicative list of fauna species compiled for Coffs Harbour bushland reserves is included in Appendix 6 together with NPWS information on rare and threatened fauna species occurring or likely to occur on the Coastal Reserves.

Fauna Habitat Protection

Council's Natural Areas Plan of Management identifies the following actions that need to be taken into consideration to manage fauna habitat values on Council land:

- vegetation management to provide the appropriate diversity of food sources and shelter
- retaining dead trees (fallen and standing) as well as old growth and mature trees with hollow boles

- control of domestic, feral and noxious animals
- appropriate fire management and
- community education

NSW Fisheries is responsible for the management of fish habitat, including bait collection in intertidal areas.

The National Parks and Wildlife Service is currently preparing fauna species recovery plans for Osprey, Common and Little Bentwing Bats, Double-eyed Fig Parrot, Powerful Owl, Barking Owl, Masked Owl, Forest Bats, Red Goshawk, Beach Stone Curlew, Mixophyes spp., Rufous Bettong, Parma Wallaby and Red-legged Pademelon.

COASTAL PROCESSES

Coastal Erosion

In 1995, NSW Public Works Department carried out an assessment of coastline hazards in Coffs Harbour. The study identified beach erosion and accretion patterns from 1942 to 1993 and expected sea level rises for all Coffs Harbour beaches. It aimed to provide a basis for development of a coastline Management Plan by providing a broad assessment of existing development that may be adversely affected by coastline hazards over the next fifty years.

The major findings of the study established that Boambee and Jetty Beaches are accreting while Park Beach, Macauleys Beach, Campbells Beach, Sapphire Beach (Green Bluff to White Bluff) and Woolgoolga Beach are receding.

Detailed hazard management plans are now being prepared for Park Beach and Campbells Beach. Park Beach has been selected for a detailed plan because of the high level of use it receives and the impact of ongoing beach erosion on beach access, recreational amenity and user safety. A hazard management plan is being prepared for Campbells Beach because it is the only beach where development lies within the 50 year hazard zone (NSW Public Works 1995) and is likely to be affected by ongoing beach erosion.

On all other beaches, the cycle of storm erosion and beach accretion forms part of the natural dynamics of the coastline.

Coastal Reserves provide a buffer zone that accommodates this activity and protects adjoining inland development. Dunal vegetation management is important to ensure dune stability and recovery after storm events. Accessway construction needs to be adapted to recognise the mobile dune environment.

Seaweed Removal

On popular beaches seaweed deposits can impact on the recreational amenity of the beach by reducing the beach area and creating odours. Requests to remove seaweed from Arrawarra, Woolgoolga, Korora, Diggers, Jetty and Sawtell Beaches are received by Council.

Seaweed washed onto beaches forms part of the marine food chain and its removal is regulated by NSW Fisheries. Seaweed is also a potential resource for the horticultural industry for the production of fertilisers and soil conditioners. NSW Fisheries bag limit for the harvesting of seaweed washed onto beaches is 20 kilograms per person per day. Beyond this amount, a permit from NSW Fisheries or the Marine Park Authority is required. One seaweed harvesting license for horticultural use has been issued in Coffs Harbour applying to areas within the Solitary Islands Marine Park.

A strategy for seaweed removal has been developed in consultation with the Solitary Islands Marine Park (NSW Marine Parks Authority), NSW Fisheries, Department of Land and Water Conservation, National Parks and Wildlife Service, Council and the Woolgoolga Beach Reserve Trust and is included in the Plan of Management.

ESTUARIES

Estuaries Covered by the Plan of Management

The Coffs Harbour coastal strip has 3 permanently opening coastal estuaries at Coffs Creek, Boambee Creek and Bonville Creek and 10 intermittently opening estuaries Arrawarra Creek, Darkum Creek,

Woolgoolga Lake, Hearn's Lake, Fiddamans Creek, Hills/Campbells Beach, Hayes Creek, Pine Brush Creek and Diggers Beach.

Of these, only Woolgoolga Lake is included in lands covered by the Coastal Reserves Plan of Management. The other lagoons and their beach entrances (below Mean High Water Mark) are the responsibility of Department of Land and Water Conservation, National Parks and Wildlife Service, NSW Fisheries and/or the Solitary Islands Marine Park Authority.

The estuaries play an important role in marine and fish habitats and are popular venues for passive recreation and fishing and a number of issues relating to the management of estuaries were raised during the consultations. These include:

- the artificial opening of intermittent estuaries and lagoons
- construction of retaining walls other structures in tidal areas
- estuary dredging

Woolgoolga Lake Plan of Management

A Plan of Management was adopted for Woolgoolga Lake and surrounding reserves in 1992 and will form part of the management strategies for the Coastal Reserves. The Plan includes strategies for dredging and artificial opening of the lake mouth.

