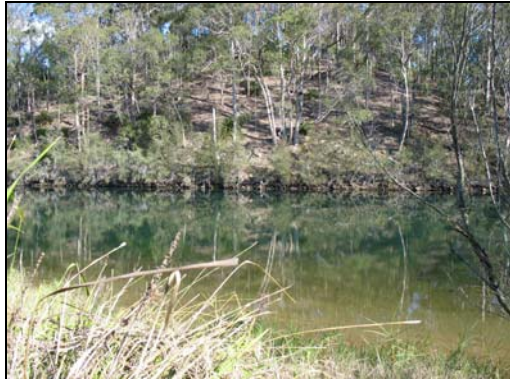


Plan of Management

Yarragee Reserve, Moruya



Adopted at Council's Works & Facilities Committee
12 September 2006

Plan of Management No 36

This Plan of Management was prepared by Eurobodalla Shire Council.

This Plan of Management was adopted at Council's Works & Facilities Committee Meeting held on 12 September 2006.

Any requests for further information regarding this Plan of Management can be addressed to:

Plans of Management Officer

Reference: 05.9213

Eurobodalla Shire Council

PO Box 99

MORUYA NSW 2537

Phone (02) 4474 1000

Email council@eurocoast.nsw.gov.au

Table of Amendments:

No	Exhibition Period (if amendments considered substantial)	Public Hearing Date (for change of categorisation or new categorisation)	Adopted	Comments

TABLE OF CONTENTS

1	Introduction – What is a Plan of Management?	5
2	Executive Summary	5
3	Community Consultation	6
4	Key Outcomes	7
5	Review Period	7
6	Legislation and Policies	8
6.1	Local Government Act 1993	8
6.2	Local Government (General) Regulation 2005	8
6.3	Environmental Planning and Assessment Act 1979	8
6.4	NSW Coastal Policy 1997	8
6.5	State Rivers and Estuary Policy	9
6.6	Threatened Species Conservation Act 1995	10
6.7	Assessment of Fauna Habitat Linkages and Considerations for Management: Select Rural Residential Areas in Eurobodalla Shire.....	11
6.8	Eurobodalla Public Toilet Strategy – June 2002.....	11
6.9	Moruya River Flooplain Management Study - December 1996	11
6.10	Eurobodalla Shire Council Companion Animals Management Plan – December 2001	11
6.11	Alcohol Free/Restricted Reserves Policy – November 2001	11
6.12	Dividing Fences Act 1991	12
6.13	Other Relevant Legislation and policies.....	12
7	Land Description and Analysis	13
7.1	Location.....	13
7.2	Land Ownership and Classification	14
	Table A: Status of Land included in this Plan of Management	14
7.3	Community Land Categorisation	14
7.4	Core Objectives for the Management of Community Land	16
7.5	Land Zoning	17
7.7	Aboriginal Heritage.....	19
7.8	Existing Facilities and Use.....	19
7.9	Access.....	20
7.10	Soils.....	20
7.11	Flora	21
7.12	Fauna	22
7.13	Fire Management	22
8	Leases, Licences & Other Estates	23
81	Exclusive use of Community Land	23
82	Purpose for leases, licences and other estates	23
83	Advertising of leases, licences and other estates.....	23
8.4	Existing Leases and Licences	23
8.5	Future Leases and Licences	23

9	Encroachments	24
10	Values of the Reserve	25
11	Operational Plan	26
	11.1 Access – Pedestrian.....	27
	11.2 Access - Vehicular	27
	11.3 Encroachments.....	27
	11.4 Fire Management	27
	11.5 Public Toilets	27
	11.6 Recreation	28
	11.7 Signage	28
	11.8 Vegetation Management.....	29
12	Landscape Masterplan	30
13	Stakeholders / Interest Groups	32
	Appendix A – Community Comments from 6 April 2006 Public Meeting	33
	Appendix B – Vegetation Study	35

1 Introduction – What is a Plan of Management?

The New South Wales Local Government Act 1993 requires Councils to prepare Plans of Management for its Community Land (commonly known as public reserves). The NSW Coastal Policy 1997 also identifies Plans of Management for all coastal Community Land as a strategic action.

A Plan of Management is a strategic planning document that outlines how Council intends to use, develop and manage the Community Land included in the plan. In particular, leases and licences and other interests on Community Land are only authorised when included in an adopted Plan of Management.

As a planning tool, Plans of Management provide objectives for the management of the land in the short and long term. This gives Council and the community goals to work towards in achieving desirable outcomes for the management and future development of the Community Land. A Plan of Management can be used to identify projects that could be achieved through community working groups as well as providing supporting documentation when applying for Council and/or grant funding.

2 Executive Summary

Yarragee Reserve is a popular riverside reserve used primarily for swimming and picnicking. Located a short drive from the township of Moruya, it is easily accessed by car and is a short walk for the residents of Yarragee Road.

This Plan of Management provides measures to improve the environmental management of the reserve by protecting the sensitive riparian areas and revegetating degraded areas. The Eurobodalla Regional Botanic Gardens completed a comprehensive vegetation survey of the reserve that has highlighted issues in regard to the condition of the environment, weeds and private encroachments onto the public land.

The road system will be rationalised so that there is one primary access road into the reserve. Vehicle access will be restricted to the roadway so the riparian areas are not accessible by car. A designated parking area will be provided at the western end of the open grassed parkland, this provides close access to both the river and the parkland environments.

The grassed area will remain as an open parkland that can be used for a variety of different recreational activities. Some additional shade trees are proposed for this area, as well as new sense of arrival to the reserve with the southern verge of the main entrance road planted with native trees. Picnic Areas will continue to be provided.

While the Plan of Management makes many recommendations, funding is very limited. As at the date of adoption of this Plan of Management \$18,265 was available from the Southern Rivers Catchment Management Authority Estuary and Coastal Lakes Incentives Sub Program to address access, vegetation management and signage issues in the reserve. Future funding for other projects has not been secured and will be dependent on Council's budget and the prioritisation of funds shirewide or on future successful grant applications.

3 Community Consultation

<u>Public Meeting</u>	6 April, 2006 Moruya RSL Hall Refer to Appendix A for a summary of the comments made at this meeting.
<u>Adoption of Draft</u>	Works & Facilities Committee Meeting 11 July 2006
<u>Exhibition Period</u>	19 July 2006 – 18 August 2006
<u>Submission Period</u>	19 July 2006 – 1 September 2006
<u>Public Presentation</u>	Moruya RSL Hall Thursday 3 August 6pm – 8pm
<u>Adoption</u>	Works & Facilities Committee Meeting 12 September 2006

4 Key Outcomes

The key outcomes this plan are:

- To conserve biodiversity and maintain ecosystem function of the reserve;
- To rehabilitate and maintain the land to its natural state and setting;
- To provide for community use of and access to the land in such a manner that will facilitate the ecologically sustainable use of the foreshore and to minimise and mitigate any disturbance on the foreshore caused by community use;
- To maintain the foreshore as a transition area between the aquatic and the terrestrial environment, and to protect and enhance all functions associated with the foreshore's role as a transition area;
- To encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities;
- To provide for passive recreational activities or pastimes and for the casual playing of games;
- To protect and enhance the principal values of the reserve. The principal values have been identified as:
 - Environmental
 - Cultural Heritage
 - Recreational / Community
 - Visual / Scenic

5 Review Period

This document will be reviewed in the event of the requirement to authorise a change in the nature and use of any of the Community Land included in this Plan, or to authorise a lease, licence or other estate not already authorised in this Plan of Management.

It may also require review in the event of legislative amendments and/or if any critical habitat is proclaimed on any of the land included in this Plan of Management.

6 Legislation and Policies

6.1 Local Government Act 1993

The Local Government Act 1993 requires that Councils prepare Plans of Management for its Community Land. It provide the framework for the development of Plans of Management and clearly articulates what issues must be addressed.

This Plan of Management has been developed in accordance the requirements of the Local Government Act 1993 as accessed on 28 June 2006.

6.2 Local Government (General) Regulation 2005

Section 9 -26 of the Local Government (General) 2005 Regulation provides provisions on the management of Community Land.

In particular it provides: guidelines for the categorisation of community land; specific requirements for the preparation of Plans of Management; and, approved purposes and requirements for issuing leases and licences.

Further, where a parcel of land includes more than one category, The Local Government (General) Regulation 2005 requires that a map illustrating the areas of the different categorisations must be provided in the Plan of Management.

This Plan of Management has been developed in accordance the requirements of the Local Government (General) Regulation 2005 as accessed on 28 June 2006.

6.3 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) forms the framework within which planning occurs within NSW.

Eurobodalla Shire Council's Rural Local Environmental Plan is adopted under the provisions of this Act and provides for the zoning of the land included in this Plan of Management. Zoning is discussed in more detail in Section 8 on page 17.

6.4 NSW Coastal Policy 1997

The Coastal Policy responds to the fundamental challenge to provide for population growth and economic development without putting the natural, cultural and heritage values of the coastal environment at risk. To achieve this, the Policy has a strong integrating philosophy based on the principles of ecologically sustainable development (ESD).

The coastal zone is defined in section 4A of the Coastal Protection Act 1979 (as amended 2002). Generally it includes land that is one kilometre landward of the western boundary of the coastal waters of New South Wales, also, one kilometre landward around any bay, estuary, coastal lake or lagoon, also, follows the length of any coastal river inland generally at a distance of one kilometre from each bank of the river, also, to one kilometre beyond the limit of any recognised mangroves on or associated with the river, or, if there are no such recognised mangroves to one kilometre beyond the tidal limit of the river is shown to the nearest cadastral boundary or easily recognisable physical boundary.

Therefore, all of the land included in this Plan of Management is located in the Coastal Zone and is subject to the provisions of the NSW Coastal Policy 1997.

The nine goals of the Coastal Policy are:

1. Protecting, rehabilitating and improving the natural environment of the coastal zone.
2. Recognising and accommodating the natural processes of the coastal zone.
3. Protecting and enhancing the aesthetic qualities of the coastal zone.
4. Protecting and conserving the cultural heritage of the coastal zone.
5. Providing for ecologically sustainable development and use of resources.
6. Providing for ecologically sustainable human settlement in the coastal zone.
7. Providing for appropriate public access and use.
8. Providing information to enable effective management of the coastal zone.
9. Providing for integrated planning and management of the coastal zone.

