



Pearl Beach
ARBORETUM

Management Plan

CROMMELIN NATIVE ARBORETUM



November 2023

CROMMELIN NATIVE ARBORETUM INC PEARL BEACH

Management Plan 2023

Outline Draft: Arboretum Planning Committee Meeting 17/05/2019

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Final November 2023 – updated plans and includes Council suggestions.

Cover Image: An Arboretum Working Bee 2019 Source: P. Romey.

Maps produced with assistance from Geoff Goodwin and Robert Payne.

The Crommelin Native Arboretum at Pearl Beach acknowledges the Traditional Custodians of the land on which the Arboretum is situated, the Garigal (or Caregal) clan. We respect their continuing culture and the contribution that Aboriginal people make to the life of this region. We extend this respect to any Aboriginal people who visit the Arboretum.

CONTENTS

1	INTRODUCTION	1
1.1	Background	1
1.2	Purpose of this Management Plan	5
1.3	Location and Description of the Arboretum	5
1.4	Managing this Document	9
2	ARBORETUM MANAGEMENT GENERALLY	9
2.1	Objects of the Arboretum	9
2.2	Vision and Aims for the Arboretum.....	10
2.3	Roles and Responsibilities	12
3	USE OF THE ARBORETUM.....	27
3.1	Generally	27
3.2	Accessing the Arboretum.....	29
3.3	Recreation and Education	30
3.4	Event Bookings.....	30
4	THE ENVIRONMENT	34
4.1	Environment prior to The Arboretum	34
4.2	Soils	35
4.3	Endangered and Vulnerable Species or Ecological Systems.....	36
4.4	Creeks and Wetlands	36
4.5	Current Flora.....	38
4.6	Propagation and Planting.....	40
4.7	Fauna.....	41
4.8	Waste Management	44
4.9	Bushfire Management	45
5	INFRASTRUCTURE	47
5.1	Signage	48
5.2	Paths	48
5.3	Bridges and Boardwalks	49
5.4	The Cottage	51

5.5	The Propagation Area.....	52
5.6	Equipment	53
5.7	Energy, Water and Sustainability	53
6	PRECINCTS.....	54
6.1	Parking and Entrances	54
6.2	The Open Area.....	57
6.3	The Coastal Sandplain Woodland (including the Wetland)	60
6.4	Riparian Zone	63
6.5	The Pleasance.....	66
6.6	The Wildlife Corridor	67
7	REFERENCES AND LINKS.....	70
	APPENDIX A: SUMMARY OF POLICIES.....	

1 INTRODUCTION

1.1 Background

The Crommelin Native Arboretum at Pearl Beach (the Arboretum) – known locally as the Pearl Beach Arboretum – is situated on 5.5 acres of land owned by Central Coast Council in the southwest corner of the village of Pearl Beach adjacent to the Brisbane Water National Park. An arboretum is defined by the Oxford Dictionary as “a garden where many different types of tree are grown, for people to look at or for scientific study”. The Arboretum at Pearl Beach is restricted to Australian native trees and other flora, with a particular emphasis on plants endemic to the region.

The Pearl Beach Area was likely originally home to the Garigal (or Caregal) clan whose lands were centred on Broken Bay¹. Today Pearl Beach is within the Darkinjung Local Aboriginal Land Council area.

Pearl Beach was originally exploited for its timbers by Europeans and later had small farms, before being subdivided as a village in the mid-1900s. The Arboretum was set aside in 1976 by the then Gosford Council for the development of a native botanical garden in accordance with the vision of a former resident and environmentalist of the area, Minard Crommelin, and at the request of the local community. The land was previously three crown land leasehold allotments that were sparsely covered in vegetation, weeds, rubbish, and debris. It had been subject to a variety of uses including small rural holdings and forestry.

At first the Arboretum Committee was a sub-committee of the Pearl Beach Progress Association (PBPA) and this group of about 12 people set about planning for the Arboretum layout and the mammoth tasks of clearing weeds and rubbish; bridging the creeks and wetlands; and forming walking trails. In addition to its work in developing the Arboretum, the committee raised funds to meet the cost of equipment and new plantings. The Arboretum was officially opened in 1982 by Don Leggett the Gosford Mayor at the time.

In 1988 and 1989 the Arboretum was the beneficiary of bequests by Pearl Beach residents, Mary Hartvel (a cousin of Minard Crommelin) and Carl Hartvel. Following these bequests, the Crommelin Native Arboretum was incorporated as an entirely

¹ Aboriginal Heritage Office (2015) “Filling a Void: A review of the historical context for the use of the word ‘Guringai’.” <https://www.aboriginalheritage.org/history/filling-a-void-history-of-word-guringai/>

separate entity to the PBPA. The incorporation number is Y0486712.

The Arboretum is now run as a not-for-profit incorporated body with paid memberships and a management committee of up to 16 people. The Constitution (2015) can be downloaded from the Arboretum website. The land is managed by the Committee under a Licence Agreement with Central Coast Council. The Arboretum is a registered charity with the Australian Charities and Not-for-profits Commission. Its ABN is 79080936319.

1.1.1 Arboretum Time Line

Pre 1788 Indigenous people are thought to have inhabited the area for over 25,000 years. They have a rich history, and their rock carvings can be seen in the hills surrounding Pearl Beach. The current regional Aboriginal communities continue to play an important cultural and custodial role, particularly over natural cultural landscapes such as the Arboretum.

1840–1850 The land now known as ‘Pearl Beach’ was granted to William Mosely, retired army officer, and Rock Davis, a local shipbuilder from 1850 until 1920. Some timber was logged and occasionally cattle were grazed in the Pearl Beach area. A 1918 Parish map shows that Davis owned the land in Pearl Beach where the Arboretum is located.

1921 Land grants were acquired in Pearl Beach by C R Staples and Company Ltd, real estate agents and developers.

1925 The wider Pearl Beach Estate residential subdivision was approved and marketing for sale commenced.

1932 Eight ‘five-acre’ crown land holdings were made available for leasing in the area of the Arboretum.

1976 At the request of the Pearl Beach Progress Association, Gosford City Council set aside two ‘five-acre’ holdings for a ‘native botanic garden’ and rezoned the land ‘for conservation purposes’.

1978 The name ‘Crommelin Native Arboretum’ was gazetted.

1982 Mayor Don Leggett officially opened the Arboretum in the ‘Year of the Tree’.

1988 Two Pearl Beach properties were given to the Arboretum in the form of a bequest from local residents who were relatives of Minnard Crommelin. This has

assured long-term financial assistance.

1990 Bushfire destroyed bridges, signs, labels, and vegetation.

1991–1993 Regeneration and extensive rebuilding of infrastructure.

2003 Council added another hectare of land for a wildlife corridor to join the Arboretum to Brisbane Water National Park.

2003–2011 Arboretum volunteers planted over 1500 native trees, native grasses, and understorey shrubs in the wildlife corridor land.

2012 Map and story board signs installed throughout the Arboretum.

1.1.2 Other Management Documents

Relevant statutory documents informing this Management Plan are:

- The Constitution of the Arboretum (2015)
- The Licence Agreement with Central Coast Council
- Central Coast Council Plan of Management for Community Land (2023)

The Arboretum may also have (or plan to have) a number of other strategic documents which are updated from time to time including:

- Vision and Aims
- Landscape Masterplan (planning physical changes over the next 5-10 years)
- Annual Task List
- Risk Management Plan
- Propagation and Planting Plan
- Signage Strategy
- IT Strategy
- Policy on Temporary Closure of the Arboretum
- Event or Grant Project Plans
- List of Assets (mainly tools and equipment)

This Management Plan builds on earlier documents including:

- 1986 Report re Adoption of Sydney University Student Project Recommendations
- Survivors – a list of trees that survived the major 1990 bushfire

- 2003 Wildlife Corridor – Aims of the Wildlife Corridor Site Plan
- 2005 Planting Protocol for Wildlife Corridor Regeneration
- 2007 A Draft Maintenance Management Plan dated April 2007 which appears to have never been formally adopted
- 2009 Minutes/report of the Review of Wildlife Corridor Subcommittee
- 2009? Wildlife Corridor Shrub and tree Collection Lists/Audits (2 versions no dates)
- Wildlife Corridor Maintenance and Management (no date)
- 2010 Highlight Consulting Report (opposing rezoning to recreational land) including Appendices
- 2012 Wildlife Corridor History

There are a number of key external documents including:

- [NSW Biodiversity Conservation Act 2016](#)
- [Water Management Act 2000 No 92](#)
- The Central Coast Council Consolidated Local Environmental Plan
- Central Coast Council Plan of Management for Community Land (2023)
- Other relevant government laws and policies which apply to bushland recreational areas, natural waterways, and not-for-profit organisations

A short history of the Arboretum can be found on the [Arboretum website](#).