Under the plan, opening of the lake entrance may only be carried out when the lake water level has reached a level of 1.8m AHD. This strategy is aimed at preventing damage to private property from flooding while retaining the natural dynamics of the estuary as much as possible.

Dredging proposals are expected to proceed in 2-3 years following the completion of bush regeneration and walkway works assuming adequate funds can be secured and bush regeneration and walkway works have been completed. Before dredging the Environmental Impact Statement for the proposed dredging should be reviewed by the NSW Fisheries to ensure it meets the requirements of current Government policy.

Artificial Opening of Intermittently Opening Coastal Estuaries

Lake closure is part of the natural cycle of intermittently opening estuaries and is important for fish habitat. In some cases, however artificial opening of the estuary may be required where closure results in unacceptable water quality or potential flooding of private property. An opening strategy for the Woolgoolga Lake estuary has been included in the Woolgoolga lake Plan of Management (see above).

Opening strategies and guidelines for the opening of other intermittent estuaries in Coffs Harbour are yet to be established. Opening strategies for these estuaries are to form part of estuary management plans that will be prioritised and coordinated by the Coffs Harbour Coast and Estuary Committee. The plans will be prepared in consultation with the relevant management authorities. Reference will also be made to NSW Fisheries Guidelines for the Management of Intermittently Opening Coastal Estuarine Lagoons and to examples such as Smiths Lake (Forster) and Lake Cathie (Port Macquarie) which use a matrix of user and environmental factors to determine an opening strategy for the estuaries.

Construction in Tidal and Estuarine Areas

In general, approval for works such as retaining walls, boardwalks and dredging located in or likely to affect coastal estuaries require liaison with relevant management agencies. These include the Department of Land and Water Conservation, NSW Fisheries and Marine Park Authority for identification of issues and to provide the necessary approval. Particular attention should be given at the planning stage to the potential impacts of vegetation removal, removal or shading of seagrass, acid sulphate soils and urban runoff.

Development consent is not required for these types of works on the Coastal Reserves (zoned 6A Open Space), however an assessment under Part 5 of the Environmental Planning and Assessment

Act 1989 has to be completed. An Environmental Impact Statement may be required for works such as dredging where the degree of potential environmental impact is considered significant.

Dredging

Dredging of coastal estuaries and bays in Coffs Harbour has been carried out at Coffs Creek and at the Harbour near the boat ramp to improve boating and recreational use. Maintenance dredging at these sites needs to be carried out periodically. The dredging of Woolgoolga Lake has been addressed by the Woolgoolga Lake Plan of Management (see page 13).

NSW Fisheries and the Marine Park Authority are to be consulted before any dredging or deposition of material on beaches is carried out. Concerns to be addressed include the possible deposition of dredged soil fines on marine habitat and the exposure of acid sulphate soils or toxic sediments.

Water Quality and Catchment Management

Coastal estuaries and marine waters can be subject to water quality problems associated with:

- urban runoff
- litter
- potential exposure of Acid Sulphate Soils
- soil erosion
- use or spillage of chemicals
- sewerage overflows.

These problems can be accentuated in intermittently opening estuaries when closed to the sea or affected by tides.

Water quality standards are set by the Environmental Protection Authority and are addressed through Department of Land and Water Conservation programmes such as Total Catchment Management, Stressed Rivers Guidelines and Stream Watch. Although Council is not responsible for most coastal waterways, with the exception of Woolgoolga Lake, it often plays a coordinating role in addressing water quality concerns raised by the community.

The Coastal Reserves Plan of Management addresses catchment management activities within the reserves including erosion control, vegetation management, stormwater management, and appropriate use of chemicals and the management of Woolgoolga Lake. Catchment activities outside the lands covered by the Plan are addressed by various Council and Government policies and programs including the Coffs Harbour Waterways Catchment Management Committee Strategic Plan.

Catchment management actions which are implemented within the Coastal Reserves to minimise impacts on water quality are:

- vegetation restoration to prevent soil erosion
- selective use of chemicals for pest and weed control
- soil testing and strategies to manage or avoid the exposure of acid sulphate soils
- connection of septic public toilets to sewer
- use of reclaimed water for irrigation of lawn areas (when suitable water quality is achieved)
- use of litter and silt traps
- public education

The construction of the proposed deep water outfall at Coffs Harbour is yet to be finalised. The broader issue of sewerage disposal is beyond the scope of this plan. This Plan of Management will, however make provision for restoration of any areas damaged by construction of any essential services including sewer, water and drainage.