Some of the Key Actions of the Coastal Policy that are especially relevant to this Plan of Management include:

- Protection and restoration of important fisheries habitats, such as seagrasses and mangroves.
- SEPP 14 Coastal Wetlands and SEPP 26 Littoral Rainforests will be rigorously enforced and extended where appropriate in recognition that what remains of these valuable ecosystems needs to be fully protected from inappropriate development.
- Coastal lands and aquatic environments with conservation values will be assessed and appropriate tenures, reservations, zonings and/or regulations will be put in place to protect them, conserve biodiversity and to protect and ensure the recovery of threatened species.
- Water quality in coastal waters, estuaries and rivers will be maintained where it is currently adequate, or improved where it is currently inadequate. This will be addressed through a number of specific actions designed to control discharges from both point and non-point sources, including development and implementation of management and monitoring programs.
- Cultural heritage will be protected and conserved through a variety of planning and management programs.

As at the date of adoption of this Plan of Management the 1997 Coastal Policy was under review, however this Plan of Management has been developed in accordance with this policy.

6.5 State Rivers and Estuary Policy

The objective of the State Rivers and Estuary Policy is to manage the rivers, estuaries and adjacent wetlands of NSW in ways which:

- Slow, halt or reverse the overall rate of degradation in their systems;
- Ensure the long-term sustainability of their essential biophysical functions and
- Maintain the beneficial use of these resources.

The recommendations of this Plan of Management are consistent with this policy.

6.6 Threatened Species Conservation Act 1995

The Threatened Species Conservation Act provides protection for threatened native plants and animals in New South Wales (with the exception of fish and marine plants). Provisions are made for the identification, conservation and recovery of threatened species and their populations and communities within this legislation. Further, this legislation also seeks to reduce the threats that may impact on the survival of listed species.

Threatened species are listed as either: endangered, vulnerable or presumed extinct. The following criteria are used to determine what category the species or community should be listed under:

Endangered species - The species is likely to become extinct in nature in New South Wales unless the circumstances and factors threatening its survival or evolutionary development cease to operate, or its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction, or it might already be extinct, but is not presumed extinct.

Provisional Listing of an endangered species on an emergency basis

Although not previously known to have existed in New South Wales, the species is believed on current knowledge to be indigenous to New South Wales, or it was presumed to be extinct in New South Wales but has been rediscovered, and the species is not currently listed as an endangered species.

Vulnerable Species - The species is likely to become endangered in New South Wales unless the circumstances and factors threatening its survival or evolutionary development cease to operate.

Species presumed extinct - A species is eligible to be listed as a species that is presumed extinct at a particular time if, in the opinion of the Scientific Committee, it has not been recorded in its known or expected habitat in New South Wales, despite targeted surveys, over a time frame appropriate, in the opinion of the Scientific Committee, to its life cycle and form.

As at the date of adoption of this Plan of Management, there are many species of threatened fauna that are likely to occupy the reserves. These are:

- Regent Honeyeater (endangered) - *Xanthomyza Phrygia*
- Pied Oystercatcher (vulnerable) - *Haematopus longirostris*
- Masked Owl (vulnerable) - *Tyto novaehollandiae*
- Sooty Owl (vulnerable) – *Tyto tenebricosa*
- Glossy Black Cockatoo (vulnerable) – *Calyptorhynchus latham*
- Black Bittern (vulnerable) - *Ixobrychus flavicollis*
- Freckled Duck (vulnerable) – *Stictonetta naevosa*
- Square-tailed Kite (vulnerable) – *Lophoictinia isura*
- Swift Parrot (endangered) – *Lathamus discolor*
- Superb Fruit-Dove (vulnerable) – *Ptilinopus superb*
- Olive Whistler (vulnerable) – *Pachycephala olivacea*

There may be other threatened species that occupy the reserve at any time. Refer to Section 8.15 Flora on page 22 for more information.

As at May 2006 there were no Recovery Plans for any of the above listed species completed under the Threatened Species Conservation Act 1995. Similarly, there was no Critical Habitat in Eurobodalla Shire as at May 2006.

6.7 Assessment of Fauna Habitat Linkages and Considerations for Management: Select Rural Residential Areas in Eurobodalla Shire

A report was prepared by Gaia Research for Council in 2001 entitled Assessment of Fauna Habitat Linkages and Considerations for Management: Select Rural Residential Areas in Eurobodalla Shire. This includes Yarragee Reserve and surrounding development (refer to Section 8.5 – Land Zoning on page 17 for more information on the zoning of the land around and included Yarragee Reserve).

In relation to the protection of threatened species habitat, the report recommended that future rural residential areas should have buffer zones for riparian corridors on creeks, rivers, wetlands and lakes. The report recommended a minimum distance of 60m either side of a creek to retain a reasonable amount of vegetation for habitat protection. Corridors around lakes were recommended to be a minimum 100m.

Threatened species are likely to occupy or frequent Yarragee Reserve. Refer to Section 6.6- Threatened Species Conservation Act on page 10 for more information.

This Plan of Management supports this recommendation by the appropriate categorisation of the Community Land as illustrated in Section 8.3 – Community Land Categorisation on page 14.

6.8 Eurobodalla Public Toilet Strategy – June 2002

Council's Public Toilet Strategy recommends that an investigation be undertaken for the provision of a single unit within the reserve at the end of Yarragee Road.

This issue will continued to be monitored. Future investigation into providing a public toilet at Yarragee Reserve will be considered if it is deemed warranted by Council. This Plan of Management does not preclude the construction of a public toilet at Yarragee Reserve if it is deemed appropriate in the future.

6.9 Moruya River Floodplain Management Study - December 1996

The Moruya River Floodplain Management Study notes that Yarragee Reserve is subject to inundation during a flood. Anecdotal advice from long term residents is that flood levels have reached at least the base of the large *Eucalyptus tereticornis* (Forest Red Gum) which is located beyond the eastern boundary of the reserve on private property.

Future development of the reserve must consider that the reserve is subject to flooding. Assets should be located appropriately to reduce the level of debris hazard during a nuisance flood to downstream areas. For example, park furniture should be located on the higher levels of the reserve rather than on the banks of the river. Council's Public Toilet Strategy would need to assess the flooding constraints of the reserve when considering the possible development of a public toilet on the reserve.

This Plan of Management has been developed in accordance with the flooding constraints of the reserve.

6.10 Eurobodalla Shire Council Companion Animals Management Plan – December 2001

Under the Companion Animals Management Plan Yarragee Reserve is not an off-leash area for dogs. Therefore, dogs must be kept on a leash at all times at Yarragee Reserve.

6.11 Alcohol Free/Restricted Reserves Policy – November 2001

The Alcohol Free/Restricted Reserves Policy states that under Section 632 of the Local Government Act, Council has restricted the consumption of alcohol between the hours of 8pm until 8am on Yarragee Reserve, Moruya.

6.12 Dividing Fences Act 1991

The Dividing Fences Act provides that Councils are not required to fence its public reserves or parks. The responsibility for fencing properties adjacent to a public park or reserve is the adjoining land holder (refer to Section 25 of the Dividing Fences Act).

As at the date of adoption of this Plan of Management Natural Heritage Trust funding was available to assist landholders with fencing their land to protect riparian areas from the impact of grazing.

Where landholders have not fenced their boundary to the foreshore reserves of Yarragee and they keep stock on their property, they *may* be eligible for funding to assist with the costs of installing fences to prevent stock access to riparian areas.

For further information on funding opportunities to assist with the expense of environmental protection works contact the Southern Rivers Catchment Management Authority on 4472 8296 or Council's Environment Team on 4474 1000.

6.13 Other Relevant Legislation and policies

- Environment Protection and Biodiversity Conservation Act 1999
- Eurobodalla Acid Sulphate Soils Policy 2002
- Fisheries Management Act 1994
- Native Species Conservation Act 1997
- Native Vegetation Act 2003
- State Environmental Planning Policy No. 17 – Coastal Protection

7 Land Description and Analysis

7.1 Location

Yarragee Reserve is located on the shore of the Deua River, Moruya (also known as the Moruya River) and is bounded to the east by small rural holdings. It is located within a 5 minute drive from the township of Moruya which is located approximately 4 hours drive south from Sydney.

The reserve is approximately 17 ha in area and encompasses Lot 36 DP 708621 and Lot 4 DP 771475.

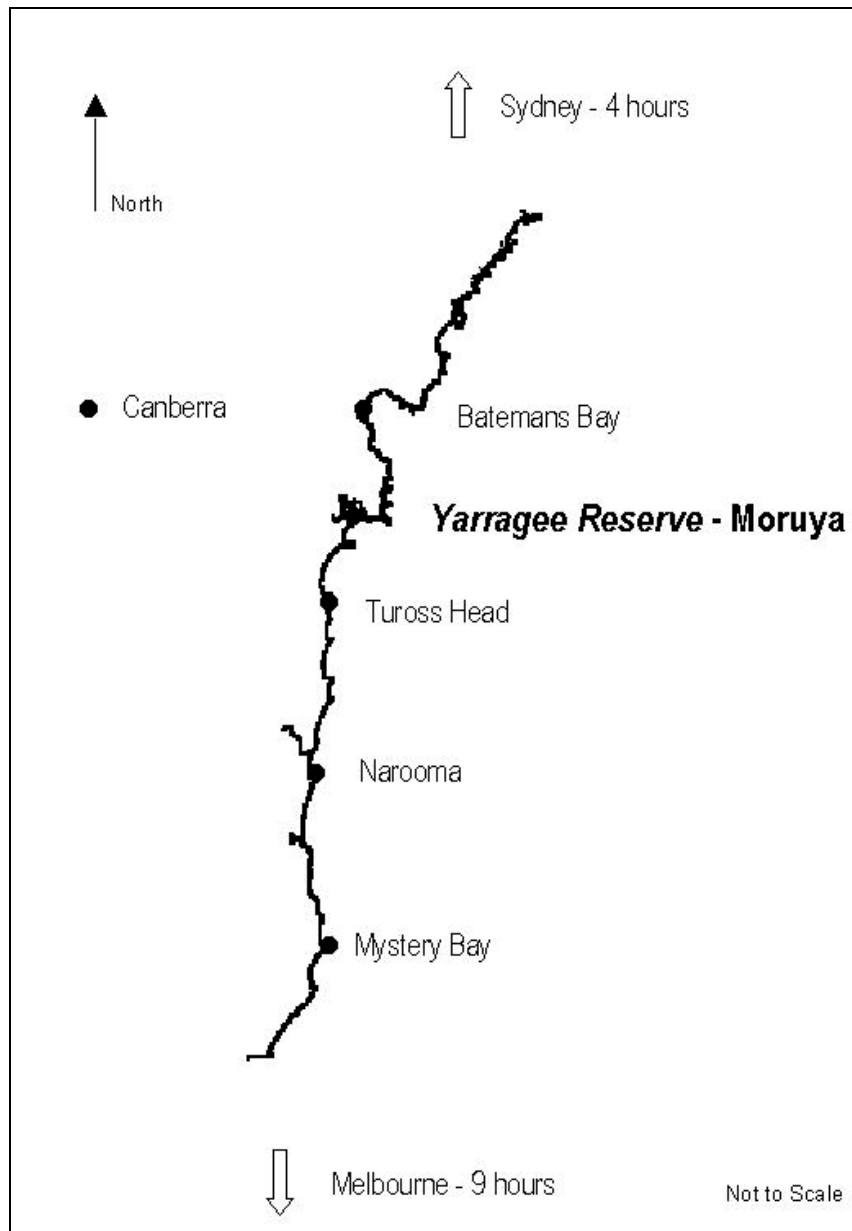


Figure 1 Location of Yarragee Reserve

7.2 Land Ownership and Classification

All of the land included in this Plan of Management has been owned by Eurobodalla Shire Council since 1985 and is classified as Community Land.