Landscape Masterplan

In 2021 the committee commenced the preparation of a landscape masterplan and in 2023 a consulting landscape architecture firm, Taylor Brammer, was engaged to complete this task. The Landscape Masterplan will guide physical changes at the Arboretum over the next 5-10 years in accordance with this Management Plan and to achieve some of the long-term goals for the Arboretum such as improved equitable access to parts of the Arboretum and improved entrances and wayfinding.

1.1.3 Authorship

The primary author for technical information in this document is Robert Payne who is a qualified ecologist and has been a member of the committee since 1977. Robert prepared most of the information for a draft “Maintenance Management Plan” in April 2007.

Mary Knaggs and Victoria Crawford have authored other major sections of the

document and have edited the information from the 2007 document under Robert Payne's review. Other key documents used to inform this Management Plan are listed under References.

Maps have been produced by local cartographer Geoff Goodwin who has generously donated his time to the Arboretum for this and other mapping projects.

The final document has been reviewed by the committees of 2020/21 and 2021/22.

1.2 Purpose of this Management Plan

This Management Plan gives clear direction to the management and maintenance of the Arboretum so that the Arboretum is cared for and presented to a high standard for current and future generations in accordance with the current constitution, vision and aims of the committee (see Section 2.2 Vision and Aims for the Arboretum).

Consideration is given to where management policies have come from, where they currently are, and how they should be amended.

Policies in this Plan are provided at the end of each relevant section with a red heading and are consecutively numbered with a red number (e.g. 6.). They are summarised at Appendix A: Summary Of Policies.

1.3 Location and Description of the Arboretum

The Crommelin Native Arboretum is situated in the southwest corner of Pearl Beach and can be accessed by Crystal Avenue (in the south of Pearl Beach) and Opal Close and the public carpark adjacent to the Tennis Courts in the north (Figure 1). The property description is Lots 215 and 216 in DP 755251 and Lot 540 in DP 1043338 (Figure 2). These lots have the address of 69 and 71 Crystal Avenue (71A Crystal Avenue is a private residence).

The Arboretum is made up of precincts as outlined in Figure 3. Each of these precincts is discussed in more detail in Section 6.

1. Parking and Entrances (Section 6.1)
2. The Open / Entrance Area (including the Wedding Tree) (Section 6.2)
3. Sandplain Woodland (North 2A and South 2B) (Section 6.3)
4. The Riparian Zone (including the Palm Grove) (Section 6.4)
5. The Pleasance (Section 6.5)

- 6. The Wetland Area (Section 6.6)
- 7. The Wildlife Corridor (including the Flowering Shrub Area). (Section 6.7)

In addition, there is an Asset Protection Zone (APZ) overlay along the eastern boundary with private residential allotments to minimize the risk of bushfires. The APZ is managed by Central Coast Council and is discussed in more detail in Section 4.9.

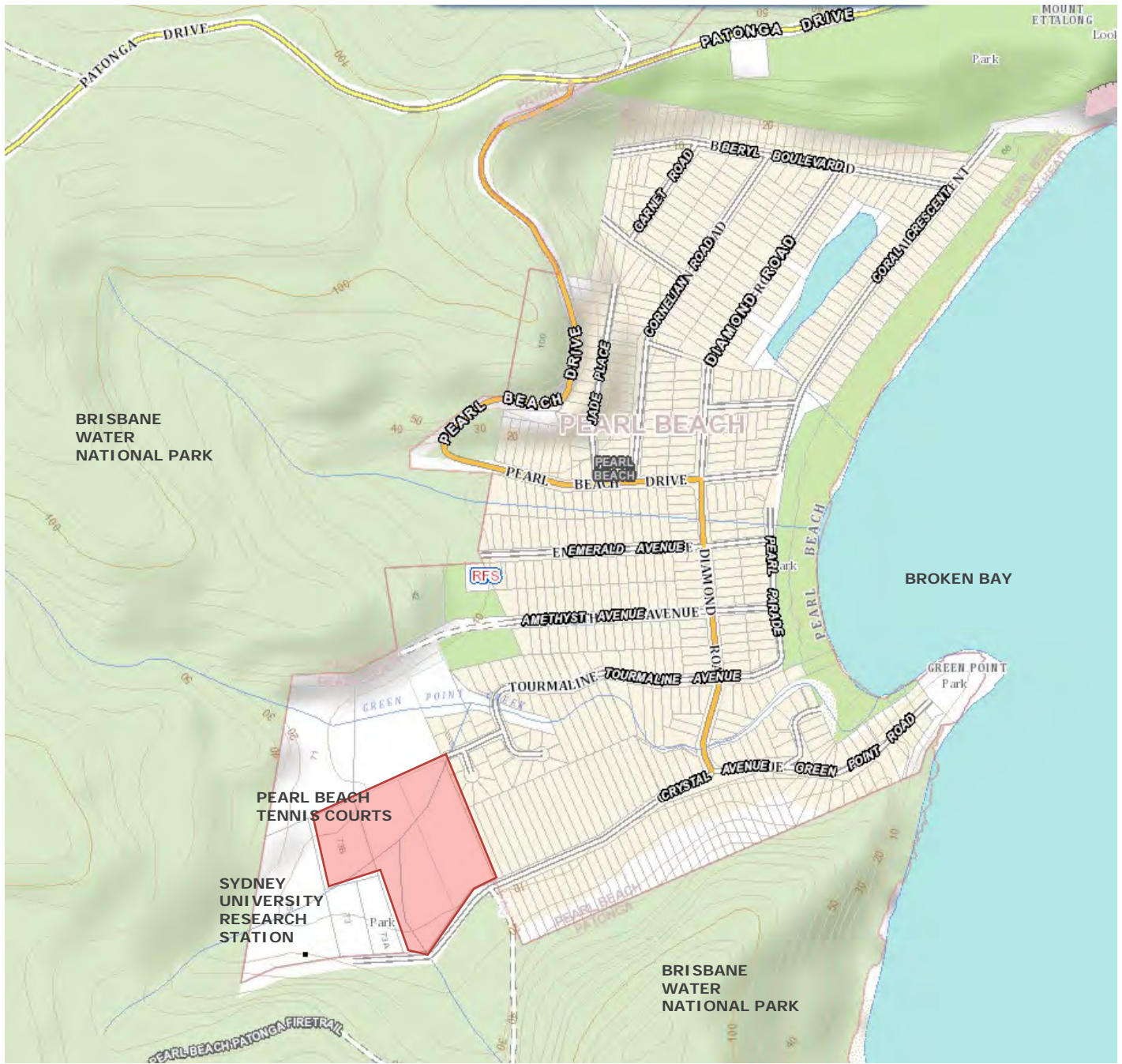


Figure 1: The Arborescence in relation to the Village of Pearl Beach outlined and shaded in red.










Source: Six Maps 2021.



Figure 2: The Arboretum allotments are shaded red. The Arboretum property description is Lots 215 and 216 in DP 755251 and Lot 540 in DP 1043338. Source: Six Maps 2019.

