

# Ballina Coastal Reserve

## Plan of Management

Volume I



DEPARTMENT OF LAND AND WATER CONSERVATION

PREPARED UNDER SECTIONS 112-116 OF

THE CROWN LANDS ACT 1989

MINISTER FOR LAND AND WATER  
CONSERVATION

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## **PART 1 INTRODUCTION**

Since early European settlement, human activities along much of the eastern seaboard have placed significant pressures on the coastal environment. The rapidly increasing population of Ballina Shire and its growing popularity as a tourist and visitor destination have created strong demands for more public recreation amenity and infrastructure along the coast. Development of the coastal strip, past sand mining and uncontrolled beach access has caused significant disturbance and alteration to the natural coastal landscape and its ecosystems.

These impacts and pressures have prompted the need for a structured and comprehensive management framework to protect the natural, recreational and social values of the Ballina coastline. The Department of Land and Water Conservation (DLWC), in partnership with Ballina Shire Council, has prepared a PoM that aims to provide a balance between environment protection and restoration, recreational use and provision of amenity and social /cultural needs.

Crown lands along the Ballina Coastline occupy 93% of the immediate coastal foreshore and approximately 85% of all land east of the Coast Road. A substantial part of the coastal strip comprises fragmented Crown reserves and vacant (unreserved) Crown land with no appointed manager or formal management regime.

The North Coast Crown Reserves Management Strategy (1994) provides a clear direction to address this management challenge. Accordingly, a single reservation for Public Recreation and Coastal Environmental Protection for all coastal Crown lands north of the Richmond River is considered to be the most appropriate way to uniformly deal with coastal management issues on the northern Ballina Coast.

A Plan of Management (PoM) has been developed for the coastal Crown lands within Ballina Shire north of the Richmond River. The PoM recommends the creation of a single Reserve for Public Recreation and Coastal Environmental Protection under Section 87 - Crown Lands Act 1989 to be formally known as the Ballina Coastal Reserve. Ballina Shire Council will be appointed the Trust Manager of a new Ballina Coastal Reserve Trust under Section 92 of the Act. The Trust will be responsible for implementing the PoM once it is formally adopted by the Minister for Land and Water Conservation.

The PoM provides a suite of practical and achievable strategies and actions to enable Council to manage this valuable resource in both the short and long term. In developing this PoM the Department, Council and its Coastal Committee are being guided by the NSW Coastal Policy 1997 that sets the strategic policy framework for coordinated, integrated and ecologically sustainable development of the NSW coastline.

The PoM is presented in two main sections. Volume 1 is the main body of the Plan, containing the management issues, strategic planning framework and recommended actions. Volume 2 contains Background Information describing the values and resources in the study area with appendices and other supporting information.

### **1.1 PURPOSE OF THE PLAN**

The primary objective of the Ballina Coastal Reserve PoM is the rationalisation of all vacant Crown lands and existing Crown reserves into a single coastal Crown reserve for the notified purpose of Public Recreation and Coastal Environmental Protection with the appointment of Ballina Shire Council as Reserve Trust Manager.

The PoM has been prepared by DLWC in partnership with Ballina Shire Council through Council's Coastal Committee. The Committee was established in 1999 primarily to oversee development of the Plan, and adopted as its terms of reference ".....to assist Ballina Shire Council in achieving integrated, balanced, responsible and ecologically sustainable development of the Ballina Shire coast".

It is proposed that the adopted PoM will be the first stage of a Management Plan for the whole Ballina Shire coastline. This will consider social, economic, aesthetic, recreational and ecological values, wider aspects of land use in the coastal zone and an assessment of the impact of coastline hazards on future planning and land use.

The benefits of linking coastal Crown lands in a statutory planning document include:

- recognition of the natural resource values of the Ballina Coast;
- fostering a sense of public stewardship;
- encouraging community participation in public land management within a more strategic framework;
- integrating Crown reserves with lands managed by other authorities in a regional open space strategy;
- providing a strategic management framework that integrates and coordinates local management practices;
- increasing the potential for resource sharing within and between reserves;
- rationalisation of reserve administration and accountability;
- providing a basis for all levels of funding applications.

## 1.2 PLAN DEVELOPMENT AND STRUCTURE

The planning process has followed a standard approach:

- Establish the underlying philosophy of the Plan - based on the principles of ESD and Crown Land Management and values expressed by community and managers;
- Identify coastal resources, values, and community needs and issues - requiring a description of existing use patterns and likely (projected) future demands on the resources of the Coastal Reserve, drawn from community consultation and existing trends;
- Determine the area's priority values in order to establish agreed future outcomes reflect the expectations of both the community and managers;
- Prepare objectives for future management and use of the area- reflecting the priorities given to agreed local values;
- Develop standards and criteria for management within each of these objectives - designed to maintain coastal resource values;

The outcome is a plan structure providing:

**Management Objectives:** a set of specific management objectives (or standards) addressing the range of management issues in the Reserve such as native vegetation/habitat management, recreation and facilities and education.

**Strategies and Actions** to achieve these objectives: providing policy direction, guidelines, strategies and recommended actions specific to the various activities in the Reserve such as vehicles, horse riding, commercial activity, education and habitat management.

**Precinct Plans** are action plans developed at a local scale, to address the social, recreational and environmental issues. To achieve sufficient local detail, five informal Precinct Areas (or local management areas) have been described and are listed below.

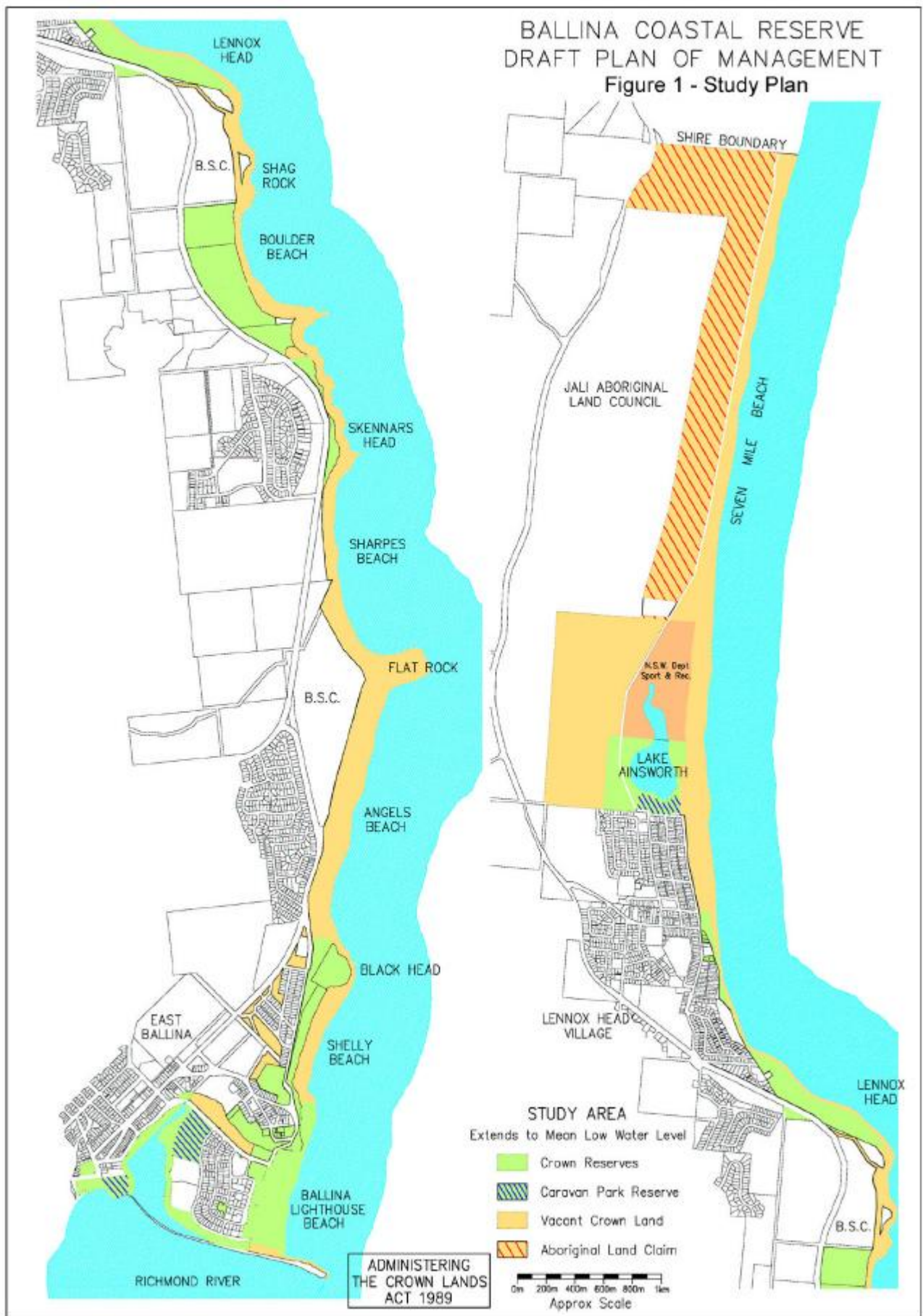
Precinct area 1 – Northern end of Seven Mile Beach

Precinct area 2 – Southern end of Seven Mile Beach (Lake Ainsworth to Lennox Point)

Precinct area 3 – Boulder Beach to Sharps Beach

Precinct area 4 – Flat Rock, Angels Beach and Black Head

Precinct area 5 – Shelly Beach & Lighthouse Beach



**Figure 1 - Study Area**

### 1.3 COMMUNITY CONSULTATION

Consultation with stakeholders and the broader community was a key factor in identifying the diverse range of values, resources and issues relating to the Ballina coastline. Public exhibition of the draft PoM provided the opportunity for additional input by the community to reflect the needs of locals and visitors to the Shire. The consultation process included:

- Regular liaison between DLWC and Ballina Council staff and Councillors, both through the proceedings of the Ballina Coastal Committee and special meetings;
- A community workshop in July 2000 involving approximately 105 participants;
- In the initial stage of plan development, public notices, press releases, letters to principle stakeholders and interest groups and distribution of a newsletter;
- Written submissions received during Plan development;
- Stakeholder meetings;
- Meetings with individual members of the public;
- Liaison with relevant government agencies and with Coastcare and Dunecare representatives;
- Public exhibition of the draft PoM.

### 1.4 IMPLEMENTATION

On adoption of the PoM by the Minister, the Ballina Coastal Reserve Trust must implement the PoM pursuant to Section 114 of the Crown Lands Act 1989. The strategies of the PoM will be applied through the Precinct Plans. The Trust may not allow any operations or developments that are not permitted by the PoM.

Alteration of the adopted PoM may be undertaken under Section 115 of the Act and is recommended following a period of five years to keep abreast of government policy, to cater for the changing expectations and requirements of the community and to ensure the PoM remains useful and relevant. Owing to the level of detail, individual Precinct Plans may be reviewed as required.

#### ***Ballina Coastal Reserve Management Advisory Committee***

In order to assist in coordinating the implementation of the PoM, it is proposed to form the Ballina Coastal Reserve Management Advisory Committee. The Committee will comprise community representatives of each of the five management precincts and relevant Council staff. It will provide a forum to resolve conflicts and set priorities for limited funds and resources.

Through consensus, the Committee will:

- assist with priorities for the Reserve consistent with the adopted PoM and make other recommendations to the Trust Manager;
- nominate annual works programs and provide strategic guidance to volunteer groups including Dunecare/Landcare activities within the Coastal Reserve;
- provide annual reviews to the Trust Manager and the community on progress with the previous year's works program.

#### ***Volunteer Group Involvement in the Management of the Ballina Coastal Reserve***

Volunteer groups working in the Ballina Coastal Reserve will have representation on Precinct committees, to assist in formulating Precinct Plans within the Ballina Coastal Reserve. Precinct Committees will in turn be represented on the Ballina Coastal Reserve Management Advisory Committee, which will provide a forum to resolve conflicts and set priorities for the limited funds and resources available for management of the Ballina Coastal Reserve.



## **Guidelines for Volunteer Workers**

- volunteer workers should be encouraged and supported. However, their activities must be supervised, integrated and coordinated, and be undertaken in accordance with the required standards once necessary approvals have been obtained, and must be consistent with the objectives of the Plan of Management.
- volunteer groups and individuals working on the Ballina Coastal Reserve will be issued with DLWC information manuals, particularly the Coastal Dune Management Manual 2001 on dune management practices, and the guide, "Volunteers Working on the Coast".
- volunteer workers must keep reliable and accurate records to fulfil insurance and public liability requirements (records should include membership lists of groups, land manager permission to carry out the work and a diary of work activity and personnel).
- as outlined above, volunteer workers (individuals and groups), working in conjunction with the Reserve Trust manager, will be required to prepare a proposed annual works program, consistent with the objectives of the Ballina Coastal Reserve PoM and with the Precinct Plans, and will be required to report on the previous year's works program.

## **Funding**

The extent to which works can be implemented is largely dependent on the availability of funds and other resources. There are a range of grants available for coastal reserve restoration and enhancement. Applications should be made on an ongoing basis for eligible proposals. However, grant funds are limited and subject to statewide or nationwide priorities. The principle sources of grants available for coastal management are summarised in the table below.

The other key sources of revenue may be generated through commercial activities within the Reserve. In particular, income from profits derived from the three Crown caravan parks within the broader Ballina Coastal Reserve system is intended to provide a significant source of funds. Other commercial leases and licenses issued by the Trust should also make an important contribution to the long term financial sustainability of the Reserve.



## POTENTIAL SOURCES OF GRANTS FOR ACTIVITIES IN THE BALLINA COASTAL RESERVE

<b>Program</b>	<b>General Activity</b>	<b>Administration</b>	<b>Timing</b>
<b>Envirofund (formerly Coastcare)</b>	Dunecare in coastal habitats Conservation, rehabilitation, education, management of access, amenity improvement,	Commonwealth Government (Coastcare)	Yearly
<b>Coastal Management Program (DLWC)</b>	Coastline management planning managing hazard, amenity and natural processes	DLWC	Yearly
<b>NHT 2 (Natural Heritage Trust)</b> Northern Rivers Region Catchment Management Board	Conservation, rehabilitation, education, habitat management eg. restoration projects, consistent with the Catchment Management Board Blueprint and the Board's 3-year investment program	DLWC	
<b>Environmental Trust (EPA)</b>	Conservation, education, environmental protection works	EPA	Yearly
<b>Waterways Program</b>	Boating amenity, waterway access	DLWC	Ongoing
<b>Urban Water Program</b>	Wastewater and stormwater	DLWC	Ongoing
<b>Stormwater Trust (EPA)</b>	Planning and implementation of urban stormwater management	EPA	Yearly
<b>Urban Stormwater Education Program</b>	Community education on stormwater	EPA	Ongoing
<b>Public Reserve Management Fund</b>	Amenity provision/ improvement, access, planning, education, caravan park planning and development.	DLWC (Land Access)	Yearly
<b>Labour Market Programs (various)</b>	Provide labour for environmental rehabilitation and amenity projects EnviTE, Greencorps, ATCV, Work for the Dole, CDEP (indigenous employment programs)	Various	Ongoing
<b>DLWC (Landcare) Periodic small projects funding</b>	Mostly Bushcare, rehabilitation, environmental weeds, "seed" funds for smaller Landcare groups	DLWC (Landcare)	Occasional
<b>Revenue from commercial activity in the Reserve</b>	Various	Reserve Trust Manager	
<b>Environmental levy</b>	Various	Local Government	

## 1.5 ACCOUNTABILITY

The Crown Lands Regulation (2000) specifies the accountability of the Reserve Trust in terms of the management of the Reserve.

- Section 33 directs that Reserve Trust reports must be prepared annually detailing the income, expenditure, assets, liabilities and improvements of the reserve as well as the details of any leases or licences granted by the Trust.
- Under Schedule 4 of Section 34, where a reserve trust is managed by a council as defined in the Local Government Act 1993, the council is required to keep records that will permit dissection of:
  - monetary details in respect of each reserve from which the Council receives revenue of any nature;
  - details of improvements effected on each reserve; and
  - details of all leases and licences granted or in force.

The following summary outlines the broader roles and responsibilities of the Reserve Trust Manager.

### Role of the Reserve Trust Manager

- Responsible for the care, control and management of the Crown Reserve on behalf of the community of NSW on a day to day basis.
- Ensure activities on the Reserve are consistent with the public purpose for which the Crown land is reserved or dedicated.
- Make sound financial decisions.
- Implement the adopted PoM.

### Powers of the Reserve Trust

Council as the appointed Reserve Trust Manager may:

- Issue temporary licences for periods of up to 12 months for activities specified in Clause 34- Crown Lands Regulation 2000 such as camping, entertainment, advertising, functions, exhibitions, markets, shows, sporting events. Licences for terms over 12 months and all leases must be endorsed by the Minister for Land and Water Conservation;
- Transfer monies between separate Crown reserves under the umbrella of the single Coastal Reserve Trust without the Minister's consent;
- Apply to the Public Reserves Management Fund for funding for Reserve improvements;
- Regulate, control or prohibit persons using the Reserve by the introduction of By-laws.

## 1.6 DEVELOPMENT PROPOSAL ASSESSMENT

Under most circumstances it is expected that Council, in its capacity as Reserve Trust manager, will be the proponent for works associated with implementation of the Plan of Management. Development proposals are subject to statutory planning processes involving design, consultation with relevant stakeholders and agencies, assessment and approval.

### (a) Development Applications where Council is proponent

Council, as Reserve Trust Manager, may give consent on behalf of the owners to lodgement of the Development Application but is required to serve the Development Application on the Department of Land and Water Conservation 14 days prior to lodgement.

### (b) Development Applications where Council is not the proponent

Development Applications lodged by a third party must be forwarded to the Department of Land and Water Conservation for owner's consent to lodgement with written notification from the Trust providing its consent to the proposal.

#### Matters to be considered in Providing Owner's Consent

- Compatibility with the notified reserve purpose.
- Compliance with PoM or any other Management Plans adopted by Council.
- Compatibility with any existing lease or licence held under the Crown Lands Act 1989.
- Compliance with State and Federal planning legislation.
- Investigation into the possible existence of Native Title and its implications.
- Determining if there are any unresolved Aboriginal Land Claims.

## 1.7 LAND DESCRIPTION AND STATUS

The lands covered by the PoM comprise all vacant Crown land and coastal Crown reserves from the Richmond River at Ballina to the northern boundary of Ballina Shire on Seven Mile Beach and east of the Coast Road down to mean low water mark (MLWM). Two minor exceptions to this are Eastern Park and Pioneer Park on the western side of the Old Coast Road at Shaws Bay. The lands are in the Parish of Ballina and the Parish of Newrybar County of Rous.

The land extends along 18 kilometres of coastline and covers an area of approximately 320 hectares (Figure 1). It includes all beaches, rocky shores, headlands, dune systems within the above area, public open space adjoining Shaws Bay and Shelly Beach and the water bodies of Lake Ainsworth and Shaws Bay.

The land includes:

- existing coastal Crown reserves for which Council is the appointed Trust Manager;
- coastal Crown reserves for which there is no appointed Trust Manager;
- vacant Crown land currently administered by the Department of Land and Water Conservation.
- Crown Public Roads currently administered by DLWC as roads authority under the Roads Act 1993.

These lands are described in the following table.

## LAND STATUS – BALLINA COASTAL RESERVES

Reserve Description	Location	Purpose
part R.84109 NSW Sport & Recreation	Lake Ainsworth	National Fitness & Physical Education
R.82783 Ballina Shire Council	Lake Ainsworth	Public Recreation
R.83506 Ballina Shire Council	Lennox Head	Public Recreation
R.83506 Ballina Shire Council	Boulder Beach, Skennars Head	Public Recreation
R.32714 No Trust	Shelly Beach (West of Village)	Protection from Sand Drift
R.82765 Ballina Shire Council	Black Head, Shelly Beach	Public Recreation
R.73879	Shaws Bay	For Future Public Requirements
R.91507 Ballina Shire Council	Shelly Beach	Public Recreation
R.69266 Ballina Shire Council	Shaws Bay	Public Recreation
R.65048 Ballina Shire Council	Lighthouse Beach, Lighthouse Hill	Public Recreation
R.90859 Ballina Shire Council	Lighthouse Beach	Parking
R.94492 Ballina Shire Council	Public Recreation	Shaws Bay
R.84107 Ballina Shire Council	Public Recreation & Resting Place (includes Dedication for Public Park vide East Ballina Cemetery Act 1957)	Shaws Bay
Vacant Crown Land	(various locations) - Beach to Low Water Mark 7 Mile Beach, Pacific Parade, Lennox Head, Shag Rock, Boulder Beach, Sharps Beach, Flat Rock, Angels Beach Shelly Beach, Compton Drive (Shaws Bay)	

The following lands are excluded from the PoM:

- all freehold lands including land owned by Ballina Shire Council (including Flat Rock Tent Park)
- Lake Ainsworth, Shaws Bay and Boomerang Caravan Parks (subject to separate PoMs);
- Pop Denison Park (subject to separate PoM);
- Lake Ainsworth National Fitness Camp managed by NSW Department of Sport and Recreation. (Department of Sport and Recreation have indicated a willingness to support addition of that part of R84109 west of the Public Road to the proposed single Coastal Reserve);
- land held by Presbyterian Church (NSW) Property Trust at Camp Drew at Lake Ainsworth, and the Gunundi Anglican at Conference Centre at Black Head.

Two significant areas of land owned by Ballina Shire Council within the coastal strip are:

- Lennox Headland which includes Lennox Point, Pat Morton Lookout and the southern slope of Lennox Headland classified as Community Land by Council; and
- Angels Beach/Flat Rock which includes the Flat Rock Tent Park and areas to the north and south also classified as Operational Land by Council.

These areas are shown in Figure 1. (Study Plan)

Whilst these lands are subject to a different statutory framework, they are integral to the Ballina coastline. Ballina Shire Council intends to integrate the planning and management of these lands with the broad objectives and the specific recommendations for the adjoining management precincts outlined in the PoM.



## 1.8 PLANNING AND POLICY FRAMEWORK

### PRINCIPLES OF CROWN LANDS MANAGEMENT

The Plan of Management for the Ballina Coastal Reserve incorporates the Principles of Crown Land Management. These principles are detailed in Section 11 of the Crown Lands Act 1989 and exist as the fundamental cornerstone for all activities undertaken by the Department of Land & Water Conservation on Crown Land. The principles are:

- Environmental protection principles be observed in relation to the management and administration of Crown land;
- The natural resources of Crown land (including water, soil, flora, fauna and scenic quality) be conserved wherever possible;
- Public use and enjoyment of appropriate Crown land be encouraged;
- Where appropriate multiple use of Crown land be encouraged;
- Where appropriate, Crown land should be used and managed in such a way that both the land and its resources are sustained in perpetuity;
- Crown land be occupied, used, sold, leased, licensed or otherwise dealt with in the best interests of the State consistent with the above principles.

### NORTH COAST CROWN RESERVES MANAGEMENT STRATEGY 1994

The North Coast Crown Reserves Management Strategy (NCCRMS) provides the focus for the future direction of the administration of the Crown Reserves System on the North Coast of NSW which stretches between the Hastings Shire in the south, the Queensland border in the north and the Great Dividing Range in the west. Within this region, a significant amount of land, including approximately 65% of the coastline, is protected in Crown Reserves. Over 1500 of these Reserves are managed by the community, mostly by local Councils with administration and support from the Department of Land & Water Conservation.

The Strategy resulted from the need to develop an improved management approach aimed at recognising and protecting the intrinsic values of the land, and its natural, cultural and social resources for the benefit of present and future generations. The Strategy builds on the Principles of Crown Land Management which are detailed in Section 1.7 above. The Vision for the Crown Reserve System is:

*“To protect and enhance the natural and cultural values of NSW Crown Reserves providing a wide range of opportunities for the recreational, social and economic wellbeing of our community”.*

The management goals of the NCCRMS are based on state-wide management principles for the Crown Reserves System and will be achieved through:

- recognising, protecting and enhancing the conservation, social and economic values of reserves;
- inventory and classification of reserves and their values as being of local, regional, state or national significance;
- linking Reserves in a management strategy which encourages an integrated Crown Reserves system;
- managing and caring for reserves within a regional management framework;
- fostering cooperative management and care of the reserves by the community, users and visitors;
- helping to establish and protect regional open space in conjunction with open space managed by other agencies;
- encouraging excellence in Reserve management by providing guidelines, standards and incentives for Trusts to achieve this goal;
- achieving a high degree of self reliance in funding management action;
- encouraging ecologically sustainable development, sensitive ecotourism and ethical business practices;

- promoting reserves in a manner which educates and inspires Reserve users, visitors and managers to understand and appreciate Reserve values;
- adopting an evaluation process which encourages feedback and review.

Underlying the North Coast Crown Reserves Strategy is the recognition that:

- the key is the magnetism of Crown Reserves and their values;
- the involvement of people leads to greater community awareness;
- the commitment of community energy matched by government support;
- the importance of the Reserve system is increased when linked to other land management systems;
- the future lies in cooperative action and mutual support in Reserve care.

## **SURF CLUB POLICY**

The NSW Department of Land & Water Conservation does not support the establishment of registered clubs at surf club premises on Crown land. Similarly, establishment of surf clubs on Crown land as fully licensed premises is not supported. However, surf clubs on Crown land may hold permanent function licences, as granted to bona fide non-profit organisations. These allow liquor to be sold at up to 26 functions in a year. Clubs are also permitted to sell liquor to members on weekends or public holidays after a surf life saving activity for up to four hours.

## **NSW COASTAL POLICY**

The NSW Coastal Policy 1997 is the State Government's response to the challenge of achieving a sustainable future for the NSW coastline while balancing environmental, economic, cultural and recreational/social needs. The policy is based on two fundamental principles: ecologically sustainable development and integrated coastal zone management. The coastal lands of Ballina Shire that are covered by this PoM fall within the Coastal Policy.

Under State Environmental Planning Policy (SEPP) 71 – Coastal Protection, the Coastal Policy becomes a statutory mechanism which ensures environmental protection, community access and minimal impact on ecosystems and other values in the management of coastal and foreshore areas.

The Coastal Policy has nine goals, each underpinned by objectives that are to be achieved by strategic actions. These have provided the basis for the goals and many of the objectives developed for the Ballina Coastal Reserve, specific to local needs and aspirations.

## **ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)**

ESD refers to "development that uses, conserves and enhances the community's resources so that the ecological processes on which life depends are maintained, and the total quality of life, both now and in the future can be improved." (NSW Govt. 1997). The core objectives of ESD are:

- to enhance individual and community wellbeing and welfare by following a path of economic development that safeguards the welfare of future generations;
- to provide for equity within and between generations;
- to protect biological diversity and maintain essential ecological processes and life support systems.

The desirable outcomes for planning and management of our coastal resources should:

- Maintain and protect ecological processes;
- Maintain and conserve biological diversity;
- Recognise legitimate community needs;
- Contribute to community well-being;
- Help to achieve social justice;
- Be economically sustainable.



In applying these principles to management of the Ballina Coastal Reserve, it is important that the PoM allocates sufficient space and resources in suitable areas for both conservation needs and facility development, to satisfy expectations of residents and visitors in a growing region. In achieving this it is also important that management should not jeopardise the existing natural, scenic and cultural values, which are the main features attracting people to the Ballina coast.

Statutory instruments and policies applicable to the management of the Ballina Coastal Reserve are detailed in the following table.

#### Management implications from relevant legislation, policies and plans

<b>Instrument:</b>	<b>Principal Agency:</b>	<b>Purpose:</b>	<b>Application:</b>
<b>FEDERAL:</b>			
Environment Protection & Biodiversity Conservation Act 1999	Environment Australia	Regulates the assessment and approval of activities which have a significant impact on 'matters of national environmental significance', activities by Commonwealth government agencies anywhere in the world, and activities by any person on Commonwealth land. Protects biodiversity by creating and regulating protected areas such as World Heritage properties and National Parks. Outlines the listing and management of threatened species and ecological communities.	
National Coastal Action Plan (draft) 1993	Commonwealth Resource Assessment Commission	Fair and equitable public and commercial use of coastal resources which maintains public access, coastal areas and features, biological diversity, water quality and recognises indigenous interests.	
National Ecotourism Strategy (draft) 1993	Federal Dept. of Tourism	Develop and promote the sustainable delivery of eco-tourism products.	
<b>STATE:</b>			
Environment Planning and Assessment Act 1979	DUAP, local government	Assess the environmental, social, and economic impact of proposed developments and plans.	Environmental planning instruments including Local Environment Plans (LEP), Regional Environment Plans (REP), and State Environmental Planning Policies (SEPP). Environmental impact assessment procedures.
National Parks & Wildlife Act 1974	NPWS	Management of National Parks, protection of flora and fauna. Protection of aboriginal sites.	Permits and/or licences required for damage to aboriginal sites, holding of native fauna, removing flora.
Fisheries Management Act 1994 and Fisheries Management (Amendment) Act 1994	NSW Fisheries	Management and protection of fisheries resources and fish habitat	Approval for works & activities involving dredging, reclamation, damage to marine vegetation, blocking free fish passage, or impacting on Threatened Species
Marine Parks Act 1997	Marine Parks Authority	Management of Marine Protected Areas, conservation of marine biodiversity	
Threatened Species Conservation Act 1995	NPWS	Ensure developers consider threatened species and their habitat in the planning process.	A licence to "harm" or "pick" a threatened species is required from the Director General where development impacts on a threatened species, population or ecological community or damages their habitat.
Crown Lands Act 1989	DLWC	Ownership and management of Crown Lands eg grazing, extraction, reservation for various purposes.	Outlines that Crown Land is managed for the benefit of the people of NSW. Details the Principles for Crown Land Management and outlines the POM process.
Soil Conservation Act 1986	DLWC	Protects sensitive areas from tree removal. Prevention of land degradation and erosion.	Permit required to remove trees within 20m of the banks of a prescribed stream and in other designated protected areas.
Local Government Act 1993	Local government authorities	Allow local government to undertake a range of functions and responsibilities.	Allows opportunities for works such as drainage, removal of obstructions, erosion control, protection of roads.