HERITAGE

Aboriginal Heritage

The Coastal Reserves are rich in aboriginal heritage values. Before European settlement the coastline and creeks were a major focus of the local Aboriginal lifestyle. The National Parks and Wildlife Service is responsible for significant aboriginal heritage sites. Information provided by the Service shows that significant Aboriginal sites within the Coastal Reserves include:

- middens at Arrawarra Creek and Woolgoolga Lake
- fish traps at Arrawarra Headland
- open camp site at Arrawarra
- mythological sites at Macauleys Headland
- Sawtell Rock Pool (Bonville Headland).

Other values include locally occurring bushfoods and the opportunity for education in food gathering and other aspects of Aboriginal culture. A number of other significant sites are now contained within National Park lands at Moonee or Bongil Bongil and on private lands.

Existing interpretation and restoration work within the Coastal Reserves includes a sign at Macauleys Headland describing the mythology of the headland and the restoration and archaeological project at the Arrawarra Creek midden. The Macauleys Headland sign is in need of renovation or updating. The Arrawarra midden project is co-ordinated by the Yarrawarra Aboriginal Centre at Corindi.

The Coastal Reserves are currently the subject of two land claims under the Native Title Act. The claims extend from Boambee Creek to Moonee Creek and from Moonee Creek north respectively and have been made by separate Aboriginal groups. The preparation of the Plan of Management does not impact on the Native Title Claim. However development agreements may be required to implement some works while the claim remains active.

Management issues relating to Aboriginal heritage values are:

- the protection of significant sites when developing walking tracks and other facilities,
- access to significant sites for Aboriginal use
- restoration of the Arrawarra Creek midden
- appropriate interpretation of significant sites (eg. signs, guided tours, educational material)
- obtaining necessary approvals under Native Title legislation for works

These issues need be addressed in consultation with or by instigation of the various local Aboriginal groups, National Parks and Wildlife Service and/or the Marine Park Authority. This process will be facilitated by Council's recently formed Aboriginal Consultative Committee.

European Heritage

The coastline has played a vital role in the history of Coffs Harbour providing a focus for settlement, industry, transport, recreation and family holidays. Over recent decades, many new residents have been attracted to the area by the scenic coastal landscapes, the climate, relaxed lifestyle and varied recreational opportunities.

Council's draft city wide LEP has listed 8 heritage items which are located on or adjacent to the Coastal Reserves. Four additional items have been identified for listing by the Coffs Harbour Heritage Study Stage 2. All the proposed heritage items are

shown in Table 4. The draft LEP provides that any development adjoining a heritage item must be sympathetic with the item and that a heritage assessment must be prepared for developments which contain a heritage item.

The Coffs Harbour Coastal Landscape Heritage Study identified places of particular importance to the community (based on community workshop findings). These places within the Coastal Reserves comprised:

- the Solitary Islands Group
- Woolgoolga Lake
- Woolgoolga Headland
- Macauleys Headland
- Park Beach
- Jetty Beach and Diggers Beach
- Boambee Beach
- Bonville Headland.

The recreational use of coastal areas is an important part of local history. Retaining access and recreational opportunities needs to be considered and balanced with natural area management needs.

Table 4 : Heritage Items (Coastal Reserves)

Listing	Proposed Heritage Item	Significance
Draft LEP	Fish Traps – Arrawarra Headland	Regional
Draft LEP	BAT Co Relics, 65 River Street (tram line remains, Jarrett Creek near Art Gallery)	Local
Draft LEP	Coffs Harbour Jetty	Regional
Draft LEP	Buried Trestle Bridge – Jetty Foreshore	Regional
Draft LEP	Tramway Line Site – Jetty Foreshore	Regional
Draft LEP	Butter Factory Pool and park – Coffs Creek	Local
Draft LEP	Rock Pool – Bonville Headland	Local
Draft LEP	Sawtell Tennis Courts – Sawtell Reserve	Local
Draft LEP	Sawtell Reserve Hall – Sawtell Reserve	Regional
Heritage Study – Stage 2	Jack Davis' Boatshed, Charlesworth Bay	Local
Heritage Study – Stage 2	Walter Harvey's Tilting Ground and Jordans Pool Coffs Creek	Regional
Heritage Study – Stage 2	Lyle Rose Memorial, Sawtell	Local

SCENIC QUALITY

Visual Quality

The coastline of Coffs Harbour features a high diversity and contrast of landforms from headlands, bays and beaches to waterways. Combined with the Solitary Islands group, the expanse of the Pacific Ocean and a background of the steeply rising escarpment of the nearby coastal range, which provide characteristics of a coastline of particularly high scenic quality. The salt breezes and ocean sounds add to the aesthetic experience of the coastal landscape.