LEGEND FOR FIGURE 3: ARBORETUM PRECINCTS

-  1A Access and Entrances
-  2 Open Area
-  3A Sandplain Woodland (3A and 3B)
-  3C Wetland
-  4 Palm Grove and Riparian Zone
-  6 Pleasance
-  7 Wildlife Corridor

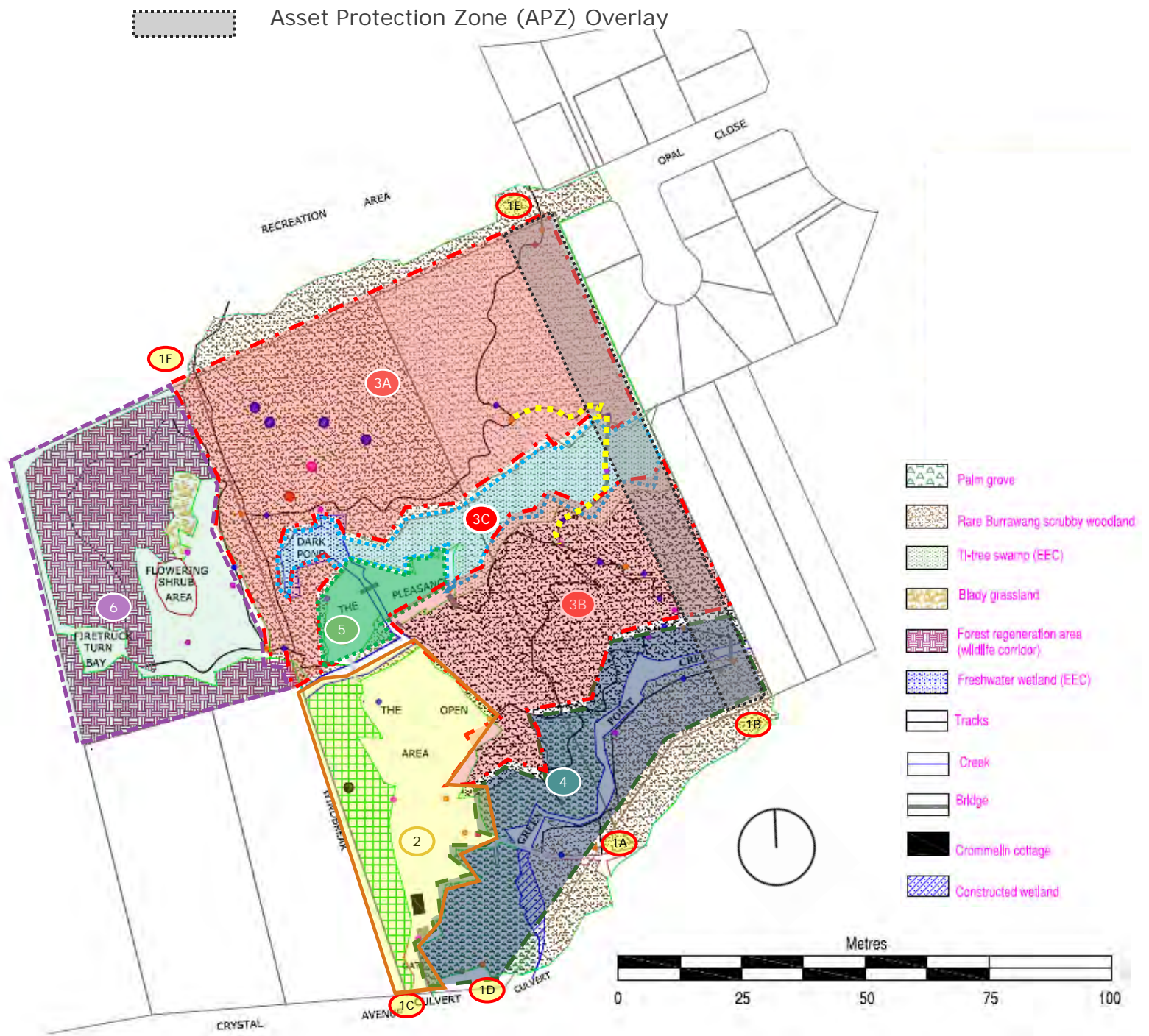



Figure 3: The Arboretum precincts and vegetation types. Source: Robert Payne 2017.

 Track now closed as boardwalk washed away in early 2022.

1.4 Managing this Document

The document shall be reviewed from time to time and if necessary, changes will be made to content and policies.

Policies: Aim and Review of this Management Plan

1. This Management Plan is for the information of Arboretum members and volunteers generally, and for the induction of new members on the committee. A copy will be available via the Arboretum website and at the cottage.
2. This document should be reviewed in any of the following circumstances:
 - if the constitution of the Arboretum changes
 - if the aims and objectives of the Arboretum change
 - if there are other new important relevant documents made available
 - if the land management structure or zoning changes
 - when a new licence is agreed with the Council
 - at least every five years to take into account changing contexts.

The committee will decide if the changes to the Management Plan need to go to the full Arboretum membership for comment, before the committee formally adopts the changes.

2 ARBORETUM MANAGEMENT GENERALLY

2.1 Objects of the Arboretum

The “objects” of the Arboretum as stated in the Arboretum Constitution are:

(a) to protect, enhance, maintain, and manage the Crommelin Native Arboretum at Pearl Beach NSW; and

(b) to promote and encourage nature conservation at Pearl Beach and elsewhere.

Policy: Management in accordance with the Constitution Objects.

3. The committee and membership will continue to manage the Arboretum in accordance with the “objects” stated in the Constitution.

2.2 Vision and Aims for the Arboretum

The committee has confirmed the following vision and aims in September 2020:

2.2.1 Vision (September 2020)

The Crommelin Native Arboretum's vision is to be a respected and well managed arboretum which promotes and encourages the conservation of Australian plant and animal species.

We do this by protecting, enhancing, and nurturing a living collection of Australian plants for enjoyment by the public, and promoting and supporting education about Australian plant and animal conservation, particularly those endemic to our local area.

2.2.2 Aims

The Arboretum Management Committee aims² to:

1. *Maintain and develop this natural bushland area by extending the planting of Australian / indigenous species, and by conserving some areas in their natural state as examples of the coastal sandplain (rare burrawang) ecosystem.*
2. *Promote and encourage Australian plant conservation including planting of threatened species and enhancing habitat and food sources for local native fauna.*
3. *Provide areas for quiet enjoyment of, and education about, the Australian flora and local native fauna.*
4. *Manage the Arboretum (including its finances and other assets) according to good practice, including:*
 - *Conduct the committee in accordance with the Constitution and relevant government guidelines.*
 - *Formally adopt and implement a Management Plan / Masterplan for the Arboretum and review and update these documents at least every five years.*
 - *Review income and expenditure at monthly meetings and review investments through the finance committee on a regular basis – at least annually.*

² Adopted by the Arboretum Management Committee in September 2020 – minor edits have been made in February 2022.

- *Actively seek grant/funding opportunities for special projects.*
5. *Maintain the Arboretum and its infrastructure in good order:*
 - *ensure that the living collection is guided by a well-defined curatorial approach and managed to ensure high quality outcomes. Update the mapping of plantings and maintain the spreadsheets of all plantings.*
 - *conduct regular, usually monthly, working bees to maintain accessible areas, including pathways.*
 - *regularly inspect trees for safety and organise felling, disposal etc. as required.*
 - *maintain cottage and propagation area in good order.*
 - *actively manage the green waste generated during maintenance.*
 - *review and renew signage where appropriate and provide new signage for new plantings where considered appropriate.*
 - *forward plan for new plantings and propagation of indigenous species, particularly those that are endangered or that support endangered local fauna; and including review of our koala tree plantings.*
 6. *Maintain safety and risk procedures for visitors to the Arboretum and for volunteers while working in the Arboretum. Follow safety procedures for use of machinery and tools.*
 7. *Maintain a regular positive relationships:*
 - *with Council as the land-owner to ensure an ongoing and appropriate level of support.*
 - *with National Parks and Wildlife, Sydney University and government and community interests. (e.g. Actively engage in reviews of government or council policies that may affect the Arboretum).*
 - *with government, schools, other native gardens and other relevant organisations to identify and promote opportunities for the Arboretum and its role in the community. (e.g. education about the natural flora and fauna).*
 8. *Engage visitors in experiences that build community engagement and increase their understanding of the Arboretum and its role. Including:*
 - *encourage community involvement in native plant and animal conservation.*
 - *educate visitors about the importance of conservation, habitat and food sources for native fauna.*
 - *communicate the work of the Arboretum (e.g. improved information via the website, social media, signage and brochures).*
 9. *Consider development of Aboriginal cultural content in consultation with local*

Aboriginal groups (e.g. develop an Aboriginal bush tucker and medicinal trail, including new plantings).