<b>Instrument:</b>	<b>Principal Agency:</b>	<b>Purpose:</b>	<b>Application:</b>
Rural Fires Act 1997	Rural Fire Service, Local government authorities	Outlines responsibilities of landholders in terms of minimising fire hazard and controlling fires on their properties.	All fire ignitions to be suppressed or at least prevented from spreading from one land tenure to another. Landholders must implement fuel hazard reduction programs as per their local Fire Management Plan or direction from the Bushfire management Committee.
Native Vegetation Conservation Act 1999	DLWC	To conserve native vegetation in NSW	Controls the clearing of native vegetation and protects habitats and threatened species. Clearing for fire suppression exempt.
Catchment Management Act 1989	DLWC	Implement Total Catchment Management (TCM)	Catchment Management committees coordinate policies, programs and activities as they relate to TCM.
Protection of the Environment Operations Act 1996	EPA	Overhaul of EPA legislation including the Clean Air, Clean Waters, Noise Control and other Act.	Provides for the protection of air and water quality and outlines enforcement and penalties.
Coastal Planning and Management in NSW 1991	NSW Standing Committee on State Development	Pro-active planning to ensure ecologically sustainable coastal development with public participation and effective coordination between government agencies.	
NSW Coastal Policy 1990	NSW Government	Manage coastal and foreshore areas to ensure environmental protection, community access and minimal impact on ecosystems and other values.	
State Strategy for Natural Resource Management in NSW 1992	NSW Total Catchment Management	Vision: for everyone to understand and act to achieve sustainable natural resource management while maintaining quality of life both now and in the future.	
State Environmental Planning Policy (SEPP) 14 (Coastal Wetlands)	DUAP, Local Government Authorities	Protect major coastal wetlands Refers to wetland maps at DUAP. Most are zoned for environmental protection by local councils. Sets out procedures for processing development applications.	
SEPP 26 (Littoral Rainforests)	DUAP, Local Government Authorities	Protect littoral rainforest vegetation such as Boulder Beach littoral rainforest (gazetted site No. 38). Refers to littoral rainforest maps at DUAP. Provides for 100m wide buffer zones around each area. Sets out procedures for processing development applications.	
SEPP 44 (Koala Habitat Protection)	DUAP, Local Government Authorities	Protect Koala habitat. Applies to local government areas where Koalas are known to occur. Requires studies to accompany Development Applications eg if certain Koala food trees are present.	
SEPP 46 (Protection and Management of Native Vegetation)	DLWC	Prevent inappropriate native vegetation clearance. Refers to all native vegetation, except native grasslands, for which regional grassland plans have been prepared. Permits needed to clear areas greater than 2 ha with a Vegetation Management Plan to be prepared by the proponent. Urban areas excluded from this policy.	
SEPP 71 (Coastal Protection)	PlanningNSW	Protects the NSW coast from over development and pollution. Protects public access to beaches and foreshores. Major developments (eg over 13 m high) and high-risk developments (eg near sensitive rainforest or wetland environments) will be considered by PlanningNSW rather than local councils.	
Coastal Crown Lands Policy 1989	DLWC	Retain, conserve and maintain coastal Crown Lands and their intrinsic, environmental, and cultural qualities in public ownership. Maintain public access, rehabilitate lands where necessary, and acquire further significant coastal lands for future public use.	
NSW Open Space Strategy 1992	NSW Government	Planning for open space and facilities which is equitable, ensures public access and protects significant features.	
NSW Biodiversity Conservation Goals and Strategies 1992	NPWS	Conserving biodiversity in perpetuity through managing threats, increasing knowledge and understanding and developing community awareness and support.	
North Coast Crown Reserves Management Strategy 1994	DLWC		

<b>Instrument:</b>	<b>Principal Agency:</b>	<b>Purpose:</b>	<b>Application:</b>
North Coast Coastal Urban Planning Strategy 1993	Planning NSW	Identify reserve and manage the conservation, environmental and cultural significance of lands of the North Coast while providing for increasing recreational use. Promotion of eco-tourism and environmentally sensitive employment.	
North Coast Region Tourism Development Strategy 1987	Tourism NSW	Develop the tourism potential of national parks, state forests, state recreation areas, crown reserves, rivers, dams, waterways. Preserve coastal holiday villages and their capability to service a growing tourism industry. Upgrade existing caravan parks.	
Northern Rivers Regional Economic Development Strategy Plan	Northern Rivers Regional Development Board	Develop a local industry which caters for domestic tourism via development of facilities with a focus on the middle and lower ends of the market rather than on high priced international style resort development.	
Conservation Strategy for the North Coast 1993	North Coast Environment Council.	Vision: 'Clean air, water and soils and a safe place to live work and play'. Understand, protect and care for the remaining natural environment.	
Local Environment Plan (LEP)	Ballina Shire Council	The main means of development control with zoning maps and a written instrument categorising developments as either permissible or prohibited.	
Regional Environment Plan (REP)	Ballina Shire Council	Deals with issues relating to the North Coast region as a whole allowing for a regional approach to matters such as environmental protection and the provision of service corridors.	

## **1.9 LOCAL AND REGIONAL PLANNING PROCESSES**

### **Ballina Local Environmental Plan (LEP)**

As indicated above the majority of lands within the Coastal Reserve are zoned 7(f) - Environmental Protection, with some areas in the Shaws Bay area zoned 6(a) - Open Space and 7(d) - Scenic Escarpment (see Figure 2). The primary objectives for Zone 6(a) encourage development or activities that support the community's recreation, social and cultural needs. The primary objective for Zone 7(f) is to protect environmentally sensitive coastal lands and to prevent development which would adversely affect (or be affected by) coastal processes. The primary objectives of Zone 7(d) are to protect and enhance the scenic values of the Shire, to minimise soil erosion from the escarpment and prevent development in geologically hazardous areas.

The Ballina LEP zones represented within the Coastal Reserve are presented in full in Appendix B (Volume 2, Background Information).

Management objectives and actions proposed in this Plan of Management are consistent with the aims and objectives of the Ballina LEP. During its implementation, the PoM proposes a framework that ensures compliance with the aims of the LEP.

### **Lennox Head Strategic Plan**

In 2000, Ballina Shire Council decided to prepare a new strategic plan for the Lennox Head area. Council decided to do this work in response to significant community interest and concern about how the Lennox Head area should be planned and developed in the future and the need to plan for the provision of amenities and services. The Lennox Head Strategic Plan will be an umbrella document that provides guidance for future Council activities – including town planning, works programs and annual budgets. The Strategic Plan will be implemented by each of the operational areas of Council. In some circumstances it will also be necessary to involve other Government agencies and community organisations in the implementation of the Plan.

There are a number of issues relating to coastal management which are common to both the Lennox Head Strategic Plan and the Ballina Coastal Reserve Plan of Management. Both planning processes have maintained consistency in their approach to resolution of these issues, providing similar objectives and strategies/actions, and an implementation framework that will maintain this consistency. These issues include:

- Providing improved beach access
- Protection and rehabilitation of high conservation habitat;
- Protecting views and vistas;
- Preparation of a Plan of Management for Lennox Point, (including Pat Morton Lookout), incorporating environmental repair, formalised access, facilities, car parking requirements, low-key tourist facilities;
- Improved stormwater management;
- Maintaining appropriate signage;
- Development of an integrated cycleway / walkway network;
- A strategic approach to tourism development;
- The use and maintenance of foreshore areas and coastal public reserves around Lennox Head, including Pat Morton Lookout.

### **Ballina Coastline Hazard Definition Study**

The Ballina Coastline Hazard Definition Study, commenced in March 2002, will provide an understanding of the coastal processes at work along the Ballina Coastline. Its purpose is to define those hazards that potentially impact on existing and future development and infrastructure along the Ballina Coastline, and evaluate them in the context of future planning needs.

Any actions proposed in the Plan of Management will need to recognise or be consistent with the outcomes of the Hazard Study, particularly in respect to proposed infrastructure and access to reserve areas subject to coastal processes.

### **Richmond Regional Vegetation Management Plan**

The Regional Vegetation Management Plan (Draft RRVMP), which is formulated according to the objectives and provisions of the *Native Vegetation Act, 1997* (NVC Act), once gazetted will have the power of an Environmental Planning Instrument. It will regulate clearing of native vegetation or vegetation on Regional Protected Land in the Richmond Native Vegetation Region (NVR), and will prevail over any other regulation in this regard. The Ballina Shire Council is included in the Richmond NVR. Hence, any actions identified in the Ballina Coastal Reserve Plan of Management which involve clearing of native vegetation included in the RRVMP, will need to adhere to the provisions of the RRVMP.

The Draft RRVMP relates to the Coastal Management Plan by identifying regulatory mechanisms aimed at protecting coastal and estuarine native vegetation communities considered to be of high conservation value."

Very high and high ecological value communities identified in the plan include wetlands, mangroves, rainforest (including littoral), Banksia, woody native vegetation on floodplain, swamps, wet heath and riparian areas with native vegetation.

The draft plan specifies the extent of clearing allowed with regard to these ecosystems, ranging from prohibition through to development consent or exemptions with certain conditions applying. Further information can be obtained by reading the draft plan or contacting your local DLWC Office.

A number of these community types are present in the Coastal Reserve, and the measures proposed for protection of native vegetation in the Plan remain consistent with those given in the Richmond Regional Vegetation Management Plan.

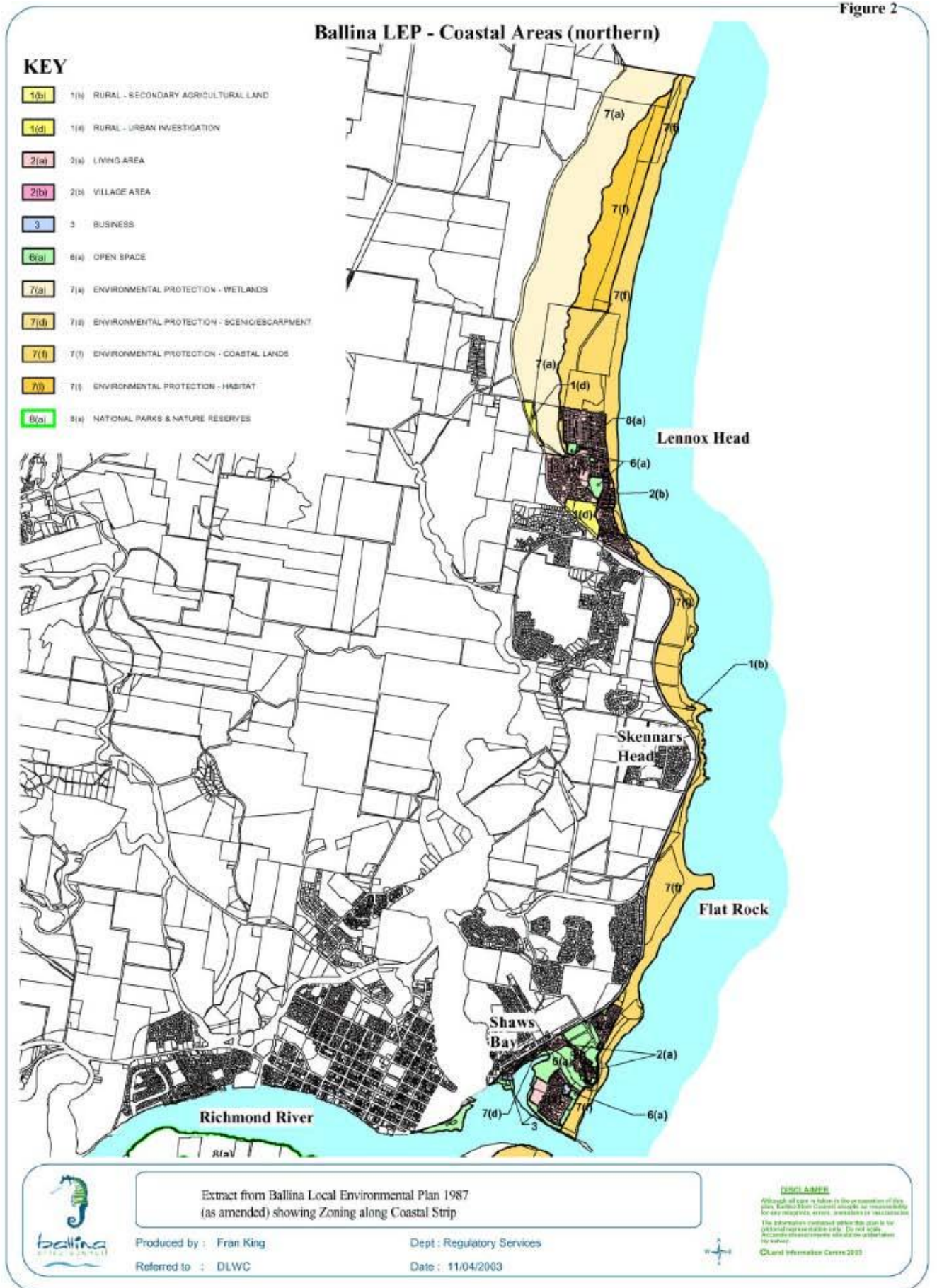


Figure 2 - Ballina LEP Coastal Areas (north)

## **Northern Rivers Catchment Management Board**

A draft Catchment Blueprint for the Northern Rivers Region (Tweed, Brunswick and Richmond catchments) has been produced by the Northern Rivers Catchment Management Board. The Board has representation from local and state government, landholders, aboriginal and conservation interests, and is supported by the Department of Land and Water Conservation.

The draft Catchment Blueprint sets a strategic framework for the funding of priority natural resource and environment management projects for the region. When adopted by the NSW Government, the draft Catchment Blueprint will effectively allow for a whole of government approach (both State and Local government), in partnership with the community, that addresses the region's priority natural resource and environment management issues.

In regard to the coastal zone, the Blueprint identifies as priorities for funding, sites with native vegetation that are considered of high conservation value, consistent with the criteria used in the Draft Richmond Regional Vegetation Management Plan (RRVMP). According to the Draft RRVMP most of the Ballina Coastal Reserve PoM area is considered of high conservation value. Projects developed in these areas, and in partnership with the relevant stakeholders, are likely to be funded where they can deliver sound natural resource and environment outcomes and can be shown to be cost effective.

The Coastcare Program funded through the Federal Government's Natural Heritage Trust (NHT), has in the past supported many projects in the Reserve. NHT and other funding programs will be linked with the Catchment Blueprint in order to effect positive outcomes for the region's coasts and communities. Funding (or investment) opportunities will be conveyed to government and the community as they arise. Investment in future projects may be actively sought from any number of public or private sector sources, or a combination of these.

The Ballina Coastal Reserve Plan of Management has been developed to ensure consistency wherever possible with Catchment Blueprint targets and management actions, and thus will enhance opportunities for investment within the Ballina Coastal Reserve.

## **Lake Ainsworth Management Plan (2001)**

Lake Ainsworth and its surrounds are part of a Crown reserve allocated to public recreation. A comprehensive Management Plan for the waters and immediate surrounds of Lake Ainsworth was prepared under the guidance of the Lake Ainsworth Management Committee in 2001. The plan provides a strategic framework for long term protection of the lake environment and sustainable use of the lake as a valuable recreation area. A number of strategies and specific actions have been developed through the Lake Ainsworth Estuary Management Plan which can be readily adopted into this Plan of Management process, and which have provided much of the basis for management of resources in that part of the Reserve. These include traffic management and access around the lake and Caravan Park, protection and management of the dunes, water quality management, and amenity.

## **Shaws Bay Estuary Management Plan (2000)**

Some parts of the Ballina Coastal Reserve are within the Shaws Bay Estuary Management Plan area. An Estuary Management Plan was completed in 2000 by Ballina Shire Council for the Shaws Bay embayment and surrounding area, addressing recreational amenity, water quality and environmental management. Implementation of the Shaws Bay Estuary Management Plan will be an important vehicle in managing that part of the Reserve.

Both the Lake Ainsworth and Shaws Bay Estuary Management Plans were prepared under the guidance of and with funding assistance from the NSW Government's Estuary Management Program (DLWC).

## **Cape Byron Marine Park**

The Cape Byron Marine Park was declared on 1<sup>st</sup> November 2002 under the Marine Parks Act 1997. The park covers approximately 22,700 hectares, extending from Brunswick Heads in the north to

Lennox Head (Lennox Point) in the south, and from the mean high water mark to three nautical miles offshore. In relation to the Ballina Coastal Reserve, the marine park includes Seven Mile Beach to mean high water, the reef at Lennox Head and the 'Bream Hole' and 'boat channel' at south Seven Mile Beach, which have areas of overlap between the Marine Park and Coastal Reserve.

Marine Parks aim to preserve a range of important marina habitats including sandy beaches, rock shores and intertidal reefs and rock pools, and the dependent flora and fauna, which reside in them.

A Cape Byron Marine Park Advisory Committee has been established to advise the NSW Government on the future direction of the park and to represent the range of local interests that need to be involved in park management. A draft-zoning plan will be developed in close consultation with local groups and released for extensive consultation for at least three months. The zoning plan will define four distinct kinds of zones in the park and the activities permissible within each: sanctuary or 'no-take' areas; habitat protection zones; general use zones; and special purpose zones.

In developing these zoning plans, the Marine Parks Authority recognises the importance of existing or proposed management structures, including the Ballina Coastal Reserve Plan of Management, and will be seeking to develop a collaborative relationship with the Reserve Trust Manager and Council in those areas of overlap.

### **Local Vegetation Management Plans**

Local Vegetation Management Plans have been prepared (or are in process) for a number of areas within the Plan area. These plans aim to improve habitat for wildlife, conserve Threatened Species and forest types, reduce erosion, improve public amenity, and encourage wider community interest and participation in managing the coastal environment.

The plans include the 'Angels Beach Ecosystem Restoration Plan' (covering Angels Beach and Flat Rock- Angels Beach Dunecare and Reafforestation Group), and Vegetation Management Plans for Shelly Beach, Lennox Head (Lennox Point), West Lake Ainsworth, Boulder Beach Littoral Rainforest, Boulder Beach Wetland, and Seven Mile Beach, which were prepared by local community project management group Environmental Training and Employment (EnviTE), Northern Rivers, with the assistance of funding from the Commonwealth Coastcare Funding Program.

Preliminary mapping of vegetation along the Ballina Coastline is provided in the Vegetation Report (DLWC 2001) prepared for this PoM. Vegetation has been described in greater detail in the local Dunecare and local area Vegetation Management Plans mentioned above. Any inconsistency in these Plans often relates to the degree of survey, and extent local knowledge used in the compilation of the Plans.

Each plan is quite specific to its local area of study and it is expected that they will provide the principal basis for future restoration works in those areas, as well as being useful guidelines for local Dunecare and community groups in maintaining and improving native vegetation remnants/ associations along the coastal strip. The Ballina Coastal Reserve Plan of Management recommends the comprehensive survey and mapping of flora and fauna over the Plan area. These Local Vegetation Management Plans will be progressively adapted to incorporate such data when it has been obtained.

The Vegetation Management Plans will play an important role in implementing those objectives and strategies in the PoM aimed at protecting and enhancing native vegetation and habitat values in the Reserve. To ensure consistency between the PoM and the Vegetation Management Plans, a process of formal approval and informal liaison will be maintained between community groups and the Reserve Trust Manager, prior to implementation of the plans.

## **PART 2      BASIS FOR MANAGEMENT**



### **2.1      RESOURCES AND VALUES**

The resources and values are detailed in Volume 2: "Background Information- Resources and Values".

In summary the resources of the Ballina Coastal Reserve include its beaches, headlands, dunal systems, habitat areas (terrestrial and marine), recreation amenities (eg. lookouts, open space areas, parks, cycleway etc) and surf breaks. They also include the volunteer and paid work force, natural and cultural heritage items, education and various natural and social attractions such as whale watching, Lennox reef, festivities, markets, hang gliding.

Defining the values within the Ballina Coastal Reserve provides the opportunity to state the importance of the area's natural and social environment, and also provides a basis for establishing management priorities.

The values of the area are separated into several major categories:

- Physical Environment - soils, geomorphology, climate and aspects of coastal erosion;
- Ecological - terrestrial flora and fauna, avian fauna (land and sea birds) and other migratory wildlife, intertidal, shoreline and associated marine inshore habitats;
- Social / Economic - recreational use, economic opportunities;
- Cultural Heritage - Aboriginal and post European settlement;
- Landscape - scenic values and amenity.

### **2.2      ISSUES**

The issues and values expressed during consultation are summarised below. The management objectives and strategies formulated for these aspects of the Ballina Coastal Reserve are presented in Section 9.



## 2.2.1 NATURAL AND CULTURAL HERITAGE

### **Native Vegetation and habitat management (flora and fauna):**

- Damage to dunes and disturbance to coastal habitat from unrestricted access by vehicles and pedestrians and vandalism;
- Recognised high conservation value and habitat value of regenerating vegetation;
- Concerns with illegal clearing and illegal camping;
- Weed invasion and general degradation;
- Impacts of past clearing still evident;
- Need for a comprehensive rehabilitation plan incorporating weed control;
- The need to resource Dunecare/Landcare activities;
- Environmental education;
- Potential to establish habitat corridors along the coast.

### **Aquatic environment:**

- Swimming and surfing values retained – concern about impacts of stormwater and wastewater discharge on ecological and human health.

### **Marine Park:**

- The Cape Byron Marine Park Advisory Committee and the Marine Parks Authority recognises the importance of existing or proposed management structures, including the Ballina Coastal Reserve Plan of Management.
- The Trust must recognise areas of overlapping responsibility and common issues and needs to develop a collaborative relationship with the Marine Parks Authority.

### **Coastal hazards and erosion:**

- Erosion of some foreshore areas - storm damage and long term coastal recession;
- Threats to amenity and the environment;
- Localised stormwater erosion;
- Need to define those coastal hazards that potentially impact on existing and future development and infrastructure along the Ballina Coastline, and evaluate them in the context of future planning needs;
- Any actions proposed in the Plan of Management will need to recognise or be consistent with the outcomes of the Hazard Study, particularly in respect to proposed infrastructure and access to reserve areas subject to coastal processes.

### **Coastal views and visual amenity:**

- Gradual loss of foreshore vegetation in developed areas;
- Access to viewing areas;
- Preserving the ocean viewing by residents;
- Preserving significant indigenous landscape;
- Littering and household rubbish dumping;
- Residential encroachment;
- Impacts of developments on the coastal landscape.

### **Cultural heritage:**

- Recognising the significance of coastal landscape in Aboriginal culture;
- Potential impacts of development on Aboriginal and European heritage;
- The need to protect relics /sites of known and possible heritage significance.

## 2.2.2 RECREATION AND ACCESS

### Recreation facilities and access:

- High demand for recreation amenities;
- Need for suitable access to beaches and views and along coast;
- Safety issues in some high use areas (eg lookouts);
- Parking and traffic safety issues in some locations;
- Degradation of some areas by vehicle and pedestrians;
- Catering for specialist recreation activities;
- Ecotourism potential of some areas;
- Improving access and facilities for the purpose of protecting high conservation areas;
- Catering for walking/cycle needs;
- Linking adjoining reserves.

### Cycleway / walkway:

- Commitment to a continuous cycleway route from Ballina to Lennox Head;
- Locating cycleway without damage to the environment;
- Recognising the value of low impact (walking) tracks;
- Heritage or other values of coast;
- Establishing a continuous pedestrian route along coast (East Aust. Walkway);
- Linking cycleway / walkway to other access points.

### Off -road vehicle access:

- Recognised local (and visitor) demand for beach vehicle access on Seven Mile Beach;
- Conflicts with passive recreational users (unruly conduct by some drivers);
- Safety concerns;
- Shorebird and seabird habitat needs/concerns;
- Need to relocate current access;
- Safety issues;
- Damage to dunes from unregulated vehicle access north of Sport & Rec. facility;
- Need for emergency access and commercial (licensed) access;
- Suggested permit system for beach vehicle access;
- Need stricter regulation/patrolling of beach vehicles.

### Dogs and horses - (access and management):

- Need for regulation and patrolling and a code of conduct encouraging responsible dog and horse ownership;
- Need for designated areas;
- Safety and hygiene concerns;
- Concerns about impacts on environmental values (eg shorebirds) in dog leash free areas or areas accessible by horses;
- More facilities for dog litter control.

## 2.2.3 SOCIAL AND ECONOMIC

### Public Safety

- Need for safety awareness by community & coastal managers;
- Security concerns (theft, vandalism);
- Maintenance of emergency access ramps;
- Warning signs at remote, non-patrolled beach areas.

**Surf life saving:**

- Future needs of Surf Life Saving services;
- Need to formalise occupation of Surf Life Saving premises;
- Parking amenity and traffic safety during peak periods;
- Requirements for additional storage space for equipment;
- Improved amenity for the public and participants (shade, tables, bins etc);
- Public change room & shower facilities at Lennox Head;
- Future surf life saving needs at Sharps Beach;
- Use of the old Lighthouse Beach club building.

**Regulation of activities:**

- Need for enforcement of regulations;
- Resourcing needs;
- Education of community;
- Need to encourage community commitment to the Plan.

**Commercial activities:**

- Recent demands for increased commercial activities along the Ballina coast;
- Need to investigate the area's potential for ecotourism.

**Public utilities:**

- Recognised need to maintain amenity and emergency services;
- Need for a code of practice in maintenance and construction of utilities to minimise environmental and cultural impacts.

**Education:**

- Need for more education/scientific evaluation to aid decision making;
- Educating the community in environmental and ecological management;
- Developing greater community stewardship of the coastal reserve;
- Need to improve/extend level of awareness of Aboriginal cultural values.

**Integration with other plans, policies and public authorities:**

- Need for ongoing coordination between Council, state agencies and the community;
- Need for effective communication between the community and those with a management role.

**Implementation and funding:**

- Resources required to finance implementation of the Plan;
- Need to explore all options for resourcing;
- Suggested tourism levy and industry sponsored projects such as environmental rehabilitation and amenity provision.

**Volunteers**

- Volunteers and advisory committees

Voluntary community groups have a long history of assisting in the management and improvement of Coastal Reserves. Dunecare and Landcare groups, Reserves Trusts, and a number of Service Clubs and Residents Groups have contributed thousands of dollars in voluntary labour each year and have attracted additional funding for reserve management projects. Some issues associated with volunteer

activities include accident and public liability insurance, liaison with Council, requirements for practical or technical support, and the role of groups in providing education and awareness and outlets for community participation in coastal management.



## **PART 3 PLAN OF MANAGEMENT**

### **3.1 VISION STATEMENT**

In 2001 the Ballina Coastal Committee adopted as its Vision.....

*" to provide a living and working example of a coastal reserve that successfully integrates conservation and managed human activities within its boundaries "*

### **3.2 MANAGEMENT PRINCIPLES**

The broad goals adopted for the Plan of Management are:

- To protect, rehabilitate and improve the natural environment.
- To recognise and accommodate natural processes.
- To protect and enhance aesthetic qualities.
- To protect and conserve cultural heritage.
- To provide for appropriate public recreation, access and sustainable use.
- To provide information and guidance to enable effective management.
- To provide for integrated planning and management.

In addition to the above, the following broad management objectives are adopted from the Principles of Crown Land Management:

- to apply sound principles of environmental protection in the management and administration of the Reserve;
- to conserve wherever possible the natural resources within the Reserve (including water, soil, flora, fauna and scenic quality);
- to encourage public use and enjoyment of appropriate Crown land;
- where appropriate, encourage multiple use of Crown land;
- to ensure that Crown land is used and managed in such a way that both the land and its resources are sustained in perpetuity.

### 3.3 MANAGEMENT OBJECTIVES, STRATEGIES AND ACTIONS

<b>NATIVE VEGETATION AND HABITAT MANAGEMENT</b>
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#### MANAGEMENT OBJECTIVE:

***"Protect, rehabilitate and manage native flora and fauna, sensitive areas of habitat and Aboriginal sites and relics."***

**STRATEGY:** *Prepare and implement dune and vegetation management plans, including weed management, for each area or precinct.*

Revegetation / rehabilitation plans have been completed for Flat Rock and Angels Beach (prepared by Angels Beach Dunecare and Reafforestation Group), and Shelly Beach, Lennox Headland (in process), West Lake Ainsworth, Boulder Beach littoral rainforest, Boulder Beach Wetland, and Seven Mile Beach (prepared by Environmental Training and Employment (EnviTE), Northern Rivers). The plans are at various stages of implementation.

The plans aim to improve habitat for wildlife, conserve Threatened Species and forest types, reduce erosion, improve public amenity, and encourage wider community interest and participation in managing the coastal environment.

Areas for which Vegetation Management Plans have not yet been developed are Seven Mile Beach north of Lake Ainsworth, Sharps Beach area, the small areas of bush west of Shelly Beach village, and the escarpment area adjacent to Compton Drive at Shaws Bay.

**STRATEGY:** *Rehabilitate and conserve all existing littoral rainforest remnants, wetlands and other important habitat areas, including established corridors.*

All remnant native vegetation along the coastline and many areas of regenerating vegetation are considered important habitat with high conservation value. Littoral rainforest remnants of varying condition have been identified at Angels Beach, Flat Rock, Sharps Beach, Shelly Beach, and at Boulder Beach, and are included in current and future rehabilitation programs for these areas. Wetland exists in two areas of Boulder Beach and at Angels Beach. Rehabilitation plans for these communities have either been developed or are in process. Protection and enhancement of native vegetation communities along the Ballina coastal strip is a major focus of local Dunecare and Landcare groups in the area and in many cases, represents implementation of the rehabilitation plans

**STRATEGY:** *Implement the North Coast Bitou Management Strategy.*

The North Coast Weeds Authority has been responsible for the development and implementation of the North Coast Bitou Management Strategy (2000), with assistance and involvement from Local Government, community groups and Coastcare.

**STRATEGY:** *Address unauthorised damage to dune and coastal environment through regulation, education, signage, and approved access points.*

Refer to sections on access, regulation of activities, education and the Precinct Plans for each area. There has been significant voluntary work undertaken by Ballina's local Dunecare and other community

groups over many years to address this issue, providing education, signage and access-ways in many parts of the Reserve.



**STRATEGY:** *Liaise with Dunecare/Landcare groups and the local Aboriginal community regarding ongoing management of the natural environment in the Coastal Reserve.*

A proposed Ballina Coastal Reserve Advisory Committee will be established to address ongoing management of the Reserve. Input from local community groups will be through Precinct Committee, which will in turn be represented on the Advisory Committee.

Ballina Shire Council's Aboriginal Community Development Liaison Officer provides a communication link between the local Aboriginal community and Council regarding protection of significant landscapes, sites, and relics, and with the Jali Local Aboriginal Land Council's Heritage and Cultural Committee.

**STRATEGY:** *Ensure Threatened species populations are adequately protected, including provision of adequate buffer areas against development or any activities causing disturbance.*

**STRATEGY:** *Threats to wildlife from feral and domestic cats and roaming dogs - Investigate options for, and implement a program to, control feral and domestic cats and roaming (domestic) dogs in the Reserve. Options to include trapping, regular patrolling and impounding, issue of fines. Coordinate investigations with NPWS.*

Key threatening processes to sensitive vegetation applicable to the Ballina Coastline are predation by foxes and feral cats, extent of native vegetation and habitat modification, and high frequency fire resulting in disruption to the life cycle of the area's flora and fauna (BSC, 2000a).