Access To Coastal Views

Expansive coastal views are available from most beaches and headlands. Viewing locations which provide vehicle access are at:

- Woolgoolga Headland
- Coffs Harbour Jetty Foreshores
- Boambee Headland
- Bonville Headland

Viewing platforms have been constructed adjacent to beaches at:

- Woolgoolga Back Beach
- Mid Sapphire Beach
- Boambee Headland

Access to coastal views from public recreation areas is an important part of the attraction, appeal and atmosphere of these areas for residents and tourists. The disabled and elderly generally require suitable locations where views can be enjoyed from within or near car parking areas. Beach visibility is also important for surf life saving activities. Access to coastline views from beaches, headlands and other reserve areas can be enhanced by providing well located accessways, boardwalks, viewing platforms and rest seats. Views from public recreation (picnic) areas or major public viewing points can also be enhanced through limited and carefully planned pruning and planting designed to allow or maintain particular views.

Ocean and coastline views from private homes are particularly sought after and a large proportion of the Coastal Reserves adjoins urban development. This places the coastal vegetation under considerable pressure. Unauthorised tree clearing or damage is an ongoing problem in Coastal Reserves with significant incidences occurring several times a year. Clearing or damage to native vegetation on public lands including Crown and Council owned reserves is prohibited under the Crown Lands Act and Local Government Act.

Coastal reserve management policies over the last 20-30 years have emphasised the protection and restoration of natural vegetation. The regeneration of the natural vegetation can affect existing views as the vegetation changes in height and width.

Active management to retain existing views from private property on a reserve wide basis would be unsustainable in terms of the integrity of the natural vegetation, the protection it provides and the maintenance resources required for continual pruning and mowing of cleared areas.

Facilities, Signs and Building Design

Facilities, structures and signs can impact on the visual quality of the Coastal Reserves. Multiple signs have been identified as being of particular concern. Facilities and structures need to be designed and sited to minimise impacts on the natural scenic quality of the land and to enhance the reserve character. Special consideration needs to be given to structures, paths and facilities on highly visible locations such as headlands.

RECREATION AND TOURISM

Recreation Activities

The Coastal Reserves are a major focus for recreational activities in Coffs Harbour. They provide a diversity of recreational opportunities in highly attractive settings. The Coffs Harbour Recreation Preference Study found that the most popular recreation activities in Coffs Harbour include:

- walking for pleasure
- beach swimming
- taking children to parks and playgrounds
- fishing
- bushwalking
- picnics and BBQs
- beach activities
- surfing

Beaches and foreshore parks are the most popular venues visited. The range of recreation activities undertaken on Coastal Reserves extends also to:

- surf club activities
- community and social events
- boating and other watercraft
- exercising dogs
- horseriding
- four wheel driving

Recreation Facilities

Council's Open Space Strategy designates 20 recreation areas on the coastal strip as district or neighbourhood parks. The parks provide a focus for passive recreation for residents from the surrounding local district or neighbourhood as well as visitors. The parks currently provide a range of facilities for passive recreation. In the long term, various upgrading works are required so that each site provides:

- electric BBQs
- picnic tables
- walkways
- beach showers
- playground
- shade structures or planting
- parking area
- public toilets
- viewing platform
- rubbish bins
- lighting
- fencing
- signs
- boat access is provided in selected locations (see page 21)

Elsewhere on the Coastal Reserves, facilities should be limited to those associated with walking, viewing and where appropriate, vehicle access eg. seats,

walkways, viewing platforms, parking areas and signs.

Facilities, structures and grounds require regular inspections and maintenance to keep facilities in a functional condition and to protect the safety of users. New facilities are to be developed in accordance with Council's Picnic area and Playground Plans of Management. These plans require materials and design which blend with the natural environment or reflect a selected design theme for a particular area and have low maintenance. All permanent buildings (eg. public toilets) are to be located above the coastal hazard line. The plans also recommend the use of local native species for landscaping and shade tree planting, with some use of exotics where appropriate. Adequate protection of natural vegetation adjoining recreation areas by fencing is to be provided.

Details of existing facilities and upgrading and priorities identified for each site are shown in Appendix 10.

Other management issues associated with recreation areas include litter, vandalism, alcohol consumption and undesirable behaviour (see page 22).

Commercial Activities

A range of commercial activities currently operate and include jet ski and surf kayak hire, camel rides, beach massage and professional fishers. Other commercial activities include the Council operated caravan parks and associated shops at Park Beach and Sawtell Reserve. These operations are run under specific business plans and plans of management.

Council may approve commercial activities provided they do not unduly impact on the recreational amenity or natural values of the reserves or pose a threat to public safety. Conditions apply in each case to ensure the above requirements are met. Professional fishers operate under license from NSW Fisheries and are subject to Council regulations for vehicle access.