All land owned by Council must be classified as either “Community Land” or “Operational Land” under the Local Government Act 1993. The purpose of classification is to identify clearly that land which should be kept for use by the general public (Community Land) and that land which need not (Operational Land). All land included in this Plan of Management is classified as “Community Land”.

Table A: Status of Land included in this Plan of Management

Lot & DP No	Reserve Name	Categorisation prior to the adoption of this Plan of Management	Categorisation as at date of Adoption of this Plan of Management	Area	Location	Zoning as at the date of Adoption of this Plan of Management	Recommended new Zoning
Lot 36 DP 708621 (PIN 20467)	Yarragee Reserve	Part Natural Area Foreshore; and Part Park	Part Natural Area Foreshore; and Part Park	15.660 hectares	Yarragee Road, Moruya	Rural 1c	6a Public Open Space Zone
Lot 4 DP 771475 (PIN 23067)	Yarragee Reserve	Natural Area Watercourse	Natural Area Foreshore	1.627 hectares	Yarragee Road, Moruya	Rural 1c	6a Public Open Space Zone

7.3 Community Land Categorisation

The Local Government Act 1993 requires that Community Land be categorised as one or more of the following:

- General Community Use
- Natural Area (bushland; wetland; escarpment; watercourse; foreshore or other category prescribed by the Regulation)
- Sportsground
- Park
- Area of Cultural Significance

The Community Land included in this Plan of Management is categorised as:

- Natural Area Foreshore; and
- Park

The Local Government Regulation requires that Plans of Management that categorise an area of Community Land in more than one category must clearly identify the land or parts of the land and the separate categories by map or otherwise. Refer to Figure 2 for an illustration of the various categories of Community Land as they apply to the land included in this Plan of Management.

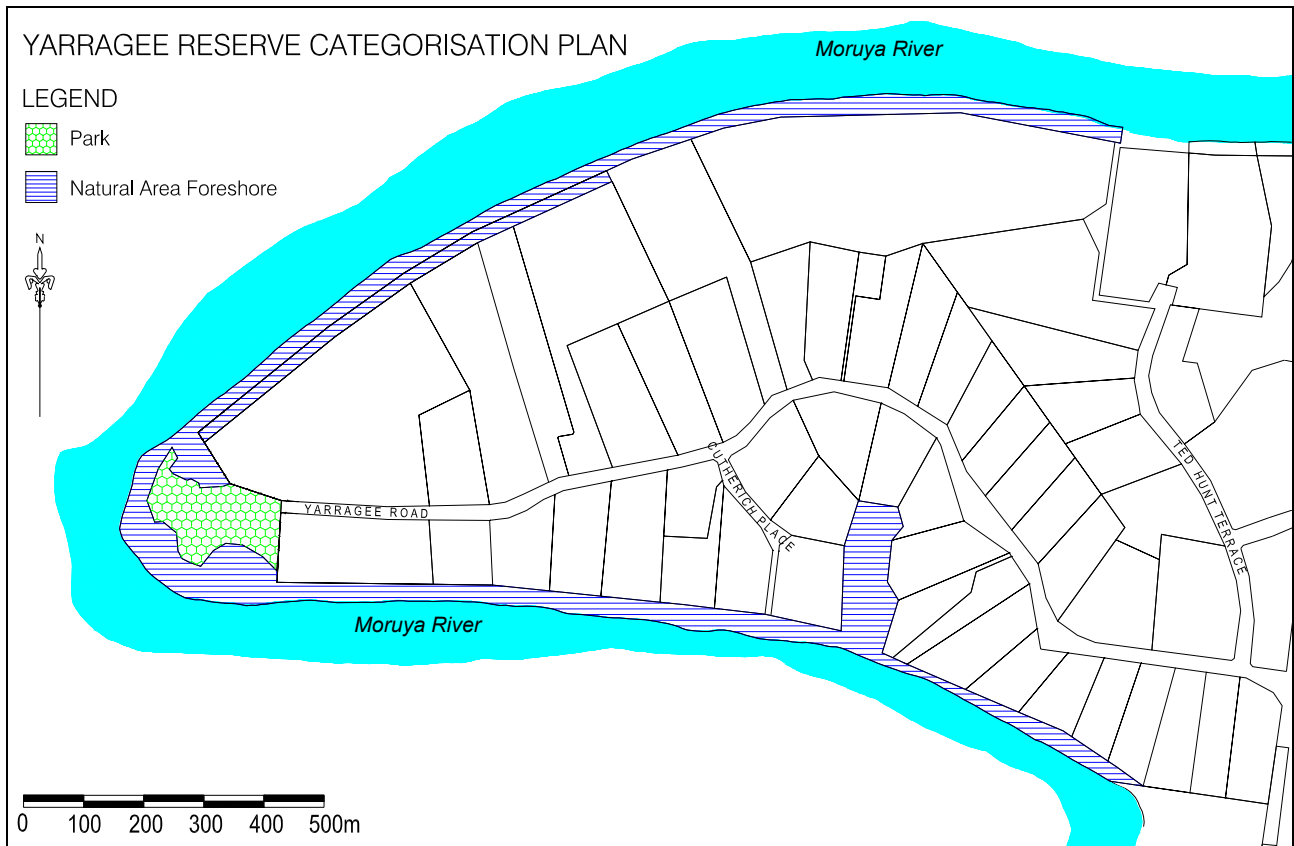


Figure 2 Categorisation Map

7.4 Core Objectives for the Management of Community Land

As stated in the Local Government Act 1993 the categorisation of the site would be inclusive of the following: Natural Area Foreshore and Park. The core objectives for the categories are listed.

36E Core objectives for management of community land categorised as a natural area

The core objectives for management of community land categorised as a natural area are:

- (a) to conserve biodiversity and maintain ecosystem function in respect of the land, or the feature or habitat in respect of which the land is categorised as a natural area, and
- (b) to maintain the land, or that feature or habitat, in its natural state and setting, and
- (c) to provide for the restoration and regeneration of the land, and
- (d) to provide for community use of and access to the land in such a manner as will minimise and mitigate any disturbance caused by human intrusion, and
- (e) to assist in and facilitate the implementation of any provisions restricting the use and management of the land that are set out in a recovery plan or threat abatement plan prepared under the *Threatened Species Conservation Act 1995* or the *Fisheries Management Act 1994*.

36N Core objectives for management of community land categorised as foreshore

The core objectives for management of community land categorised as foreshore are:

- (a) to maintain the foreshore as a transition area between the aquatic and the terrestrial environment, and to protect and enhance all functions associated with the foreshore's role as a transition area, and
- (b) to facilitate the ecologically sustainable use of the foreshore, and to mitigate impact on the foreshore by community use.

36G Core objectives for management of community land categorised as a park

The core objectives for management of community land categorised as a park are:

- (a) to encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities, and
- (b) to provide for passive recreational activities or pastimes and for the casual playing of games, and
- (c) to improve the land in such a way as to promote and facilitate its use to achieve the other core objectives for its management.

7.5 Land Zoning

As at the date of adoption of this Plan of Management, the land was zoned as Rural Small Holdings 1 (c) under Eurobodalla Shire Council's Rural Local Environmental Plan.

This is an inappropriate zone for Yarragee Reserve and this Plan of Management recommends that the zoning be amended at the next review of the Rural LEP to 6(a) (Public Open Space Zone). In addition, consideration to changing the zoning of the riparian areas to 7(f1) (Environmental Protection (Coastal Lands Protection) Zone should also be made. Investigations into the most appropriate zoning are required with appropriate recommendations.

The objectives of the 6(a) (Public Open Space) in the Rural Environmental Plan are as follows:

1. The objectives of this zone are:
 - (a) to identify land which is owned by Council or the Crown and which has been set aside for use by the public as open space or land in private ownership which is to be acquired by Council for public open space;
 - (b) to permit a range of uses on land within this zone normally associated with public recreation; and
 - (c) to ensure that a range of recreational opportunities is provided that is compatible with the natural environment.
2. Without development consent
Maintenance works for the purpose of gardening, landscaping or bushfire hazard control.
3. Only with development consent
Buildings for the purposes of landscaping, gardening or bushfire hazard control; drainage; public utility undertakings; recreation areas; roads; telecommunications facilities.
4. Prohibited
Any purpose other than a purpose permitted without development consent or a purpose permitted only with development consent.

The following figure illustrates the Yarragee Reserve, surrounding tenures and land use.