Species Recovery Plans have been prepared for the Mitchell's Rainforest Snail, Red Goshawk, and the Little Tern (BSC, 2000a). These plans identify management strategies and actions to enhance the survival of the species. These plans and Threat Abatement Plans, which make recommendations that address any key threatening processes, require consideration in the management of the Ballina Coastline, and should be implemented as part of each area's respective actions for vegetation management.

**STRATEGY:** *Ensure adequate protection of native vegetation and habitat through specific fire management guidelines in the Coastal Reserve.*

Ballina Shire Council's draft Bushfire Risk Management Plan (1997) provides a strategic framework that for management of bushfire in the Shire, and provides for the protection and conservation of natural resources in the Plan area. The strategies developed in the bush fire risk management plan address the following matters:

- bush fire hazard
- the vulnerability of assets to fire
- the safety of the community and firefighters
- protection of the land and environment from fire
- recognition that biodiversity can be managed through the application of appropriate fire regimes upon the landscape

Appendix C provides relevant excerpts from Ballina Shire Council's draft Bushfire Risk Management Plan 1997 - Section 3.4.1 (b): 'Environmental/Ecological Assets', Section 4: 'Bush Fire Risk Management Strategies' and Section 5.3.5: 'Use of Appropriate Fire Regimes'

#### **MANAGEMENT OBJECTIVE:**

***"Survey and map all areas of native vegetation. Identify and manage sensitive / critical areas of habitat."***

***STRATEGY:*** Complete flora and fauna surveys and mapping of vegetation communities along the Coastal Reserve, including listing of rare and Threatened Species, and communities of local / regional significance.

Preliminary mapping of vegetation along the Ballina Coastline is provided in the Vegetation Report (DLWC 2001) prepared for this PoM. Vegetation has been described in greater detail in a number of local Dunecare and local area Vegetation Management Plans along the coast, as listed above. Any inconsistency in these Plans often relates to the degree of survey, extent local knowledge used in writing the Plans.

Similarly, many Dunecare groups have compiled bird and reptile species lists for their local areas, and various wildlife monitoring and inventory studies have been undertaken through Southern Cross University. However, to date, there have been no comprehensive fauna surveys done which cover the whole study area.

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**Please note:** The Provisions of the Richmond Regional Vegetation Management Plan, once gazetted, and until that time, those of the *Native Vegetation Conservation Act, 1997* must be adhered to in regard to any clearing of native vegetation or vegetation on Regional Protected Land. Prior to its gazettal, the provisions of the Draft Richmond Regional Vegetation Management Plan must be considered by the consent authority in assessing clearing applications.

### **AQUATIC ENVIRONMENT**

#### **MANAGEMENT OBJECTIVE:**

***"Maintain a healthy coastline aquatic environment in the public interest to ensure its health and vitality."***

***STRATEGY:*** Develop appropriate management plans, habitat management plans and management practices within the Coastal Reserve to help protect the neighbouring aquatic environment.

Although coastal waters below mean low water level are outside the Reserve, runoff and land use activities on the adjoining land surface have the potential to affect water quality along the in-shore zone eg stormwater runoff from parking areas, roads, and other high use areas that may contain sediment loads from surface soil erosion or gross and other forms of pollutants, eroded stormwater outlets, degraded small wetlands and swamps, and eroding flow lines that drain to the sea. Management of runoff from these areas will generally be addressed through Council's Stormwater Management Plan

(in process). Assessment of the condition of these areas, and any future management of the wetlands, swamps and flow lines within the reserve should be incorporated into the local area vegetation management plans or habitat plans.

**STRATEGIES:**

- *Make appropriate provision to implement Council's Stormwater Management Plan.*
- *Conduct water quality and gross pollutant monitoring at selected locations, communicating results to the local community (location and frequency of sampling, parameters of measurement to be determined).*

<b>COASTAL EROSION</b>
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**MANAGEMENT OBJECTIVE:**

***"Give the impacts of natural hazards a high priority in the planning and management of the Coastal Reserve."***

**The Ballina Coastline Hazard Definition Study** commenced in March 2002. The Study will provide an understanding of the coastal processes at work along the Ballina Coastline and will present a conceptual view of the interaction of these processes with the coastline as a whole. In particular, the study will define those hazards that potentially impact on existing and future development and infrastructure along the Ballina Coastline, and evaluate them in the context of future planning needs.

A major focus of the study will be a reassessment of the coastal hazards at Lennox Head, and the associated impacts of the seawall on these hazards. Any proposed infrastructure and amenity likely to be impacted upon by coastal hazards will need to consider the findings of the Hazard Definition Study.

<b>COASTAL VIEWS AND VISUAL AMENITY</b>
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(refer also to volume 2, Background information. Section 5 - Landscape Values)

**MANAGEMENT OBJECTIVE:**

***"Identify and protect areas of natural aesthetic quality, and indigenous landscapes, along the Coastal Reserve."***



(Refer also to Section 10 - Precinct Plans)

**STRATEGIES:**

- *Maintain strict compliance with regulations protecting foreshore vegetation.*
- *Increase public awareness of and encourage community involvement in protecting foreshore vegetation (refer education strategies Section 5.1.4).*
- *Locate and design any further development/ infrastructure/ signs etc in a way that minimises impact on aesthetic values.*
- *Provide viewing areas/ platforms and carefully located paths, access, and parking to allow viewing amenity, ensuring that construction and siting are sensitive to environmental constraints.*
- *Liaise with Dunecare and local vegetation management groups on the above strategies (refer local Dunecare and vegetation management plans).*

**CULTURE AND HERITAGE**



**MANAGEMENT OBJECTIVE:**

***“Manage cultural heritage places, items and landscapes.”***

**STRATEGY:** *Identify and preserve Aboriginal and non-Aboriginal heritage, including significant sites.*

**Actions:**

- For items of non-Aboriginal heritage value, establish a register under custodianship of the local Heritage Society.
- For local Aboriginal sites, establish and maintain a register, not available to the general public and available on approval from the recognised custodians of the site register; (NPWS and/or Jali Local Aboriginal Land Council Heritage and Cultural Committee).
- Provide appropriate interpretative signage;
- Raise awareness of operational staff and managers of the sensitivity of heritage sites prior to undertaking any works.

- Ensure inputs by the local recognised Aboriginal communities prior to making decisions affecting Coastal Reserve lands.
- Consider implications of Native Title and other relevant legislation prior to any development or activity.
- Provide appropriate buffer areas around significant Aboriginal sites to protect against damage.
- Raise awareness of Council and other public utility bodies (eg. electricity, roads, fire, telecommunications & emergency) of the significance of heritage sites; ensure safeguards are in place to protect sites eg. through a code of practice applied prior to any works.

#### **MANAGEMENT OBJECTIVES:**

- ***"Recognise the rights and needs of Aboriginal people."***
- ***"Recognise spiritual values in coastal planning and management."***
- ***"Facilitate greater community understanding of Aboriginal values."***

**STRATEGY:** *Ensure ongoing involvement of the local Aboriginal community in the planning, management and implementation of actions in the Coastal Reserve.*

**STRATEGY:** *Facilitate, where appropriate, cultural tourism.*

#### **Action:**

- Establish an Aboriginal cultural centre or similar facility within or near the Ballina coastal area.

An Aboriginal cultural centre is planned for the Ballina area, providing an important link between Aboriginal culture and the wider public and promoting greater appreciation of Aboriginal culture and heritage of the local area through displays, presentations and distribution of information.

Ballina Shire Council's Aboriginal Community Development Liaison Officer facilitates communication between the local Aboriginal community and Council regarding protection of significant landscapes, sites, and relics in the Shire, including coastal areas. Jali Local Aboriginal Land Council has established a Heritage and Cultural Committee to address all matters regarding the management and protection of Aboriginal heritage in its area of concern, including the Coastal Reserve.

**STRATEGY:** *Develop projects within the Coastal Reserve to promote better understanding of Aboriginal heritage.*

Whilst respecting the need for protection of significant sites and artefacts, there is potential to develop projects which would raise awareness of local Aboriginal culture and of their relationship with the natural coastal landscape. Possible actions to achieve this may be:

- use of interpretive signage at key locations, explaining the significance of the landscape, traditional uses of the area, Aboriginal mythology;
- consider establishing an Aboriginal cultural trail in the Coastal area;
- consider establishing an Aboriginal cultural centre (refer above).

<b>RECREATION FACILITIES AND ACCESS</b>
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#### **MANAGEMENT OBJECTIVES:**

- ***"Maintain / upgrade (designated) recreation areas to cater for a range of appropriate passive recreation activities."***
- ***"Provide/ upgrade access to foreshores where feasible and environmentally sustainable options are available"***
- ***"Maintain existing access and viewing amenity for the disabled and elderly where feasible."***

## STRATEGIES:

- *Identify/ prioritise activities to improve and maintain recreational amenity;*
- *Develop short term and long term targets for each compartment/precinct in the Coastal Reserve specifying:*
  - *access (pedestrian and disabled);*
  - *parking areas;*
  - *toilets, (consider potential for composting toilets), showers, change facilities;*
  - *lighting where appropriate;*
  - *picnic facilities , BBQ's, shade etc.;*
  - *seek out funding opportunities to achieve above.*

*(Recreation facilities for high priority areas are addressed in the Precinct Management Plans)*

## SHARED CYCLEWAY / WALKWAY

### MANAGEMENT OBJECTIVES:

***"Provide a continuous cycleway / walkway from Ballina to Lennox Head"***

### STRATEGIES:

- *Construct shared cycleways / walkways in appropriate areas, sensitive to community needs and environmental constraints.*
- *Ensure, where possible, linkages of cycleways / walkways to established or planned beach accesses.*

Council's draft Cycleway Route was exhibited in December 2000. Submissions were received and have been incorporated into a draft for consideration in the Ballina Coastal Reserve PoM. The draft is provided in Appendix F, with general comments from the DLWC (the landholder) for those sections within Crown Land, and which will delineate:

- those sections which the Department considers will require further consultation and investigation to assess environmental and/or cultural impacts before being incorporated into the final PoM;
- sections which the Department (the Minister) would not be likely to accept within the POM because of environmental and /or social constraints;
- sections that the Department has no issue with, (ie. that are acceptable or not located in Crown Land).

## OFF-ROAD VEHICLE MANAGEMENT ON BEACHES

### Notes

- This section addresses the general management of beach vehicle access within the Reserve.
- The management of vehicle access in Reserve areas north of Lake Ainsworth is also considered in Precinct 1 planning.
- Relocation of the beach vehicle access from Lake Ainsworth to a more northern location is a recommendation under the draft Lake Ainsworth Management Plan (in process) and has also been generally supported during this Coastal Reserve planning consultation process.
- The Coastal Reserve Plan of Management recognises the presence of designated commercial fishing on a number of beaches within the Plan area, and the rights of vehicular access by licensed commercial fishers to beaches working in the Ocean Hauling Fishery and Estuary General fishers involved in commercial hand-gathering, eg. pipis and beach worms. (NSW Fisheries, 2002). Beaches designated for hauling under the Fisheries Management Act are Seven Mile Beach, Sharps Beach, Angels Beach and Lighthouse Beach.

## **MANAGEMENT OBJECTIVES:**

- *“Consideration be given to providing off-road vehicle access to beaches where feasible / environmentally acceptable, retaining beach amenity and safety for other users.”*
- *“Provide adequate emergency vehicle (and licensed commercial vehicles) access, within environmental constraints.”*

## **STRATEGY / ACTION:**

*Develop a beach vehicle access policy for the Ballina Coastal Reserve, incorporating a vehicle permit system, allowing limited access to specified beaches, and including provision for:*

- *designated 4WD access areas;*
- *a permit system, regular patrols;*
- *total restriction in specific areas;*
- *periodic review of management and safety of 4WD use.*

### ***A beach vehicle permit system will include the following components:***

- (4WD) vehicle access for a limited number of vehicles to the northern end of Seven Mile Beach, using one access only.
- Regular patrolling to ensure full compliance with the regulation.
- Permits will be issued on an annual basis and maintained in strict accordance with a code of practice which will include the following initiatives :
  - a strong emphasis on safety and enjoyment for walkers and other passive users, including speed limits, especially near other users
  - no access to or damage to the dune and hind-dune environment, minimum disturbance to wildlife (eg. resting migratory birds)
  - exclusion of vehicles during high use periods (ie. daylight hours of weekends, public holidays and other high-use periods, eg. New Year's Eve;
  - vehicle permit system to be administered by the Reserve Trust Manager, reviewed yearly to assess the system's appropriateness, safety and impact on general beach amenity, and environmental impacts.

A periodic review (every two years) of Council's Beach Vehicle Policy will be conducted, assessing of safety to the public, amenity of passive users, environmental impacts, entrance track maintenance, and patrolling needs, and evaluating options to continue or discontinue public vehicle access to the beach.

## **STRATEGY / ACTION:**

*Review current emergency vehicle access points with regard to their current efficiency, safety, condition, and impacts on other beach users and the environment, and upgrade and maintain as required.*

## ANIMALS ON BEACHES



### MANAGEMENT OBJECTIVE:

***"Provide access for dog exercising and other animals (eg. horses) while retaining beach amenity for other beach users and protecting the natural environment."***

#### Dogs On Beaches

##### Companion Animals Act

The regulation regarding dogs on beaches for (this section of) the Shire is as follows -

Dogs are permitted within the following designated areas

- Sharps Beach..... leash required
- Angels Beach ... leash required
- (off-leash) ..... North of Lake Ainsworth with effective control

On all other beaches dogs are prohibited:

(Lighthouse, Shelly, and Seven Mile Beach south of Lake Ainsworth)

### STRATEGIES:

- *Maintain strict and regular policing, with provision for fines and impoundment.*
- *Implement public education campaign on responsible dog ownership and behaviour.*
- *Undertake a regular review of Council dog regulations on beaches and adjacent reserves.*
- *Ensure dog litter facilities are provided and maintained.*

#### Horses On Beaches

Recommendations for both commercial and private horse riding are provided below, following consideration of the following concerns raised during consultation, summarised below:

- *conflicts with other users, especially during high use periods (weekends, holidays); assessment of current demand for this pastime and its value to users;*
- *safety aspects, ie. the potential for horses being frightened by vehicles and dogs (one of the areas proposed for horse riding : northern Seven Mile Beach is an off-leash dog zone),*
- *the ability of current and future access tracks to withstand horse traffic;*

- *potential to disturb sensitive dune habitat and impact on shorebird species and other migratory wildlife, known to occur on Seven Mile Beach and Flat Rock/Angels Beach (NPWS).*

**STRATEGY:**

*Develop and implement policy and regulation on horse management on Coastal Reserve beaches, providing continued access for horses to designated beach areas, but addressing safety, social, and environment concerns. Policy and regulation on horse riding on Ballina Coastal Reserve beaches will include the following components:*

- Recreational horse riding permitted on Seven Mile Beach and on Sharps Beach/Angels Beach, but prohibited from the dune and hind dune area of the precinct. Horses prohibited (ridden or walked) from south Seven Mile Beach, Boulder Beach, Shelly Beach and Lighthouse Beach.
- Commercial horse-riding only permitted on northern Seven Mile Beach, with limited numbers and licensed, subject to tender through Council.
- Both commercial and recreational horse riding will be subject to periodic review by the Reserve Trust Manager to assess issues of safety, environmental protection and general public amenity.

Code of Practice for Horses on Beaches:

- Horse riding (both recreational and commercial) permitted only on weekdays, not on weekends or public holidays.
- Thoroughbred training and trotting prohibited
- Horse access to be only via the designated vehicle access or other specified site/s.
- Horses not permitted on dunes and hind dune areas, walking tracks, formal pedestrian tracks or disabled access.
- Horses to be kept under full control at all times.
- All horse manure to be taken away.
- Horse wash-down not to be done near any human shower or other amenity.
- Caution to be exercised at all times, particularly in proximity to walkers, children and dogs.

<b>PUBLIC SAFETY / SURF LIFE SAVING SERVICES</b>
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**MANAGEMENT OBJECTIVE:**

***“Provide health, safety and risk management for the general public and those involved in maintenance or management activities.”***

**STRATEGY / ACTION:**

*Conduct regular risk management inspections; maintain areas in accordance with Council’s risk management policies.*

**MANAGEMENT OBJECTIVES:**

- ***“Sensitively encourage safe surf activities and provide for surf life saving and rescue operations.”***
- ***“Maintain rights to conduct Surf Life Saving Club related activities.”***

**STRATEGIES / ACTIONS:**

- *Continue support of Surf Life Saving activities, including education programs and water safety awareness.*
- *Provide adequate emergency access and rescue facilities*
- *Maintain right to conduct events (carnivals etc.).*

## REGULATION OF ACTIVITIES

### MANAGEMENT OBJECTIVE:

***“Discourage inappropriate behaviour and activities / reduce the incidence of vandalism of facilities and the natural environment.”***

### STRATEGIES:

- *Exercise powers under the Crown Lands Act and Local Government Act to enforce regulations and issue penalty notices.*
- *Provide regular patrols and policing.*
- *Ensure strict control of access into sensitive areas (refer to objectives on habitat management).*
- *Implement public education programs (refer to the section on education and awareness) Develop and widely distribute brochures on beach regulation/coastal management, including responsible dog ownership.*
- *Provide appropriate signage on all prohibited activities.*

Council Rangers are responsible for patrolling all beaches and public places under Section 32 of the Local Government Act 1993. To assist Council's enforcement functions, section 679 (1) of the Act enables appointed officers to issue penalty notices in respect of offences under that Act. To make regulation effective it is thus important that all prohibited activities are adequately signposted and that there are sufficient patrolling and reporting mechanisms in place. Activities typically requiring regulation include:

- unauthorised vehicle entry, and inappropriate vehicle use on beaches;
- inadequate dog control and inappropriate horse access;
- unauthorised commercial activity;
- illegal rubbish dumping;
- camping, vandalism, and destruction to the beach environment.

## COMMERCIAL ACTIVITIES

### MANAGEMENT OBJECTIVE:

***“Retain opportunities for commercial activities which support people's recreational experience of the natural environment, are sensitive to the visual amenity and environment of the coast, and which are compatible with the activities of other users.”***

Commercial activities on Crown land may be developed only where consistent with DLWC policies, and where the proposals are ancillary and supportive of the notified public purpose of the reserve (ie public recreation and coastal environmental protection). Commercial activity within the Coastal Reserve will be restricted to:

- Licensed surf schools and sea-kayak tours.
- Licensed horse riding tours, limited in number, restricted to operate in non-peak times and conducted under a strict code of practice.
- Licensed commercial fishing operations authorised under the Fisheries Management Act 1994.
- Licensed vendors operating only from designated parking areas (eg. ice cream vans).
- Kiosk, cafe or restaurant, located in existing high-use areas which have undergone significant modification of the landscape.

## PUBLIC UTILITIES

### MANAGEMENT OBJECTIVE:

***“Enable maintenance and installation of public utilities and services within the Coastal Reserves in a non-intrusive and environmentally sensitive manner.”***

### STRATEGIES:

- *Maintain right of entry for services and plant maintenance.*
- *Ensure that care is taken during maintenance activities to minimise damage to the natural environment; if installation of a service is essential, works should be done in accordance with guidelines to protect the environment and maintain values of the local Aboriginal community.*

## EDUCATION

### MANAGEMENT OBJECTIVES:

- ***“Reduce the incidence of undesirable activities, vandalism, environmental damage and unregulated access.”***
- ***“Increase safety awareness and community stewardship of coastal assets.”***
- ***“Increase public appreciation of cultural and environmental heritage.”***

### STRATEGIES:

- *Develop formal and informal education and awareness programs to achieve Coastal Reserve Management Objectives.*
- *Coordinate with Government Agency programs where appropriate.*

### ACTIONS:

- establish appropriate signage to promote awareness ie. flora, fauna, culture, and coastal processes.
- provide continued support for local community-group education activities on coastline, promoting environmental, safety, heritage and other values.

Possible issues to address in education programs:

- Vehicles/dog management
- Litter control
- Vandalism
- Aboriginal cultural values
- Encroachment by adjacent landowners onto public areas
- Weed control and volunteer help guidelines
- Environment protection – beach, dune and intertidal zone
- Safety

## INTEGRATED COASTAL MANAGEMENT

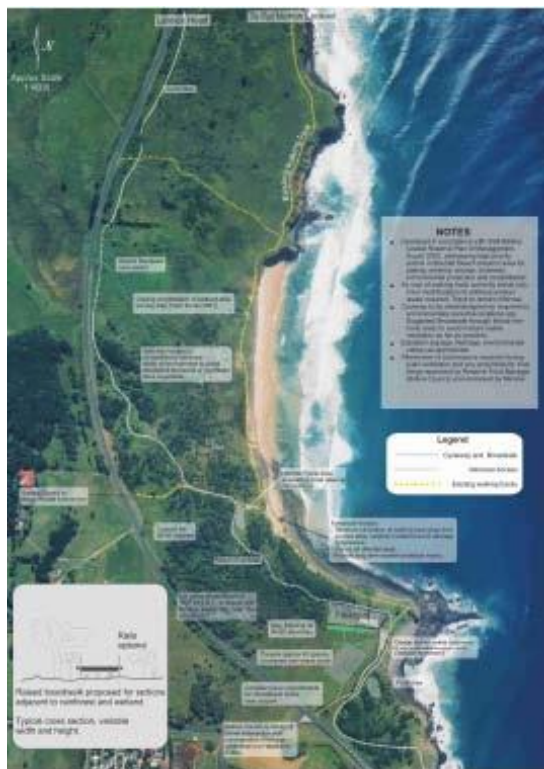
### MANAGEMENT OBJECTIVE:

***“To implement the Plan of Management in conjunction with the relevant statutory requirements in a cooperative and timely manner within available resources.”***

### STRATEGIES / ACTIONS:



- Comply with relevant statutory requirements (refer Sections 3.6 and 3.7 of PoM);
- Recognise and respect the management requirements of the Cape Byron Marine Park when implementing the PoM;
- Prepare and/or revise, and implement other specific plans or strategies for areas within the Coastal Reserve eg. vegetation management plans, heritage plan.
- Coordinate Council maintenance and capital works programs and regulatory activities to help implement strategies under the Plan of Management.
- Liaise with the local Aboriginal community during planning and implementation (refer to the Objectives under CULTURAL HERITAGE).
- Liaise with relevant Government agencies as required regarding activities in the Coastal Reserve.
- Support activities of local volunteer community groups working within the Coastal Reserve. (refer also 11.6.1- Guidelines for Volunteer Workers)
- Coordinate with relevant Council and other planning initiatives, including regeneration/rehabilitation programs, relevant Plans, Cultural Heritage, Caravan Parks Committees, cycleway planning, traffic management, and safety considerations.
- Coordinate works and planning with the Coastline Hazards Study.
- Ensure community participation in all planning decisions, including local vegetation management plans.
- Foster linkages with Council Community Lands through complimentary management strategies.



## NAVIGATION AND EMERGENCY SERVICE FACILITIES

### MANAGEMENT OBJECTIVES:

"To provide navigation and emergency service facilities for vessels negotiating the mouth of the Richmond River to enhance the safety for vessels, their crew and passengers".

### Strategy/Action:

- To construct a search and rescue co-ordination centre to a height and orientation required to optimise the observation of vessels negotiating the bar at the mouth of the Richmond River and provide assistance as required.
- To install appropriate navigation and communication equipment.
- To incorporate ancillary facilities into or adjacent to the search and rescue co-ordination centre to assist in its operational and financial viability, such as a café or similar type use.

## PRECINCT PLANS

Specific actions are recommended at a local area level, aimed at providing a balance of social, recreational and environmental needs in the Reserve, based on the issues identified for each area.

**Note:** the study area is divided into 5 local precinct or management areas for the purpose of mapping and planning of the Coastal Reserve at the required level of detail:

1. North Seven Mile Beach to Lake Ainsworth
2. Lake Ainsworth to Shag Rock
3. Boulder Beach, Skennars Head and Sharps Beach
4. Flat Rock to Black Head
5. Shelly Beach & Ballina Lighthouse Beach

## PRINCIPLES OF LOCAL AREA PLANNING

As mentioned above, it is important that this PoM allocates sufficient space and resources in suitable areas to balance both conservation needs and facility development in order to satisfy the expectations of residents and visitors in a growing region, while sustaining the area's natural, scenic and cultural values.

As such, any proposed tourist related infrastructure, or recommended activity, should generally reflect the unique natural or 'built' attributes of a particular area, and should carefully consider the capacity of remaining natural areas to withstand additional use.

The recommendations given in the following Precinct Area Plans hopefully provides this balance whilst allowing flexibility for future changes in demand and community attitudes. The recommendations are thus based on a number of considerations:

- The conservation value of a particular area, and/or its recognition as an essentially 'natural' or 'built' landscape, and the potential impacts of future development or activity on that environment, and the desire of the community to accept or change this.
- The capacity of natural environments to withstand extra visitation.
- The likelihood that increased access and facilities will create a level of use or visitation that may exceed an area's carrying capacity, thus create environmental damage or overcrowding.
- The pressure (and damage) that already exists in particular areas, the desire to better manage this, and likely (or inevitable) future demands that are evident and will require better management to avoid the above consequences.
- Compatibility between various uses or activities, and the desire to achieve a level of satisfaction for the majority of visitors.

(Source: NSW National Parks and Wildlife Service (2002). *Recreation Planning Framework for NSW National Parks*).

Precincts where the landscape is essentially modified with some natural elements, experiencing high visitation and use (parking areas, foreshore modifications, buildings, amenity blocks, ample formal access, highly modified dune vegetation) should be managed to maintain or enhance its high amenity and recreation values. Such areas include most of south Seven Mile Beach and Pat Morton Lookout area, and Shelly Beach/Lighthouse Beach precinct.

Areas considered to have relatively high conservation value, significant Aboriginal cultural value or exhibit essentially natural qualities will thus be managed in the long term to maintain these values,

encouraging low-key recreation, having minimum or no amenities and access only for safety and emergency or servicing. Although the Plan area is relatively small, there are some areas that essentially fit the above criteria and can be managed accordingly (northern end of Seven Mile Beach, Angels Beach and part of Boulder Beach).

The recommended activities for most areas will provide both educational and regulatory measures (through signage, awareness programs, patrolling) to achieve the desired level of environmental protection and/or visitor safety and enjoyment.

Strategies provided both in the general management section above and in the following precinct plans attempt to clearly define the appropriate usage, codes of conduct and restrictions, and provides an effective enforcement process under responsibility of the Reserve Trust Manager that will achieve desired objectives of environment protection and public recreation.

## **PRECINCT 1 - NORTHERN END OF SEVEN MILE BEACH**

### **General Description of Precinct 1 (refer Figure 5)**

The precinct area covers Seven Mile Beach, the associated dune system and areas of heathland from the northern boundary Ballina Shire (approximately two thirds of the way to the north along Seven Mile Beach) to the southern end of Lake Ainsworth. The land is bounded to the west by vacant Crown land under claim lodged by Jali Local Aboriginal Land Council (LALC), and land west of Lake Ainsworth, under the current management of NSW Sport and Recreation (being west of the Council Public Road up to its boundary with Lot 146 DP 820031 owned by Jali LALC).

The management of Lake Ainsworth has been addressed in detail through the Lake Ainsworth Management Plan (December 2001) and, as such, meets the management requirements for this important area for the purposes of the Ballina Coastal PoM. The present Lake Ainsworth Reserve, comprising the lake and its immediate surrounds, will be included in the single Coastal Reserve.

The northern end of Seven Mile Beach is noted for its remoteness and natural setting. The beach and dune vegetation, together with the adjoining low-heath vegetation community, are rich in biodiversity. As such, they are recognised high conservation value communities, providing important resting and breeding habitat for shorebirds and sea turtles. The foredune and hind dunes are partly degraded through a combination of weed infestation, disturbance by unauthorised vehicle traffic, and illegal camping.

The possibility of uncontrolled wild fire and known predation by feral animals on native fauna are also considered potential threats to biodiversity values in this area. Sand mining from the 1930's to the late 1960's created a major disturbance to the area, the main legacy of which is the widespread distribution of the exotic weed Bitou Bush, used to stabilise the dunes post-mining.

The heath area west of the dunes has a history of disturbance by vehicles, trail bikes and past rubbish dumping. A Council public road runs through this area parallel to the coastline, and forms the western boundary of the Reserve. The road was closed to general public vehicular access in late 2001 to mitigate further degradation of the area. The area west of the Council Public Road is subject to an Aboriginal Land Claim



### **Recreational Values**

The northern end of Seven Mile Beach is noted particularly for its remoteness. The range of recreational pursuits available include fishing, recreational vehicles, swimming, walking, dog exercising, horse riding and training, surfing, para-surfing, nature appreciation and general passive use.

Both Lake Ainsworth and the NSW Sport and Recreation Centre make a significant contribution to the recreation value of the area, and although within the precinct plan area, are appropriately dealt with under their respective management frameworks (Lake Ainsworth Management Plan, BSC 2002, and NSW Dept. Sport and Recreation).

### **Rehabilitation and Protection Measures**

Dune rehabilitation works have been carried out along the frontal dune and areas adjacent to Lake Ainsworth over many years. Such works have included weed removal, improvement to beach access and amenity, protective fencing, tree planting in strategic areas for both shade and habitat, and targeted weed removal (mainly umbrella tree) on the western side of Lake Ainsworth. The more remote dune and heath areas north of NSW Sport and Recreation have not had any rehabilitation measures provided to date, apart from some rubbish removal and closure of the hind-dune bush track to vehicle access in late 2001.

### **Management Issues Identified for Precinct 1**

- Protection of the natural setting and important environmental values of the area, under pressure from increased usage and unauthorised activities.
- Concerns about impact of vehicles on safety of other users.
- Need to achieve compatible level of use between the various uses in demand on the beach - walking, dog exercising, horse riding; particular concern about dog management.
- Addressing the increasing demand for commercial activities on the beach.
- Degradation of the sensitive heath and dune environment from weed invasion, unauthorised access and past misuse.
- Recent nomination of Cape Byron Marine Park which extends to Mean High Water Mark, southwards to Lennox Head (Lennox Point).

### **Objectives for Management of Precinct 1**

The wild and relatively natural and remote setting of this area should be maintained and enhanced. The area is noted as a prominent 'indigenous' landscape, and is an important remnant of coastal heath/hind-dune habitat within the region.

However, there still exists strong demand for some uses that potentially threaten both the sensitive coastal environment and generally passive recreational values of the beach if not managed properly.

The Plan of Management aims to achieve a balance, where possible, of recreational amenity and environmental protection. Future management of this area should aim to:

- Preserve the natural features of the area by maintaining the 'low use' status of the beach. Consistent with the above objective, encourage mostly passive recreational activities that are non-intrusive, by:
  - (a) minimising opportunities for potentially damaging activities to impact on the beach and dune/hind dune environment, through tighter control of vehicle activity, minimum commercial activity, strict control of dogs and horses; and
  - (b) providing no facilities apart from basic access to the beach at the southern end of the precinct.
- Ensure ongoing protection and rehabilitation of the natural environment and indigenous heritage values of the area through education and awareness programs, cooperative management with the Marine Park Authority and ongoing liaison with the Aboriginal community.