Policies: Management in accordance with the Vision and Aims

4. The committee will continue to manage the Arboretum in accordance with the Vision and Aims stated above. The Vision and Aims of the Arboretum may be reviewed from time to time in line with the views of the then current committee and/or the membership and as part of any Management Plan review.

2.3 Roles and Responsibilities

2.3.1 The Arboretum Committee of Management

Section 12 of the Constitution of the Arboretum allows for a “committee of management of the association” to:

- a. *control and manage the affairs of the association;*
- b. *exercise all such functions as may be exercised by the association other than those functions that are required by the Constitution to be exercised by a general meeting of members of the association; and*
- c. *perform all such acts and do all such things as appear to the committee to be necessary or desirable for the proper management of the affairs of the association.*

The committee operates under the Constitution of the Arboretum and under the requirements of the Australian Charities and Not for Profits Commission (ACNC), including Annual Reporting to the ACNC.

The officer positions of the committee include a president, vice-president, treasurer, and secretary. The committee must have at least three and not more than 12 ordinary committee members in addition to the office bearers. From time to time one or two of the ordinary committee members may act as an assistant treasurer; an assistant secretary; membership officer; IT manager or event bookings manager.

The committee must meet at least three times each year, but typically meets once a month except for December. The Annual General Meeting, to which all members of the Arboretum are invited, is held once a year within six months after the close of the association’s financial year (30 June), usually in September.

Some of the key tasks for the committee include:

- upholding the objects, vision and aims of the Arboretum
- financial management
- holding the AGM
- insurances
- planning for improvement and essential maintenance (including tree maintenance), other than that which is a Council responsibility
- managing capital works
- encouraging membership
- encouraging donations
- managing use of the Arboretum for events
- volunteering and managing volunteers
- communicating with stakeholders.

Dispute Resolution

Any member of the Arboretum may raise a concern or express dissatisfaction about the management of the Arboretum to any member of the committee. For example, a member may also raise a complaint that a member has persistently refused or neglected to comply with a provision or provisions of the constitution or has persistently and willfully acted in a manner prejudicial to the interests of the Arboretum.

Policies: Dispute Resolution

5. All complaints will be acknowledged in writing and addressed promptly, objectively and fairly. If the dispute cannot be resolved by negotiation between the parties, an independent person should be appointed by the committee to mediate the dispute. If this does not resolve the issue then it should be referred to a community justice centre for mediation in accordance with the Community Justice Centres Act 1983.

Privacy and Confidentiality

The Arboretum is committed to protecting the privacy and confidentiality of personal information provided by its members, volunteers, and others who provide personal information. A Privacy Policy has been developed that adheres to the National Privacy Principles as required under the Privacy Act 1988.

Policies: Privacy and Confidentiality

6. Any personal information submitted to the Arboretum is collected in order to provide information and to facilitate the co-ordination of meetings and programs and activities conducted by the Arboretum; and in accordance with the following:
 - The information may only be used for the purpose for which it was collected or with the person's consent, or to prevent serious and imminent threat to life, health or safety, or as otherwise required by law.
 - The Arboretum will not disclose, sell or trade personal information to any organisation other than as set out above.
 - Those who have provided information may access the information at any time. If requesting access to personal information, or if there are any concerns regarding its use, the Arboretum should be contacted by e-mail to: secretary@pearlbeacharboretum.org.au.
 - There is the option of not providing certain information requested, but this may prevent the effective provision of information
 - To ensure that personal information is protected from misuse and loss, unauthorised access, interference, unauthorised modification or disclosure, the membership register is maintained on an Excel spreadsheet on the Arboretum Cloud site and can be accessed only by the treasurer, secretary, membership officer and the president

2.3.2 IT Management and Record Keeping

Arboretum records are a mixture of hardcopy and electronic. We have digitised minutes of meetings back to 2010. There is a plan to digitize as many of the hardcopy records as possible. Hardcopy records of meetings before we started using electronic storage and other important documents are kept in the cottage and labelled for easy retrieval either in the filing cupboard or in large plastic storage boxes. There is some archived material held by Gosford Library.

Non-profit version of Microsoft Office 365

The committee agreed in November 2020 to obtain the free non-profit version of Microsoft's Office 365 on-line suite of software through ConnectingUp. This provides both online and installable versions of the Office Suite, email services using the Arboretum's domain name and online data storage. ConnectingUp enables non-profit organisations access to free or heavily subsidised IT services and equipment.

This was completed by December 2020 and meant that all Arboretum official documents could be saved in one place and be accessible to all committee members. The office package also provides the ability to use Office Teams for online meetings.

Email accounts for all committee members were required to be set up to access the Office Suite and data stored online. These email accounts were set up in December 2020.

Note: There are two Microsoft Office 365 administrators – the IT manager and the secretary.

Email accounts

Office Bearer email accounts

The email accounts were set up by role within the committee (especially office bearers) and the aim is to use them for Arboretum business, especially if dealing with external bodies or people.

Roles: Note when the people holding these roles change, the email access can be easily changed by a change in password. This also applies to the other email accounts used by the non-office bearers.

The following email accounts have been set up for office bearers:

President – president@pearlbeacharboretum.org.au

Secretary – secretary@pearlbeacharboretum.org.au

Vice-president – vice.president@pearlbeacharboretum.org.au

Treasurer – treasurer@pearlbeacharboretum.org.au

Other emails accounts

A number of other email accounts have been set up to cater for other Arboretum roles, other committee members, shared mailboxes, groups, and special events (when required) e.g. pbeat@pearlbeacharboretum.org.au .

Other Arboretum Roles

Events manager – events@pearlbeacharboretum.org.au

IT manager – ITmanager@pearlbeacharboretum.org.au)

Other committee members

Emails have been set up for all committee members to enable access to the Office Suite and online data. Once configured within the default browser or smart phone this provides automatic access without the need to enter the email address or password.

When the emails were created they all had “forward to personal email” set up to allow the continued use of personal emails. For office bearers this was until they were set up and familiar with using the new email accounts. For the other committee members this can continue unless they want to separate Arboretum emails from their personal emails. The choice is theirs.

These emails are set up in the following format

Member#@pearlbeacharboretum.org.au

The # is a different number for each committee member.

Shared emails addresses

A number of shared email addresses (mailboxes) have been set up for use by the office bearers. These mailboxes have no password and access is provided via the office bearers email account. Note that when there is a reply to an email in a shared mailbox it will be sent from the senders’ default Arboretum email address.

contact@pearlbeacharboretum.org.au - General enquiries via website or social media – access to this email has been allocated to the following roles – president, secretary, vice-president, IT manager.

payments@pearlbeacharboretum.org.au – Used to send and receive payment information from the website relating to membership and donations and for payment related accounts such as PayPal, Stripe or Square etc.

socialmedia@pearlbeacharboretum.org.au – For accounts used to administer Facebook, Twitter, and Instagram.