Pedestrian Access

Beach access has been formalised on most major beaches over the past 20 years as part of Council upgrading, Dunecare projects, Soil Conservation Service works and restoration following sand mining. Other dune areas and most headlands allow informal access. The existing system of formal and informal walkways needs further rationalisation to best serve current use and protect the natural environment. Issues to be taken into account in reviewing access are:

- *Level of Use* - some accessways receive little use and could be closed. Others serve main traffic flows for beach goers, surfers and fishers and should be retained and may require upgrading. A survey of users may be useful in determining the most appropriate action.
- *Designs* - to accommodate and control erosion, protect vegetation and facilitate maintenance eg. board and chain, timber ramps, stairs, boardwalks and footbridges.
- *Location* - in relation to beach areas with known dangerous surf conditions, to be determined in consultation with Surf Life Saving clubs.
- *Accessways* - easy to locate through appropriate location, design and the use of signs.
- *Relationship to major walkway projects* - Solitary Islands Coastal Walk, Woolgoolga Lake Walkway, Coffs Creek Walkway.
- *Ongoing maintenance* - trees and shrubs beside tracks, fencing and walkway structures.

Access to Park Beach has been severely affected by dunal erosion in recent years. The long term management of the dune and pedestrian access is being addressed separately by the Park Beach Coastal Hazard Management Plan. Options to assist improving access, include regular replenishment of beach sands and closing or relocating northern tracks.

Solitary Islands Coastal Walk

The proposed Solitary Islands Coastal Walk seeks to provide continuous access across all beaches and headlands which are navigable by people from a range of age groups and abilities. The project will involve the construction of stairs and tracks on headlands. Alternative routes along Coastal Reserves and around estuaries such as the Woolgoolga Lake and Coffs Creek walkways, will provide options to beach walking and access to a variety of landscapes. The walk is envisaged as a major tourist attraction on the east coast of NSW and forms part of the Great Eastern Centenary Trail which is proposed to extend from Sydney to Brisbane. A draft strategy plan for the walkway was exhibited as part of the consultation for this Plan of Management.

Comments received on the strategy plan generally supported the proposal. Issues raised through the consultation were:

- vegetation management and weed control on headlands and beaches to control impacts, restore natural communities and enhance the appearance of the coastline. Particularly greater use is to be encouraged through promotion of the walk.
- the need to provide side routes such as headland circuits, Coffs Creek and Woolgoolga Lake Walkways and local inland routes through recreation areas.
- suitable design of walkways and signs to provide a unified theme, blend with the environment, minimise ongoing maintenance and be compatible with sections of the walkway which pass through National Parks lands and Trust managed reserves.
- signs to include interpretation for the walkway route, Solitary Islands Marine Park and other coastline features, Aboriginal significance (where appropriate).
- public safety especially on steep headland sections.
- litter (see page 21).

- retaining privacy and freedom of beach access from residences and resorts along the route.
- public exhibition of proposals for individual sections of walkways prior to construction

Specific comments on track location were made in relation to:

- providing alternative inland access to avoid the necessity of crossing Moonee Creek
- upgrading access from the north of Ocean View Beach to Arrawarra Headland
- location of the walkway through Woolgoolga Beach Reserve

Dogs and Horses Access

Council's dogs on beaches policy allows use of a number of beaches for exercising dogs and riding horses as shown in Appendix 11. Dogs and horses are generally excluded from high use beach areas.

The Companion Animals Act was introduced in 1998. As a result Council will be undertaking a Companion Animals Management Plan and implementing dog waste bin trials.

The Management Plan will review areas presently used for exercising dogs and may result in changes to the current policy. Access for animals to beaches north of Mutton Bird Island will also be subject to final management zones to be determined for the Solitary Islands Marine Park. Dog waste facilities are to be trialed at Emerald Beach with funding assistance provided by the Marine Park Authority.

Public Vehicle Access

Council adopted a vehicles on beaches policy in 1995. Under the policy, vehicle access to all beaches is permitted for emergency vehicles, government workers, special events (with permission) and professional fishers (conditions apply). A

permit system and annual permit fee may be introduced by Council for professional fishers.

Vehicle access for recreational users is prohibited to any vegetated dune, and all beaches with the exception of Boambee Beach, Charlesworth Bay Beach (north of authorised access), Hearn's Lake Beach, Safety Beach, Darkum Beach and Arrawarra Beach. Vehicle access is limited to the launching and retrieving boats at Sawtell Beach, Emerald Beach, Sandy Beach and Woolgoolga Beach.

Where beach access is permitted, vehicles must use the designated access road to the beach and are prohibited from driving above the high water mark except to reach the access road. A maximum speed limit of 50km generally and 25 km within 100m of pedestrians also applies. Vehicles are not to be left on beach above High Water Mark except by professional fishermen if needed for safety. Vehicles left on the beach by recreational fishermen are subject to monitoring for conflict with other users. Signs are to be installed to indicate restrictions. Penalties and on the spot fines apply for breach of the policy.