## **SPECIFIC MANAGEMENT RECOMMENDATIONS – PRECINCT 1**

(refer also to Figure 5 - Precinct 1 Management Recommendations)

### **OFF-ROAD VEHICLE ACCESS IN PRECINCT 1**

- 1) **Limited access permit system:** providing for (4WD) vehicle access for a limited number of vehicles to the northern end of Seven Mile Beach, using one access point only; strict regulation and patrolling.

Permits will be issued on an annual basis and maintained in strict accordance with a code of practice which will include the following initiatives:

- a strong emphasis on safety and enjoyment for walkers and other passive users,
  - no damage to dune environment, minimum disturbance to wildlife,
  - exclusion of vehicles during high use periods (ie. daylight hours of weekends, public holidays and other high-use periods, eg. New Year's Eve;
  - vehicle permit system to be administered by the Reserve Trust Manager, reviewed yearly to assess the system's appropriateness, safety and impact on general beach amenity, and environmental impacts.
- 2) **Re-location of the 4WD beach access** to a site north of NSW Sport and Recreation, carefully located to minimise environmental impacts.
  - 3) **Permanent closure of hind dune track**, with provision only for emergency and service vehicles and fire management, and pedestrian access.

Prohibited activities: Commercial vehicle guided tours, trail bikes and 4wd cycles.

## **DOGS AND HORSES**

### **Dogs**

- Dogs permitted off-leash (subject to the statutory provisions of the Companion Animals Act 1998) north of Lake Ainsworth. Dogs prohibited from the remainder of the beach.
- Provision of dog litter control facilities at designated access points.
- Strict enforcement of dog litter and dog control regulations.

## **Horses**

- Recreational horse riding permitted on Seven Mile Beach, but prohibited from the dune and hind dune area
- Commercial horse riding permitted, with limited numbers, businesses licensed and subject to tender.

### **Code of Practice for horses in Precinct 1:**

- Horse riding (both recreational and commercial) permitted only on weekdays, not on weekends or public holidays.
- Thoroughbred training and trotting not permitted
- Horse access to be only via the designated vehicle access or other specified site/s.
- Horses not permitted on dunes and hind dune areas, walking tracks, formal pedestrian tracks or disabled access.
- Horses to be kept under full control at all times.
- All horse manure to be taken away.
- Horse wash-down not to be done near any human shower or other amenity.
- Caution to be exercised at all times, particularly in proximity to walkers, children and dogs.

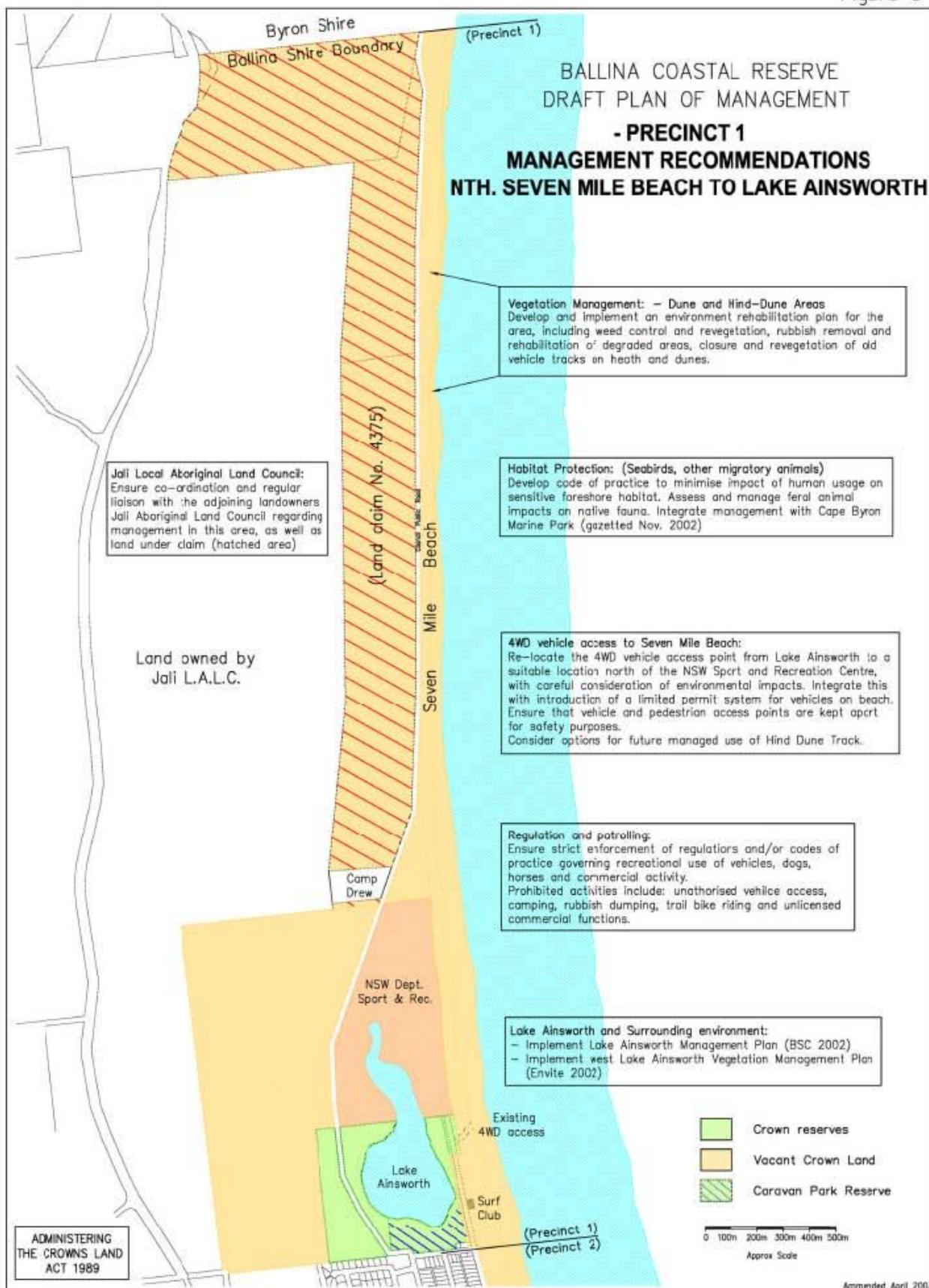


Figure 3 - Precinct 1 Plan

## COMMERCIAL ACTIVITIES

Commercial activities permitted are surfing schools, kite-board schools, guided sea-kayak activity, and guided horse riding, all licensed by Council, and operating in designated areas under specified guidelines.

## HABITAT MANAGEMENT

- Implement rehabilitation works for the area, including weed control, planting, rehabilitation of old vehicle access tracks.
- Marine Park - maintain an active level of 'Co-management' with the Marine Parks Authority and the NSW National Parks and Wildlife Service for the area of overlap between the Reserve and the Cape Byron Marine Park along Seven Mile Beach, ie. between mean high water and mean low water levels (refer Section 3.7 - Related Planning Processes : Cape Byron Marine Park)

## AMENITIES AND FACILITIES

No amenities or facilities provided in this precinct, the area to remain undeveloped, catering only for passive self reliant day-to-day visitation - access by foot and limited (permit) vehicles only, disabled access by permitted vehicles.

## LAKE AINSWORTH MANAGEMENT PLAN (BSC 2002)

The Lake Ainsworth Management Plan recommends a number of actions for the lake and surrounds addressing environmental protection, lake water quality, recreation amenity, parking and traffic management, and public education. Implementation of the Lake Ainsworth Management Plan will be integrated with the Ballina Coastal Reserve Plan of Management, with planning of the Lake Ainsworth Caravan Park and with the recommendations of the Lennox Head Strategic Plan.

## CAMPING AND SOCIAL FUNCTIONS

***Prohibited activities:*** camping on the dune and hind-dune areas; large organised social functions, dance parties, fires.

## ABORIGINAL CULTURAL HERITAGE

Management of this area to be conducted in liaison with the adjoining landowner Jali Local Aboriginal Land Council, in respect of Aboriginal cultural values and any potential impacts of activities on adjoining Jali lands.



## PRECINCT 2 – SOUTHERN END OF SEVEN MILE BEACH

(Lake Ainsworth to Lennox Point)

### General Description of Precinct 2

This precinct covers Seven Mile Beach, from Lennox Head Surf Life Saving Club south to Lennox Headland, and includes the beach, fore-dune and rocky shores up to the boundary with freehold lands. It also takes in the open grassy foreshore area north of the headland, most of Pat Morton Lookout, most of the seawall adjacent to Lennox Village, and many of the parks and reserves adjoining the beach (including the fore-dune along Pacific Parade).

Much of this foreshore area has been modified for the purposes of amenity provision, access, and coastal protection within the growing township. Prominent features of the foreshore landscape include the rock seawalls fronting the village of Lennox Head (both built in 1992-93 as part of the Lennox Head Beach Management Works), the grassy fore-dune along Pacific Parade north of the shops (where some native dune vegetation still persists), and the Headland and open foreshore stretching northwards to Allens Parade. Ocean storm activity has at times created significant erosion of the beach and foredune in this high use area, occasionally hindering beach access and amenity.

The condition of native vegetation in this precinct is variable. The foredune from the Village centre north to the Surf Club is generally highly modified due to its frequent use for access and recreation, as well as from weed infestation, mowing, trampling, and senescence (dying-out of old trees,) However, pockets of remnant dune vegetation in reasonable condition are still scattered along its length. Of note is the virtual absence of native dune vegetation seaward of the Surf Club, which, if present, would provide a degree of buffering against ocean storm activity

North of the Surf Club, the foredune and incipient (outermost) dunes have a vigorous cover of native dune vegetation due to the ongoing and significant efforts of voluntary Dunecare. The constructed dune along the southern end of the beach (north and south of the “boat channel” is grassed and regularly mown, with a few isolated native trees.

Lake Ainsworth Caravan Park also comprises a significant part of the coastal Crown reserves system however it will be linked to this PoM through a separate management planning process.



## **Recreational Values**

This precinct is a major focal point for both locals and visitors to Lennox Head and experiences high visitation rates year round. The beach, foreshore and parks are very popular for passive recreation such as walking, sightseeing and picnicking, community events, entertainment, surf-riding events, fishing and swimming. The reef is also popular for surfing, swimming, fishing and nature appreciation. Lennox Point is a famous surf break, which often draws large numbers of surfers and spectators. The 'Boat Channel' at the southern end of Seven Mile Beach is well known for safe swimming, snorkelling, fishing and boat access across the reef.

## **Commercial Activity**

A small kiosk operates commercially from the Lennox Head Surf Life Saving Club near Lake Ainsworth.

Occasional vendor stalls operate on the foreshore (near Lennox Head Hotel) during surfing competitions.

## **Rehabilitation and Protection Measures**

Environmental restoration works have focussed mainly on the dune north of the Surf Club. The dune fronting Pacific Parade has seen some protection given to pockets of remnant frontal dune vegetation, occasional weeding and supplementary planting. A Vegetation Management Plan has been developed for the dune areas north and south of the surf club (EnviTE 2002).

Coastal protection works in this area include the seawall, constructed dune south of Lennox Village, and minor reconstruction works and isolated rock protection along sections of the foreshore just north of the village shops. In 1992-93 the Lennox Beach Management Plan was implemented, involving construction of rock seawalls at the village centre and at the southern end of Seven Mile Beach, formation of a constructed dune, and various access and amenity works along the foreshore.

Considerable environmental restoration and amenity work has been undertaken over many years along the informal foreshore track to the headland from the southern end of the township. The town's Residents' Association has planted out the walk with clumps of native trees and coastal shrubs in an effort to restore some of the headland ecosystem as a green corridor, to provide shade to walkers, and to generally enhance the recreational experience for all to enjoy.

## **Management Issues Identified for Precinct 2**

(Lake Ainsworth to Pat Morton Lookout)

- Demand for safe access to the beach and along foreshore (including disabled access).
- Management of Lake Ainsworth, addressing both environmental and recreation amenity values.
- Demands for car parking space (Surf Club, Lake Ainsworth area, Lennox Point surf break).
- Formalising the occupation of Lennox Head Surf Lifesaving Club site.
- Traffic congestion and pedestrian safety around Lake Ainsworth.
- Parking, amenities and walker/viewer safety at Pat Morton Lookout, traffic safety at Lennox Point surf break.
- Maintaining the scenic amenity and scenic values of the Lennox Head landscape.
- Water quality and human health (stormwater management).
- Gradual degradation of foredune vegetation along Pacific Parade.
- Amenity (seating, shade, showers) along foreshore.
- Beach erosion and long term beach recession.
- Management of dogs on the beach and foreshore.
- Cycleway access – from Pat Morton Lookout to the Boat Channel.
- Protection of important marine and shoreline habitat areas.
- Establishment of Cape Byron Marine Park which extends to Mean High Water Level, southwards to Lennox Head (Lennox Point), thus requiring integrated management within the

area of overlap and maintaining compliance with the Marine Parks Act. (refer Section 3.7 - Related Planning Processes)

- Co-management of Reserve and Council owned land; consistency with actions under the Lennox Head Strategic Plan.
- Potential for light commercial development to supplement revenue for implementation of the Plan of Management.

## **Objectives for Management in Precinct 2**

The high recreational use of this area by locals and visitors demands a high level of safety, accessibility and maintenance of amenity, both on the beach and in adjacent reserves. While Council has been able to meet this demand, it is expected that the growing popularity of the village as a holiday and day visitor venue will continue to place increased demands for parking, shade, picnic areas, seating, disabled access and emergency access. Planning to meet these demands must ensure that other key values and features of the area (open space, scenic amenity, and the informal atmosphere of the village and surrounds) are maintained.

Planning for infrastructure along parts of this area will need to consider the potential impacts of coastal hazards, especially beach erosion, shoreline recession, and wave attack which are addressed in the Ballina Coastline hazard Definition Study (BSC 2002).

The Lennox Head Village Strategic Plan, its objectives and recommendations, and the Lake Ainsworth Management Plan are also considered in this precinct plan.

Management recommendations for this precinct will aim to:

- provide high quality recreation amenity and access to the beach and foreshore in a safe, healthy and sociable environment for both locals and visitors.
- allow appreciation of the natural coastal environment
- provide opportunity for public access and parking
- provide (limited) opportunity for commercial activity to enhance the public's enjoyment; without adversely affecting the lifestyle and enjoyment of local residents.
- preserve the attractiveness and remaining natural scenic values of the area;

## **SPECIFIC MANAGEMENT RECOMMENDATIONS – PRECINCT 2**

### **PARKING AND TRAFFIC MANAGEMENT, ACCESS AND AMENITY**

1. Maintain/improve parking facilities and recreation amenity at key locations (Pat Morton Lookout, Lennox Point surf-break, Seven Mile Beach, Lake Ainsworth and Surf Club) to accommodate the high visitor and local demand and large range of recreational activities in this precinct, with strong consideration for public safety, adequate visitor capacity, pedestrian access to the foreshore, beaches and reserves, and disabled access.
2. Develop a detailed locality plan for the key areas of high-use in this precinct including Pat Morton Lookout, Lennox Point Surf Break and Seven Mile Beach areas (various) and the Lake Ainsworth / Surf Club area, providing an integrated planning approach addressing parking, vehicle traffic, safety, recreation and amenity needs, scenic amenity, environmental and visual impacts and impacts on local residents. Ensure consistency with the objectives and actions of the Lennox Head Strategic Plan (amenity requirements to include toilet and change facilities, wash-down areas, shade, walking tracks, emergency access, disabled access, safety of lookouts and scenic tracks, formalised access across dunes, picnic facilities, barbeques (where appropriate)).

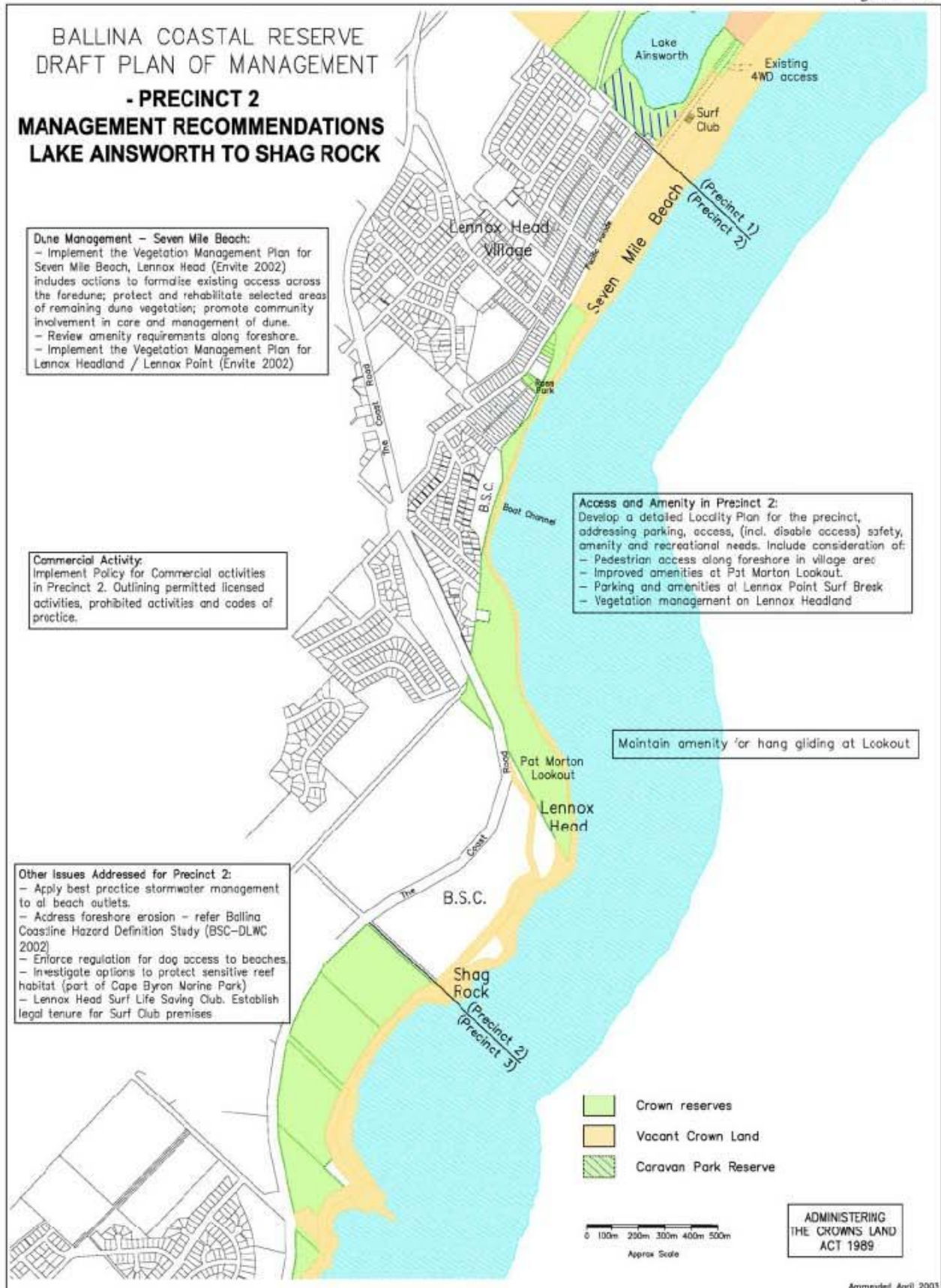


Figure 4 - Precinct 2 Plan

3. Investigate options to provide formalised access along the foreshore of Seven Mile Beach from Lennox Village southwards.
4. Maintain amenity for hang gliding (recreational and licensed commercial) at Pat Morton Lookout.
5. Parking and traffic management, access and amenity at Lake Ainsworth and Surf Club area: The draft Lake Ainsworth Management Plan, adopted in April 2002, provides the basis for improved management of parking and traffic management and visitor safety in this part of the precinct, particularly around the high-use southern end of the lake, Surf Club and Caravan Park.
6. Negotiate lease with the Lennox Head Surf Lifesaving Club for the occupation of the clubhouse and curtilage.

## **MANAGEMENT OF DOGS AND HORSES**

Dogs and horses prohibited on all beaches in this precinct. The current legislation governing dog access to Ballina Shire beaches will be implemented for the Ballina Coastal Reserve (designated areas for dogs on and off-leash are given in Section 9.9 - Animals on Beaches).

## **VEHICLE ACCESS TO BEACH**

Vehicle access for the purpose of boat launching is allowed at the 'Boat Channel' at the southern end of Seven Mile Beach. All other vehicles (including motor cycles) are prohibited from the beach except for emergency and service vehicles.

## **COMMERCIAL ACTIVITIES**

1. **Licensed commercial activities permitted in this precinct are :**
  - hang gliding (and para-gliding) at the designated launching site at Pat Morton Lookout.
  - surfing schools and guided sea-kayak activity (by prior arrangement with Council).
  - licensed vendors, by arrangement, at designated parking areas (not on the beach).
  - during special events, eg. surfing competitions, surf carnivals, Christmas and New Years Eve, licensed vendors permitted on adjoining Reserve parks, by prior arrangement with Council.
  - small commercial outlet (kiosk), presently operating at Lennox Head Surf Club.
2. **Commercial Activities not permitted** on beach: sky-diving activity, kite-surfing, jet ski hire, commercial horse riding, vendors.
3. Consider the establishment of one or two small commercial outlets (kiosk) in the Reserve, (examples of existing similar operations are Shellys on the Beach (Shelly Beach) and the kiosk at Lennox Surf Club. Any proposal will require careful consideration of potential impacts on aesthetic and environmental values, changes to traffic flow and parking needs, and impacts on local residents.

## **VEGETATION MANAGEMENT PLANS**

### ***Seven Mile Beach and Lennox Point / Lennox Headland***

Vegetation Management Plan has been developed for Seven Mile Beach and Lennox Point/Lennox Headland area (EnviTE 2002). The plans provide detailed guidelines for long-term protection and rehabilitation of vegetation in both areas, including recommendations for weed control and eradication, planting, protection, and access management. The Plans are available for viewing at Ballina Shire Council, Ballina and Lennox Head Public Libraries and through EnviTE (Lismore).

## PRECINCT 3 – BOULDER BEACH TO SHARPS BEACH

### General Description of Precinct 3

This precinct area extends from the northern end of Boulder Beach to approximately half way along Sharps Beach, and takes in Iron Peg, Little Boulder Beach, Whites Head and Skennars Head. It includes all land between the Coast Road and the low water mark to Skennars Head, and Sharps Beach, and part of its hind dune that lies within a Crown public road (21.15 metres wide) for the full length of the beach. The Reserve is bounded on its western side, behind Sharps Beach, by freehold land. A small block of freehold land with a cottage occupies part of the headland at the southern end of Boulder Beach.

Landscape features in this area include the high conservation value Littoral Rainforest at the southern end of Boulder Beach, which is protected under State Environment Planning Policy No. 26 (Littoral Rainforest), the prominent headlands and cliffs of Whites and Skennars Heads, the rocky shores around Boulder Beach headland, Sharps Beach stretching southwards to Flat Rock, and a spectacular view northward taking in Boulder Beach, Shag Rock and Lennox Headland.

Boulder Beach Littoral Rainforest, although small in size (4 hectares), is one of few remaining examples of this unique vegetation type. A wetland/swamp occupies the hind dune area behind Boulder Beach, and although disturbed during past sand mining activity, it retains many natural wetland characteristics. The rock pools and rocky shoreline around Iron Peg contain diverse intertidal habitat. The headland areas are dominated with various grasses and scattered patches of wind shorn native and exotic species, providing limited habitat value, although some vigorous Banksia regeneration is evident on the southern face of Skennars Head. There is moderate soil erosion over the network of roads and tracks across the headlands, and some scoring from stormwater runoff north of Sharps Beach.

The Iron Peg area has been noted for both its scientific and heritage values. An unusual geological feature exists at the current house site, associated with the past occurrence of basaltic lava flows over Tertiary (coal) sediments, creating unique sediment and rock formations. The headland at the southern end of Boulder Beach, as well as headland at Lennox Point, provided the raw (rock) materials of chert and chalcedony for local Aborigines to make stone tools. The site thus offers important research opportunities which should be considered in making future management recommendations.



### Recreational Values

The area is popular for surfing, fishing, scenic viewing, general passive recreation and nature appreciation. Sharps Beach is an important amenity for the nearby Headlands Estate residents as well as visitors, which necessitates the presence of surf life saving services during summer and other peak use periods. The area is also used for surfing, fishing and walking. Skennars Head is a popular

vantage point for viewing, particularly during the whale-watching season mid-year, and the headlands at Skennars and Iron Peg are becoming popular for weddings and wedding photography.

### **Commercial Activity**

There is no commercial activity occurring in this precinct except for occasional small ice cream vendors operating from the Sharps Beach car park.

### **Rehabilitation and Protection Measures**

Local Vegetation Management Plans have been prepared for the Boulder Beach littoral rainforest and its surrounding areas, and for the Boulder Beach Wetland area. Initial restoration of the littoral rainforest has focussed on strategic removal of weeds with some supplementary planting, and regular follow-up monitoring and weeding. The project has utilised the assistance of specialist bush regeneration advice and voluntary local and labour market workers. Rehabilitation of the wetland will involve systematic removal of weeds and gradual reintroduction of appropriate wetland species, as well as an ongoing program of local awareness raising, access control and rubbish removal.

### **Management Issues Identified for Precinct 3**

- Preserving the natural setting and undeveloped state of the Boulder Beach area
- Boulder Beach Littoral Rainforest - its continued protection and rehabilitation
- Protection of the unique scenic quality of the area, provision of safe viewing amenity at Skennars Head and Boulder Beach headland.
- Establishment of a cycleway through the sensitive coastal environment at Boulder Beach
- Catering for significant increased user demand - addressing access and amenity, parking, and safety for visitors to Sharps Beach, Skennars Head and Iron Peg
- Rehabilitation of the disturbed wetland and regeneration of native vegetation in the area behind Boulder Beach.
- Erosion of the foreshore at the southern end of Boulder Beach (old parking area) and of the existing walking track along the dune front and at Skennars Head
- Providing security of parking at Boulder Beach, particularly for night fishers
- Stormwater erosion at the northern end of Sharps Beach
- Vegetation management at Sharps Beach and Skennars Head
- Addressing future surf life saving requirements at Sharps Beach
- Integration of management of the Reserve with Council owned lands and infrastructure
- Management of dogs and horses in this precinct
- Concerns about impacts of discharges from the Skennars Head ocean outfall
- Concerns about impact of adjoining private development at Boulder Beach headland.

### **Objectives for Management in Precinct 3**

A priority objective for this precinct is the resolution of a number of issues associated with vehicular access, provision of defined car parking, public amenity, location of the proposed cycleway / walkway and environmental protection in the face of increased user pressures.

Of equal importance, and strongly expressed during public consultation of the draft, is the desire to preserve the relatively undeveloped and natural setting of this precinct, particularly in the Boulder Beach area.

Future management in this area should aim to:

- Preserve the unique scenic quality of the area;
- Protect the high conservation value and habitat values of parts of the area, particularly Boulder Beach Littoral Rainforest and its foredune area, all foreshore vegetation, and the valuable marine intertidal habitat within the rocky areas around Iron Peg;
- Protect heritage values and sites in the area, both Aboriginal and post-settlement.

- Provide safety for users and visitors to the area - particularly in view of an expected future increase in visitor pressure on this part of the coast (traffic safety, safety for viewing on the headlands, and swimmer safety at Sharps Beach).
- Ensure that improvements to amenity and access in this area do not unnecessarily increase visitation and use to a level beyond the capacity of the environment.
- Accommodate the increased usage of this precinct from both local urban development and visitors and holiday makers in recent years, while maintaining the natural values of the area.
- (**note** : any proposed works in the Sharps Beach car park will be subject to consultation with the private land holder in this area)
- Skennars Head ocean outfall - Although the outfall is outside the terms of reference of the PoM, the issues of safe water quality and human health are an important consideration for the future management of the coastline.

### **SPECIFIC MANAGEMENT RECOMMENDATIONS - PRECINCT 3 (Boulder Beach to Sharps Beach)**

#### **PARKING AND TRAFFIC MANAGEMENT, ACCESS AND AMENITY**

- Develop detailed Locality Plans for Boulder Beach and Skennars Head / Sharps Beach, addressing the following issues :
  - parking, access and amenity, viewing amenity at Skennars Head and Boulder Beach
  - safety for visitors
  - location of the proposed cycleway through this area, its design compatible with the environmental constraints
  - traffic management
  - future surf life saving requirements
  - environmental rehabilitation
- Encourage usage patterns that minimise visitation to the littoral rainforest at Boulder Beach to preserve its relatively 'undeveloped' condition.

#### **MANAGEMENT OF DOGS AND HORSES**

- Sharps Beach and Skennars Head - dogs on leash only.
- Boulder Beach and Iron Peg - dogs strictly on leash only.
- Horses prohibited in all areas of this precinct, including headlands, beaches, all foreshore areas and hind dune areas.