Group email addresses

Group email addresses have been set up to make it easy to send to many email addresses at once. By default, they can only be sent by Arboretum email accounts

as we would not want anyone outside the committee sending emails to these groups. The exception is the group that contains only the committee members as this is required to allow committee members to use it with their personal email account.

committee@pearlbeacharboretum.org.au. – Contains all committee members – This is the easiest way to send to the entire committee.

officebearers@pearlbeacharboretum.org.au – Contains the Office Bearers only

members@pearlbeacharboretum.org.au – Contains all financial members who have provided an email address.

friends@pearlbeacharboretum.org.au – Contains email addresses of all lapsed members and others who have requested to be kept informed of Arboretum news.

Note: Groups are also used to control access to any data we store online

Note: the previous email address pearlbeacharboretum@gmail.com is no longer used. Its main use was for general contact, but this has been replaced by contact@pearlbeacharboretum.org.au.

Document Access

All Arboretum documents are stored within the online storage system called SharePoint. As its name suggests it is a point where documents are stored and shared. Clicking on a folder link in an email will open it up in SharePoint.

Advantages are:

- *it ensures that we are always looking at the latest version of the document.*
- *we can find key documents in a hurry without having to bother another committee member to provide them.*
- *data is backed up so if accidentally deleted or lost we can easily retrieve it*
- *version history is kept so we can easily revert to a previous version if required.*

OneDrive

OneDrive is Microsoft's version of iCloud, or Google Drive. It is designed to provide an online data store for documents. Each Office 365 account comes with a OneDrive account where committee member can store up to 1Tb of data. The

OneDrive application allows this data to be accessed via a File Manager (Windows Explorer or Apple Finder) and Office 365 also allows the committee SharePoint to appear as a folder in OneDrive. For those with PCs, iMac, or tablet computers it is the easiest way to access Arboretum data stored on the committee SharePoint. It also allows you access when not connected to the internet.

Committee members are encouraged to become familiar with accessing files on SharePoint and using OneDrive so that key documents can be accessed on the Cloud from anywhere at any time.

Mandatory reporting and subscriptions

The Arboretum has reporting requirements or subscriptions and they should be managed through our official Arboretum emails.

- PayPal – treasurer
- Charities ACNC – treasurer
- Fair Trading – treasurer
- Central Coast Council communications (Council Licence Manager and Properties Officer) – president
- CEN – treasurer
- Community grants – applications – president, vice-president, treasurer, and secretary
- Connecting Up – IT manager
- WordPress account – IT manager
- WordPress website editing – president, vice-president, and secretary
- Facebook and Instagram account management and editing – president, vice-president, and secretary (use socialmedia@pearlbeacharboretum.org.au as the account login)
- New subscriptions – secretary to arrange

Website

The website contains all public documents concerning the Arboretum. It is maintained by the secretary with other committee members assisting according to their skills. As well as standard information about the Arboretum, news items are published from time-to-time. Members of the public can contact the Arboretum through the website and download documents for their use.

Social media

The Arboretum has a Facebook page and Instagram account which has news items published from time-to-time. There is also a Pearl Beach Arboretum Facebook group. Social media is currently managed by the vice-president, the secretary, and the IT manager.

Policies: IT Management and Record Keeping

7. The committee has adopted the above guidelines and the following IT policies:
 - Copies of official Arboretum correspondence and other important items will be stored on the Cloud with restricted access
 - Office bearers and those with specific responsibilities (e.g. events) are to use the Arboretum website, email and social media only for Arboretum business
 - To enable tracking of emails and searching for information all emails to external bodies/people about Arboretum business/issues/information should be done using role specific emails with a copy to the secretary. If incoming mail is important it should be forwarded to the secretary. The secretary will forward important "to" and "from" emails to correspondence@pearlbeacharboretum.org.au where it is sorted into folders by the month and year received, but can be searched by keyword

2.3.3 Membership Generally

The Arboretum has many members who, in joining, have agreed to uphold the "objects" of the Arboretum as stated in the Constitution of the Arboretum (see Section 2.1). In June 2022 there were 124 members including nine life members. There were approximately 100 members in September 2020. Membership fees contribute to the management of the Arboretum in accordance with the Constitution and with this Management Plan.

2.3.4 Volunteers

Many members (including committee members) of the Arboretum actively volunteer to carry out physical tasks in the Arboretum either at the monthly two-hour working bees; on a Thursday morning; or at other times. Volunteers must work alongside each other in teams of at least two persons. Other workplace health and safety (WHS) guidance applies. Volunteers are not required to be members of the

Arboretum.

Volunteer tasks include:

- propagation
- planting
- monitoring of the plants, native animals, and ecosystems
- removal of weeds
- removing dead or excess vegetative material from paths and open areas
- maintenance (including roof and roof system clearing) of the cottage and the propagation Shed
- cleaning the cottage and the propagation shed
- cleaning of signs
- maintenance of paths, bridges, signs, and seats.
- fire hazard reduction
- mowing of pathways through long grass
- assistance with events in the Arboretum

The committee has a responsibility to welcome and guide volunteers so that work is carried out in relative safety and in accordance with the Constitution, vision, and aims of the Arboretum, and in accordance with this Management Plan and any Masterplan.

2.3.5 Central Coast Council

The Central Coast Council (the Council) is the owner of the land on which the Arboretum is situated. The Arboretum acts under a licence to the Council which is renewed every 5 years (the current licence commenced on 30 June 2017 and while it terminated on 29 June 2022, the Council has indicated it will not commence renegotiations until 2023). In discussions with the Administrator in March 2022 he indicated that a ten-year licence could be granted.

The Arboretum was incorporated on 19 May 1988. The Council is responsible for the structural stability of any buildings or utilities erected before that date. This includes the three major bridges and the two board walks in the Arboretum.

The Licence agreement (Section 2 of Annexure B) also outlines the following responsibilities for the Council (Licensor):

- a. *Maintain a 20-metre-wide Asset Protection Zone (APZ) on the eastern side of the Property.*

- b. *The provision (by Council) of 3 green waste removals per year, maximum of 5 cubic metres per pick up. [Note in July 2020 a trial of only two pickups per year and the use of two green bins with fortnightly emptying was agreed until end of December 2020. This was then approved by the Committee to continue and an agreement with the Council was made in March 2021 that the Council would pick up green waste at the end of April and the end of November each year].*
- c. *The provision (by Council) of wood chipping/mulching twice yearly.*

2.3.6 Plan of Management for Council Community Land

In 2023 Central Coast Council adopted a Plan of Management for Council Community Land which is the statutory ‘management plan’ that Council must comply with. This ‘Management Plan’ prepared by the Arboretum management committee is a ‘site management plan’ that guides the day to day management of the Arboretum. It is a ‘living’ document and can be updated as new information becomes available or management priorities change. Such site management plans are not formally adopted by Council.

In addition the Arboretum management committee acknowledge the core objectives in the Plan of Management for Council Community Land. In the Arboretum the south-west section is categorised as ‘Park’ (focussed on the “open area”), while the more vegetated parts of the Arboretum are categorised as ‘natural area – bushland’. See Figure 4.



Figure 4: Detail from Central Coast Council - Council Community Land Plan of Management 2023 - Category Mapping – Map Tile 09. The Arboretum allotments are outlined in red.

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.*

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.*

The core objectives for management of community land categorised as 'natural area – bushland' are:

- a. *to ensure the ongoing ecological viability of the land by protecting the ecological biodiversity and habitat values of the land, the flora and fauna (including invertebrates, fungi and micro-organisms) of the land and*
- b. *to protect the aesthetic, heritage, recreational, educational and scientific values of the land, and*
- c. *to promote the management of the land in a manner that protects and enhances the values and quality of the land and facilitates public enjoyment of the land, and to implement measures directed to minimising or mitigating any disturbance caused by human intrusion, and*
- d. *to restore degraded bushland, and*
- e. *to protect existing landforms such as natural drainage lines, watercourses and foreshores, and*
- f. *to retain bushland in parcels of a size and configuration that will enable the*

- g. existing plant and animal communities to survive in the long term, and to protect bushland as a natural stabiliser of the soil surface.