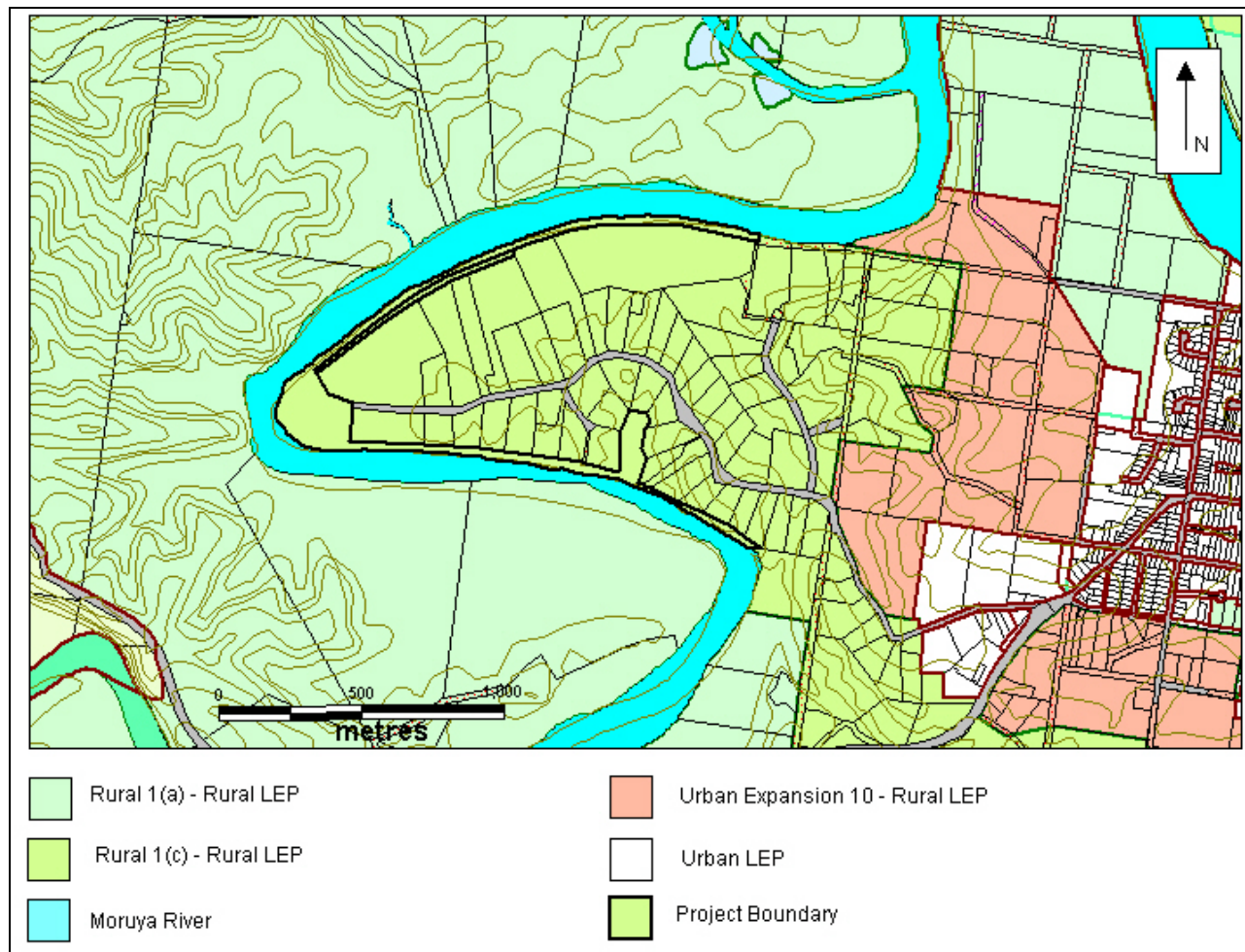


Figure 2 Yarragee Reserve and surrounding area zoning plan

7.6 History of Use and Development

The area became a reserve in 1985 and there has been minimal development of the site over the past 20 years.

Until Yarragee Reserve was created it was used for agricultural purposes after being cleared for some time.

7.7 Aboriginal Heritage

The area in the vicinity of Yarragee Reserve has no identified Aboriginal sites. However, the Moruya River, like many waterways in the Eurobodalla, has a long history of Aboriginal activity.

The area fell within the Yuin nation home of the Walbanja language group. At the time of white settlement Aboriginal people affiliated with the Walbanja were recorded between Cape Dromedary and near Ulladulla on the coast and inland to Braidwood and the Shoalhaven River.

The Aboriginal people of the area had a diverse economy, with trade and cultural links with neighbouring groups. Although predominantly fisher people, they would have also utilised the surrounding forests and woodlands for meat and plants.

It is recognised that the landscape, and the plants, animals and physical features within the landscape are all an integral part of Aboriginal cultural heritage.

The National Parks and Wildlife Service's recorded sites database indicates that there are no sites located on Yarragee Reserve.

7.8 Existing Facilities and Use

As at the date of adoption of this Plan of Management, the main uses of the reserve include:

- Swimming
 - Walking
 - Picnicking
 - Fishing
 - Canoeing
- (although the river is not in the planning area)

The river is popular with families and young children as the water is generally clean, fresh and protected from north-easterly winds. Passive recreational and picnicking activities take place alongside the river, in the shaded areas and on the open grassed area.

There are 2 sets of picnic tables which were installed in approximately 1995. The current maintenance program is slashing of the grassed areas approximately every six weeks.



Figure 3 The sandy riverbanks at Yarragee

7.9 Access

The reserves are accessed from the western end of Yarragee Road. There are several gravel tracks throughout the reserve and through to the riverbank. The tracks are of sandy loam exposed soils which are subject to potholes, erosion and compaction. Vehicular access to the river from the river bank is contributing to erosion. There is no designated area for car parking.

Access to the foreshore areas beyond the main area of Yarragee Reserve is limited to pedestrian access.

This Plan of Management requires that vehicles no longer access the foreshore areas and provides a designated area for parking within a short walking distance to the sand foreshores.



Figure 4 Aerial Photograph illustrating the gravel access tracks through the reserve
(April 2006)

7.10 Soils

The soils in Yarragee Reserve consist of alluvial loamy soils and duplex soils (Galloway 1978). By the river is a sandy soil. The soils are highly dispersible and easily erode, particularly by the river.

This Plan of Management requires that the areas categorised as Natural Area Foreshore be revegetated with local native species to minimise soil erosion and to reinstate the riparian environment.

7.11 Flora

The Eurobodalla Regional Botanic Gardens were engaged in May 2006 to provide a Vegetation Survey of Yarragee Reserve. Refer to Appendix A for the complete report on page 33. For the purposes of the Vegetation Survey, the reserve was divided into the following sections:

1. The mown section of the high use western end
2. The unmown area under the trees surrounding the mown section
3. The riparian or riverside section
4. Water flora in the dam
5. The surrounds of the dam at the south western end.
6. The creek/inlet from the Moruya River to the dam

Recommendations from the Vegetation Survey

The number, density and abundance of weedy species is such that it is difficult to make achievable recommendations for the improvement of this Reserve. However, it may be possible to manage some of the weeds, rather than try to eradicate them altogether. The branches of the cut and poisoned *Solanum mauritianum* should be taken away and not left lying in the grass. They will soon be covered in Kikuyu and Blackberry, posing a hazard to visitors walking through the woodland.

Section 1: Maintaining this Section as it is now be the best course of action. Perhaps some shade tree species, similar to those surrounding the mown area, could be planted to make it less bare and open.

Section 2: It would be advisable to close off unnecessary vehicle tracks, leaving one graded main access to the river. Perhaps the tangle of weeds under the trees could be slashed and the fallen logs removed. It may be possible to maintain the area as an open woodland. The exotic poplars should remain as heritage plants.

Section 3: The riparian or riverside vegetation is in fairly good condition, without the numbers of weeds as elsewhere. It is likely that the freedom from weeds is partly due to the fact that there is no vehicle access to the river bank, and also in places the terrain is so steep that it is seldom visited by the public. However, it would be necessary to be vigilant to prevent the establishment of weeds from the surrounding areas. Landholders could be encouraged to control the ground cover weeds, such as *Tradescantia albiflora* (Wandering jew) and *Vinca major* (Periwinkle) on their own properties.

Section 4: The most urgent task to be undertaken on the area surrounding the dam is the removal of the Willows (*Salix* sp.). Then there are some Blackberry plants that need attention. The other weedy species do not appear to be doing any harm and it would be difficult to eradicate them. Here again, a watchful eye should be kept on the dry margins to prevent the establishment of undesirable species.

Section 5: The inlet from the Moruya River could almost be managed as a dry rainforest habitat. It would take a considerable amount of work to deal with the *Tradescantia albiflora* (Wandering jew) and the vine *Delairea odorata* (Cape ivy). The removal of these could allow the spread of the fern *Calochlaena dubia* (Common ground fern) and possibly the germination of other moist woodland species, such as *Acmena smithii* (Lilly pilly). The single specimen of Bridal veil creeper (*Myrsiphyllum asparagoides*) was removed during the survey. Having done that, care should be taken to locate any other specimens and remove them, plus their tubers.

Conclusion - There were no vulnerable or endangered species encountered during the survey. While many troublesome weedy species that would be difficult to eradicate were recorded, there did not appear to be any notifiable weeds, with the exception of a single specimen of Bridal veil creeper (*Myrsiphyllum asparagoides*) in Section 5 and Blackberry in Section 4. A total of 91 species was recorded, of which 75 or 83% were introduced weeds.

The care and maintenance of the Yarragee Reserve presents a challenge to Council. But because the reserve is part of the heritage of the Moruya District, it would be worthwhile to endeavour to maintain the reserve in a well kept condition, both for the preservation of the natural flora and fauna, and for the use of visitors.

7.12 Fauna

No fauna study has been carried out on this reserve. However limited data is available from sightings by local residents and relevant studies of the Moruya/Deua River. These include:

- Australian King Parrot
- Australian Magpie
- Black Bittern *
- Black Faced Cuckoo Shrike
- Blue Tongued Lizard
- Brown Snake
- Corella
- Crimson Rosella
- Freckled Duck *
- Fox
- Galah
- Glossy Black Cockatoo *
- Hardhead Duck
- Kangaroo
- Laughing Kookaburra
- Masked Owl *
- Olive Whistler *
- Pelican
- Pied Currawong
- Pied Oyster Catcher *
- Possums
- Rainbow Lorikeet
- Red Belly Black Snake
- Red Browed Finch (Firetail)
- Regent Honeyeater *
- Satin Bowerbird
- Sooty Owl *
- Square-tailed Kite *
- Swift Parrot *
- Sulphur Crested Cockatoo
- Superb Fairy Wren
- Superb Fruit Dove *
- White Breasted Pigeon
- Yellow Tailed Black Cockatoo

* Refer to Section 6.6 Threatened Species Conservation Act 1995 on page 10 for more information on these species.

In addition to the above the area is likely to attract waders and water birds.