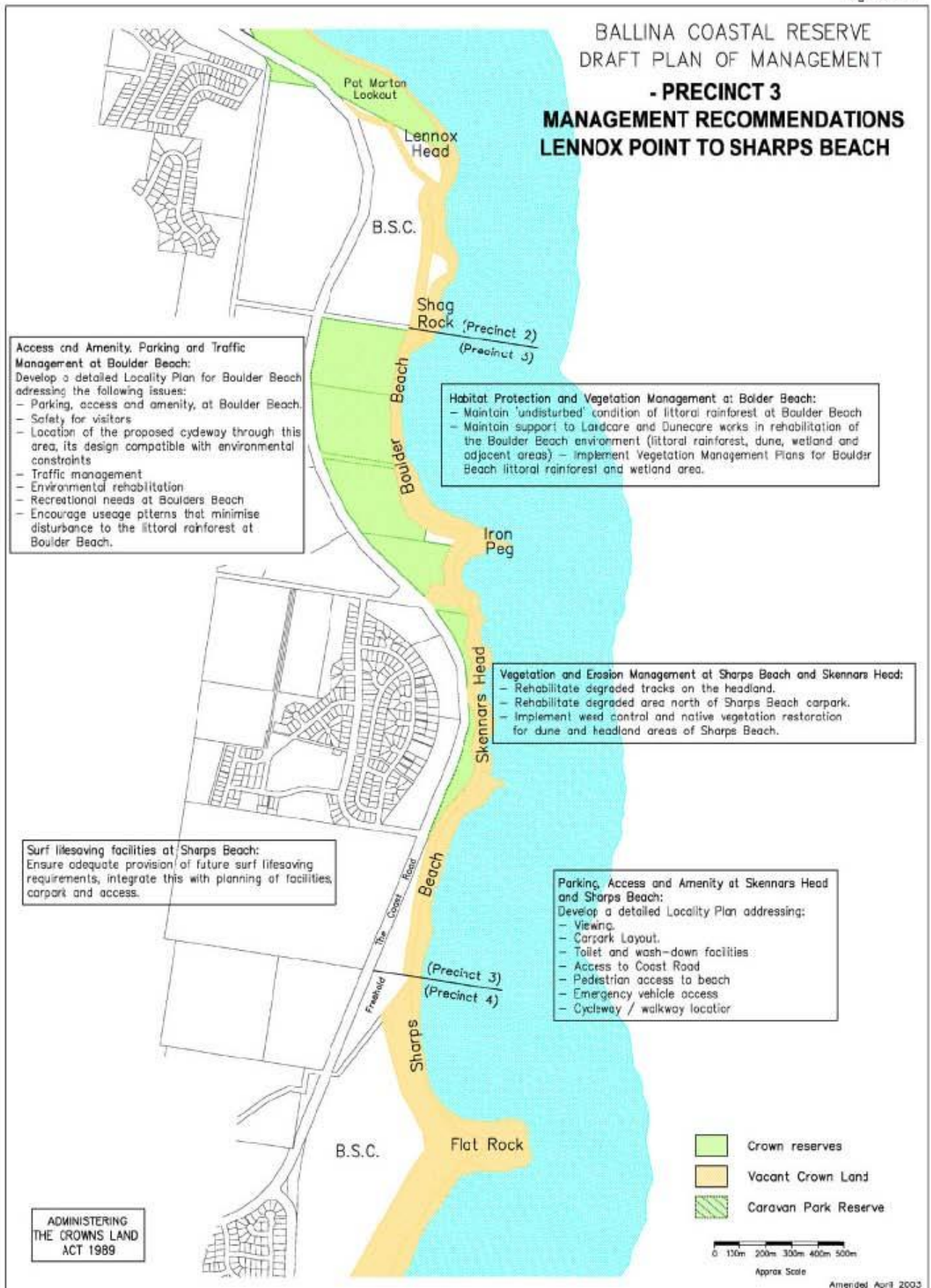


Figure 5 - Precinct 3 Plan

## **OFF- ROAD VEHICLES**

- **Sharps Beach and Angels Beach** - vehicles permitted only during night time, by prior arrangement with Council. Vehicle access only via the designated 4WD access track at Angels Beach; vehicles not permitted on dunes, vehicles to be driven only below High Water Level. No vehicles across the recognised shorebird resting and roosting site shoreward of Flat Rock reef/rock platform.
- **Boulder Beach:** no vehicles permitted.
- No motor cycles permitted on any part of this precinct outside designated parking areas.
- Provide emergency access to Boulder Beach, with careful consideration for environmental impacts and strictly managed to prevent unauthorised access.

## **COMMERCIAL ACTIVITY**

- Permitted activities (under Licence by Council) - surf schools, kite-surfing in designated areas, and other activities by arrangement with Ballina Shire Council.
- No commercial activity on beaches or any other part of Precinct 3.
- Vendors permitted by arrangement with Council, only at specified parking areas.

## **ENVIRONMENTAL PROTECTION AND REHABILITATION, EROSION CONTROL**

- Conduct environmental rehabilitation works in accordance with Vegetation Management Plans developed for Boulder Beach and Boulder Beach Wetland.
- Develop and implement a Vegetation Management Plan for the area Skennars Head to Sharps Beach, incorporating weed control, planting, and protection measures for the dune and headland areas. Integrate activities with other local area planning and works.
- Provide strategically placed educational and interpretive signage to improve awareness of environmental and aboriginal cultural values of the area.
- Rehabilitate the degraded tracks on the headland. Implement stormwater protection measures north of the Sharps Beach carpark.
- Address erosion of foreshore at southern end of Boulder Beach (refer Boulder Beach Locality Plan and Ballina Coastline Hazard Definition Study.)

## **ABORIGINAL HERITAGE**

Establish protocols to ensure adequate protection and preservation of all remaining Aboriginal sites and artefacts of Aboriginal significance in the Boulder Beach/Iron Peg area prior to any works or site disturbance. (refer section - Culture and Heritage)

### **General Description of Precinct 4**

This precinct covers the beach and foredunes from the southern end of Sharps Beach to Black Head, and includes the rock platform at Flat Rock, part of the hind dune area of Sharps Beach, and part of the hind-dune area between Angels Beach and the Coast Road.

Significant features of the landscape in this precinct are the relatively undisturbed environment, the open beach and dune /swale complex behind the prominent rock platform at Flat Rock, and the vigorous cover of native vegetation over much of the back-beach areas and surrounding lands. The significant Aboriginal cultural and heritage value of Angels Beach and Black Head and the surrounding landscape is also well recognised.

Although Crown Land occupies a relatively small portion of the Angels Beach and Flat Rock coastal environment, it should be considered integral to the local ecosystem. This relatively undeveloped area is valued for its diverse range of coastal native vegetation types and range of habitats for native fauna. (Angels Beach Dunecare Restoration Plan 2000). Vegetation communities in the area include remnant and regrowth littoral rainforest, coastal dune vegetation, wetland, swamp forest, heath, and Banksia woodland. There are a number of previously disturbed areas (from past sandmining and clearing) now vigorously regenerating with native vegetation and providing important coastal habitat of high conservation value. Prominent weed species in the area include Bitou bush (in both foredune and hind dune areas), ground asparagus (in low light areas and on edges) and lantana (in hind dunes and on the edge of roads and clearings). The beach, incipient foredune and rock platform of Flat Rock provide resting and roosting habitat for a number of seabirds (both regional and migratory), as well as sea turtles. The rocky shoreline is an important marine intertidal zone providing habitat for marine invertebrates and fish.

### **Recreational values**

The beach is an important amenity for the local residential areas of East Ballina, Chickiba and Angels Beach, which benefits from the network of pathways feeding these areas. The precinct experiences moderate levels of visitation during holiday periods and weekends, including visitors from the nearby Flat Rock Tent park, and is valued by locals and visitors for its natural condition and open space. Recreational use includes walking (often with dog), swimming, surfing and fishing. The beach, intertidal areas, and surrounding bushland provide an important resource for environmental education & natural history appreciation.

Access requirements are generally well addressed, with a formalised walking track winding through the hind dune and beach accesses established at a number of vantage points. Small unsealed parking is provided at Angels Beach and a larger sealed area provided at Flat Rock.

Future demand may develop in time for additional parking space and possibly amenities at Angels Beach in view of expanding local and visitor populations. However, this has not been quantified, and the current available space appears to be sufficient.

### **Rehabilitation and Protection Measures**

A significant amount of work managing and enhancing the environmental value and hence the recreational amenity in this area is done by or implemented under the guidance of local Dunecare groups.

Management of the natural environment at Angels Beach and Flat Rock is well documented in the Angels Beach Draft Ecosystem Restoration Plan (Angels Beach Dunecare and Reafforestation Group 2000). Activities in the area to date have included weed removal, supplementary planting using stock propagated from local indigenous native seed, direct seeding, installation of various facilities such as

formalised access tracks, fences, graded walking trails, viewing platforms and informative signs, and education and awareness activities.

#### **Management Issues Identified for Precinct 4 (Flat Rock, Angels Beach, Black Head)**

- Protecting high conservation value coastal environments and locally and regionally important coastal habitat, including the shorebird and marine intertidal habitat at Flat Rock
- Considering future requirements for amenity, parking, and access.
- Preventing further environmental damage and disturbance from unauthorised access by walkers, vehicles, horses and unleashed dogs.
- Erosion hazards on cliff face at Black Head
- Damage to native vegetation from unauthorised pruning, lopping and firewood collection.
- Stormwater impacts from nearby urban development.
- Need for ongoing native vegetation management and dune stabilisation works.
- Flat Rock and Angels Beach an important resource for education and nature appreciation.
- The significance of Angels Beach, Flat Rock and Boulder Beach to Aboriginal cultural and heritage values.
- Management of dogs and horses
- Potential for rehabilitation and enhancement of the rock platform below Black Head, for amenity, cultural and environmental appreciation.
- Location of the proposed cycleway through this precinct.
- Need for integrated management with adjoining Council owned land.
- Management of off-road vehicles - erosion of access track, minimising impacts from vehicles

#### **Objectives for Management in Precinct 4**

The natural attributes of the area are considered to be its most important asset, a value held by both visitors and local residents in nearby east Ballina, Shelly Angels Beach and Chickiba. Any proposals to improve amenity or visitor enjoyment of the area should carefully consider the likely impact of any increase in usage on the local environment to withstand this, and should consider the strong indigenous cultural values held for the area.

Management recommendations for this area should aim to:

- Conserve the unique environmental and aesthetic qualities and natural setting of the area.
- **Current use and management:** Accommodate the increased human usage that is evident in this precinct due to both local urban development and higher day and holiday visitation, while maintaining the natural values of the area.
- **Future use and management:** achieve a level of visitation to and use of the area which does not exceed the 'carrying capacity' of the environment, thus preserving its relatively undeveloped condition and its important habitat values, while still accommodating the demands from both local residents and other visitors.

*Strategies to achieve the above objectives would include:*

- strict control of access to beach and sensitive coastal environments
- Careful management of horses and dogs on the beach and hind-dune areas, coordinated with programs of education and awareness, encouraging 'codes of practice' for users.
- Strict enforcement of regulation by the Reserve Trust Manager.
- Nil commercial activity in sensitive areas.
- During detailed planning for works and facilities in the precinct, placing limits on any additional parking space, access and amenities in or adjacent to sensitive areas, justified in terms of impacts, environmental capacity and space constraints.
- An integrated management approach to both Reserve lands and Council owned lands in the area will be taken, consistent with the broad objectives outlined in the Plan of Management, whilst acknowledging their separate tenure and statutory frameworks for each part.

## **SPECIFIC MANAGEMENT RECOMMENDATIONS FOR PRECINCT 4 (Flat Rock, Angels Beach and Black Head)**

### **PARKING, ACCESS AND AMENITY**

Develop a detailed Operational Plan / locality for the Angels Beach and Flat Rock and Black Heads, area incorporating past planning outcomes, current and future requirements. The Locality Plan will be prepared in consultation with relevant stakeholders developed in accordance with the management objectives stated above.

The Locality Plan will include the following components:

- A schedule of proposed works with priorities, costing estimates, time frames for completion, and a review / monitoring process to assess impact, performance, maintenance management issues arising.
- Parking requirements at Angels Beach in respect of current and projected demands, with consideration for environmental impacts, security, safety, visual impacts and proximity to existing and proposed amenity.
- Amenities, access (including disabled access,) and integrating this with the proposed cycleway location and design.

### **MANAGEMENT OF DOGS AND HORSES**

#### **Dogs**

- Develop policy and guidelines specific to the precinct, for dog and horse management, including provision for defined leash and leash free areas, and restriction areas.
- Provide dog litter control facilities at designated access points
- Ensure strict enforcement of dog litter and dog control regulations.

#### **Horses**

- Recreational horse riding permitted on Angels Beach and Flat Rock Beach, however restricted from the dune swale area landward of Flat Rock, proposed as a designated Wildlife Refuge Area.
- Commercial horse riding operations prohibited in Precinct 4.
- Ensure strict observance of Code of Practice for Horses in Precinct 4 (refer Section 9.9 - Animals on Beaches).

### **OFF- ROAD VEHICLES**

- Vehicles permitted on Angels Beach and Sharps Beach, by arrangement with the Reserve Trust Manager, only between sunset and sunrise.
- Access only via the designated vehicle access at Angels Beach
- Maximum speed 30 km/ hour, reduced to 10 km/hr within 50 metres of walkers.
- No vehicles permitted on dune and hind dune areas OR on dune swale area behind Flat Rock rock shelf (which is proposed for future wildlife refuge area status).

### **COMMERCIAL ACTIVITY**

- No commercial activity on beaches or any other part of Precinct 4, except surf riding schools.
- Licensed vendors (ie ice cream van) permitted only by arrangement with Council, at specified parking areas.
- **Not permitted: vehicle tours, kite surfing, commercial horse riding, parachute drop zone, dance parties.**

## ENVIRONMENTAL PROTECTION AND REHABILITATION

- Implement the Angels Beach Ecosystem Restoration Plan (Angels Beach Dunecare and Reafforestation Group Inc., 2000), incorporating weed control, planting, protection measures for the dune and headland areas, and recommendations for access, amenity, education and signage. Integrate activities with other local area planning and works on Council owned land.
- Provide strategically placed educational and interpretive signage to improve awareness of environmental and aboriginal cultural values of the area.
- Provide ongoing support to native vegetation rehabilitation programs.
- Strictly enforce regulation governing environmental protection, access, permissible activities and notified codes of practice with the aim of protecting the significant areas of habitat in the precinct.
- ***Protection of shorebird habitat and marine intertidal habitat at Flat Rock***
  - Conduct a program of public education and awareness of the habitat value of the site.
  - Establish a 'protection area' or 'Wildlife Refuge' or refuge of similar conservation status for the Flat Rock platform and dune swale area, recognised as important habitat for marine (local and migratory) wildlife. Protection to include exclusion of vehicles, dogs and horses from dune area, minimum disturbance by pedestrians.
  - Provide Council with regulatory responsibility and necessary authority under the Local Government Act and Crown Lands Act to enforce regulation and policy aimed at protecting important habitat.

## OLD QUARRY SITE AND ROCK SHELF BELOW BLACK HEAD (TRESSELS)

This site is essentially flat, its surface is only slightly above mean sea level and in a highly exposed position, subject to high seas and strong winds, with negligible soil depth. The area is presently used for informal parking for visitors to South Angels Beach and Shelly Beach, occasional viewing, and fishing. Consider the potential to improve the amenity of the area within the physical constraints of the site, for example:

- Minor landscaping and soil fill in specific areas to aid tree planting;
- Picnic facilities, shade, tree planting of appropriate species, litter bins;
- Formalised parking with improved road surface in selected areas;
- Improved beach access to Angels Beach and Shelly Beach.

## HERITAGE

Recognise the important Aboriginal cultural significance of the area.

(Refer to Objectives, Strategies and Actions for Culture and Heritage, page 34).

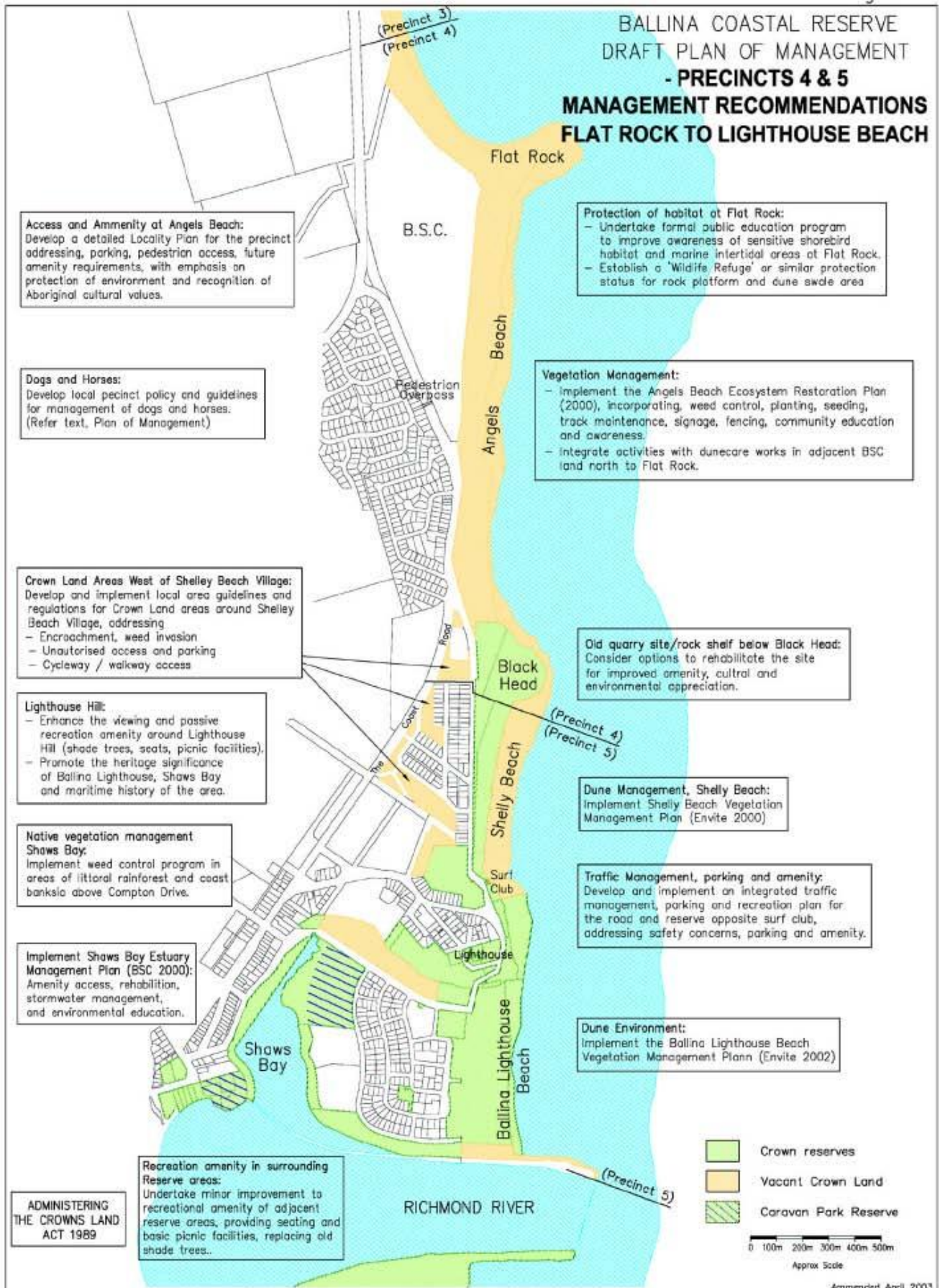


Figure 6 - Precincts 4 and 5 Plan

### **General Description of Precinct 5**

The Plan area takes in the beach, dune and hind dune areas of Shelly Beach and Ballina Lighthouse Beach, the headland including much of the hill south of the lighthouse, the open space areas and parks around Shaws Bay, and vacant Crown lands and reserves between Shelly Beach and the Coast Road. The precinct does not include the Richmond River training walls, Shaws Bay Caravan Park and Pop Denison Park.

Shelly Beach dune area comprises a mix of wetland, littoral rainforest, beach dune, and heath vegetation. The Lighthouse Beach dune area consists of typical dune vegetation throughout, with invasive weeds such as Bitou bush being systematically replaced with a floristically diverse range of planted native species. The areas west of Shelly and Lighthouse Beaches have a diversity of heath, littoral rainforest, Banksia woodland and sclerophyll forest types.



### **Recreational Values**

Both Shelly Beach and Lighthouse Beach are of great value to the Shire in terms of providing high quality recreational and viewing amenity for locals and visitors, being the most readily accessible beaches from the high population centres of Ballina and Lismore. Shelly Beach in particular has high visitation on weekends and during holiday periods, and is regularly patrolled for surf safety.

The area is popular for swimming, surfing, fishing, sightseeing, whale watching and walking, and is relatively well endowed with amenities including walking paths, viewing vantage points, picnic areas and parking. The surf life saving clubs at both beaches provide an important community service, the clubhouses also being a popular venue for various group activities.

### **Rehabilitation and protection measures**

Vegetation Management Plans have been produced for the dune areas adjacent to Shelly Beach and Lighthouse Beach, focussing on weed removal, planting and improvements to access. The Plans provide a practical guide for community groups and individuals in rehabilitating the Shelly Beach and Lighthouse Beach dune environments. Objectives of the plans include:

- strengthening the regenerative capacity of remnant native vegetation,
- improving the general amenity and safety of the area,



- providing habitat for local and migratory native fauna,
- encourage sand accretion on dunes to help reduce the impact of beach erosion.

Shelly Beach Coastcare have been progressively rehabilitating sections of the dune, particularly at the northern end of the beach since 2000, where there has been extensive invasion by Bitou Bush and Lantana in the past. Rehabilitation is being achieved through systematic eradication of weeds to establish weed-free areas which can be maintained and enlarged as resources allow, and protection/improvement of native vegetation adapted to conditions on the immediate foredune eg. Spinifex and Acacia.

Considerable progress has been achieved by members of Lighthouse Beach Dunecare since 1990 in rehabilitating the dunes which were previously heavily infested with Bitou Bush and Lantana. Works to date have included weed removal, extensive planting of native vegetation and establishment of a network of access tracks with directional and educational signage and construction of viewing platforms.

### **Management Issues Identified for Precinct 5**

- Recognised as a prime recreation and viewing area; desire to maintain recreational amenity value of the area
- Weed infestation of dunes and hind dune area at Shelly Beach: concerns about ongoing degradation of the dune area, through misuse (rubbish and garden waste), unauthorised pruning, informal tracks through dunes; Management of areas of native vegetation in reserves fringing Shelly Beach village.
- Potential for improved amenity in some areas to cater for future demands.
- Traffic safety concerns near the Shelly Beach surf life saving club building.
- Protection and promotion of heritage values of the area.
- Desire to establish an Aboriginal Cultural Centre at Lighthouse Beach
- Potential for additional light commercial activity to supplement funding requirements for implementation of the PoM.
- Integration with Shaws Bay Caravan Park and Pop Denison Park Plans of Management.

### **Objectives for Management in Precinct 5 (Shelly Beach, Lighthouse Beach and Shaws Bay)**

Recommendations for this area should aim to:

- Maintain a high level of recreational and scenic amenity and safety of the area for visitors
- Protect, maintain and enhance the dune and surrounding native vegetation communities in the area, and maintain the health and safety of the beach environment.
- Protect and enhance the unique cultural and heritage/historic significance of the area.
- Consider opportunities for appropriate commercial activity in the Reserve, whilst ensuring that the landscape, environmental, social and historic values of the area are also protected.

### **SPECIFIC MANAGEMENT RECOMMENDATIONS FOR PRECINCT 5 Lighthouse Beach and Surrounding Reserve**

#### **PARKING, ACCESS AND AMENITY**

Develop detailed operational plans / locality plans for Shelly Beach, Lighthouse Beach and Richmond River Lighthouse precincts, prepared in consultation with relevant stakeholders, in accordance with the management objectives stated above.

The Locality Plan to include the following details and considerations:

- A schedule of proposed works with priorities, costing estimates, time frames for completion, and a review / monitoring process to assess impact, performance, maintenance management issues arising.
- Present/future parking requirements and traffic management at Shelly Beach, Lighthouse Beach and Shaws Bay
- Amenities (picnic, tree planting for shade, and access (including disabled access), to cater for both present and future demands in this popular area.
- Integration with environmental rehabilitation programs, Richmond River Lighthouse Conservation Plan and recognition of existing important habitat.
- Recognition of existing heritage values

## MANAGEMENT OF DOGS AND HORSES

### Dogs

- Dogs are not permitted on Shelly Beach or Lighthouse Beach.
- Dogs in all other areas must be kept under effective control
- A designated leash-free dog exercise area is provided in open parkland on the northern side of Compton Drive adjacent to Pop Denison Park.
- Regular patrolling will be maintained to provide strict enforcement of dog litter and dog control legislation.

### Horses

- Horses not permitted on Shelly Beach and Lighthouse Beach or their respective dune areas.

## LIGHTHOUSE BEACH SURF LIFESAVING CLUB BUILDING

Consider all options to maximise use of the building, consistent with the purpose of the Reserve (ie. Public Recreation and Coastal Environmental Protection).

## OFF- ROAD VEHICLES

- No vehicles are permitted on the beaches in this precinct (Shelly Beach and Lighthouse Beach), except for licensed commercial fishermen, emergency and service vehicles.
- Vehicle access is not permitted in the in the dunes or on unauthorised tracks in areas of native vegetation west of Shelly Beach.

## COMMERCIAL ACTIVITY

- No commercial activity permitted on beaches, except for surf riding schools or activities permitted by arrangement with the Reserve Trust Manager and Council.
- Licensed vendors (ie ice cream van) permitted only by arrangement with Council, at specified parking areas.
- **Not permitted: vehicle tours, kite surfing, commercial horse riding, parachute drop zone, dance parties.**
- Investigate options to develop additional appropriate commercial activity in this precinct, thus provide supplementary revenue that is required to implement the Plan of Management. This will be limited to light refreshments kiosk or café/restaurant, appropriately positioned and operated to minimise visual and environmental, impacts, and without adversely affecting the amenity of local residents.

## **Environmental Protection and Rehabilitation**

- **Dune Vegetation Management and Weed Control**

Implement the Shelly Beach Vegetation Management Plan (EnviTE 2000) Enforce regulations prohibiting dumping of garden waste and rubbish, unauthorised tracks in dunes and tree destruction. Review the management of Reserve bushland areas fringing the village (ie. possible encroachments, tracks)

- **Dune Environment and Native Vegetation Management in Surrounding Areas**

- Provide continued support to the Ballina Lighthouse Beach Community Dunecare Group.
- Implement the Lighthouse Beach Vegetation Management Plan (EnviTE 2002) and the weed control program in areas of littoral rainforest and coast Banksia woodland above Compton Drive at the northern end of Shaws Bay. Coordinate this with other vegetation management actions in the Shaws Bay Estuary Management Plan area. (see below)

## **HERITAGE**

- **Richmond River Lighthouse and Lighthouse Hill/Ballina Head Surrounds**

The Richmond River Lighthouse Conservation Management Plan details the exceptional cultural heritage significance of the lighthouse and headland. The headland itself is recognised as a significant landmark that affords panoramic views of the coastline.

- Enhance the viewing and passive recreational amenity of the area around historic Richmond River Lighthouse (shade trees, seating, picnic facilities) consistent with the Conservation Management Plan.
- Promote the heritage significance of the Lighthouse, Shaws Bay and its maritime history.

## **SEARCH AND RESCUE CO-ORDINATION CENTRE (COASTGUARD TOWER)**

The Richmond River is the only navigable river with access to the ocean in Ballina and is an important recreational and commercial resource.

The mouth of the Richmond River is recognized as difficult and dangerous to negotiate in certain conditions. It is paramount that facilities are provided that increase the ease with which vessels can negotiate the bar and for emergency service facilities to be available to assist vessels in distress, their crew and passengers.

The existing Coast Guard Tower located adjacent to the Ballina Coastal Reserve is in a poor state of repair and does not meet the current standards for safety and support facilities. The existing Tower is not ideally located and the observation platform lacks the height required to provide a clear and unimpeded view of approaching vessels.

It is recommended that a new search and rescue co-ordination centre be erected within Precinct 5 of the Ballina Coastal Reserve adjacent to the existing tower to provide a superior observation platform of sufficient height and with all necessary facilities to optimize its operational and financial viability.

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# Ballina Coastal Reserve Plan of Management

## Volume 2

# Background Information

## Resources and Values

### Appendices



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## INTRODUCTION

The NSW North Coast Crown Reserve Management Strategy emphasises a value based approach to Coastal Reserve management which aims to protect and enhance the intrinsic values of the area.

This section describes the social, recreation, cultural heritage and environmental values of the Ballina Coastal Reserve area. The study area includes the beaches, headlands, parks, dune and hind dunes and foreshores down to low water mark, within Crown Land.

Coastal Reserves and vacant coastal Crown Land occupy 18 kilometres of Ballina's northern coastline, covering an area of approx. 320 hectares. The area represents a significant 85% of all land east of the Coast Road from the Richmond River to the Shire's northern boundary at Seven Mile Beach. The reserves contain a diversity of sensitive and dynamic landscapes and natural systems, and are strongly valued for their recreational opportunities for residents and visitors.

### 1. PHYSICAL ENVIRONMENT

#### 1.1 *Climate*

Ballina is situated in the Richmond Catchment in northeast NSW and has a warm temperate climate, with wet summers and mild dry winters. Temperatures range from 19° to 27°C and rarely exceed 32°C. Maximum temperatures occur from December to March, and minimum temperatures from June to August. March is usually the wettest month, and August the driest. The Richmond Catchment is one of the wettest areas in NSW, and has some of the most intense and erosive rainfall in NSW. (Morand, 1994). Average rainfall fluctuates between 1600 and 1700 millimetres per year, with the highest falls in summer (November to April) (Anderson, 1999 cited in Erskine, et. al., 2001). The prevailing wind is from the southeast, however there are strong northerly winds throughout the summer months.

#### 1.2 *Coastal Soils, geology and geomorphology*

Ballina Coastal Reserve is bounded by the North wall of the Richmond River in the south and Ballina Shire Council boundary in the north. There are four main landscape types along the Ballina Coastline - beaches, headlands, alluvial & estuarine deposits, and the sand sheets or sandplains. Nearby Broken Head forms the oldest rocks of the area. These are Palaeozoic age rocks of the Neranleigh-Fernvale group. The Tertiary age Lamington volcanics, consisting predominantly of basalt, overlay these metasediments (Morand, 1994).

The headlands between Lennox Head and Ballina are basalt outcrops resulting from lava flows from the Mount Warning Shield Volcano. The lower Richmond River Catchment is an accumulation of Quaternary alluvium (Morand, 1994). The sediments that have accumulated in the Richmond River estuary have created a mature infilled barrier-type estuary (Roy cited in Earley, 1996).

Ballina Shire beaches are predominantly Quaternary (Holocene) beach and dune sand, except for Boulders Beach which is dominated by rounded basalt small boulders and stones. The beach, foredunes and most of the hindunes are deep siliceous and calcareous sands (Morand, 1994). Lighthouse beach is a recently accreted landform, occupying the original Richmond River mouth. Prior to the construction of the northern training wall, the river mouth was very mobile and transient, part of a broad meandering marine tidal delta forming the mouth of the Richmond River (Readford, cited in Erskine, et. al., 2002).

Boulder beach is bounded by basalt headlands; basalt boulders cover the beach, with the only significant sand deposit on the northern half of the beach. Boulders become more rounded with distance from the southern headland. The southern cliff face at Boulder Beach is being undercut through physical and chemical weathering processes. (Walsh cited in Erskine, et. al., unpub.).

The Newrybar Sand Plain north of Lennox Head adjacent to Seven Mile Beach is a Pleistocene beach ridge plain containing siliceous sands. Lake Ainsworth, located south of the sand plain, is a freshwater coastal lowland dune lake consisting of aquifer fed water trapped above a layer of impervious coffee rock. Groundwater to the west of the lake flows to the Newrybar Swamp (AWACS, 1996). High recreational use and blue green algae is an issue for Lake Ainsworth and these issues are addressed in the Lake Ainsworth Plan of Management.