A number of issues have been raised in relation to vehicle access for fishers. Potential conflict can occur where licensed fishers use the main surfing beaches, in particular Sawtell, Park Beach, Diggers and Woolgoolga Beach. Arrawarra Beach receives high use from professional and recreational boaters, beach goers and surfers within a limited area and options to reduce conflict need to be investigated.

Emergency Vehicle Access

Emergency vehicle access needs to be provided to all reserve areas, in particular beaches, to assist in rescue activities and attending any emergency. Where not used for recreational vehicle access, emergency vehicle access points are locked (eg. Charlesworth Bay Reserve and Darkum Beach). Council's Lifeguard has indicated that due to topographic or development constraints, it is not possible to provide

emergency access to Little Diggers Beach and Korora/Campbells Beach.

All other beaches and reserves provide adequate emergency vehicle access with the exception of Mullaway Back Beach, Mid Sapphire Beach (south of Green Bluff), Park Beach South where investigations are required and at Mullaway and Ocean View Beach where existing walkways could be adapted to provide emergency vehicle access. Emergency vehicle access also needs to be established at Moonee Beach Nature Reserve (NPWS land).

Boat Access

Designated boat access points are currently located at:

- Arrawarra Headland Beach
- Woolgoolga Beach
- Sandy Beach
- Emerald Beach
- Charlesworth Bay
- Coffs Harbour Jetty
- Sawtell Beach.

Boat storage sheds are provided at Charlesworth Bay and Sawtell Beach. Informal access for boat launching is also gained from using designated beach vehicle access tracks in some locations eg. Darkum Beach, North Boambee Beach.

Management issues relating to boat access include maintenance and upgrading of boat ramps to ensure safety and useability, provision of boat trailer parking, conflicts between beach users and boat launching or vehicle/trailer parking (particularly that associated with beach net hauling). The closure of boat ramps for maintenance or upgrading eg. Jetty Boat ramp impacts on other boat launching facilities. This should be kept in mind when planning upgrading work.

Jet Skis

Jet Skiing off beaches and on estuaries can create noise impacts and conflict with other waterway users. The use of Jet Skis is regulated by NSW Waterways Authority and generally occurs outside the Coastal

Reserves (except for use of boat access for launching – see above). The Authority has various restrictions on boat speed, proximity to users and can implement restrictions or bans on jet ski use in defined areas. Jet Ski Hire within the Solitary Islands Marine Park operate under a license from the Marine Park Authority.

Surf Life Saving and Safety

The occurrence of surf accidents and deaths in recent years has emphasised the need for greater awareness of surf safety. Surf patrols operate every weekend from October to April at:

- Park Beach
- Sawtell Beach
- Woolgoolga Beach.

Patrols at the following beaches are operated on a limited basis. Other beaches are unpatrolled.

- Emerald Beach
- Sapphire Beach
- Charlesworth Bay
- Diggers Beach

Surf safety awareness can be encouraged through community and school education, continued distribution of Council surf safety brochures (See Appendix 12) to tourist accommodation and local businesses and the installation of signs warning of non patrolled beaches and potential surf hazards. Council beach signs are to be reviewed with particular regard to surf safety information.

Litter, Beach Cleaning and Rubbish Dumping

Litter is an important management issue given the high level of recreational use beaches and beach side recreation areas attract. Consultations raised the need for more litter bins or more frequent servicing, particularly during peak holiday seasons. This can be addressed through Council's regular bin audits. Information from the community is encouraged to help identify problem locations. Garbage bins need to be in convenient, easily serviced and visible

locations to best serve user needs and reduce vandalism. For this reason it is not appropriate to provide bins on beaches and users are encouraged to remove their rubbish and place it in bins provided on nearby reserves.

A beach cleaning machine now operates on major beaches to remove litter above high tide mark. The machine is not designed to remove seaweed from beaches. Concerns were raised during the consultations as to whether the cost of purchasing and operating a beach cleaning machine was justified. The benefits to the recreational amenity and attractiveness for tourists of regularly cleaned beaches was however recognised.

Rubbish dumping and pollution in Council reserves includes household, building and commercial waste. It causes potential health and safety problems for residents, degrades the general amenity of the reserves and places a burden on Council maintenance and regulation resources. Garden refuse dumping creates the additional problems of potential fire hazards and the introduction of weed species which requires further resources to control once established. The reduction of rubbish and garden refuse dumping by members of the community requires regulation where possible and continued education.