7.13 Fire Management

The majority of the reserve is not mapped as fire prone on the Eurobodalla Bushfire Risk Management Plan. Therefore the conditions and application of the Bushfire Environmental Assessment Code does not apply.

Most of the reserve is mapped as a minor bushfire risk and insignificant risk to community assets. It would therefore be of a low priority to receive fire mitigation works.

The vegetation in the reserve is not considered a hazard given the width of vegetation is generally less than 20 metres. The Bushfire Environmental Assessment Code states that such narrow strips of vegetation are “not considered a hazard as they are not large enough to produce fire of an intensity that will threaten dwellings”. This is especially true given that the wind would need to be from the south or south east to push a fire towards the dwellings.

8 Leases, Licences & Other Estates

81 Exclusive use of Community Land

The exclusive occupation of Community Land is prohibited unless authorised by a lease or licence. The only exception authorised by the Local Government Act is the occupation or use of part of a site by a duly appointed manager of a senior citizens' centre or home or community care facility.

The Local Government (General) Regulation may prescribe circumstances where exclusive occupation is authorised without a lease, licence or other estate (refer to Section 47D of the Local Government Act). As at 28 June 2006 the Regulation did not prescribe any circumstances for which occupation without a lease, licence or other estate could be granted on Community Land.

82 Purpose for leases, licences and other estates

The purpose of any lease or licence on Community Land must be consistent with the Core Objectives for the categorisation of the land (refer to Section 46 (2) of the Local Government Act). The categorisation of the land included in this Plan of Management is illustration in Section 7.3 and the Core Objectives are listed in Section 7.4.

83 Advertising of leases, licences and other estates

There are also strict requirements for advertising proposed leases and licences (refer to Section 47 & 47A of the Local Government Act). Section 117 of the Local Government (General) Regulation, however, exempts particular purposes from these advertising procedures. This includes leases, licences or other estates for the use and occupation of Community Land for events including:

- public performances
- playing musical instrument or singing (for fee or reward)
- engaging in a trade or business
- playing of any lawful game or sport
- delivering a public address
- conducting a commercial photographic session
- picnics and private celebrations such as weddings and family gatherings
- filming
- the use of any existing road or fire trail on community land to transport building materials and equipment required in relation to building work that is to be, or is being, carried out on land adjoining the community land, or to remove waste that is consequential on such work,
- The use of any community land that does not have an existing road or fire trail to transport building materials and equipment required in relation to building work that is to be, or is being, carried out on land adjoining the community land, or to remove waste that is consequential on such work.

However the above are only exempt from advertising requirements where:

- there is no permanent building or structure; and
- the use or occupation occurs only once and does not continue for more than 3 consecutive days; and
- if the use of occupation occurs for no more 3 days (not including Saturday and Sunday) within any 12 month period from the first occurrence.

8.4 Existing Leases and Licences

As at the date of adoption of this Plan of Management there were no existing leases, licences or other estates on the land included in this Plan of Management.

8.5 Future Leases and Licences

This Plan of Management expressly authorises the granting of any lease, licence or other estate on the land included in this Plan of Management that is consistent with the Core Objectives for the categorisation of the land as well as the other requirements of the Local Government Act 1993.

9 Encroachments

During the development of this Plan of Management various encroachments were identified on the foreshore areas of Yarragee Reserve. Encroachments included:

- fences that restrict public access along the river foreshore
- grazing of stock
- erection of structures
- mowing/slashing

In addition, there are many sections of the reserves that have been planted with exotic plant species and appear to be extensions of privately owned land. It can be difficult to ascertain where the boundaries are and this may discourage the public from accessing the foreshore areas of Yarragee Reserve.

On the adoption of this Plan of Management all residents will be advised in writing that encroachments on public land are unlawful and must be removed.

As at the date of adoption of this Plan of Management, funding was available from National Heritage Trust to assist landholders with fencing their land to protect areas of environmental significance from the impact of grazing.

10 Values of the Reserve

Ascertaining the community values of land means identifying what the community finds important and special about it. These values also identify what people most enjoy or appreciate about a place.

Land management issues change over time, depending on the needs of the community; and communities change – what may be important in the present may be more or less important in the future. Values, however tend to transcend the everyday issues of land management and set a more strategic vision for the management of the land. Values coexist, augment and support each other. Where singular issues may be really important in the short term, the overriding values attached to the land will tend to be relevant for a longer period.

How can values be implemented in land management? Once values and their level of significance are determined, land maintenance and development practices that recognise, manage and conserve these values may then be implemented. Refer to the Operational Plan and Landscape Masterplans for more information on how the values are reflected in strategies for land management.

At the public meeting held on 6 April, 2006 those in attendance identified what they appreciate and value about Yarragee Reserve. The following table includes these values as well as others as they relate to State Government legislation and Council policy:

Value & description	Neighbourhood - Local	Suburb	District	Shire	Regional	State
Environmental <ul style="list-style-type: none"> ▪ It's a bushy place, nothing particularly done to it ▪ Natural ▪ Peaceful and quiet ▪ Natural Aesthetics ▪ Threatened species likely to be present 	✓	✓	✓	✓	✓	✓
Cultural heritage <ul style="list-style-type: none"> ▪ While there is no known Aboriginal cultural heritage associated with the reserve, it is acknowledge that is likely that the area was an important place for Aboriginal people ▪ The area was previously part of a farm which was subdivided in the mid 1980's to create the existing rural residential character 	✓	✓	✓	✓	✓	
Recreational/Community <ul style="list-style-type: none"> ▪ Day time gatherings ▪ A place for families to recreate ▪ Good for recreational activities, including swimming, picnics, canoeing, kayaking, horse swimming, fishing, dog walking (it's an off-leash area¹) and informal recreational games ▪ Alcohol free reserve 	✓	✓	✓			
Visual / Scenic <ul style="list-style-type: none"> ▪ Natural aesthetics 	✓	✓				

Where:

Neighbourhood – Local:	the street and surrounding streets
Suburb:	within the suburb area (ie. within Moruya
District:	the suburb area and adjacent suburbs (eg. Moruya Heads, Broulee and Tuross Head)
Shire:	within the Eurobodalla Shire Local Government Area
Regional:	within the far south coast of NSW
State:	within the state of NSW

These values have assisted with the identification of the appropriate Community Land categories for the land and provide a guide for identifying the objectives and actions in the Operational Plan.:

¹ Yarragee is not an official off-leash area as per Eurobodalla Shire Council Companion Animals Management Plan – December 2001 (refer to Section 6.10 of this Plan of Management).

11 Operational Plan

The Local Government Act requires that Plans of Management identify the objectives and performance targets for the management of the land included in the plan. It also requires that Plans of Management identify how Council will achieve its stated goals and how its performance in achieving these goals will be measured. In addition, the management of Community Land must be consistent with its categorisation.

The information in this Plan of Management is presented as required by the Local Government Act. Terms used are defined as follows:

Objective (Management Issue): 'Objective' is an end towards which efforts are directed.

Performance Targets (Strategy): 'Performance Target' is an objective or goal to be achieved.

Means of Achievement (Action): How Council and/or the community can achieve the objectives and performance targets.

Many of these Actions are illustrated in the Landscape Masterplans.

Implementation Priority: Category 1: These actions are those that can be implemented immediately or very soon after the adoption of the Plan. They are policy or procedural matters and require minimal or no funding.

Category 2: These actions are those that require funding and are principally concerned with improving public safety, maintenance and improvement matters and protecting or conserving the values of the community land. The timing of their implementation would be dependent upon the availability of funds from Council.

Category 3: These actions are capital improvement items or items requiring a significant injection of funds. The timing of their implementation would be dependent upon the availability of funds from Council and other sources.

Manner of Assessment How Council proposed to assess the extent to which stated actions have been implemented and performance targets achieved.

Council has adopted many policies and procedures that govern the management and maintenance of Community Land. The issues raised in this section need to be considered in parallel with these other policies and procedures. In addition, the management of Community Land must be consistent with its categorisation.

The Operational Plan provides a summary of the proposed developments and improvements along with an implementation priority for their completion. Many of these items are illustrated in the Landscape Masterplans. Note: The scheme does not propose one action to be more important than the next, but presents categories of timing for implementation.

Operational Plan

Objective (Management Issue)	Performance Targets (Strategy)	Means of Achievement (Action)	Implementation Category	Manner of Assessment
11.1 Access – Pedestrian	Improve pedestrian access to the reserve and river	<ol style="list-style-type: none"> 1. Retain gravel tracks (previously used for vehicular access) for pedestrian access and revegetate unnecessary tracks. 2. Retain existing walking tracks for access to the foreshore areas. 3. Provide pedestrian access from car parking areas to the river and parkland. 	2	Pedestrian access to the reserves provided in a low key way.
11.2 Access - Vehicular	Provide for adequate vehicle access and parking to the reserve..	<ol style="list-style-type: none"> 1. Provide one gravel track for access to and from the reserve. 2. Establish designated areas for parking. 3. Restrict vehicular access from the river bank with bollards as required. 4. Restrict vehicular access from the parkland areas with additional tree planting and/or bollards as required. 	2	<ul style="list-style-type: none"> ▪ One access road being used in the reserve. ▪ Cars parking in the designated areas. ▪ Vehicle barriers in place to restrict vehicular access to the riverbank. Cars not accessing the riverbank.
11.3 Encroachments	Remove the perception of public land being privately owned.	<ol style="list-style-type: none"> 1. All residents advised that encroachments onto Community Land are unlawful and must be removed. 2. Residents to remove encroachments from the reserve. 	1	No encroachments on the reserve.
11.4 Fire Management	Manage the risk of fire within Yarragee Foreshore Reserve in accordance with the Rural Fires Act 1997.	<ol style="list-style-type: none"> 1. Council's Bush Fire Mitigation Officer to monitor the vegetation in the Reserve and take action as required. 	1	Risk of fire issues at Yarragee Reserve assessed on a regular basis.
11.5 Public Toilets	Provide for public toilets in the reserve if required.	<ol style="list-style-type: none"> 1. The provision of a Public Toilet at Yarragee Reserve is to be re-considered in the next review of Council's Public Toilet Strategy. 	1/3	The provision of a public toilet at Yarragee Reserve conforms with Council's adopted Public Toilet Strategy.