The Arboretum management committee questioned the category boundaries during the consultation period for the Council Community Land Plan of Management 2023, because parts of the “wildlife corridor” (shown by the asterisk * in Figure 4) are already planted with species that are not indigenous to the surrounding bushland such as Wollemi pines and rainforest trees. However at least half of the “wildlife corridor” is to be conserved in “a size and configuration that will enable the existing plant and animal communities to survive in the long term”. See Section 6.6 ‘Wildlife Corridor’ and Figure 11.

2.3.7 Safety and Risk Management

Safety is of high importance in the Arboretum. The Arboretum has developed a Risk Management Plan based on the Council risk assessment template. It includes manual handling, working with tools, dangerous animals, tree hazards, fire, storm, and special events. It includes identification of the hazard, the risk level, and the risk control.

During the Covid19 pandemic, the Arboretum managed a covid safe plan and had a QR code to be used for checking in to controlled external events.

Work, Health & Safety/Public	May cause death, permanent disability and/or permanent ill health. Permanently unable to work.	Serious injury or illness such as hospitalisation as inpatient or permanent impairment. Injury or illness qualifies as 'Notifiable Incident' to regulator	Injury or illness requiring health professional treatment, hospital outpatient and/or lost time >1 week	Minor injury or illness resulting in <1 week lost time and/or requires first aid treatment	No treatment required or minor first aid (e.g. bandaid or ice pack). No lost time returning to work within shift.
RATING	Catastrophic	Major	Moderate	Minor	Insignificant
ALMOST CERTAIN Almost certain to occur Once a year or more frequently (>85%)	Extreme 25	Extreme 23	High 20	Medium 16	Medium 11
LIKELY More than an even chance of occurring Once every 2 years (50%-85%)	Extreme 24	High 21	High 17	Medium 12	Low 7
POSSIBLE Could occur periodically Once every 5 years 21%-49%	High 22	High 18	Medium 13	Medium 8	Low 4
UNLIKELY It is possible for the event to occur, but it is unlikely to happen Once every 10 years 5%-20%	High 19	Medium 14	Medium 9	Low 5	Low 2
RARE Event that may occur very seldom and the chances of it happening are considered exceptionally remote Once every 20 years <5%	Medium 15	Medium 10	Low 11	Low 3	Low 1

Risk Rating & Action			
Hazard Score	Risk Level	Risk Acceptability	Immediate Action / Notification
23 to 25	Extreme	Intolerable	Immediate action required by Senior Management
17 to 22	High	Unacceptable	Senior Management attention required
8 to 16	Medium	Acceptable with continuous review only when either Reputation or Financial Consequence are the highest rated risk. Otherwise unacceptable.	Manage with consistent monitoring and action when required.
1 to 7	Low	Acceptable with periodic review	Manage by routine procedures

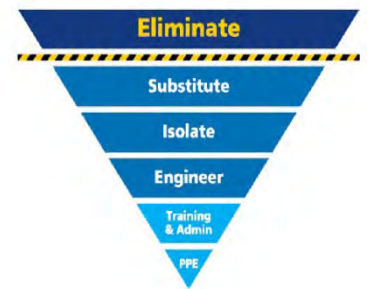


Figure 5: Central Coast Council Risk Management Tables as at May 2023

Policies: Safety and Risk Management

8. The committee has adopted the following safety and risk management tasks:
 - Review the risk management plan annually, considering the latest Council risk management procedures.
 - Develop a risk management plan for all large one-off events.
 - Develop a procedure for recording the risk management induction of new volunteers to the Arboretum.
 - Record accidents or incidents in the incident book held in the first aid box in the cottage.
 - Follow any adopted Department of Health Safe Plan or other health directives.

2.3.8 Financial Management

In 1988 and 1989 the Arboretum was the beneficiary of bequests by Pearl Beach residents, Mary Hartvel (a relative of Minard Crommelin) and Carl Hartvel. The investment of these bequests provides the Arboretum with an income which has covered the cost of managing the Arboretum. Other income is derived from membership payments, donations, and payments for use of the Arboretum for events.

At the time of writing, the Arboretum's bank investments are providing very low returns as interest rates are falling due to prolonged drought and the COVID19 pandemic. In March 2021 the committee agreed to invest up to 40% of its capital in carefully selected managed funds.

The Arboretum has a finance sub-committee in accordance with the Constitution Section 5a) which states it:

- *Manages the investments of the Arboretum Management Committee*
- *Reviews investments and brings proposals to the committee*

Policy: Financial Management

9. The committee will maintain a financial policy including:
 - circulating monthly financial summaries to the committee
 - receipting all income
 - making payments only after an invoice or a receipt (in the case of

member reimbursements), is provided to the treasurer

- expenditure from \$100 to \$500 requires approval of two of the committee office bearers
- expenditure more than \$500 requires at least two quotes to with approval given by the committee majority
- for some ongoing activities, such as the use of an arborist. a preferred supplier register can be created to be valid for three years this negating the need for quotes
- auditing of accounts before the AGM
- investments are to be managed in accordance with the Constitution

2.3.9 Training of Committee and Volunteers

Training is not a requirement of membership of the committee; however, it can encourage training, especially as a wide variety of training is available at no or minimal cost through the Council. Justice Connect and The Centre for Volunteering also provide training for not-for-profit organisations. Surf Lifesaving Australia, through the Pearl Beach Progress Association, also provides first aid training each year for a minimal cost. When funds permit, the committee may consider contributing to the training costs for relevant training.

Policy: Training

10. The following training needs for the committee and of other regular volunteers are to be considered each year and may include:
 - first aid to ameliorate the risks of having volunteers working in a bushland environment
 - use of certain equipment: e.g. chainsaws
 - governance: for responsibilities that apply to committee members.
 - native plant propagation, planting and care
 - ecological training: e.g. volunteer members of the Arboretum may need to be able to maintain and monitor the use of nest boxes.

2.3.10 Education and Community Outreach.

One of the “Objects” of the Arboretum is to “promote and encourage nature conservation at Pearl Beach and elsewhere”.

One way of doing this is by creating brochures, leaflets or other information and making it available on our website. We also place hardcopies of several of the

brochures or leaflets in our brochure boxes which are then available to anyone walking through the Arboretum. These publications change from time-to-time.

There are also tree plaques, signs and storyboards placed throughout the Arboretum to help explain what visitors may be looking at.

We seek to work with other organisations such as Rumbalara Environmental Education Centre, the Pearl Beach Environment Group (PBEG), the Pearl Beach Progress Association (PBPA) and the Community Environment Network (CEN). In 2022 we are developing a template for a guided tour of the Arboretum to enable groups to walk through and learn about the eco system, the flora, and the fauna within the Arboretum.

In 2021 and 2022 the Arboretum held a successful Ephemeral Art Trail (PBEAT) which encouraged many visitors to the Arboretum.

We engage with local media and provide press releases when important environmental activity or visitor experiences are underway. An example of this has been the Arboretum's work encouraging the conservation of koalas and native bees and their habitat.

It is hoped that further workshops on topics such as propagation and planting and environmental conservation can be run to improve local community engagement with the Arboretum.

Education

The committee plans to promote use of the Arboretum for educational activities by schools, tertiary institutions and other not for profit groups such as those providing adult education. While such educational visits would be primarily focused on the natural environment, it is conceivable that further cultural history or artistic related pursuits could be held in the Arboretum.

At this stage the Arboretum relies on schools and other not for profit groups providing their own educational materials. However, this may be revised in the future.

For schools and other educational institutions, a modest charge may be made for use of the cottage in the Arboretum (including use of tables, chairs, and the toilet facility).

In the case of adult community groups visiting the Arboretum, it is more likely that they will have an educational walk through the Arboretum only. In this case only donations are sought from the attendees. If the visitors are relatively local to Pearl Beach, membership of the Arboretum is encouraged.