Vandalism

Vandalism on public reserves includes damage to structures, graffiti, clearing or poisoning of vegetation and rubbish dumping and results in significant maintenance and repair cost each year. Damage at recreation areas is often associated with the consumption of alcohol while damage to vegetation is usually associated with views from private property (see also page 17).

Council has the power to prosecute offenders provided they can be identified and adequate evidence provided. To assist in gaining adequate information, Council has the following reward policies:

- 'the payment of a reward up to a maximum of \$300 to any person who supplies information which leads to the conviction of any person who committed an act of vandalism in respect of Council controlled property'.
- 'a standing reward of \$1000 for information leading to the conviction of people wilfully destroying trees on public land'.

Litigation can be time consuming and expensive. The decision to enter into Court proceedings therefore needs take into account the likelihood of success of the action, the seriousness of the damage and level of restoration required, the likely outcome for the offender in terms of penalty and likelihood of additional costs to Council.

Alternatives to court proceedings, where the offender is known, include on the spot fines, restoration deeds of agreements and a co-operative approach where Council requires restoration of the area in liaison with a local Care group and/or Council staff. The latter approach has the benefit of encouraging a positive neighbourhood approach and a better understanding of reserve management. The use of on the spot fines is limited by the current scale of penalties prescribed under legislation.

Council may also establish alcohol free zones for specified areas of Council reserves under Section 632 of the Local Government Act. The establishment of the zones is initiated as a response to existing problems and carried out in consultation with relevant community members and authorities. Alcohol restrictions currently apply in front of Sawtell Surf Life Saving Club, at Lyle Rose Memorial Park (Sawtell), Park Beach (north of the Bowling Club) and Emerald Beach Reserve.

Incidences of vandalism therefore should be assessed on a case by case basis and the appropriate action determined. Actions need to be determined on the basis of availability of evidence, cost to Council and benefit to the reserve. Actions to encourage appropriate reserve management and discourage repeat

occurrences are the real objection. Options include:

- prosecution or fines under the Crown Lands Act, Local Government Act or Environmental Planning and Assessment Act and rewards for information leading to convictions
- restoration agreements
- alcohol restrictions
- public education and awareness programmes
- the use of vandal resistant design and materials for facilities and structures
- suitable choice of plant species in regeneration programmes
- lobbying for changes to legislation and scale of fees and penalties
- installation of signs indicating prohibited activities

Regulations and Signs

Council Rangers are responsible for patrolling all beaches and public places under section 32 of the Local Government Act. The assistance of the Police is required after hours. Honorary Rangers are also appointed from time to time by Council.

All prohibited activities, with the exception of damage or destruction of native vegetation, need to be sign posted to enable prosecution. Council reserve signs are to be reviewed with particular attention to prohibited activities and surf safety in accordance with the State Wide Best Practice Manual for Signs as Remote Supervision (January 1999). Combination signs to identify prohibited activities and other reserve information are to be developed to help eliminate the installation of multiple separate signs.

4. IMPLEMENTATION

COUNCIL

As manager or owner of the lands covered by the Plan of Management, Council has prime responsibility for implementing the actions of the Plan. The majority of the work will be implemented through Council's maintenance and capital works programmes and Ranger activities.

GOVERNMENT AGENCIES

Liaison and complementary management activities with adjoining land and water managers also need to be considered. The roles of the relevant Government Agencies is outlined in Table 5.

Table 5 : Role of Government Agencies

AGENCY	MANAGEMENT AREA	RELEVANT RESPONSIBILITIES / AREAS OF INTEREST
Department of Land and Water Conservation State Lands Services	Crown Reserves and Vacant Crown Lands	<ul style="list-style-type: none"> Administration of Crown Lands Act 1989 Landowner of Crown Land Reserve Approval and adoption of the Plan of Management
NSW Fisheries	Marine and estuarine waters and the shoreline to Mean High Water Mark, estuarine creeks, wetlands and lagoons inland to the tidal limit.	<ul style="list-style-type: none"> Management and protection of fish and fish habitat under Fisheries Management Act 1994. Approvals and permits for dredging and reclamation (eg. boat ramp construction, boardwalks, opening of coastal lagoons), removal of marine vegetation including seaweed, saltmarsh, seagrass and mangroves, access to recreational and commercial fisheries. Recreational and professional fishing licences and bag limits for fishing, bait and seaweed collection.
Solitary Islands Marine Park (NSW Marine Park Authority)	Solitary Islands Marine Park (waters to mean high water north of Mutton Bird Island) see Appendix 5	<ul style="list-style-type: none"> Preparation of revised marine zoning plan including beach access and management Management of the marine habitat in conjunction with NSW Fisheries. Authorisation of specific activities such as beach cleaning and seaweed removal. Conditions include 48 hour prior notification when carrying out work Provision of interpretation, access and viewing for the Marine Park Licenses and permits for recreational and commercial activities with the park. Providing input at planning stage for coastal development that may impact on the marine park.
National Parks and Wildlife Service	National Parks and Nature Reserves. Threatened species and aboriginal heritage sites in all areas.	<ul style="list-style-type: none"> Management of National Park lands Threatened species conservation and Aboriginal sites on any lands Data base development for flora, fauna and threatened species. Encouraging complementary management of lands adjoining National Parks and Nature Reserves eg. signs track construction, weed control, fire management
Department of Land and Water Conservation Soil Conservation Public Works	All areas	<ul style="list-style-type: none"> Soil conservation and catchment management Coordination of Landcare, Total Catchment Management and Coast and Estuary Programmes
NSW Waterways Authority	Waters below Mean High Water Mark, including all estuaries and waterways which are navigable by small vessels (including canoes etc)	<ul style="list-style-type: none"> Regulation of water craft activities and the provision of related facilities