Operational Plan

Objective (Management Issue)	Performance Targets (Strategy)	Means of Achievement (Action)	Implementation Category	Manner of Assessment
11.6 Recreation	To encourage, promote and facilitate recreational, cultural, social and educational pastimes and activities (S36G (a) Local Government Act 1993).	<ol style="list-style-type: none"> 1. Include the reserve and its features on Council's website and other related media. 2. Continue to maintain the reserve to facilitate community use. 	1	<ul style="list-style-type: none"> ▪ Information on Yarragee Reserve included on Council's website. ▪ The reserve maintained to a level that provides for the public enjoyment of the land.
	To provide for passive recreational activities or pastimes and for the casual playing of games (S36G (b) Local Government Act 1993).	<ol style="list-style-type: none"> 3. Continue to regularly mow the open grassed area. 4. Plant trees for shade in the open grassed areas. Use local native species. 5. Replace existing picnic furniture. 6. Continue to regularly mow/slash the grassed areas. 	1/2	<ul style="list-style-type: none"> ▪ Grassed is mowed to allow for passive recreational activities. ▪ Trees planted that will provide shade. ▪ Park furniture installed, maintained and well utilised.
11.7 Signage	Improve on-site information about river and reserve access.	<ol style="list-style-type: none"> 1. Install sign at entrance to the reserve indicating the name of the reserve. 2. Install directional signage at the entrance to the reserve including a map illustrating the extent of reserve, walking tracks and property boundaries. 3. Install interpretive information at appropriate locations on historical and environmental information. 	2	<ul style="list-style-type: none"> ▪ Entrance signage contributes to the sense of arrival to the reserve and confirms that the land is available to the public for use. ▪ Signage installed that assists with way finding around the reserve ▪ Interpretive information installed that provides historical and environmental information relevant to the reserve.

Operational Plan








Objective (Management Issue)	Performance Targets (Strategy)	Means of Achievement (Action)	Implementation Category	Manner of Assessment
11.8 Vegetation Management	To maintain the foreshore as a transition area between the aquatic and the terrestrial environment, and to protect and enhance all functions associated with the foreshore's role as a transition area use (S36N (a) Local Government Act 1993).	<ol style="list-style-type: none"> 1. Seek funding to restore the riparian environment. 2. Liaise with Moruya District Landcare about participating in re-vegetation and vegetation maintenance of Yarragee Reserve. Investigate the opportunity to develop a local Landcare Group for Yarragee Reserve. 	2	<ul style="list-style-type: none"> ▪ Funds obtained to restore the riparian environment. ▪ Landcare groups involved in restoration works.
	To facilitate the ecologically sustainable use of the foreshore, and to mitigate impact on the foreshore by community use (S36N (b) Local Government Act 1993).	<ol style="list-style-type: none"> 3. Refer to sections 11.1, 11.2 and 11.6. 		
	Remove all weed species that are either declared Noxious Weeds (Noxious Weeds Act 1993) or are identified as Environmental Weeds of the NSW South Coast.	4. Council's Noxious Weeds Officer advised of noxious weeds in the reserve and removed.	1	Noxious weeds removed from Yarragee Reserve.
		5. Seek funding to remove weeds from the reserve.	2	Funds obtained to remove weeds from the reserve.
		6. Ensure that weed removal does not contribute to erosion by replacing weeds with native species immediately where necessary. Stumps to remain in ground to ensure bank stabilisation and minimise soil erosion.	2	<ul style="list-style-type: none"> ▪ Weeds replaced with native species as soon as possible. ▪ No new erosion caused by weed removal.
Reduce the spread of plants identified as environmental weeds from private gardens into the reserve	7. Encourage the use in private gardens of plants recommended in <i>"Grow Me Instead- a Guide for Gardeners in the Greater Sydney District"</i> published by the Nursery & Garden Industry NSW & ACT and the leaflet <i>"Is your Garden Going Bush"</i> published by the Eurobodalla Shire Council.	2	<ul style="list-style-type: none"> ▪ Residents advised of the availability of brochures to assist with plant selection on their property. ▪ No new weeds in the reserve from private property. 	

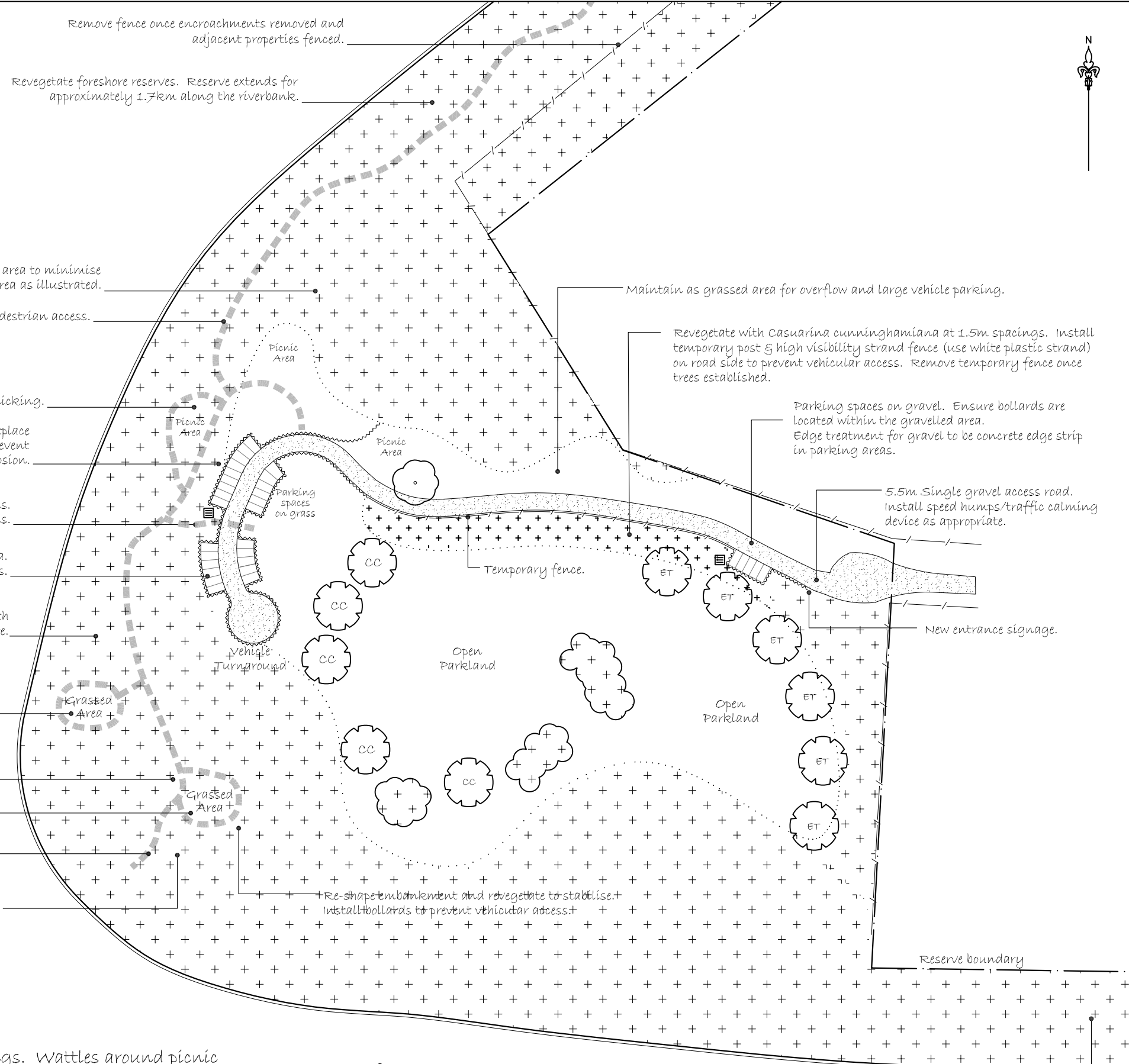
12 Landscape Masterplan

The Landscape Masterplan illustrates the proposed developments, uses and management actions for the reserve. It has been developed to reflect the community expectations for the land while complying with Eurobodalla Shire Council and State Government policies and guidelines.

While the Landscape Masterplan guides the future improvements and developments in the reserve, some further detailed construction documentation to finalise the designs may be required. While the overall concept will remain, the plan may be amended to reflect new information, funding or construction issues.

LEGEND

-  Shade Trees - *Eucalyptus tereticornis*
-  Shade Trees - *Casuarina cunninghamiana*
-  Retain existing vegetation and revegetate as required.
-  Bollards - to be located within the gravelled area
-  Interpretive Signage
-  Pedestrian tracks
-  Existing Trees/Copses of vegetation



NOTES:

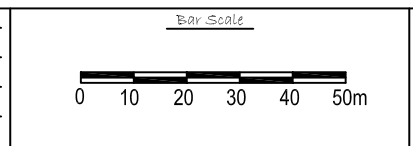
Remove and mulch wattles as required and replace with *Casuarina* plantings. Wattles around picnic areas, roads, pedestrian tracks and car parking areas to be removed. Stumps to be left in ground to prevent soil & embankment erosion. Re-use mulch on-site.

Picnic furniture to be replaced with hardwood timber tables & benches when funding available.

Revegetate foreshore reserve. Reserve extends for approximately 1.5km along the riverbank and includes a wetland/dam environment that also requires protection and revegetation.

Moruya River

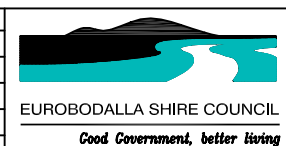
File No(s) <u>050213</u>	Datum <u>AHD / ISG</u>	Designed For _____
Cad Reference <u>4627 - A</u>	Surveyed <u>BS</u>	Road Width _____
Job Number _____	Drawn <u>DP</u>	Lane Width _____
Checked _____	Designed _____	Pavement Depth _____



Approved On Behalf Of
EUROBODALLA SHIRE COUNCIL
Andrew Parkinson
Technical Services Manager
Date 12 September 2006

No.	Amendment Details	A	B	C	D	By	Appr	Date

Development Approval NOT Required



EUROBODALLA SHIRE COUNCIL
Yaragee Reserve
Yarragee Road, Moruya
Plan of Management
Landscape Masterplan

Project No. 4627
Site Sheet A 1 of 1
Archived

13 Stakeholders / Interest Groups

Canoeing Groups
Environmental Groups
Fishing Groups
Local Landcare Group
Local Residents
Moruya Estuary Management Committee
Rural Fire Service

Appendix A – Community Comments from 6 April 2006 Public Meeting

Access – pedestrian

- Pedestrian access to the riverbank – need stroller access. No steps (horses don't take too well to steps!).
- Should be able to walk along the riverbank. There are fences right down to the water – going over the reserve. It would be lovely to walk along the river but it is unsafe – holes, overgrown, dead trees, old fences etc.