Policies: Education and Community Outreach

11. The Arboretum will continue to “promote and encourage nature conservation at Pearl Beach and elsewhere” by:
 - hosting or partnering in suitable events
 - providing information on our website and social media
 - producing publications (including online)
 - working with other stakeholders and the media.
12. The committee will continue to encourage educational events – with particular focus on those which are in synergy with the Arboretum Objects, Vision and Aims – for example:
 - school and tertiary institution visits
 - adult education
 - educational events for nature conservation
 - appreciation of the natural environment (including music, literary and art events).
13. The committee will continue to work with other like minded not for profits, local community groups and the media to provide education about the conservation of the natural environment – for example the need to control domestic pets and to identify and control invasive weed species.

3 USE OF THE ARBORETUM

3.1 Generally

The use of the Arboretum is largely driven by the “Objects” of the Constitution:

(a) to protect, enhance, maintain and manage the Crommelin Native Arboretum at Pearl Beach NSW; and

(b) to promote and encourage nature conservation at Pearl Beach and elsewhere.

One of the aims of the committee (Section 2.2) is to “to provide an area for quiet

enjoyment of, and education about, Australian flora and endemic fauna”.

3.1.1 Permitted uses

Under the licence agreement with the Council, the Crommelin Native Arboretum Inc “is permitted to conduct activities on the Property as per the following and in accordance with the Council’s applicable Plan of Management over the relevant portion of the Property at the time of use”. At the time of writing there is no formally adopted “Plan of Management for the Arboretum”, however the activities stated in the licence at Section 3 of Annexure B of the licence outlines permissible uses:

Recreation facilities that would be considered to be suitable include:

- i. Recreation facilities which promote or are ancillary to the use and enjoyment of a park as a public park, and for public recreation;*
- ii. Facilities used for passive recreation activities such as playground equipment and picnic facilities;*
- iii. Ancillary facilities such as parking, pathways, fencing, bubblers, practice areas, seating, and shelter; and*
- iv. Amenities facilities for community parks with a district-wide use.*

Permissible Activities

- i. Walking, informal use of recreation facilities, picnics, kite flying etc. If the park is to be reserved for a particular purpose such as a large picnic, a booking is recommended;*
- ii. Fetes;*
- iii. Cultural activities;*
- iv. Celebrations/gatherings/weddings;*
- v. Exhibitions/demonstrations;*
- vi. Commercial photos/filming; and*
- vii. Concerts.*

3.1.2 Prohibited Uses

Section 3 of Annexure B of the Council Licence outlines prohibited uses:

The Licensee must not undertake any activities which could be considered dangerous and/or which may disrupt other users of the reserve and/or adjoining neighbours. Examples of such activities include trail bike riding, horse riding, camping and organized sport, especially hard ball games such as but not limited to cricket and golf.

The sale of alcohol is prohibited.

In addition, Section 6.4 of the licence states that the Licensee must not:

(a) allow the Property to be used for any illegal, noxious, noisy, dangerous or offensive purpose;

(b) do or permit anything to be done that may be a nuisance or annoyance to other users of the Property, owners or occupiers of neighbouring properties or to the Council;

(c) permit any person to reside on the Property unless residential use is a Permitted Use under Item 4 [of the Licence];

(d) keep or allow any animals on the Property other than assistance and guide dogs; and

(e) use or store any hazardous, flammable, corrosive, dangerous or explosive goods or substances, including any hazardous chemicals (as defined in the WHS Laws) on the Property.

3.2 Accessing the Arboretum

Information about accessing the Arboretum is available on its website; through printed brochures; and through many visitor information channels such as those managed by the Council; and more commercial sites such as Trip Advisor.

Many visitors to the Arboretum walk from elsewhere in Pearl Beach and are possibly beginning or extending their bushwalk across to or from Patonga via the fire trail and Warrah Lookout.

Appropriate access into the Arboretum for people with a disability needs to be addressed and will be considered by the committee in its future infrastructure

planning.

More information on parking, entrances and pathways can be found at Sections 5.1, 5.3 and 6.1.

Policies: Access

14. The Arboretum needs to improve equitable access to at least the cottage and the open area within the next two years. A review of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

See also Section 5.3 Paths and Section 6.1 Precinct 1: Parking and Entrances.

3.3 Recreation and Education

The “quiet enjoyment of, and education about, Australian flora and endemic fauna” within the Arboretum is achieved through the maintenance of walking tracks, bridges, and boardwalks; provision of seating and open areas; and through the use of both on site and web-based information about the science and cultural history of the Arboretum.

Events are also held – by the committee and by others - which allow the event attendees to appreciate and learn about the Arboretum.

See Section 2.3.9 Education and Community Outreach.

3.4 Event Bookings

The Arboretum website contains information on the types of events encouraged, the management conditions for events and the booking processes for events.

<https://www.pearlbeacharboretum.org.au/events/>

The person or organisation holding the event must fill in an **event application form** and demonstrate the event will be well managed. Where appropriate they are also required to prove that the event is covered by their own appropriate insurance cover and commit to other issues such as risk management. For large events a particular event agreement document may be required.

3.4.1 Small Community Events

The Arboretum is increasingly used for small community events such as meetings of

small not for profit cultural groups (e.g. poetry readings) and for community led yoga and meditation classes. A modest charge is made for use of the cottage in the Arboretum (including use of tables, chairs, kitchenette, and the toilet facility). Participant membership of the Arboretum is encouraged.

3.4.2 Small Commercial Events/Uses

Where the user of the Arboretum is making a living out of the small event being held in the Arboretum (e.g. a walking tour or an exercise class) then a higher charge is made based on a set fee for up to 6 people, and then a charge per person after that. The event then has use of the cottage in the Arboretum (tables, chairs, kitchenette, and the toilet facility). In addition to the conditions stated on the application form the committee may impose additional conditions of use for commercial events as appropriate.

3.4.3 Private Events (inc. Weddings)

The Arboretum is regularly used for wedding and other private ceremonies. A reasonable charge is made to use the Arboretum for private ceremonies commensurate with what other similar public open spaces charge. A bond is also charged towards rectification of any damage caused by such ceremonies which often have large numbers of attendees.

The person holding the event is encouraged to meet with a member of the committee to discuss the event, fill in an application form, and demonstrate that the event will be well managed.

Access to the cottage including kitchenette (e.g. for serving cold drinks) and to the bathroom is provided for the event.

Due to lack of a fully functioning kitchen and issues surrounding unacceptable impacts of regularly imported infrastructure, the Arboretum is generally not used for wedding or other catered receptions. Ceremonies in the Arboretum are often paired with use of the Pearl Beach Progress Hall or local eateries for the reception.

Parking and wayfinding for ceremonies with more than about 20 attendees can be problematic, however the committee works closely with the event organiser to minimize impacts on the Arboretum and the local community.

3.4.4 Community Fund Raising Musical Events

The Arboretum has been used annually for "Opera in the Arboretum" since 2005 (run by the Rotary Club of Woy Woy), and for "Jazz in the Arboretum" (run by the committee in conjunction with the Pearl Beach Progress Association). The events are usually greatly enjoyed by attendees who bring their own folding chairs and refreshments which are set up in the open area (up to 800 spectators).

Performances of around 2 hours (with a short interval) take place on the small rise in front of the cottage (usually with several rain resistant marquees augmenting the cottage amenities).

These events require extensive planning, and a detailed event management agreement is signed to minimize potential adverse impacts on the Arboretum and on the Pearl Beach community. The Arboretum nominates a liaison person from the committee.

Some large events may be managed solely by the Arboretum, others are run jointly with other organisations or groups. A joint management committee is usually formed for large community events (including at least one member of the committee) which will recommend an appropriate share of tasks, profits, and risks between the parties.

A large number of community volunteers is required to run such events. Planning usually commences at least 12 months before the event.

In the case of events not run in conjunction with the Arboretum, the organiser must cover insurance requirements; complete a risk analysis; pay a deposit; and make a payment to the Arboretum. A bond can be charged.