VOLUNTEERS AND ADVISORY COMMITTEES

Voluntary community groups have a long history of assisting in the management and improvement of Coastal Reserves. In recent years 14 Dunecare and 2 Landcare groups and a number of Service Clubs and Residents Groups have contributed thousands of dollars in voluntary labour each year and have attracted additional funding to reserve management projects. Issues associated with volunteer activities include accident and public liability insurance, liaison and practical or technical support. Guidelines have been prepared for the Plan of Management which address these issues.

Council's Caravan Parks Committee acts as an advisory group assisting in the management of the Park Beach and Sawtell Caravan Parks and the preparation of specific plans of management for each area.

The Coffs Harbour Coastal and Estuary Management Committee has the role of assisting Council in the development and implementation of coastline and estuary management policies and plans by identifying priorities, monitoring and reviewing draft plans and advising Council of the implementation measures the plans require. The committee has recently been involved in the preparation of coastline management plans for Park Beach and Campbells Beach.

FUNDING

The extent to which Coastal Reserve management works can be implemented is largely dependent on the availability of funds and resources. A variety of funding sources for coastal reserve management and restoration works are available. Applications should be made on an ongoing basis for any eligible works to maximise funding opportunities. The principle sources are summarised in Table 6 below.

Table 6 : Funding Sources for Coastal Reserve Works

SOURCE	PROGRAMME	WORKS
Federal Government	Coastcare	Regeneration, and associated construction works Educational and Awareness Programmes
	Natural Heritage Trust	Bush regeneration and protection
State Government	Coast and Estuaries Programme	Coastal works including beach restoration, dredging and boat access.
	Sports and Recreation Grants	Recreation facilities
	TCM Small Projects Grants	Catchment management works, bush regeneration, access control
Council Revenue	Capital Works and Maintenance Budgets	Recreation facilities, accessways, park and tree maintenance
	Section 94	Neighbourhood and district recreation facilities and park improvements, coastal walk
	Environmental Levy	Bush regeneration, access construction
Caravan Parks	Caravan Park revenue	Works within specified Crown Reserve areas. Parks operated under specific business plans

PUBLIC AWARENESS AND EDUCATION

Public education is an important aspect of implementing reserve management and supporting the work of Council and volunteers. Public education is one of the main avenues available to help reduce undesirable activities, vandalism and unsafe use of surf beaches. Current programmes include:

- Schools
- brochures supplied to tourist accommodation houses
- Beach to Bush Tour
- Government sponsored Coastcare Summer Programme.

PLAN REVIEW

The Plan of Management is to be reviewed every 5 years to ensure the objectives and strategies remain relevant, enforceable and user friendly. The implementation of the plan is to be monitored annually with the preparation of annual performance standards and capital works programmes.

Council performance standards and works programmes for administration, maintenance and upgrading works are revised each year. Annual revisions are made to meet allocated budgets and works priorities determined in Council's Management Plan.

LEASES AND LAND DEALINGS

Council may enter into a lease or licence for whole or part of the lands to which the Plan of Management applies provided that:

- management of the land is in accordance with this Plan of Management and relevant Council policies and guidelines

- Council considers the proposed use of the land to be in the public interest.
- the granting of the lease or licence be in accordance with the provisions of the Crown Lands Act 1989 (Crown Reserves) or the Local Government Act 1993 (Community lands).

REFERENCES

NSW Crown Lands Service, 1994, *North Coast Crown Reserves Management Strategy*,

National Parks and Wildlife Service, 1998, *Coffs Harbour Koala Plan of Management*, Draft for Public Comment

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Soil Conservation Service of NSW 1990, Coastal Dune Management, Soil Conservation Service, Sydney

NSW Department of Land and Water Conservation, 1997, *Volunteers Working on the Coast*