Access - vehicular

- Creation of new car tracks is a problem.
- Need to restrict vehicles from the reserve. Need to provide a limited parking area. New tracks keep getting created, rain exacerbates problems with potholes etc. Families need to get as close as possible. The community is mostly older and they need to get close too. Need to restrict vehicles from the top of bank. Would need lots of bollards. Need to stop vehicles accessing the open grassed area. Cars have been known to do burn outs down there for upto 45 minutes.
- Need to stop vehicles just beyond the tracks. A single gravel track through with a loop to turn around. Bollards at 1.5m spacings, might need a lot.
- Not much point in mowing the grass if people just tear it up.
- If you restricted access to the grassed area with bollards or something it would funnel everyone to the end and knock out a lot of access.
- Burnouts are a separate issue.

Amenity & Use of the Reserve

- The reserve is used for horse riding, low-key, approximately 6 people with horses access the reserve during the week on a weekly basis.
- There are horse trucks down there on weekends. The river and the reserve is used for exercising/training horses (swimming in the river and on hard stand). Would like to see this continue.
- Families are attracted to the reserve, there are areas of both shallow and deep water. Need to facilitate access close to the attractive areas.
- There are professional fishing activities at high tide – fishing for eels, mullet.
- The reserve and riverbank is used to launch boats every week at high tide.
- There are lots of places to launch boats on the Moruya River but not so many places to picnic.
- People get bogged on the river edge – generally people with 4WD, not boat trailers.
- The reserve has been used for the Far Canoe Race with live music.
- Events are ok, but depends on what sort. Daytime, water based events are ok.
- Rowing training occurs on the river, not an issue. Good to see.
- Tables are pretty sad. One is in full sun, another with weeds all around. The one on the right is in a good shady spot.
- Would be good to provide somewhere to sit along the riverbank, not very many areas to sit. It not much good at mid and high tide. Not good to have structures down there due to flooding.

Camping

- There is infrequent illegal camping on the reserve.

Environmental Management

- The green wattles are reaching the end of their life, falling over, trees falling on to private property fences.
- Would like to see the riverbank revegetated with *Casuarinas*, need to protect the environment and the riverbank.
- There are lots of weeds on the reserve such as tobacco bush, blackberry, wandering jew, ivy, difficult things!
- Don't want to cut down trees to provide seating- that will destabilise the bank. The whole lower road was created during the last floods. Trees are important.
- Need to fix up the fallen wattles.
- *Casuarinas* are the go for revegetation – good for erosion control.
- Need to revegetate along the riverbank.
- People take trailer loads of soil from the riverbank.

Flooding

- There haven't been many floods in the last 20 years.
- The last major flood was in 1983 in the last week of March.

Future development

- Need to keep the area low-key.
- Would not want power on the reserve.
- Keep it primitive, natural, clean.
- Don't want a boat ramp!
- Trees would be preferable to structures for shade.
- No bbqs

Open Grassed Area

- Needs to be mowed to allow for recreational activities on the open grassed area (cricket etc).

Toilets

- Lack of toilet is an issue. People use the bush. Although flooding would be a problem for the building. Would be problems with toilet – vandalism etc. It depends on how busy the reserve is going to be if it needs a toilet or not. Toilets would attract undesirables, give them a place to go.

Signage

- Maybe a sign asking people to take their rubbish with them.

Waste

- There are no garbage bins, therefore there is often rubbish lying around (glass, nappies).
- Bins would be great. Local residents pick up a lot of the rubbish. Could put a bin at the turn around area (ie. the entrance to the reserve) and one down at the high use end.
- Needs to be a bin that won't burn. What about a skip – not a good idea – would be used for domestic waste.
- Rubbish gets dumped at the reserve when the Waste Transfer Station is closed (Tues & Wed). People take their trailers down there with rubbish. People dump bags of rubbish down there.
- Could look at possibly providing a dispenser for people to take their rubbish with them.

Values

- Bushy place, nothing particularly done much to it.
- Environmental qualities
- Family recreation,
- Water – swimming, canoeing, kayaking
- Swim horses
- Natural
- Peaceful, quiet
- Natural aesthetics
- Alcohol free reserve
- Meeting place, Christmas parties – can be negative
- Off leash area for dogs
- Fishing
- Walking – no tracks, some overgrown tracks
- Was a farm

Appendix B – Vegetation Study

The Eurobodalla Regional Botanic Gardens were engaged in May 2006 to provide the following study of the vegetation at Yarragee Reserve.

For the purposes of the survey, the Reserve was divided into the following sections:

1. The mown section of the high use western end
2. The unmown area under the trees surrounding the mown section
3. The riparian or riverside section
4. Water flora in the dam
5. The surrounds of the dam at the south western end.
6. The creek/inlet from the Moruya River to the dam

The abundance of species was assessed on a scale of 1 – 5, where

- 1 = only one or two specimens
- 2 = sparse or uncommon
- 3 = a reasonable number of individuals
- 4 = abundant
- 5 = dominant

Introduced species are marked by a * in a separate column.

1. The mown section of the high use western end

This section contains a high number of introduced grasses and flatweeds, none of which appear to be troublesome in an environmental sense, provided that mowing is performed on a regular basis. One or two trees around the margins provide some shade.

SPECIES OCCURRING IN THE MOWN AREA					
Family	Genus	Species	Common name	Intro	Abundance
MIMOSACEAE	Acacia	mearnsii	Black wattle		1
APIACEAE	Ammi	majus	Queen Anne's lace	*	1
ASTERACEAE	Bidens	pilosa	Cobblers pegs	*	1
CASUARINACEAE	Casuarina	cunninghamiana	River oak		1
ASTERACEAE	Conyza	albida	Fleabane	*	2
POACEAE	Cynodon	dactylon	Couch	*	3
POACEAE	Dactylis	glomerata	Cocksfoot	*	1
ASTERACEAE	Hypochaeris	radicata	Dandelion	*	2
POACEAE	Paspalum	dilatatum	Paspalum	*	2
POACEAE	Pennisetum	clandestinum	Kikuyu	*	4
PLANTAGINACEAE	Plantago	lanceolata	Plantain	*	2
MALVACEAE	Sida	rhombifolia	Paddy's lucerne	*	2
POACEAE	Sporobolus	indicus	Parramatta grass	*	2
ASTERACEAE	Thistle	species		*	1
VERBENACEAE	Verbena	bonariensis	Purpletop	*	1

2. The unmown area under the trees surrounding the mown section

Between the mown grass and the riverside vegetation is an area that is in a very bad state. *Pennisetum clandestinum* (Kikuyu) has run rampant, sending long runners over fallen logs and up into surrounding trees and shrubs. Blackberries have grown long canes through the Kikuyu, and other weeds, such as Purpletop (*Verbena bonariensis*) and Queen Annes lace (*Ammi majus*), have germinated in small spaces. Wandering jew (*Tradescantia albiflora*) is prolific in shaded depressions, and thistle species appear throughout.

Most of the trees and shrubs are native species, the most obvious exception being *Solanum mauritianum* (Wild tobacco). Mistletoe is common on *Acacia mearnsii* (Black wattle); many of wattles bearing Mistletoe remains have died, but it is not possible to determine whether this is from Mistletoe attack alone, or whether combined with some other cause. It was noted that many *S. mauritianum* specimens had been cut and poisoned.

SPECIES OCCURRING IN THE GRASSED AREA WITH TREES AND SHRUBS, BUT NOT RIPARIAN					
Family	Genus	Species	Common name	Intro	Abundance
MIMOSACEAE	Acacia	mearnsii	Black wattle		4
MIMOSACEAE	Acacia	longifolia	Sydney wattle		2
CHENOPODIACEAE	Acetosa	sagitatta	Turkey rhubarb	*	3
APIACEAE	Ammi	majus	Queen Anne's lace	*	1
LORANTHACEAE	Amyema	congener	Mistletoe		3
LORANTHACEAE	Amyema	cabbagei	Mistletoe		1
ASTERACEAE	Bidens	pilosa	Cobblers pegs	*	1
CASUARINACEAE	Casuarina	cunninghamiana	River oak		3
RANUNCULACEAE	Clematis	aristata	Happy wanderer		1
ASTERACEAE	Conyza	albida	Fleabane	*	3
POACEAE	Cynodon	dactylon	Couch	*	4
POACEAE	Dactylis	glomerata	Cocksfoot	*	2
ASTERACEAE	Delairea	odorata	Swedish ivy	*	3
LUZURIAGACEAE	Eustrephus	latifolius	Wombat berry		1
LUZURIAGACEAE	Geitonoplesium	cymosum	Scrambling lily		1
HEDERACEAE	Hedera	helix	Ivy	*	1
VIOLACEAE	Hymenanchera	dentata	Tree violet		3
ASTERACEAE	Hypochaeris	radicata	Dandelion	*	2
OLEACEAE	Ligustrum	lucidum	Small leaved privet	*	1
LOMANDRACEAE	Lomandra	longifolia	Spiky matrush		2
OLEACEAE	Notelaea	venosa	Veined mock-olive		2
POACEAE	Oplismenus	aemula			1
POACEAE	Pennisetum	clandestinum	Kikuyu	*	4
PITTOSPORACEAE	Pittosporum	undulatum	Sweet pittosporum		2
PLANTAGINACEAE	Plantago	lanceolata	Plantain	*	2
RHAMNACEAE	Pomaderris	intermedia	Pomaderris		1
DENNSTAEDTIACEAE	Pteridium	esculentum	Bracken		3
ROSACEAE	Rubus	discolor	Blackberry	*	2
POLYGONACEAE	Acetosella	vulgaris	Sorrel	*	1
MALVACEAE	Sida	rhubifolia	Paddy's lucerne	*	2
SOLANACEAE	Solanum	mauritianum	Tobacco bush	*	3
POACEAE	Sporobolus	indicus	Parramatta grass	*	1
POACEAE	Themeda	australis	Kangaroo grass		1
ASTERACEAE	Thistle	species		*	2
COMMELINACEAE	Tradescantia	albiflora	Wandering jew	*	3
SCROPHULARIACEAE	Verbascum	virgatum	Twiggy mullein	*	1
VERBENACEAE	Verbena	bonariensis	Purpletop	*	2

3. The riparian or riverside section

The riverside vegetation is in a far more natural condition. The high use south western area is dominated chiefly by Couch grass (*Cynodon dactylon*) together with weedy species, but the trees and shrubs are mostly native.