### **1.3 Coastal Erosion**

Beaches and dunal profiles are subject to continual change in response to wave and wind energy, tides and currents. Many parts of the beach including dunes are also prone to water and wind erosion, particularly where sand is exposed and lacking a protective vegetation cover. Erosion can result in overall loss of dune stability, blowouts (often aggravated by inappropriate or unmaintained accessways), and significant loss of sand.

Beach and dune erosion is an issue for much of the East Coast of Australia. Destructive storm events on the eastern seaboard most recently occurred during the 1960's and early 70's. Erosion of coastal landforms can present a significant threat to existing public and private property impacting on recreational and development opportunities, scenic quality and wildlife habitat values (NSW Government, 1997).

The threats of beach erosion and long-term coastal recession at Lennox Head village have been addressed by Council's Lennox Head Beach Management Plan that was substantially implemented in 1993, and is now the subject of further investigation under the Ballina Coastline Hazard Definition Study.

At Boulder Beach, a part of the foredune is eroding at its southern end near the old carpark area. Some soil erosion is evident on parts of the exposed upper headlands at Lennox Point (Shag Rock), Iron Peg and Skennars Head. The soil types there are of basalt origin, are easily eroded when exposed, and prone to slippage due to the steepness of slope and proximity to the cliff edge.

Ballina Shire Council is currently addressing coastline hazards along the whole of the Shire's coast through the Ballina Coastline Hazard Definition Study. The study will define those hazards that potentially impact on existing and future development and infrastructure along the Ballina Coastline, and evaluate them in the context of future planning needs.

## **2. ECOLOGICAL ENVIRONMENT**

Ballina Shire Coastal Reserve is a unique coastal environment which exhibits a high level of plant and animal species diversity. The ecological features of the area are valued in many ways, including intrinsic, cultural, environmental, economic, aesthetic and recreational.

The Ballina coastal area forms part of the Tweed-Morton Bioregion. The Far North Coast of NSW is regarded as one of the highest areas of biodiversity in Australia. This diversity in species and habitats can be attributed to the unique geological and climatic conditions of northeast NSW. The area contains species of both temperate and tropical origins that may reach their southern or northern distributional limits respectively. The diverse vegetation types in the reserve include; coastal dunes, littoral rainforest, heathland, sclerophyll forest, wetlands, and woodlands. These vegetation types provide habitat for a diverse number of



native animal species and their populations. Some species are specifically reliant on the habitat types that occur in the reserve.

In addition to the value of high biodiversity, the maintenance of natural processes and ecosystem function is important for air and water quality, nutrient cycling, soil stability and pest control. A healthy ecosystem provides a sound basis for ecological sustainability and sustainable use.

The significant ecosystem values of the Ballina Shire Coastal Reserve have been threatened by the impacts of past and present human activity, which include sandmining, vegetation clearing, uncontrolled use and access, introduction of exotic plant and animal species, and adjoining urban / tourist development. These impacts have led to habitat fragmentation and degradation, endangerment of species, a decline in biodiversity, erosion and threats to water quality.

### **2.1 Terrestrial Flora**

The vegetation in the Ballina Shire Coastal Reserve is broadly classified into Littoral Rainforest, Coastal Banksia, Heathland, Coastal Cypress, Melaleuca Swamp Forest, Dune Vegetation, Wetlands and Disturbed areas following a preliminary study by DLWC (2000). The natural condition of the vegetation varies greatly from highly disturbed (especially weed infested) to relatively undisturbed. Large portions of undisturbed heathland and wetlands occur in the Newrybar Sandplain, as well as Banksia forest and heathland vegetation west of Flat Rock Tent Park. A map of vegetation types over the study area have is provided in Appendix G.

**Littoral rainforest** is a form of sub-tropical rainforest that occurs close to the sea. It may grow on beach sands, quartz rich sediments and soils derived from a range of rock types (Floyd, 1990). In the reserve the main rock type is basalt, which forms a red clayey soil and at times is shallow and rocky. The areas of littoral rainforest are floristically distinct and comprise three main types: : Tuckeroo, Brushbox and Lilly Pilly associations (DLWC, 2000). Littoral Rainforest at Boulders Beach is protected by a State Environmental Planning Policy Number 26 (Littoral Rainforest) and is listed on the Register of the National Estate, due to the rarity of its form and species composition (Erskine, et. al., 2001).

Tuckeroo dominated littoral rainforest occurs at Boulders Beach, on Lennox Headland, on the southern end of Angels Beach, in small remnants in the vicinity of Shag Rock, and to the north of the road at Flat Rock. There are also remnants at Black Head, Ocean Parade North of the overpass, and on the hill slope north of Compton Drive, Shaws Bay. Brush Box associations occur on hillsides near the Ballina Lighthouse. Lilly Pilly Associations occur along the Coast Road near Boulder Beach (DLWC, 2000). All of these remnants are threatened by fire and weed infestation , in particular from invasive weeds such as Bitou Bush, Asparagus Fern, Lantana, Fishbone Fern and exotic grasses. A Restoration Plan which has been prepared for Boulders Beach Rainforest Remnant, and Angels Beach, provides a basis for rehabilitation works.

**Coastal Banksia Forest** occurs in exposed areas, where salt spray and on-shore winds ensures a wind shorn canopy.; This occurs at the north-east end of Lighthouse Parade, on the hillside west of Flat Rock Tent Park, and north of the Car Park at Lennox Head. In more protected areas Coastal Banksia Woodland occurs. Examples of this are seen adjacent to the open space along Compton Drive, southwest of Norfolk Street and northwest of Hindmarsh Street East Ballina, and near the Anglican College, Black Head. Coastal Banksia Woodland occurs next to the Coast Road near Skimmers Head Road and in the Boulders Beach area (DLWC, 2000). Where fire is excluded and canopy closure of Coastal Banksia occurs, littoral rainforest species colonise (Gilmore, 1983, cited in DLWC, 2000).

**Coastal Cypress Pine** occurs in Richmond Park and on Pine Avenue, however is in fairly poor condition. Although Coastal Cypress communities are locally and possibly regional significant

they are poorly conserved and have a limited distribution on the North Coast, being near the southern distributional limit (Griffith, 1993, cited in DLWC, 2000). Coastal Cypress Pine is threatened by clearing, weed invasion, particularly by garden escapees and rubbish dumping.

**Melaleuca Swamp Sclerophyll Forest** occurs in the vicinity of Shelley Beach Road, Flat Rock and on the Newrybar Sandplain north of Lake Ainsworth (DLWC, 2000). This community is recognised for its high conservation value and is threatened by weed invasion, urban runoff, dumping of green waste, an inappropriate fire regime, clearing for development, and clearing of protective vegetative buffers (DLWC, 2000).

The foredune vegetation communities of Ballina Shire Coastal Reserve are dominated by Bitou Bush, an environmental weed introduced from South Africa and in many areas planted on the dunes following sand mining for rapid soil stabilisation. Local Dunecare groups in co-operation with DLWC, Local Council staff, and weed control authorities, have made significant progress in controlling Bitou Bush and replacing it with native vegetation.

Dunal vegetation leeward of the foredune (as seen along the coast south of Flat Rock and north of Lennox Head) has a higher diversity and is structurally more complex than that of the foredunes. Species present include Coastal Banksia, Coastal Wattle and Coastal Tea Tree. Pedestrian access in these areas increases the edge to area ratio and encourages further weed infestation.

**Heathland** communities occur throughout the Ballina coastal area and vary in both floristics and structure, the best example being the low heath on the Newrybar Sand Plain. The major threat to heath communities is an inappropriate fire regime, particularly frequent fires.

**Wetlands** surrounding the Boulders Beach rainforest, south of the Flat Rock Tent Park, and in several sites near Lennox Head, are dominated by Cumbungi and Paperbarks. Wetland communities exist in areas subject to periodic or frequent inundation and where the water table is higher. Threats to this community are hydrological changes, urban encroachment and runoff, and weed invasion. A Vegetation Management Plan has been prepared for the Boulders Beach Wetland to address threats to the conservation of this wetland.

A large part of the Ballina Shire Coastal Reserve is disturbed and has been colonised by exotic grasses, and weeds, largely as a result of past grazing activities, frequent fires and sand mining (DLWC, 2000). Highly disturbed areas occur between Flat Rock and Lennox Head. Between Lennox Head and Skimmers Head, littoral rainforest occurs only as remnants in a disturbed landscape. These pockets of littoral rainforest provide stepping stones for wildlife in an otherwise degraded landscape, and could form the basis of an ecological corridor between more intact areas.

A list of plant species for Angels Beach was compiled by Consultant Peter Parker for the Angels Beach Cycleway Assessment (BSC 2001). A list of flora and fauna in the Angels Beach and Flat Rock areas was compiled by the Angels Beach Dunecare and Reafforestation Group (2000), and a list of native plants and weeds is provided in Vegetation Management Plans developed for most coastal communities within the Reserve (EnviTE 2002).

Threatened Flora is protected under the Threatened Species Conservation (TSC) Act 1995. Recovery Plans under the TSC Act will be prepared over time for species shown in Appendix E. These plans will offer a range of management actions to protect and increase the populations of threatened plants in the Reserve area.

Other threatened species that may occur in the Ballina Coastal Reserve include *Phaius tankervilleae* (Swamp Orchid), *Psilotum complanatum* (Flat Fork Fern), *Pterostylis nigricans*, and *Xylosma terrae-reginae*. Other significant species occurring on the Ballina Coast are listed in the native Vegetation report compiled for the study area.

The Ballina Shire Coastal Reserve forms an almost continuous strip of vegetation. Although previous land use activities and practices have led to a high degree of habitat fragmentation along the coastal fringe (BSC, 2000a), there is potential to link areas of remnant vegetation, building on existing programs and efforts aimed at ongoing restoration and enhancement planting of native species. For example, the area between Flat Rock and Lennox Head would function well as a wildlife corridor continuous to the Broken Head Nature Reserve in the north and Richmond River Nature Reserve in the south.

## **2.2 Terrestrial Fauna and Habitat**

The vegetation communities of the Ballina Coastal Reserve are floristically and structurally diverse, high in habitat value, and support a range of dependant fauna. As previously detailed, these vegetation associations are classified into Littoral Rainforest, Coastal Banksia, Heath, Coastal Cypress, Melaleuca Swamp Forest, dune vegetation, wetlands and disturbed areas (DLWC, 2000).

Whilst no comprehensive fauna study has been undertaken for the Ballina Shire Reserve, detailed lists of fauna existing (or likely to exist in the area) have been provided through a number of sources - NPWS, through its Wildlife Atlas, a species compiled for the Angels beach Cycleway project (Parker 2000), and a fauna list compiled by Angels Beach Dunecare and Reafforestation Group (2000).

A list of threatened fauna species within the Coastal Reserve, protected under the Threatened Species Conservation Act, 1995 is provided in Appendix E.

Littoral rainforest is of high conservation value, very diverse, poorly conserved, hosts many threatened species, and has a high level of endemism (supporting many species unique to that area). It is important habitat particularly for frugivores (fruit-eating) animals, and leaf litter, bark and epiphyte foragers. Birds utilise littoral rainforest areas for feeding, nesting and roosting. Mammals, reptiles and amphibians are present in the understorey particularly where there are habitat features such as logs, rocks, leaf litter and water.

Coastal Banksia and heath is of high conservation value, extremely diverse, and is poorly conserved. Heathlands are particularly important to nectivorous species such as birds and bats.

The Melaleuca Sclerophyll swamp forests are important communities for nectivorous and frugivorous birds, as well as ground dwelling and arboreal mammals. Wetlands areas dominated by Melaleuca and Cumbungi provide important habitat for reptiles and amphibians.

## **2.3 Shoreline Habitat**

Shore bird habitats in Ballina Coastal Reserve include beaches, rocky shores, and around the edges of Lake Ainsworth and wetlands. Shorebirds essentially have three main requirements: access to suitable feeding, roosting and breeding grounds. Some species are residents, others migratory. The Ballina coastline is important for migratory wildlife which are protected by Federal conservation agreements with Japan and China under the *Environment Protection and Biodiversity Conservation Act, 1999*. These agreements are the Japanese and Chinese Australian Migratory Bird Agreements, Jamba and Camba. Of the 30 species of migratory shorebirds commonly occurring in NSW, all are listed in either Jamba or Camba, most of them are in both (Rohweder, 1991). In order for these international agreements to be honoured, migratory shorebirds need to be managed on the Ballina Coast.

Flat Rock is utilised regularly by migratory and non-migratory shorebirds and is significant because it provides a diversity of habitat unavailable within the estuary. Also, the proximity to Angels and Sharps beaches enable birds that use Flat Rock to also feed on these beaches (Rohweder, 1991). The uniqueness of the habitat of Flat Rock, and the proximity of nearby

beaches, ensure that Flat Rock is an important feeding ground. The migratory shorebirds that commonly utilise the habitat are Red-necked Stints and Ruddy Turnstones. Flat Rock is the preferred feeding ground of the Ruddy Turnstone and Sooty Oystercatcher (Rohweder, 1991). Flat Rock also provides a vital roost for such species as Ruddy Turnstones, Sooty Oystercatchers, Red-necked Stints and Crested and Little Terns (Rohweder, 1991).

Disturbance to nesting birds, harvesting and collection of organisms from rock pools, and dogs on Flat Rock and Sharps and Angels beaches have an impact on the shorebirds of Flat Rock. Key threatening processes applicable to the Ballina Coastline are predation by foxes and feral cats, clearing of native vegetation, habitat modification, and high frequency fire resulting in disruption to the life cycle of flora and fauna (BSC, 2000a).

Species Recovery Plans have been prepared for the Red Goshawk, Little Tern, and Mitchell's Rainforest Snail (BSC, 2000a). These plans identify management strategies and actions to enhance the survival of the species. These plans and any relevant Threat Abatement Plans, which address key threatening processes, require consideration in the management of the Ballina Coastline.

Native fauna habitat can be significantly adversely affected by human disturbance such as sandmining, urbanisation, vegetation clearing, pest species predation (including domestic pets), and weed invasion. These disturbances impose threatening processes, and reduce the habitat values and ecological function of coastal ecosystems.

The protection and enhancement of habitats in Ballina Coastal Reserve requires will require an integrated approach, addressing threatening processes, restoration of degraded habitats, creation of wildlife corridors, and education and awareness programs about wildlife and habitat values.

### **2.3 Intertidal habitats**

The intertidal zone of Ballina Coastal Reserve consists of sandy beaches and rocky shores, including reefs and platforms. The intertidal zone hosts a diverse range of species due to the overlap between sub-tropical and temperate zones; thus there is a mix of species comprising the ecotone. The intertidal ecology is dependent on physical features such as tides, solar radiation, wave action, rainfall, aspect and sediment movement. Biological factors determining habitat are the physical and chemical requirement of the species, and the timing and pattern of reproduction and predation (BSC, 2000c).

Two prominent features of the intertidal zone of Ballina are the rock platform at Flat Rock, noted for its shorebird populations, and the rocky intertidal reef at Lennox Head. The intertidal reef at Lennox Head is a sheltered shallow and accessible marine area with diverse marine organisms. The reef is to be included in the proposed Marine Park for Byron Bay between Lennox Head and Brunswick Heads. This type of reef is poorly conserved in the current marine reserve system (MPA, 2001). Management of this area will require consultation and cooperation with the Marine Parks Authority.

Other smaller but significant rocky shores occur at Iron Peg, Shelley Beach, and to a lesser extent at exposed parts below Lennox Headland, Skennars Head and Black Head.

The intertidal zone provides shore protection from storm activity. Species that live on sandy shores tend to be cryptic. A range of worms, molluscs and crustaceans inhabit the sandy shore, unlike the distinct and prominent zonation of marine organisms and seaweeds of the rocky shore. Although there is no comprehensive study of the intertidal organisms of Ballina Coastal Reserve, the following data shown in Table 3 was collected from South Ballina Beach. It is likely that similar results would be found on other Ballina Beaches.

Table 3: Organisms found on northern NSW sandy shores

Sandy Beaches	Ecozones	Organisms recorded at South Ballina
Dunes	Crabs insects	Unknown no. species (incl. Ghost crabs)
Intertidal	Crabs, Molluscs, Polychaetes, Isopods	3 Amphipods, 1 Isopod, 2 Ribbon worms, 1 Pheronid worm, 5 Segmented Worms, 2 Carnivorous beach snails, 2 bivalves (inc.pippies), Ghost Crabs
Surf zone (benthos)	Pippies	Possibly as above plus sub-tidal spp.

Source: BSC, 2000c.

Rocky shores consist of a vast number of species of seaweeds, sea mats and mosses, sponges, molluscs, crustaceans, worms, echinoderms (sea stars, sea urchins and sea cucumbers); and sea squirts and their allies. Rocky shores can be divided into three distinct zones; (Bennett, 1992) each dominated by specific organisms and seaweeds. This zonation is due to the adaptation of the species to wave impact, exposure to heat and hydration, competition and predation.

The list in Table 4 below was compiled by studies available from Southern Cross University (SCU) from data collected in Ballina and Tweed Shires.

Sea Turtles are known to nest on sandy shores in the Ballina Reserve, particularly Loggerhead turtles, but occasionally Green turtles. There are also records of Leatherback turtles nesting on Lighthouse beach. The occurrence of Leatherback turtles is particularly significant with less than 40 Leatherback records in Australia. Leatherback Turtles are a vulnerable species and Loggerhead Turtles are endangered under the Threatened Species Conservation Act, 1995.

Sea turtles nest over the summer months on sandy beaches and the hatchlings emerge after an incubation period of about 10-12 weeks. The hatchlings can be confused by artificial light in built up areas when they emerge from their nest and head to the sea. Threats to turtles include disturbance from human activity, dogs and foxes, as well as episodic sand erosion from storm events in the breeding season. (Tarvey, Pers. Comm. 2002).

### Management considerations for intertidal habitats

Rocky and sandy intertidal habitats provide a rich source of food for fish, which come in to feed at high tide. Grazing and predation by fish may influence the biota of the shore. Intertidal habitats are also known to be important feeding, roosting and nesting habitats for shorebirds, which can be disturbed by feral and domestic animals. Refer to terrestrial fauna for information regarding shorebirds.

The main threats to the intertidal ecosystem are habitat modification, vehicular traffic, shore protection works, harvesting of species, shell collection, disturbance to wildlife from general recreation activity, trampling of marine organisms on rocky platforms, pollution from sewage, stormwater, oil and litter, and long term shoreline recession.

Table 4: Organisms found on northern NSW rocky shores

Rocky Shores	Ecozones	Species within general family groups
Splash zone	Nodilittorina	4 Periwinkles
Upper intertidal	Barnacles	4 barnacles, 3 limpets, 4 periwinkles, 5 chitons
Mid intertidal	Galeolaria	Galeolaria, plus those stated above
Lower intertidal	Cunjevoi	2 solitary ascidians incl. Cunjevoi, 15 sea weeds (refer below) and possibly all of above spp.
Intertidal/sub tidal transition	Sea weeds	2 solitary ascidians incl. Cunjevoi, various ascidians, 3 green algae incl. Ulva spp., 5 brown algae Ecklonia spp. (kelp), Sargassum spp., 5 red algae incl. 2 coralline algae, 1 turf algae, 1 encrusting sponge, 1 colonial hydroid, 1 colonial zoanthoid, 4 sea anemones, 4 flat worms, 37 marine snails incl. 2 turbin, 2-5 periwinkles, Cerith, 3 cowries, 1 whelk, Brown Triton, 1 sea hare, 10 nudibranchs, 2 starfish, 1 brittle star, 1 feather star, 6 sea-urchins, 1 sea-cucumber, 2 oysters, 1 mussel, 1 octopus, 5 tube worms, 2 errant worms, 1 shrimp, 2 hermit crabs, 2 crabs.

Source: Wilson, 1988, Bent, 1990, 1996 cited in BSC, 2000c.

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### 3. SOCIAL AND ECONOMIC ENVIRONMENT

#### 3.1 *Recreational opportunities*

The Ballina coastline is a place for leisure and recreation, and appreciation of the natural environment. The coast is an important part of the Australian ethos and culture, and a major contributor to the lifestyle of a high percentage of the population. Approximately 90% of the Australian population live in the coastal zone (RAC, 1993), and the North Coast continues to grow in popularity as a place to live, visit and use for recreation.

##### 3.1.1 **Types of recreational activities and facilities**

Although no comprehensive assessment of recreational use has been undertaken, the views and desires expressed during community consultation for this Plan have revealed a strong emphasis on the recreation value of the Ballina coastline area. There is a diversity of recreational settings and opportunities for active and passive recreation. Passive pursuits include relaxation, sightseeing, bush and beach walking, meditation, art and photography, natural and cultural appreciation, whale watching and picnicking. Active recreational pursuits include land-based activities such as jogging, horse riding, ball games, kite flying, animal exercising, cycling, camping and four-wheel driving; and water-based activities such as swimming, surfing, sail boarding, canoeing, snorkelling, diving, shell fossicking, bait collection, boating and fishing.

Occasionally large number of people visit the beach and foreshore areas to attend surf carnivals and competitions, New Years Eve celebrations and the Lake Ainsworth markets every month.

Facilities provided in the Ballina Coastal Reserve include picnic tables and barbecues, viewing platforms and lookouts, walkways and cycleways, parks and playgrounds, and camping at Lake Ainsworth and Shaws Bay. There is a tent park adjacent to the reserve at Flat Rock and a caravan park adjacent to Lake Ainsworth. Other commercially-run caravan parks operating just outside the Coastal Reserve benefit from proximity to the nearby natural and recreational amenity values of the Reserve. These camping facilities experience peak periods during NSW and Qld school holidays.

Formalised picnic areas are at Flat Rock, Pat Morton Lookout, and the Boat Channel Reserve at Lennox Head; and in various other locations at Lennox Village, Shelley's Beach, Shaws Bay and near Lighthouse Beach.

There are formalised lookouts at Lighthouse Hill (Ballina Head) and Pat Moreton Lookout at Lennox Point whilst observation decks are provided at Lighthouse Beach, Angels Beach and Flat Rock. Many informal vantage points are scattered along the coast, including North Wall, Tressels Beach (rock platform below Black Head), Skennars and Whites Heads, Boulder Beach/Iron Peg, Shag Rock, Lennox Headland, and Flat Rock Reef/Platform. During the whale watching season enthusiasts frequent Skennars Head, Boulder Beach, Lennox Point and Lighthouse Beach lookouts.

Parks and open space areas are provided throughout the area, including Shaws Bay, Lighthouse and Shelley's Beaches, Boulders Beach, Skennars Head and several parts of Lennox Head.

Amenity blocks are provided near Lighthouse Beach and at Shelley's Beach, Flat Rock, Lennox Village, Lennox Point Surf Break, Lake Ainsworth and the Lennox Head Surf Club.

There is a high demand for parking in the Ballina Coastal Reserves. A mix of formal and informal parking areas are available along the coast, however many of them approach or exceed capacity during peak visitation periods and on many weekends.



### **3.1.2 Access**

#### **3.1.2.1 Vehicle access to beaches**

Off-road vehicles are used on the beach by anglers, dog owners, and various other recreational users, as well as agency staff and commercial fishers.

Vehicles are currently permitted at Lennox Head on Seven Mile Beach from Lake Ainsworth to the Ballina Shire's northern Boundary. Vehicles for emergency services, patrol, surf life-saving, commercial fishing, and police are permitted on all beaches.

There is a total ban on four-wheel drive vehicles at Lighthouse and Shelley's Beaches, and partial restriction at Sharpes and Angels Beaches, and at Flat Rock where four-wheel driving is banned during the daytime hours of 5am - 5pm.

A four-wheel drive access point is provided near Lake Ainsworth for the general public. A boat ramp exists at the Boat Channel, where vehicles and trailers are permitted for launching and loading, however vehicles are required to park off the beach. Access on Seven Mile Beach is prohibited north of the Ballina Shire boundary into Byron Shire.

Concern expressed during community consultation about vehicles on beaches relates to potential detrimental impacts on sensitive coastal habitat and damage to dunes, safety concerns and perceived conflicts with other beach users especially in high use areas of the beach. There is a high demand for beach access on Seven Mile Beach, which is the first northern, legally accessible beach in NSW, and could therefore be attractive to vehicle users from north of the Shire where vehicle use is totally restricted in Byron, Tweed and the Gold Coast.

Management of beach vehicles varies across north coast Shires. Tweed Shire has Policy in place permitting access to less sensitive areas, and strict regulation of the number of licences for the public. Byron Shire has a total ban on all recreational users, permitting only emergency and disabled access and a limited number of licences to professional anglers.

#### **3.1.2.2 Walkways and Cycleways**

Formal pedestrian access to beaches is provided at a number of points at Lighthouse, Shelleys and Angels Beaches, and at Lennox Head. There are several informal access tracks to beaches in the Reserve which contribute to erosion and pest species invasion.

Existing shared walkway/cycleways in the Ballina Coastal Reserve extend from Angels Beach underpass to Shelley's Beach and Lighthouse Beach parallel to the Coast, and along the Richmond River to Shaws Bay. There is also a cycleway / walkway connecting Angels Beach pedestrian overpass to the existing carpark. A proposal is in place for a shared footway to extend north from Angels Beach along the Coast, to connect with Seven Mile Beach at Lennox Head, and aimed at improving the recreational amenity and general appreciation of the coastal environment.

The proposal raises community concerns regarding safety, impacts on threatened species, fragmentation of habitat and pest species invasion.

### 3.1.2.3 Animals on Beaches

#### Dogs

Dog exercising and companionship in open space areas is a strongly held value by many in the community. Ballina Shire Council's current regulation on dog access and management provides a number of options for exercising dogs on Ballina Shire's northern beaches. There are designated areas for dog access, including on-leash, off-leash and some total restriction zones in high use areas, in consideration of such factors as health, safety, amenity and community values, listed below.

#### Dogs allowed on

Sharpes Beach	leash required
Angels Beach	leash required
(off-leash)	North of Lake Ainsworth with effective control

On all other beaches, dogs are prohibited (Lighthouse, Shelley, Seven Mile Beach south of Lake Ainsworth). There is also a dog exercise area in open parkland along Compton Drive, Shaws Bay.

The current regulation is generally well accepted, however some concerns were expressed during consultation about a lack of responsible dog ownership or compliance by some owners, the need for facilities for dog litter control, and potential impacts on wildlife (shorebirds) which depend on remaining undisturbed in their natural habitat.

#### Horses

Horse riding and exercising on Seven Mile and other beaches are enjoyed by only a few people, but on a regular basis. It occurs mostly on Seven Mile Beach, where there has been recent interest in establishing a commercial horse riding venture.

Issues regarding commercial and private horse riding include potential conflict with other users, especially during peak periods, safety, further deterioration of access tracks, disturbance to sensitive dune habitat, and impact on shorebird species and their habitat.

### 3.1.2.4 Emergency access

Emergency vehicles are permitted on most beaches, although access ramps are sometimes damaged by wave attack, at times making access hazardous.

### 3.1.2.5 Surf Life saving

Surf Life Saving Clubs are at Lennox Head near Lake Ainsworth, Shelley Beach, and Lighthouse Beach. Beaches are regularly patrolled at Lennox Head and Shelley Beach, and patrolled during peak periods at Sharpes and Lighthouse Beaches and Flat Rock.

### 3.1.3 Management considerations

Issues for management of recreation include impacts on natural and cultural values, equity between users, conflicts of use, preservation of the uniqueness of the Ballina Coast, safety, community expectations regarding commercial use and provision of facilities, and public awareness and education. Managers need to understand visitor use and motivations, expectations and perceptions, and the potential and limitations of the natural environment, known as carrying capacity. Carrying capacity refers to the number of people that a site can withstand without unacceptable decline in the quality of the experience. There is scope for further study of the management of the recreational resources of Ballina.

The continued enjoyment of recreational activities is dependent on the maintenance of ecological systems, good water quality, and management of people and associated impacts.

The regulation of commercial activity and management of access and associated impacts is vital for the maintenance of coastal ecosystems, which form the basis of continued enjoyment of many recreational activities on the Ballina Coast.

### **3.2 Economic opportunities**

Coastal areas have economic values that can often be attributed to tourism, recreation and intrinsic or existing values. There has been no comprehensive study of the economic value of Ballina Coastal Reserve or for the Ballina Shire. The Resource and Conservation Assessment Council undertook an economic study on the upper northeast NSW in 1996 and estimated the value of recreation and tourism at \$682 million for the region which includes, Richmond, Brunswick, Tweed and Clarence Catchments (RACAC, 1996).

Ballina Shire's population has grown steadily in recent times, particularly since 1971, with the growth higher than the NSW average of 3% per annum between 1991 and 1996 (BSC, 2000a). Population growth at Lennox Head was 7.3% per annum over the same period (BSC, 2000a). Major growth areas immediately adjacent to the coastline are Lennox Head (including Headlands) and East Ballina, both of which have been identified in the Ballina Shire Council Urban Land Release Study, 2001, for further land release to accommodate future growth in Ballina. Constraints to further land release in East Ballina and Lennox Head include impacts on natural amenity and environmental limitations, for example parts of the North Creek floodplain and SEPP 14 Wetlands (Early, 1996).

The environmental, social and economic impacts of further urbanisation are a significant issue in any planned growth areas of the coastline. Population growth in Ballina Shire is expected to continue at 3.2% per annum over the next four years (BSC, 2000c), increasing pressure on Ballina's beaches which are considered to be the Shire's prime recreational resource.

The population of Ballina Shire consists of a large number of retirees, at 19.2%, with 59.5% between the ages of 15-64, and a low 21% under 15 years. This trend, which is also reflected in the Tweed Shire, is expected to continue and can be attributed to an aging population and northward migration of retirees to Ballina. This steady influx of retirees has implications for increased demands for access and amenity along the coast..

Ballina Shire is an important visitor destination within the Richmond-Tweed Region (BSC, 2000a). The Shire has received more than 400,000 visitors annually since 1994/5, representing 20% of the total visitors to the region. The average length of stay is around three nights (ABS and Ballina Tourist Information Centre Cited in BSC, 2000a).

Ballina's beaches are a major drawcard for tourists and visitors to the Shire. Recreational and tourism based spending in the region is generated largely by beaches (RACAC, 1996). It is almost impossible to estimate the precise value of the Ballina Coastal Reserve to the economy. The RACAC, 1996 study estimates that public lands of the upper northeast contribute 17% of the region's economic activity and 20% of its jobs. Since the two major employment industries in Ballina are wholesale and retail at 28.3%, and community and welfare service industries at 20.5% (ABS, 1996 cited in BSC, 2000a), this is indicative of the importance of Ballina as a centre for tourism, retail and regional services.

Increased resource use in the coastal zone has significant direct, indirect, and cumulative impacts on the environment. Impacts include the degradation and loss of coastal habitats, introduction of exotic pests, increased erosion, and declining water quality (RAC, 1993). Coastal resources are impacted on by inappropriate resource use which can threaten ecosystems, recreational amenity, economic growth, and employment opportunities. Pro-active management of recreation and tourism is essential for the maintenance of ecological function and integrity, upon which recreational activity, the tourism industry, and the economic viability of coastal communities greatly depend.

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## 4. CULTURAL HERITAGE

The heritage significance of the Ballina coastline lies in both its indigenous heritage, which include the Aboriginal archaeological and mythological sites, artefacts and stories of the people, to the various relics, sites and historical events of European settlement of the area since the early 1800's.

While much of the evidence of past events have been largely lost from the landscape through damage, decay and development, our knowledge of heritage items, places and past events are important in defining the evolution of today's social, economic and cultural development.

There are four main types of heritage : Aboriginal or indigenous heritage; natural heritage (which includes important landforms, flora and fauna, and ecosystems;), built heritage (which relates to rarity, and may range from a simple small artefact to a large mansion); and cultural / social which reflect the lifestyles of past cultures.

There is a substantial volume of information, documented and unwritten, about the cultural and heritage values of the local area, and there are many people committed to the research, recording, presentation and preservation of our local heritage. Following is a brief abstract outlining some of the better known items and events of cultural heritage significance along the Ballina coastline.

### 4.1 *Aboriginal Culture and Heritage*

The information provided below has been prepared in consultation with local Bundjalung Elders Artie Ferguson and Bertha Kapeen and Jali Local Aboriginal Land Council, and with assistance from Adam Faulkner of Southern Cross University. It is acknowledged that Aboriginal descendants who still live in the area have details of their past life and traditions in the study area, passed on to them from stories told by the Elders. Details of these stories are the responsibility and intellectual property of the remaining knowledge holders.

The natural environment is considered an important part of Aboriginal people's cultural and spiritual integrity. There are various ways in which the landscape, the environment and sites are recognised, interpreted and defined by Aborigines and it is important for non-indigenous people to respect this.

#### **The People and their Country**

The traditional Aboriginal people that inhabited the Ballina coastal area were of the Nyangbal tribal group who were part of the larger Bundjalung linguistic group. People of the Bundjalung (nation) shared a common culture and occupied an area stretching from the Nerang Valley in Queensland, south to the Clarence River, and west to the Great Dividing Range.

According to the most recent detailed account by linguist/historian T. Crowley (1978), the Nyangbal tribal area extended from Suffolk Park in the north to the Evans River in the South, their western boundary from Coopers Shoot in the north along the Blackwall Range, south across the Tuckean Broadwater and down to Woodburn.

Neighbouring Bundjalung tribal groups were the Arakwal and Minjungbal to the north, and Bandjalang to the west and southwest. Further south in the lower Clarence region is Yaegl country. Boundaries between adjoining groups or clans were often based on natural features such as rivers and mountain ridges, however some boundaries were along more amicable lines

such as common hunting grounds. The Richmond River would have been a likely boundary between neighbouring divisions or clans of the Nyangbal people occupying the Ballina coastline area.

It is generally accepted that the northern coastal environment supported a higher Aboriginal population density than other areas, most likely because of the abundance of food, fresh water, marine and estuarine resources, natural resources for tools and clothing, and favourable climatic conditions (RACAC, 1996). Ainsworth (1922) estimated the Aboriginal population in 1847 between Ballina and Byron Bay to be roughly at 500, which would have given a population density of 4 to 6 persons per square km.

Various accounts of the traditional inhabitants of the Richmond River area described a diverse and abundant food source including salmon, mullet and other fish, oysters and other shellfish, and various game including pademelon, bandicoot, flying fox, lizard, snake and various water birds. Plants and their fruits were also a significant resource for food, medicine, fibre, tools, weapons and shelter materials (Mitchell, 1978; Ainsworth 1922; Keats, 1988).

Settlement / migration patterns along the coastal plain around Ballina involved a well-established seasonal movement of Aboriginal groups between the coast and foothills in response to available resources. However, it has also been suggested in some early historical accounts that tribal movement away from these northern coastal areas may have been a lot less frequent, if not sedentary, and that the coastal groups moved north and south within the coastal plain (mainly along beaches), possibly because of the relatively stable food sources and mild climatic conditions. As such, small family groups would have remained within a defined territory, and combined en masse at times of abundant food resources.

The area was thus an important place for large group gatherings and ceremonies, for joint harvest activities, trade between tribal groups, and for kinship. Evidence of this still persists at a valuable and protected midden site on North Creek, which, although now severely damaged, is significant in terms of being a record of the native people's ability to manage the areas natural oyster beds.

### **The Land**

The landscape supporting the Nyangbal people was diverse, encompassing beaches, headlands and rocky shores, an estuary, a diverse range of wetland types, heathland, rainforest and tall sclerophyll forest.

The concept of value as it relates to Aboriginal land and the broader landscape and resources can only be determined by local Aboriginal Elders. These values include spiritual, cultural and economic aspects. The land provided Australia's indigenous people with a fundamental sustainable existence, as well as a means for spiritual power, one which is revered in modern society. The recognition of these values in both the past and the present is considered an important element in the future management of coastal lands along the Ballina Shire.

### **Post contact**

The years of early European settlement around Ballina and further to the north, by squatters and cedar getters during the 1840's and 50's, saw emergence of a 'dual occupation' of land, a coexistence, where working relations were established between Aboriginals and European station owners and timber cutters. During this period Aboriginal people remained on their land and occasionally provisions were supplied in exchange for work.

The Robertson Land Acts which came into effect in 1862 marked the rapid demise of subsistence Aboriginal lifestyle, with removal of most of the best timber from the forests, much of the remaining bush cleared and burnt, and farms established, all which generally

denied the traditional owners access to their hunting and gathering areas and camps and severely diminished their ability to derive a traditional living off the land.

A significant but unfortunate event in these years of early contact was the unprovoked massacre of 30 to 40 Nyangbal people in 1853/54 by visiting Queensland Native Police at a campsite in the location of the old East Ballina golf course. Events surrounding the massacre are documented in accounts by Ainsworth (1922), and Medcalfe (1989) and are kept in Bundjalung oral tradition. There was also a massacre at South Ballina in the 1860's from poisoning of rations given to a group camping on the beach (told by Glen Cook in Medcalfe 1989).

The gradual change of much of the area under settlement to farmland after 1860, resultant loss of traditional food supply and access to land for the Aborigines, resulted in their movement to nearby reserves, mainly to Cabbage Tree Island. .... "The move of the Cook, Combo and Yuke families onto Cabbage Tree Island in the 1880's was one attempt to retain access and 'economic' use of land, where they cleared, grew sugar cane, grew vegetables, still hunted as part of their subsistence, and later worked for income (Inge Rebe, NPWS, 2000)

### **Aboriginal Sites**

Aboriginal culture and heritage values are recognised in a number of ways, from important sites and artefacts to the natural landscape which existed before European settlement, and the mythology and traditions associated with them (Baker, 2000).

Aboriginal archaeological sites, relics and places of significance to contemporary Aboriginal people are protected under the *National Parks and Wildlife Act 1974 (NSW)*, the NSW National Parks and Wildlife Service having primary responsibility for their management. Details regarding their location and description are restricted.

Most of the sites of Aboriginal cultural and heritage significance along the Ballina coastline have been destroyed by various disturbances including sand mining, extractive industry, residential and recreational development, clearing and souvenir collecting. A number of areas in the East Ballina area have been investigated in term of their archaeological significance and presence of Aboriginal sites, mostly in relation to proposed residential and infrastructure development. A record of these studies is kept by the Jali Local Aboriginal Land Council and by the National Parks and Wildlife Service.

The local Aboriginal people have expressed their wish not to have the details of these findings published, for the purpose of protecting their location and preserving their condition.

The range of site types present within the study area are listed below :

*Middens* – usually open camp sites containing shellfish remnants.

Open camp sites - usually devoid of shells

*Natural Landscapes (Natural Mythological Sites)* – Aboriginal people have strong and enduring spiritual and economic ties to the landscape. Some features of the landscape, for example mountains, headlands, rocks, rivers relate to mythical events.

#### *Ceremonial Places*

*Burial sites* - Aboriginal ancestral remains represent a deep spiritual significance to today's people. Burial locations usually were near water, and often dunes associated with a prominent landform feature.

*Scarred trees* – trees carrying scars usually resulting from removal of bark or branches during the making of equipment, for example: canoes, shields, weapons and coolamons (a carrier to hold food or baby). The scars may also be foot holes for climbing trees.

*Carved trees* – where specific design work has been carved into the tree for ceremonial or other purposes.



### **Contemporary context, current and future management of Aboriginal heritage**

The Bundjalung people still retain a strong cultural identity and a concern for their land, and it is generally considered that they have remained tribally distinct. There is a strong Aboriginal community that resides at Cabbage Tree Island near Wardell, where the Jali Local Aboriginal Land Council is located, and there are a number of Aboriginal families residing in Ballina and surrounding areas. Members of the Land Council have been actively involved for many years in safeguarding their heritage.

A significant area of the heathland north of Lake Ainsworth is under ownership of the Jali Aboriginal Land Council (refer map in Figure 1). Land to the east of this is currently the subject of an Aboriginal Land Claim. A Native Title Claim over the study area is in process, and a defined area of coastal land from Flat Rock to Black Head has been nominated for declaration as an Aboriginal Place under the National Parks and Wildlife Act (NPWS June 2000). An Aboriginal Cultural Centre has been proposed for location within or near the Coastal Reserve, its primary objectives to provide a medium for better recognition and understanding of traditional Aboriginal cultural values within the community, and a means of developing greater involvement by Aboriginal people in the management of their traditional lands along the coast.

The key issues of concern which have been raised during plan development, regarding protection of Aboriginal cultural values in the study area are :

- the need to protect and preserve all remaining sites, artefacts, relics and indigenous landscapes
- the need to increase understanding and recognition of Aboriginal cultural values
- provision for greater involvement by Aboriginal people in management of the traditional native landscape (both in the planning and implementation stages)
- the need to ensure that local Aboriginal people maintain their traditional relationship with the coastal landscape and resources (eg. indigenous fisheries)

The strategies, actions and initiatives so far developed to address these concerns are provided in the main body of the Plan of Management.

## 4.2 *European heritage*

The Ballina coast and its immediate hinterland were a significant part of the early European economic and social development of Ballina and Richmond River district. The area provided fertile agricultural land in close proximity to the early settlement camps, a rich supply of protein through its fish and other seafood, a direct access route to other coastal settlements along the beaches, and a source of gold from the beaches.

The Richmond River and port of Ballina played a key role in the early development of the hinterland and surrounding economy, as shipping was clearly the major mode of transport between the coast and its hinterland and between Ballina and the other coastal centres.

The first European occupants came to the area in the early 1840's in search of the rich cedar resource available over much of the north coast. Original settlement was focussed on Shaws Bay (originally New Chums Bay) due to its higher ground, freely available drinking water, and proximity to the mouth of the Richmond River. By 1847 an estimated 400-500 people were living in the camp, from which the cedar getters obtained supplies and disposed of their timber.

The first cedar was cut at Prospect in the lower North Creek, after which camps quickly spread up the Richmond River where access was available to larger areas from where the cedar was cut and rafted downstream from the camps to the first sawpits located at Shaws Bay and North Head.

It is believed that the name Ballina was derived from the Aboriginal word 'Bullenah' which related to the plentiful supply of fish and oysters, corrupted to 'Ballina' after a town in Ireland with the same name (Ainsworth, 1922).

Introduction of the Robertson Land Acts in the early 1860s prompted the selection of small holdings and the cutting up of the North Creek area into farms ranging in size from 40 to 320 acres. This created a rapid development of agriculture through the North Creek catchment, which became the main impetus for wider settlement of the area north of Ballina. Typically the country was cleared, fired, grown to a quick cash crop like maize, and then planted to sugar cane, which was generally milled locally. The first sugar mill in the area was established in the 1860's by John Sharpe landward of the present Sharpes Beach and Skennars Head .

By end of the 1800's the local economy in the area was broadly based on three fronts :

- The busy commercial and shipping centre of Ballina at the mouth of the Richmond River.
- the rapidly expanding agricultural settlement through North Creek and onto adjoining fertile country near Sharpes Beach, Skennars Head and Lennox Head
- gold mining along the beaches both north and south of Ballina. The gold was sourced from the rutile deposits that became exposed after heavy ocean storm activity.

Shaws Bay was the first place in New South Wales where gold was found in beach sands in payable quantity, in March 1875 (Carne 1896). The industry thrived through the 1870's to the turn of the century, and provided a good source of income for many workers, several of whom were also the labourers from the nearby sugar cane industry. The beaches also provided an important transport route to the towns north and south of Ballina, although sometimes treacherous and unpredictable during heavy seas.

The village of Lennox Head was not established until the early 1920's when a sub-division was created out of private land. Prior to that it was a relatively small retreat for recreation. Earlier in 1887 an area north of Lake Ainsworth had been established as a government reserve for the purpose of developing a village, but was never pursued. The shoreline fronting the Lennox Village had also been declared a Crown Reserve in 1884 and Lake Ainsworth (the 'Lagoon') and surrounds was proclaimed Crown Reserve in 1893.

Some landmarks of heritage significance remaining as part of the landscape within the study area include :

- Fenwick House, built in 1886 by Capt. Thomas Fenwick, overlooking Shaws Bay
- The northern training wall, commenced in 1889 (extended in 1967) in an effort to stabilise the treacherous entrance to the Richmond River which was becoming a threat to the future of the settlement as a port.
- Ballina Lighthouse and cottage, built in 1879, one of the oldest lighthouses in NSW, (built 22 years before the lighthouse at Cape Byron).
- The remaining Shaws Bay water body which was part of the original main channel of the Richmond River, which skirted the base of North Head (present day Lighthouse Hill or Ballina Head)
- Remnants of the Skennars Head settlement (now Boulder Beach headland) which was relocated in the 1920's when the first Lennox Head village was established, and the 'Iron Peg' located at the outermost rocky point below Boulder Beach headland, installed by resident Charles Bulwinkel in the early 1900's as a safety measure.
- The Boat Channel and a number of smaller channels at the southern end of Seven Mile Beach, most built by local families since the 1930's.
- (much more recently) – remnants of the sand mining activity of the 1930's to the late 60's, which had a significant impact on the dune and foreshore of much of the coast. (eg. early photos indicate a dune formation at Boulder Beach in excess of 5 metres high)
- Remnants of the old coast road from Lennox Head to Broken Head behind Seven Mile Beach, used to transport vegetables bound from Byron Bay to Sydney.
- Remnants of the old sand mining road which is still prominent south of Flat Rock and behind Sharpes Beach, but now hidden amongst regrowth. Early photos show the road stretching from behind Angels Beach to Skennars Head and on to Boulder Beach as the main service road to the industry.
- The ti-tree fence along the Lennox Village foreshore, built in 1967 to stabilise the rapidly eroding beach following cyclonic storms, remnants of which still stand.
- Lake Ainsworth National Fitness Camp built in 1944 (now NSW Sport & Recreation).

A significant 'event' referred to by local historians was the sighting and recording in 1770 by Joseph Banks, whilst aboard the Endeavour on its historic east coast voyage, of a small group of Aborigines ascending a hill near the beach, presumed to have been between the Richmond River and Broken Head based on bearings recorded in the ship's log, and considered to have probably been Lennox Head.

## Maritime History

Ships traded to and from the Richmond River for nearly 100 years. They were the 'lifeline' of the district, particularly when timber was at its peak, where up to 30 vessels were regularly visiting the river, each carrying away between 8000 and 12000 feet of cedar and pine logs on each trip. In 1870 alone, ships carried more than 9,000,000 feet (25,000 cubic meters) of timber from the Richmond River, and on one day in 1873, 19 schooners crossed out of the river mouth. (Gallagher, 1972).

Prior to construction of the breakwaters late in the 1800's, ships had to contend with a shifting river entrance, which migrated up to 3 km south of Lighthouse Hill. The unpredictable nature of this, and of the treacherous bar, resulted in the loss of many ships and cargo, and loss of several lives.

Recorded losses of ships on the Richmond River entrance bar and nearby shoals include :

- 1845 - the schooners Hope and Northumberland
- 1847 - schooner Enterprise which ran aground on the bar
- 1851 - schooner Columbine, struck the bar, leaked and sank, and the schooner Madge Wildfire, careened across the bar and sank
- 1865 - schooner Alexander wrecked on the bar
  - schooner ranger lost on the north spit
  - schooner Josephine lost on south spit (all three lost in the same year, some believe on the same day)
- 1872 - s.s. Waimea and the tug Culloden
- 1874 - Wallaby
- 1878 - Alchemist (early paddle steamer)
- 1907 - Tomki (after the breakwater was constructed).

(information courtesy of Mr Ted Trudgeon, Richmond River Historical Society, Lismore. 2002)

Other ships had put out from Ballina never to be heard of again, while others failed to arrive. J.K. Lowry in "Wrecks on the NSW Coast" claimed that there were at least 49 ships lost at Ballina and 27 lives lost.

A comprehensive list of these and the other wrecks is kept as part of a detailed account of maritime history of the Richmond River at the Richmond River Historical Society's Regional Museum at Lismore. The Maritime Museum at Ballina also includes some valuable insights into the maritime history of the river and Ballina port.

## Management of Heritage

Many of the sites and items of heritage value have significant educational potential, providing historic evidence of previous land uses, settlement and cultures. Many of the sites of both European and Aboriginal value were lost during recent sand mining operations, which places even more emphasis on the need to preserve what is remaining.

The Ballina Coastal Reserves Plan of Management provides management strategies which aim to preserve heritage and historical sites, raise awareness of their importance, and suggests a code of practice to ensure that no further unnecessary losses are incurred.

Special Provisions 18 to 22 of the Ballina LEP protects significant items of environment heritage through a range of assessment procedures and restrictions on development and other activities.

### Acknowledgements

The author gratefully acknowledges the assistance of the following people in helping to source some of the above information :

Marelle Lee, member of the Richmond River Historical Society Heritage Committee, and member of the Lennox Head Residents' Association Heritage Committee.

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Margaret Henderson, president of the Richmond River Historical Society Inc.

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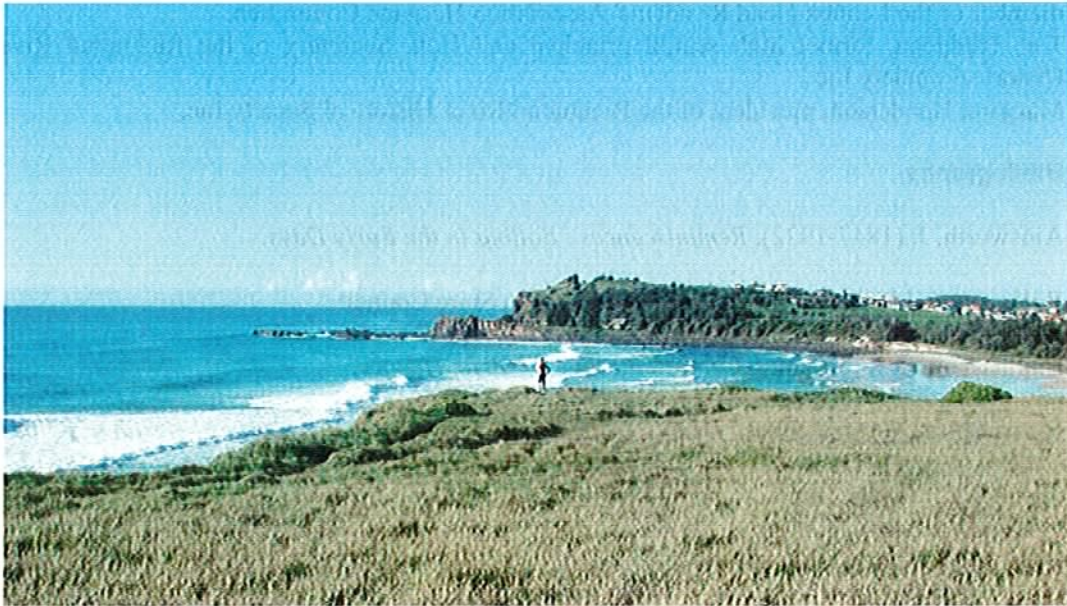
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## 5. LANDSCAPE VALUES



The scenic quality of the Ballina coastline is considered by many to be the Shire's most valuable asset, providing a spectacular array of prominent headlands, rocky shores and reefs, and open sandy beaches.

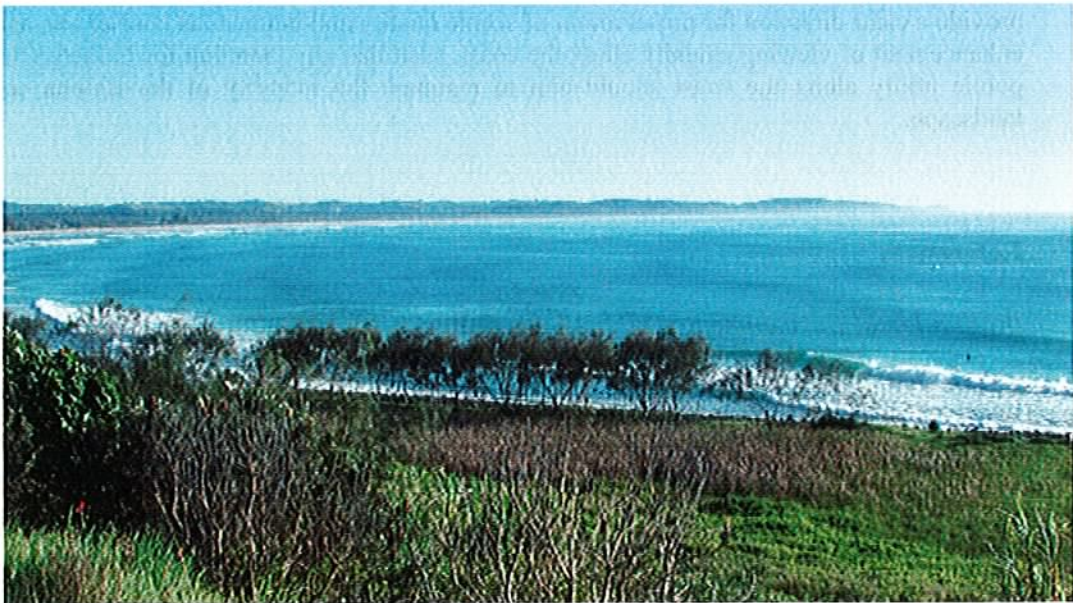
The natural landscapes visible from the coast are considered an important component of Aboriginal cultural values. The coastline and its hinterland, the mountains, rivers, lakes and hills often relate to Aboriginal mythical events, while the land itself provided indigenous people a fundamental sustainable existence, as well as providing them with a means for spiritual power.

The landform types that combine to give the Ballina coastline its character are the headlands, beaches, foredunes, offshore and nearshore water environment, the forested and sometimes cleared hinterland, coastal escarpment, and the 'built' environment. Prominent built or artificial landscape features in or near the coast include the villages, isolated buildings, training walls and seawalls, roads and cuttings.

Prominent historical landscape features include the Richmond River training walls, Fenwick House at Shaws Bay, Ballina Lighthouse and its Keepers Cottage, and the large lone Norfolk Island pine at Ballina Beach (planted in the early 1900's).

Significant views and their vantage points) along the Ballina coastline (mainly located in the Plan area) include -:

- **From Pat Morton lookout northward** – to Lennox Head Village, Seven Mile Beach sweeping up towards Broken Head with the backdrop of heath on the Newrybar plains and the escarpment, the reef, and often dynamic near shore surf zone.
- **From Lennox Point and Shag Rock looking southwards** – over Boulder Beach and its rainforest, Iron Peg and Skennars Head (also a spectacular walk).
- **From Skennars Head looking northwards** – Boulder Beach/Iron Peg, Shag Rock and the tall cliff face of Lennox Head, with Broken Head and Cape Byron in the distance.
- **From Skennars Head southwards** over Sharpes Beach and Flat Rock.
- **From Angels Beach and Black Head northwards** over Flat Rock, and southwards to the mouth of the Richmond River.
- **From Lighthouse Hill (Ballina Head) parking lookout southwards** over Lighthouse Beach, the Richmond River and its entrance, to South Ballina, Broadwater and Evans Head in the distance (on a clear day).



### Management of the Landscape

Landscape is considered important because it is -:

- an essential part of our natural resource base
- a reservoir of archaeological and historical evidence
- an environment for plants and animals
- a resource which evokes sensual, cultural, recreational, and spiritual responses, an important part of our quality of life  
(IEA 1995)

The protection of Ballina's coastal landscape is vital to our recreational and social appreciation and spiritual connection to the coast.

Ballina Shire Council's LEP 1984 provides for the "protection and enhancement of areas of particular scenic value to the Shire of Ballina" through zone 7(d) - Environmental Protection (scenic/escarpment) Zone.

The LEP has as one of its particular aims "...to take account of the physical nature of the environment of the Shire of Ballina so that development is in harmony with scenic and ecological resources" (Ballina LEP 1984 Part 1 Aims, Objectives, 2 (2)(f))

Management issues that have been raised during consultation for the POM include

- the need for improved viewing amenity in prime viewing areas ( in particular at Skenmars Head & Pat Morton Lookout)
- protection against environmental damage at viewing sites, caused by unauthorised access
- improved pedestrian access and parking amenity near prime viewing areas,
- traffic safety concerns in areas where popular scenic views are visible from, or very close to the busy Coast Road
- some comments have also been expressed about perceived proliferation of exotic Norfolk Island pines along the Lennox Head foreshore in the absence of locally indigenous native vegetation.

The objectives for Scenic Amenity under the Ballina Coastal Reserve Plan of Management provide a clear direction for preservation of scenic quality and indigenous landscapes, and for enhancement of viewing amenity along the coast, such that any planning for infrastructure or public utility along the coast should aim to maintain the integrity of the Ballina coastal landscape.

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IEA (Institute of Environmental Assessment) 1995. *Guidelines for Landscape and Visual Impact Assessment.* E & FN Spon, London.



## **APPENDICES**

- A. Current Land Status – Ballina Coastal Reserves**
  
- B. Ballina LEP - Zones within or adjacent to the Ballina Coastal Reserve**
  
- C. Ballina Bush Fire Risk Management Plan (excerpts)**
  
- D. Stakeholder Groups, organizations and individuals consulted during Plan development.**
  
- E. Threatened Flora and Fauna within Study Area  
- Threatened Species Conservation (TSC) Act 1995**
  
- F. DLWC comments on draft Cycleway Route, for sections proposed within Crown Land**
  
- G. Vegetation Types, Ballina Coastal Reserve – Preliminary Mapping**

## APPENDIX A

### LAND STATUS – BALLINA COASTAL RESERVES

<b>Reserve Description</b>	<b>Location</b>	<b>Purpose</b>
R.84109 NSW Sport & Recreation	LAKE AINSWORTH	National Fitness
R.82783 Ballina Shire Council	Lake Ainsworth	Public Recreation
R.83506 Ballina Shire Council	Lennox Head	Public Recreation
R.83506 Ballina Shire Council	Boulder Beach, Skennars Head	Public Recreation
R.32714 No Trust	Shelley Beach (West of Village)	Protection from Sand Drift
R.82765 Ballina Shire Council	Black Head, Shelley Beach	Public Recreation
R.73879	Shaws Bay	For Future Public Requirements
R.91507 Ballina Shire Council	Shelley Beach	Public Recreation
R.69266 Ballina Shire Council	Shaws Bay	Public Recreation
R.65048 Ballina Shire Council	Lighthouse Beach, Lighthouse Hill	Public Recreation
R.90859 Ballina Shire Council	Lighthouse Beach	Parking
R.94492 Ballina Shire Council	Public Recreation	Shaws Bay
R.84107 Ballina Shire Council	Public Recreation & Resting Place (includes Dedication for Public Park vide East Ballina Cemetery Act 1957)	Shaws Bay
Vacant Crown Land	(various locations) - Beach to Low Water Mark 7 Mile Beach, Pacific Parade, Lennox Head, Shag Rock, Boulder Beach, Sharpes Beach, Flat Rock, Angels Beach Shelley Beach, Compton Drive (Shaws Bay)	

## APPENDIX B

### BALLINA LOCAL ENVIRONMENTAL PLAN Zones within or adjacent to Ballina Coastal Reserve

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#### ZONE NO. 6(a) - OPEN SPACE ZONE

##### 1. Objectives of zone

###### A. The primary objectives are -

- (a) to identify land that is used or capable of being used for active or passive recreation purposes;
- (b) to encourage the development of open spaces in a manner which maximises the satisfaction of the community's diverse recreation needs; and
- (c) to enable development associated with, ancillary to or supportive of recreation use; and
- (d) to enable development that assists in meeting the social and cultural needs of the community.

###### B. The exception to these objectives is development of land within the zone for public works and services, outside the parameters specified in the primary objectives.

##### 2. Without development consent

Drainage; roads; works for the purposes of gardening, landscaping or bush fire hazard reduction.

##### 3. Only with development consent

Agriculture; camping areas; cycleways; forestry; picnic grounds; racecourses; recreation areas; recreation facilities; recreation vehicle areas; surf lifesaving facilities; telecommunications facilities; utility installations (other than gas holders or generating works).

##### 4. Advertised development - only with development consent

Any purpose other than a purpose specified in item 2 or 3.

##### 5. Prohibited development

Nil.

Ballina LEP (cont.)

**ZONE NO. 7(a) - ENVIRONMENTAL PROTECTION (WETLANDS) ZONE**

**1. Objectives of zone**

**A. The primary objectives are -**

- (a) to protect and conserve significant wetlands; and
- (b) to prohibit development which could destroy or damage a wetland ecosystem.

**B. The exception to these objectives is development of public works and services, outside the parameters specified in the primary objectives, only in cases of demonstrated and overriding public need and subject to the impact on the wetland ecosystem being minimised as much as is reasonably practical.**

**2. Without development consent**

Nil.

**3. Only with development consent**

Agriculture; bed and breakfast establishments; bush fire hazard reduction; environmental educational facilities; environmental protection works; open space; roads; telecommunications facilities; utility installations.

**4. Advertised development - only with development consent**

Nil.

**5. Prohibited development**

Any purpose other than a purpose specified in item 3.

Ballina LEP (cont.)

**ZONE NO. 7(d) - ENVIRONMENTAL PROTECTION (SCENIC/ESCARPMENT)**

**1. Objectives of zone**

A. The primary objectives are -

- (a) to protect and enhance those areas of particular scenic value to the Shire of Ballina; and
- (b) to minimise soil erosion from escarpment areas and prevent development in geologically hazardous areas.

B. The secondary objective is to enable development as permitted by the primary and secondary objectives for Zone No. 1(b), except for development which could conflict with the primary objectives of this zone.