Round towards the dam, where private land adjoins the Reserve, the grass and small herb species have been mown to the edge of the bank where it drops sharply to the river, leaving the larger trees and shrubs, giving an ordered parklike appearance. The plant cover on the steep bank has a more natural appearance and weeds are not so common. Other landholders have planted exotic trees, both on their own property and on the Reserve. This section has the highest diversity of species.

SPECIES OCCURRING IN THE RIPARIAN ZONE					
Family	Genus	Species	Common name	Intro	Abundance
MIMOSACEAE	Acacia	floribunda	Gossamer wattle		2
MIMOSACEAE	Acacia	implexa	Hickory wattle		1
MIMOSACEAE	Acacia	longifolia	Sydney wattle		3
MIMOSACEAE	Acacia	mearnsii	Black wattle		4
POLYGONACEAE	Acetosa	sagittata	Turkey rhubarb	*	2
CUNONIACEAE	Aegiceras	corniculatum	River mangrove		1
CASUARINACEAE	Allocasuarina	littoralis	Black sheoak		1
LORANTHACEAE	Amyema	congener	Mistletoe		3
MYRTACEAE	Angophora	floribunda	Rough barked apple		1
CUNONIACEAE	Aphanopetalum	resinosum	Gum vine		1
POACEAE	Austrostipa	sp.	Speargrass		2
MYRTACEAE	Babingtonia	pluriflora	River baeckea		1
MYRTACEAE	Backhousia	myrtifolia	Grey myrtle		2
EUPHORBIACEAE	Beyeria	oblongifolia			1
LAURACEAE	Cassytha	sp.	Devils twine		1
CASUARINACEAE	Casuarina	cunninghamiana	River oak		3
ASTERACEAE	Conyza	albida	Fleabane	*	2
MALACEAE	Crateagus	monogyna	Hawthorn		1
POACEAE	Cynodon	dactylon	Couch	*	5
ASTERACEAE	Delairea	odorata	Swedish ivy	*	2
MYRTACEAE	Eucalyptus	botryoides	Southern mahogany		2
MYRTACEAE	Eucalyptus	pilularis	Blackbutt		2
CUPRESSIFORMACEAE	Exocarpos	cupressiformis	Native cherry		2
MORACEAE	Ficus	coronata	Sandpaper fig		1
VIOLACEAE	Hymenanchera	dentata	Tree violet		2
ASTERACEAE	Hypochoeris	radicata	Dandelion	*	2
JUNCACEAE	Juncus	kraussii			3
LOMANDRACEAE	Lomandra	longifolia	Spiky matrush		2
PASSIFLORACEAE	Passiflora	edulis	Passionfruit		1
SINOPTERIDACEAE	Pellaea	falcata	Sickle fern		1
POACEAE	Pennisetum	clandestinum	Kikyuyu	*	5
PROTEACEAE	Persoonia	linearis	Geebung		1
SOLANACEAE	Physalis	peruviana	Cape gooseberry	*	1
PHYTOLACCACEAE	Phytolacca	octandra	Inkweed	*	1
PINACEAE	Pinus	radiata	Radiata pine	*	1
PITTOSPORACEAE	Pittosporum	undulatum	Sweet pittosporum		2
LAMIACEAE	Plectranthus	parviflorus			2
RHAMNACEAE	Pomaderris	aspera			1
DENNSTAEDTACEAE	Pteridium	esculentum	Bracken		3
ROSACEAE	Rubus	discolor	Blackberry	*	2

SPECIES OCCURRING IN THE RIPARIAN ZONE					
Family	Genus	Species	Common name	Intro	Abundance
PRIMULACEAE	Samolus	repens	Creeping brookweed		3
SOLANACEAE	Solanum	pseudocapsicum	Jerusalem cherry	*	2
COMMELINACEAE	Tradescantia	ALBIFLORA	Wandering jew	*	2
ULMACEAE	Trema	tomentosa	Poison peach		1
URTICACEAE	Urtica	incisa	Stinging nettle		2
VERBENACEAE	Verbena	bonariensis	Purpletop	*	1
APOCYNACEAE	Vinca	major	Periwinkle	*	1

4. Water flora in the dam

Water body species were not sampled below the surface. However, *Azolla pinnata* and *Spirodela punctata* were. The presence of these two species generally indicates a good balance of nutrients in the water.

WATER FLORA IN THE DAM					
Family	Genus	Species	Common Name	Intro	Abundance
AZOLLACEAE	Azolla	pinnata			4
LEMNACEAE	Spirodela	punctata			2

5. The surrounds of the dam at the south western end.

The reduced level of water in the dam has left some water species high and dry, including many individual clumps of *P. praetermissa* and *Carex appressa*. This has enabled the germination of a suite of species that perhaps would not normally be seen. The low level is most likely due to the recent dry weather. Many of the plants growing on the mud are introduced weedy species, such as *Alternanthera denticulata* (Joyweed), *Digitaria sanguinalis* (Summer grass) and *Paspalum*. Nevertheless, native species are well represented; *Carex appressa*, *Persicaria praetermissa*, *Triglochin procerum* and a small unidentified *Carex* species.

Away from the margin of the dam, *Pennisetum clandestinum* is dominant, with a strong component of Couch grass (*Cynodon dactylon*). The few trees, with a willow (*Salix* sp.) in uncomfortable numbers, are overrun with the creeper *Delairea odorata* (Cape ivy). The waterlogged condition of the dam margin prevents the penetration of these species – with the exception of the Willow - into the water meadow area.

SPECIES OCCURRING ON THE DAM MARGIN					
Family	Genus	Species	Common Name	Intro	Abundance
MIMOSACEAE	Acacia	mearnsii	Black wattle		1
POLYGONACEAE	Acetosa	sagitatta	Turkey rhubarb	*	2
AMARANTHACEAE	Alternanthera	denticulata	Joyweed	*	5
APIACEAE	Ammi	majus	Queen Anne's lace	*	1
ASTERACEAE	Bidens	pilosa	Cobblers pegs	*	2
DICKSONIACEAE	Calochlaena	dubia	Common ground fern		1
CYPERACEAE	Carex	appressa			4
CYPERACEAE	Carex sp.				3
CASUARINACEAE	Casuarina	cunninghamiana	River oak		1
ASTERACEAE	Centipeda	minima	Spreading sneezeweed		3
ASTERACEAE	Cirsium	vulgare	Spear thistle	*	2
ASTERACEAE	Conyza	albida	Tall fleabane	*	1
POACEAE	Cynodon	dactylon	Couch	*	3
ASTERACEAE	Delairea	odorata	Cape ivy	*	3
POACEAE	Digitaria	sanguinalis	Summer grass	*	3
MORACEAE	Ficus	coronata	Sandpaper fig		1
GERANIACEAE	Geranium	solanderi	Native geranium		1
APIACEAE	Hydrocotyle	bonariensis	Pennywort	*	2
	Larix sp.		Larch	*	1
POACEAE	Microlaena	stipoides			1
POACEAE	Paspalum	dilatatum	Paspalum	*	3
POACEAE	Paspalum	distichum	Water couch		3
PASSIFLORACEAE	Passiflora	edulis	Passionfruit	*	1
POACEAE	Pennisetum	clandestinum	Kikuyu	*	5
POLYGONACEAE	Persicaria	praetermissa	Knotweed		4
POACEAE	Phragmites	australis	Common reed		2
SALICACEAE	Populus	alba	White poplar	*	1
RANUNCULACEAE	Ranunculus	inundatus	Water buttercup		2
BRASSICACEAE	Rorippa	palustris	Marsh watercress	*	3
ROSACEAE	Rubus	discolor	Blackberry	*	1
SALICACEAE	Salix	sp.	Willow	*	2
PRIMULACEAE	Samolus	repens	Creeping brookweed		1
CYPERACEAE	Schoenoplectus	mucronatus		*	1
ASTERACEAE	Senecio	hispidulus	Hill fireweed		1
SOLANACEAE	Solanum	mauritianum	Wild tobacco bush	*	2
SOLANACEAE	Solanum	nigrum	Blackberry nightshade		3
COMMELINACEAE	Tradescantia	albiflora	Wandering jew	*	3
JUNCAGINACEAE	Triglochin	procerum	Water ribbons		2
VERBENACEAE	Verbena	bonariensis	Purpletop	*	2

6. The creek/inlet from the Moruya River to the dam

The watercourse that takes river water to the dam at times of high flow contains several rainforest margin species on the banks, well away from any brackish inflow from the river.

However, the bed of the creek is covered with Wandering jew (*Tradescantia albiflora*), while *Delairea odorata* (Cape ivy) smothers the vegetation on the western bank. A dense stand of the common fern *Calochlaena dubia* has not been invaded by either of the two mentioned weeds, nor does it appear to have suffered unduly from the lack of recent rain.

SPECIES OCCURRING ALONG THE INLET CREEK					
Family	Genus	Species	Common Name	Intro	Abundance
MIMOSACEAE	Acacia	mearnsii	Black Wattle		1
DICKSONIACEAE	Calochlaena	dubia	Common Ground Fern		4
CYPERACEAE	Carex	appressa			1
CASUARINACEAE	Casuarina	cunninghamiana	River Oak		5
ASTERACEAE	Delairea	odorata	Cape Ivy	*	4
CYPERACEAE	Eleocharis	sphacelata	Tall Spike rush		2
MORACEAE	Ficus	coronata	Sandpaper Fig		1
VIOLACEAE	Hymenanthera	dentata	Tree Violet		2
ASPARAGACEAE	Myrsiphyllum	asparagoides	Bridal Creeper	*	1
BIGNONIACEAE	Pandorea	pandorana	Wonga vine		1
POACEAE	Phragmites	australis	Common reed		3
PITTOSPORACEAE	Pittosporum	undulatum	Pittosporum		2
SALICACEAE	Salix	sp.	Willow	*	1
SOLANACEAE	Solanum	mauritianum	Wild Tobacco Bush	*	1
COMMELINACEAE	Tradescantia	albiflora	Wandering jew	*	5
ULMACEAE	Trema	tomentosa	Poison Peach		2
URTICACEAE	Triglochin	procerum	Water Ribbons		1
ULMACEAE	Urtica	incisa	Stinging nettle		1