C. The exception to these objectives is development of public works and services, outside the parameters specified in the primary and secondary objectives, but only in cases of demonstrated and overriding public need and subject to the visual impact being minimised as much as is reasonably practical.

**2. Without development consent**

Agriculture (other than feed lots, piggeries, poultry farms, stock homes and other intensive keeping of animals and not including the erection of buildings).

**3. Only with development consent**

Any purpose other than a purpose specified in item 2 or 5.

**4. Advertised development - only with development consent**

Nil.

**5. Prohibited development**

Bulk stores; caravan parks for permanent occupation; industries (other than rural, extractive, offensive or hazardous industries); mineral sand mining; mines; motor showrooms; recreation vehicle areas; residential buildings (other than dwelling-houses or dwellings); shops (other than general stores); warehouses.

Ballina LEP (cont.)

**ZONE NO. 7(f) - ENVIRONMENTAL PROTECTION  
(COASTAL LANDS) ZONE**

**1. Objectives of zone**

A. The primary objectives are -

- (a) to protect environmentally sensitive coastal lands; and
- (b) to prevent development which would adversely affect or be adversely affected, in both the short and long term, by the coastal processes.

B. The secondary objective is to enable the development of public works and recreation amenities where such development does not have significant detrimental effect on the habitat, landscape or scenic quality of the locality.

C. The exceptions to these objectives are -

- (a) to permit the development of public works, outside the parameters outlined in the primary and secondary objectives, only in cases of demonstrated and overriding public need and subject to the impact on the coastal lands being minimised, as much as is reasonably practical; and
- (b) development of surf lifesaving, environmental education facilities and like facilities.

**2. Without development consent**

Nil.

**3. Only with development consent**

Agriculture; beach amenities; bed and breakfast establishments; bush fire hazard reduction; camping grounds; caravan parks; community buildings; drainage; dwelling-houses; environmental educational facilities; environmental protection works; forestry; golf courses; helipads; home industries; open space; pipelines associated with aquaculture; picnic grounds; recreation establishments; recreation facilities; refreshment rooms; roads; surf club houses; utility installations.

**4. Advertised development - only with development consent**

Nil.

**5. Prohibited development**

Any purpose other than purpose specified in item 3.

Ballina LEP (cont.)

**ZONE 7(l) - ENVIRONMENTAL PROTECTION (HABITAT) ZONE**

**1. Objectives of zone**

- A. The primary objective is to protect areas of particular habitat significance.
- B. The secondary objective is to enable development of a similar nature to that intended as being the primary and secondary objectives of Zone No. 1(b), except for development which would conflict with the primary objective of this zone.
- C. The exception to these objectives is development of public works and services, outside the parameters of the primary and secondary objectives, but only in cases of demonstrated and overriding public need and subject to the impact on the habitat area being minimised as much as is reasonably practical.

**2. Without development consent**

Nil.

**3. Only with development consent**

Agriculture; bed and breakfast establishments; bush fire hazard reduction; camping grounds; community buildings; dwelling-houses; environmental educational facilities; environmental protection works; forestry; home industries; open space; roads; telecommunications facilities; utility installations.

**4. Advertised development - only with development consent**

Nil.

**5. Prohibited development**

Any purpose other than a purpose specified in item 3.

## APPENDIX C

### Bushfire Risk Management Plan - Ballina Shire Council 1997 (excerpts)

#### Section 3.4.1

##### (b) Environmental/Ecological Assets

Fire poses a risk to environmental assets within Ballina Shire where the fire regime exceeds the fire frequency thresholds identified for the vegetation communities that exist. The fragmented and discontinuous distribution of fire supportive vegetation across the Shire also reduces the risk to environmental assets as this combination does not support large, high intensity fires.

Rainforests are generally at lower risk where they are surrounded by cleared agricultural land, orchards or water bodies and are isolated from fire supportive vegetation or ignition sources. Rainforest communities are at higher risk where they interface with more fire supportive vegetation including sugarcane.

Pockets of littoral rainforest are at a higher risk as they are small in area, contain fire sensitive species and are interspersed within fire supporting coastal vegetation communities which are more likely to be ignited.

Tuckean Nature Reserve is at higher risk as it has been significantly degraded by high intensity fire in the past and requires further fire free regime to recover.

Ballina Nature Reserve is at moderate risk, having minimal recent fire history.

Risk to threatened flora and fauna species is varied, depending on whether the current fire regime is within or exceeds the fire regime thresholds for the habitats they occupy.

Large areas of coastal heath within the Shire are at higher risk of fire. In some areas the fire regime has been exceeded over the past 20 years. Increased frequency of major fires will result in a decline in the bio-diversity and possible species loss.

The Blackwall Range is a high risk area with a frequent fire history. This area supports threatened species, such as a large Koala population and habitat. The wet gullies of the Blackwall Range are important fire refuges for animals and are habitat for the Albert's Lyrebird, a threatened species.

There may also be other bushland areas which may be at risk from single individual fires.

Individual bush fire events are likely to have a short term impact on the scenic quality, soil stability, and a number of threatened species existing in some areas. The risk to environmental assets from individual fire events is considered to be minor, however it is the cumulative impact of inappropriate fire regimes that are likely to pose a higher risk.



**CHAPTER 4 - BUSH FIRE RISK MANAGEMENT STRATEGIES**

**4.1 Introduction**

This chapter details:

- The bush fire risk management strategies which will be put in place to manage the bush fire risk across the Ballina Council area;
- How the bush fire risk management priorities were determined; and
- The types of bush fire risk management options available.

**4.2 Bush Fire Risk Management Priorities**

Bush fire risk management priorities have been allocated according to the bush fire risk ratings. Those areas faced with an extreme bush fire risk have been given the highest management priority, while those areas with an insignificant risk have the lowest management priority.

The bush fire risk management priority influences:

When the risk is likely to be treated as high - high priority areas will be addressed first;

The resources allocated to the treatment - more resources will be allocated to manage the risk in high priority areas, as more work will be needed to reduce the risk; and

The range of treatment strategies required to manage the risk - a greater range of management strategies will be implemented to manage the risk in high priority areas, as more factors contribute to the risk.

**4.3 Bush Fire Risk Management Options**

Table 4.1 describes the various options available to minimise the bush fire risk. It is important to recognise that, particularly for extreme and major risk areas, no single option is likely to provide sufficient protection from bush fires. A range of options needs to be implemented to reduce the bush fire risk to an acceptable level. For example, while hazard reduction will reduce the severity of a bush fire and therefore improve the chance of survival, houses will have an even better chance of survival if the people living in them have taken steps (such as cleaning out gutters and not storing combustibles near the house) to make their own house less vulnerable to bush fire attack.

<b>Avoid the Risk</b>	By deciding not to proceed with the activity likely to generate the bush fire risk. This option is relevant to future land use and development decisions. Examples of risk avoidance strategies include, prohibiting certain types of development in bush fire prone areas, and requiring adequate fire protection zones to be established between developments and the bush fire hazard.
<b>Reduce the Hazard</b>	Programs to reduce the level of fuel available to burn in a bush fire. Examples of hazard reduction strategies include hazard reduction burning, slashing or ploughing of fire breaks, or manual clearing of bush fire hazards. Planting of rainforest species on interfaces.
<b>Reduce Ignitions</b>	Programs to reduce the number of deliberate and accidental man made ignitions. Examples of ignition reduction strategies include total fire bans, arson investigation programs, and issuing of permits to burn during the bush fire danger season.
<b>Reduce Vulnerability</b>	Programs to increase the resilience of community and environmental / ecological assets to bush fires. Examples of vulnerability reduction strategies include community education programs, and building restrictions in bush fire prone areas.
<b>Residual Risk</b>	Bush fire risk management strategies are designed to reduce the level of risk, but will not eliminate the risk entirely. Some level of residual risk may remain, which will be managed with fire response strategies such as fire suppression operations, early fire detection and evacuation.

**Table 4.1 - Bush Fire Risk Management Options**

## 4.4 Bush Fire Risk Management Strategies for Ballina Council Area

(The bush fire risk management strategies which have been identified in the Ballina Council area are outlined in Appendix VIII of the document)

## 4.5 Bush Fire Hazard Management

### 4.5.1 Introduction

Hazard reduction programs aim to reduce the severity of a bush fire, by reducing the amount of fuel (vegetation) available to burn during a bush fire. This makes the bush fire easier to control and reduces the level of bush fire damage to community and environmental/ecological assets. Hazard reduction burning is the most common way to reduce the bush fire hazard, as it is the most cost effective method available. However, other methods of hazard reduction such as slashing or mowing, ploughing, grazing or hand clearing are used when appropriate.

Hazard reduction must be conducted with due regard to the principles of Ecologically Sustainable Development (ESD). ESD principles have been taken into account the preparation of this plan. In addition, Chapter 5 of this plan identifies how ESD principles will be taken into account by the land managers who have responsibility for implementing this plan.

It is important to recognise that situations may arise where the necessary objectives for life and property protection are in conflict with ESD objectives. Wherever possible, solutions which achieve both life/property protection and ESD principles will be sought. However, where both cannot be achieved, protection of life and property shall take priority.

### 4.5.2 Bush Fire Hazard Management Zones for Ballina Council Area

The bush fire management zones identified in the plan are described below. (More detail regarding the specifications of each zone is contained in Appendix IV. )

<b>Asset Protection Zone:</b>	To protect human life, property and highly valued public assets.
<b>Strategic Fire Advantage Zone:</b>	To provide strategic areas of fire protection which will reduce the speed and intensity of bush fires, and reduce the potential for spot fire development.
<b>Land Management Zone:</b>	To meet relevant land management objectives in areas where Asset Protection or Strategic Fire Advantage Zones are not appropriate.
<b>Fire Exclusion Zone:</b>	To exclude fires (both bush fire and hazard reduction burning) due to the presence of fire intolerant assets such as rainforest or pine plantations.

### 5.3.5 Use of Appropriate Fire Regimes

In accordance with the principles of Ecologically Sustainable Development, and Bush Fire Coordinating Committee Policy, the use of inappropriate fire regimes is to be avoided wherever possible.

A fire regime is essentially the combination of fire frequency (usually measured by the number of years between fires both wild and prescribed), fire intensity, and season of fire occurrence. To identify the fire regime of an area requires assessment of the above fire attributes over a long period of time (normally decades but in some cases centuries).

For fire regime information to be useful in planning, the range of variation for each fire attribute over time needs to be identified, rather than simply identifying averages (e.g. useful information for fire frequency is both the minimum and maximum periods between fires and the median for the period between fires). Very few areas in NSW have adequate information on fire frequency, intensity and season of occurrence, collected over a sufficient time period, to enable fire regimes to be determined with any accuracy. In many areas an 'adaptive management' approach is used by land managers such that the fire regimes applied are determined from a combination of the best fire history and fire ecology information available.

An inappropriate fire regime is considered to be one where (usually through the decisions or actions of humans) one or more of the fire attributes is occurring outside its historic range of variation for the area. Where such a change is allowed to continue, changes to the environment are likely to result. Examples of this include areas where prescribed fire is applied too frequently, areas where fire occurrence is reduced (through wildfire suppression and cessation of prescribed burning) such that fires are less frequent and more intense, and areas where the season of burning is changed.

Whilst every effort has been made in this plan to select bush fire protection strategies which achieve the dual objectives of protecting life and property, and protecting environmental values, there will inevitably be areas where both objectives cannot be achieved. In these areas, in accordance with the *Rural Fires Act 1997* and *Bush Fire Coordinating Committee Policy*, management priority is necessarily given to the protection of life and property.

The areas in which these conflicting objectives occur are restricted to hazard management zones (asset protection, and strategic fire advantage zones). These zones represent a relatively small proportion of the bush fire district.

In many cases, the implementation of inappropriate fire regimes are necessary to avoid the application of inappropriate fire regimes over much broader areas (primarily where inappropriate fire regimes have resulted, or are likely to result from arson or frequent accidental human ignition sources).

Land managers are generally responsible for ensuring that fire regimes are implemented which optimise land management objectives and biodiversity outcomes. Where opportunities are available to achieve fuel management objectives without compromising appropriate fire regimes, these will be implemented.

<b>Plant Community</b>	<b>Threshold</b>
Rainforest	No fire acceptable
Mangroves	No fire acceptable
Chenopod shrubland	No fire acceptable
Wet Sclerophyll forest	Decline expected if successive fires, of any intensity, occur less than 50 years apart. Decline predicted if no fire for more than 200 years.
Dry Forest complex	Decline expected if more than two successive fires occur at intervals of less than 5 years. Decline expected if there are no fires for more than 30 years. Decline expected if successive fires occur which totally scorch or consume the tree canopy.
Shrubland - heath complex	Decline expected if more than two successive fires occur at intervals of less than 8 years. Decline expected if more than two successive fires occur at intervals of more than 15 years. Decline expected if no fire occurs for more than 30 years.
Grassland/herbfield complex	Decline expected if more than two successive fires occur at intervals of less than 5 years. Decline expected if more than two successive fires occur at intervals of more than 15 years.

Table 5.2 Fire frequency thresholds for vegetation communities (Bradstock et al).

## APPENDIX D

### Stakeholder groups, organisations and individuals consulted during development of the Ballina Coastal Reserve Plan of Management

All Girl Surfriders  
Angels Beach Dunecare and Reafforestation Group  
Ballina Environment Society  
Ballina Fisherman's Co-operative  
Ballina-Lighthouse Beach Dunecare Group  
Ballina Lighthouse and Lismore Surf Lifesaving Club  
Beachfront Parade Dunecare Group  
Byron Bay Hang Gliding / Paragliding Club - Michelle Batterham  
Dorrroughby Environmental Education Centre - Alan Watterson  
EnvITE (Environmental Training and Employment)  
Jali Local Aboriginal Land Council  
LeBa Surfriders  
Lennox Head- Alstonville Surf Lifesaving Club  
Lennox Head Chamber of Commerce  
Lennox Head Dunecare Group  
Lennox Head Heritage Society  
Lennox Head Landcare Group  
Lennox Head Residents Association Inc. (and Heritage Committee)  
National Trust of Australia (NSW)  
Richmond River Historical Society  
Shelley Beach Coastcare Group  
Alister Somerville  
South Ballina Beach Coastcare  
Tara Downs Landcare Group  
W.A.T.E.R. (Water Access To Enhance Recreation)

Jali Local Aboriginal Land Council  
(Cabbage Tree Island)  
Lee Andresen  
Dr Harvey Bell  
John Carr  
Fiona Folan  
M & B Heagney  
Marelle Lee  
Don Page MP  
Alan Rich  
Jean Ringland

Ballina Shire Council  
Coastcare NSW  
Mineral Resources NSW  
NSW Sport and Recreation (Lake Ainsworth)  
NSW Fisheries  
NSW National Parks and Wildlife Service

## APPENDIX E

Threatened Flora and Fauna within the Ballina Coastal Reserve  
under the Threatened Species Conservation Act 1995

Table 1: Threatened Flora known to occur within the Ballina Coastline

Species Name	Common name if known	Conservation Status
<i>Acronychia littoralis</i>	Scented Acronychia	Endangered
<i>Cryptocarya foetida</i>	Stinking Cryptocarya	Vulnerable
<i>Davidsonia spp.</i>	Smooth Davidsonia	Endangered
<i>Fontainea oraria</i>		Endangered
<i>Macadamia tetraphylla</i>	Rough-leaved Queensland Nut	Vulnerable
<i>Phaius australis</i>	Swamp Orchid	Endangered
<i>Syzygium hodgkinsoniae</i>	Red Lilly Pilly	Vulnerable
<i>Tinospora tinosporoides</i>	Arrow Head Vine	Vulnerable

Source: NSW NPWS Wildlife Atlas, 2002.

Table 2: Threatened Fauna known to occur within the Ballina Shire Coastline

Species Name	Common name if known
<i>Amaurornis olivaceus</i>	Bush-hen
<i>Balaenoptera physalus</i>	Fin Whale
<i>Botaurus poiciloptilus</i>	Australasian Bittern
<i>Cacophis harriettae</i>	White-crowned Snake
<i>Calidris alba</i>	Sanderling
<i>Calidris tenuirostris</i>	Great Knot
<i>Caretta caretta</i>	Loggerhead Turtle
<i>Charadrius leschenaultii</i>	Greater Sand Plover
<i>Charadrius mongolus</i>	Lesser Sand Plover
<i>Crimia timula</i>	Wallum Froglet
<i>Dermochelys coriacea</i>	Leathery Turtle
<i>Diomedea exulans</i>	Wandering Albatros
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork
<i>Esacus neglectus</i>	Beach-stone Curlew
<i>Grus rubicunda</i>	Brolga
<i>Gygis alba</i>	White Tern
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher
<i>Haematopus longirostris</i>	Pied Oystercatcher
<i>Irediparra gullineacea</i>	Comb-crested Jacana

*Threatened Fauna (continued)*

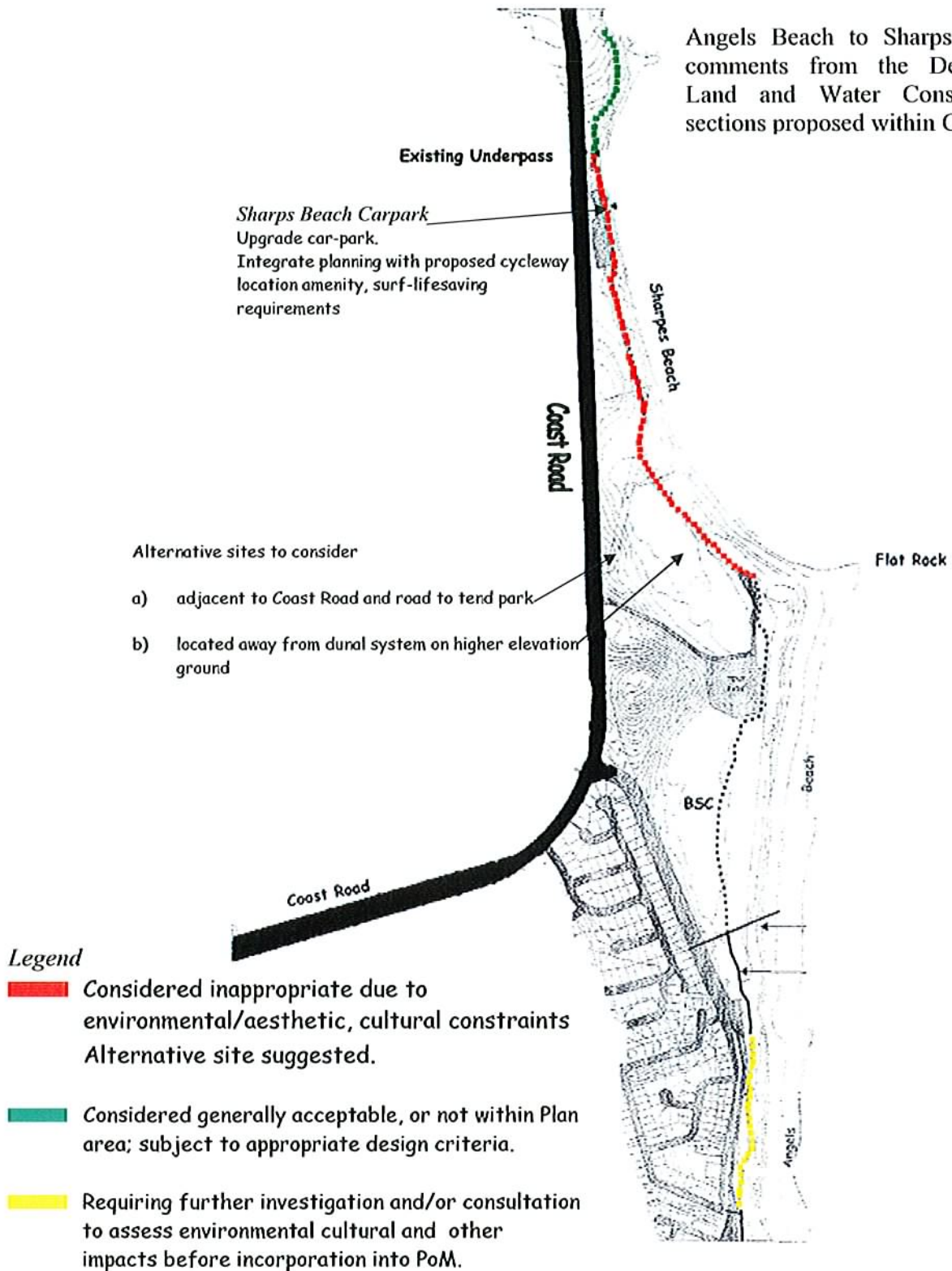
<b>Species Name</b>	<b>Common name if known</b>
<i>Lichenostromus fasciogularis</i>	Mangrove Honeyeater
<i>Litoria ologburensis</i>	
<i>Megaptera novaeangliae</i>	Hump Back whale
<i>Miniopterus Australia</i>	Little Bent-wing Bat
<i>Pandion haliaetus</i>	Osprey
<i>Pezoporus wallicus</i>	Ground Parrot
<i>Phaethon rubricauda</i>	Red-tailed Tropicbird
<i>Phascolarctos cinereus</i>	Koala
<i>Phoebastria fusca</i>	Sooty Albatross
<i>Physeter macrocephalus</i>	Sperm Whale
<i>Planigale maculate</i>	Common Planigale
<i>Procelsterna cerulean</i>	Grey Ternlet
<i>Pterodroma nigripennis</i>	Black-winged Petrel
<i>Pterodroma salndri</i>	Providence Petrel
<i>Ptilinopus regina</i>	Rose-crowned Fruit Dove
<i>Puffinus carneipes</i>	Flesh-footed Shearwater
<i>Sterna albifrons</i>	Little Tern
<i>Sterna fuscata</i>	Sooty Tern
<i>Sula dactylatra</i>	Masked Booby
<i>Syconycteris australis</i>	Common Blossom-Bat
<i>Thersites mitchellae</i>	Mitchell's Rainforest Snail
<i>Todiramphus chloris</i>	Collared Kingfisher
<i>Tyto capensis</i>	Grass Owl
<i>Tyto novaehollandiae</i>	Masked Owl
<i>Xenus cinereus</i>	Terek Sandpiper

Source: NSW NPWS Wildlife Atlas, 2002.

# Appendix F1

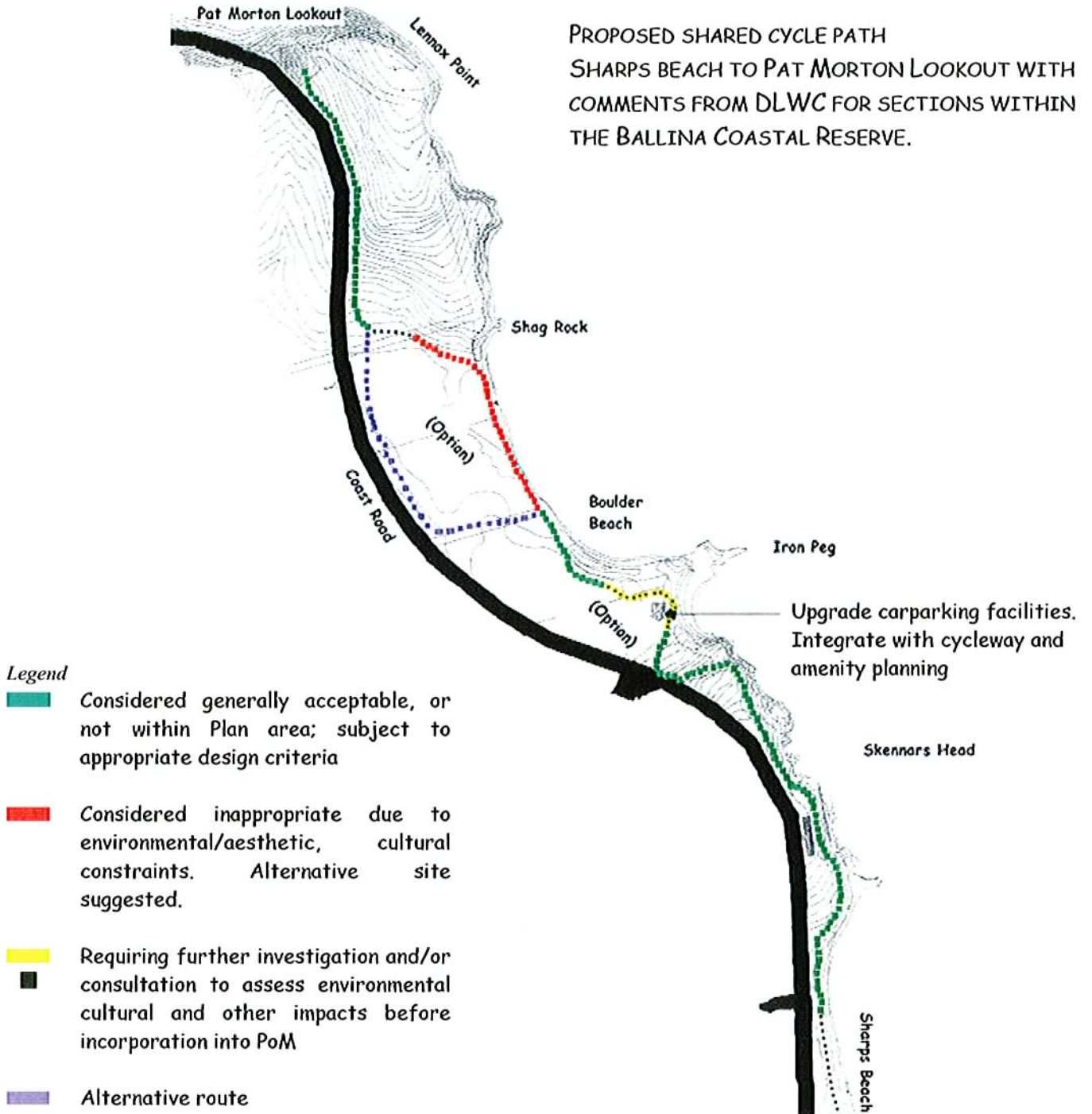
## PROPOSED SHARED CYCLE PATH BALLINA TO LENNOX HEAD (DECEMBER 2000)

Angels Beach to Sharps Beach with comments from the Department of Land and Water Conservation for sections proposed within Crown Land.





PROPOSED SHARED CYCLE PATH  
SHARPS BEACH TO PAT MORTON LOOKOUT WITH  
COMMENTS FROM DLWC FOR SECTIONS WITHIN  
THE BALLINA COASTAL RESERVE.



PROPOSED SHARED CYCLE PATH BALLINA TO LENNOX HEAD  
(DECEMBER 2000)

Pat Morton Lookout to Lennox Head with comments from the Department of Land and Water Conservation for section proposed within Crown Land.



**Legend**

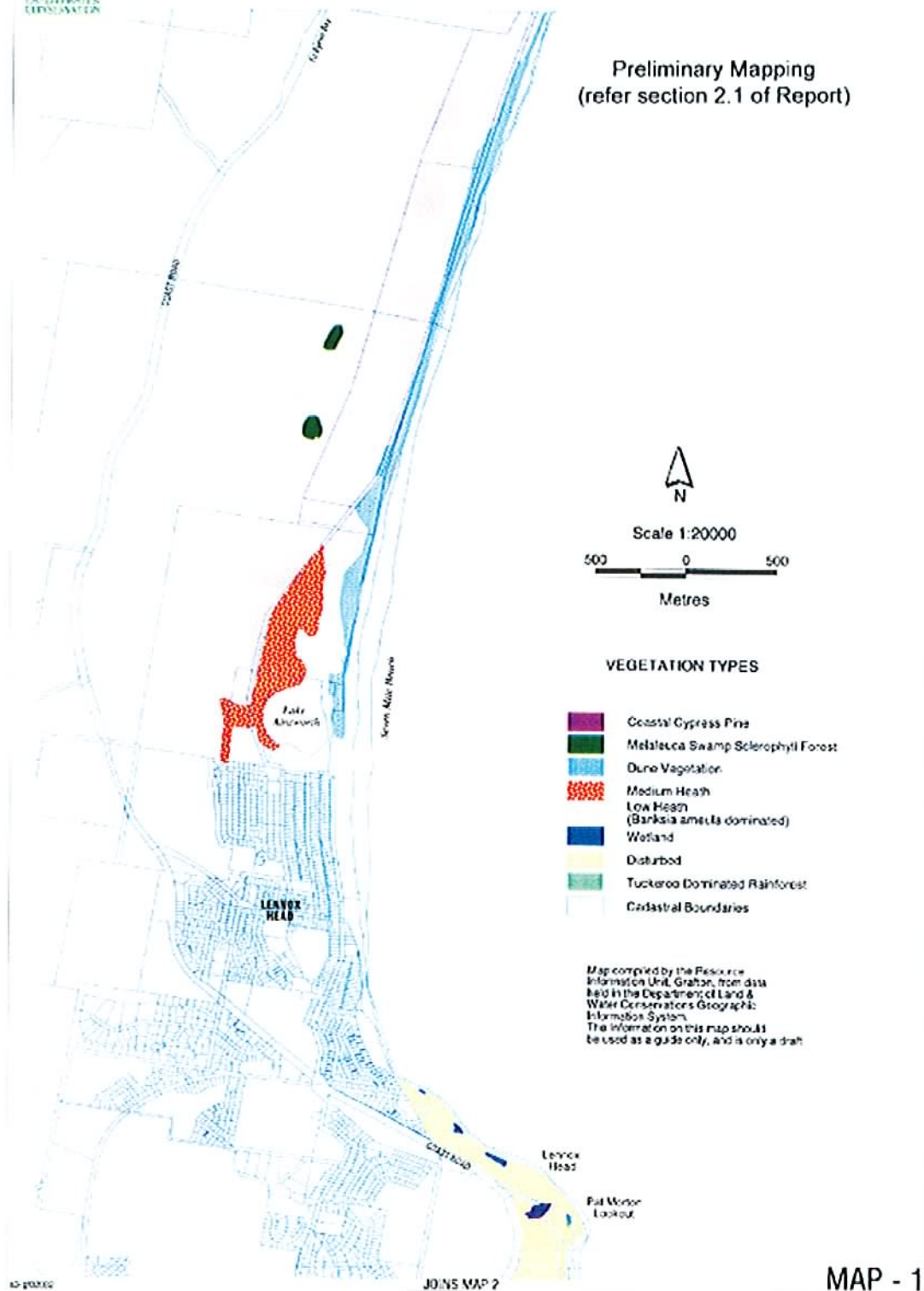


Considered generally acceptable, or not within Plan area; subject to appropriate design criteria



# VEGETATION TYPES - BALLINA COASTLINE

Preliminary Mapping  
(refer section 2.1 of Report)



# VEGETATION TYPES - BALLINA COASTLINE