For these large events, commercial ticketing companies are used and the open area near the tennis courts is hired from Council for use as an event carpark. Sound equipment and portaloos are also hired; and a coffee cart franchise may be allowed on site.

3.4.5 Commercial Photography and Filming

No use of the Arboretum for this purpose is on record. However, it would be appropriate for the committee to consider what charges and management requirements similar public open spaces require for such uses. Where the filming is associated with charity fund raising the committee may decide to waive any fee.

Policies: Event Bookings

15. The committee has adopted the following event policies:
- Other than committee managed events; all events must be booked using a signed 'Event Booking Form' available via the website; or through a signed 'Event Agreement'.
 - The committee will regularly review the standard and special conditions for event bookings.

4 THE ENVIRONMENT

4.1 Environment prior to The Arboretum

The Pearl Beach Area was originally home to the Garigal (or Caregal) clan.

The village is situated on a small coastal sandy plain facing east to Broken Bay between two sandstone headlands and protected from the west by a long sandstone ridge. These sandstone areas were used as temporary homes and sacred sites by the Guringai people, and they hunted and gathered throughout the landscape and in the waterways.

The plain is drained by creeks and wetlands. The original ecology of the plain behind the sand dunes is now known as the “Umina sandplain woodland” – of which only small pockets now survive – including that in the Arboretum which is slightly different from the sandplain woodland pockets found in Umina.

Other than the areas of rare “coastal sandplain woodland” (See Section 6.3); the Arboretum has a number of other ecosystems and more contrived open areas for passive recreation. These precinct areas are discussed in Section 6; while this section talks about environmental management more generally across all the Arboretum.

It is understood that timber was harvested from the Pearl Beach area in the nineteenth century.

The original Crown Land Grant for the Arboretum, dated 1932, showed that the vegetation of Portions 215 and 216 to be “level to undulating country-black sandy soil; heavily timbered with gum, bloodwood, honeysuckle, peppermint, mahogany, ironbark and thick scrub”.

The leaseholder of Portion 216 cleared part of the land for semi-rural purposes including an orchard. The open area and the Pleasance are remnants of this clearing. At the time of formation of the Arboretum, it is understood that many weeds and exotic species were present and the land had partly been used for dumping rubbish such as old cars.

As previously mentioned, some of the Arboretum retains a large “Sandplain Woodland” which was previously impacted by some clearing and weeds, but which is now regenerating.

The area now known as the wildlife corridor was added to the Arboretum in 2003 and prior to that time the land was partly cleared for semi-rural purposes. It has since been replanted with local indigenous woodland species and flowering shrubs from across the Australian east coast region.

4.2 Soils

Robert Payne noted in 2007:

The landform is part of a level coastal sandplain although some of the soils may have been derived from erosion and deposition of soils from the adjacent slopes of the Brisbane Water escarpment. There are no dunes and swales evident through the Arboretum as there is in the village area nearer to the sea. Over time the southern sandplain area of Pearl Beach has been dissected by three creeks, two of which drain through the Arboretum.

Mapping of the soils in the Pearl Beach village area by Murphy (1993) shows the Arboretum likely to be the "Warriewood", a Swamp Soil Landscape Unit. These soils are deep, well sorted, sandy, humus podzolics and dark mottled siliceous sands overlying acid peats in depressions, with paler siliceous sands on sandy rises.

An analysis on soils of the wildlife corridor area was completed in 2007 by John and Emma Laxton. The reason for this study was that the area had been planted with native grasses by volunteers, and these only survived in some areas. All six soil samples from the wildlife corridor were described as "black sand and fibrous roots". The study concluded that there were higher residual nitrates from past agricultural practices in the areas where the native grasses did not survive. The study recommended removal of weeds to "enable native grass species to compete for space". Recent (2020) native plantings in the wildlife corridor do not appear to have been affected by this issue.

While the soils of the Arboretum are suitable for vegetation originally found in the environment prior to settlement; the Arboretum also contains trees and shrubs from other parts of the Central Coast, NSW, and Australia. For these species additional soil management and maintenance may be required. See the policies at the end of Section 4.5 on Vegetation Management.

4.3 Endangered and Vulnerable Species or Ecological Systems

In NSW threatened species and ecosystems are managed by the [NSW Biodiversity Conservation Act 2016](#). Species and ecosystems are registered in lists as being: critically endangered; endangered; or vulnerable species.

There are some threatened species and ecosystems in the Arboretum including:

- the “Umina Sandplain Woodland” (rare burrawang forest)
- the wetland
- *Acacia prominens* (Gosford wattle)
- *Melaleuca biconvexa* (Biconvex Paperbark) (vulnerable)
- *Prostanthera askania* (Cut-leaf mint-bush)

A full list of threatened flora and fauna currently found in the Arboretum is available on the [Arboretum website](#).

In addition to plants endemic to the area, the Arboretum has some mature examples of collected and cultivated native tree and other plant species that are considered to be threatened under state legislation.

In 2020 the Arboretum received Federal Government funding to upgrade its propagation area to facilitate more propagation of Australian native species.

The Arboretum is considering applying for funding to improve its knowledge and management of the endangered and vulnerable ecosystems and species within its borders.

See also Section 6.3 The Coastal Sandplain Woodland (including the Wetland) and Section 6.4: The Riparian Zone.

Policy: Endangered and Vulnerable Species and Ecosystems

16. The Arboretum will continue to maintain a list of endangered and vulnerable species and ecological systems at the Arboretum, and will continue to improve its understanding and management of such species and ecosystems.

4.4 Creeks and Wetlands

The Arboretum has two winding creeks and a wetland area that act as bio-filters and as flood mitigation before draining through the Pearl Beach village as part of

Green Point Creek. This habitat of the arboretum is fragile due to the loose unconsolidated sands and the occurrence of flash floods which can erode the banks.

Early in the life of the Arboretum attempts were made to pond creeks and to stabilize the creek banks in the Arboretum. In 2019 it was decided that it is better practice to enable these creeks to find their natural course during any weather event, and if required to adjust the Arboretum paths adjacent to the banks instead. The timber structure used to try to create a series of ponds in the southern most creek was largely removed in 2019. In 2022 the wire and other structures placed on sections of the creek banks were removed. Before commencing these works, advice was obtained from the Council's environmental infrastructure officer and the Wyong Local Land Services office.

The creek closest to the southern boundary was dammed in the 1970s to form a shallow pond near the main entrance, south of the boardwalk - also known as the 'Robert Payne Bridge'. While the pond is often dry the damming of the creek created a deep hole immediately beyond that boardwalk when the pond overflowed with stormwater. This situation was a safety hazard and was remediated in 2020 by filling the deep hole with masonry which slowed down the overflowing torrent.

The Arboretum has established a creek sub-committee to look at the management of the creeks and to liaise with Council and other stakeholders when required.

See also the [Water Management Act 2000 No 92](#) .

The wetland is an endangered ecosystem and is subject to the [NSW Biodiversity Conservation Act 2016](#).

Policies: Creek and Wetland Management

17. The committee has adopted the following policies with regards to creek and wetland management:
 - The creeks and other natural waterways in the Arboretum will be allowed to take their natural course in accordance with current best environmental practice and with any required approvals.
 - If necessary paths or other infrastructure impacted on by changing natural watercourses will be removed or relocated.
 - Any erosion control will be limited to planting of the edges of the creeks with suitable endemic species to enable plant roots to minimise erosion. Previous inappropriate erosion control will be remediated where

necessary.

See also Section 6.3 The Coastal Sandplain Woodland (including the Wetland) and Section 6.4: The Riparian Zone.

4.5 Current Flora

The Arboretum is now a mixture of revegetating forest and a man-made arboretum landscape with specimen trees that are not always indigenous to the Pearl Beach area. The Arboretum retains a large area of coastal sandplain woodland (which would have once covered most of Pearl Beach) with areas of palm riparian forest and sedgeland.

Details of the flora in each precinct is discussed in Section 6; and a more complete flora list is available on the Arboretum website.

The main indigenous flora types managed by the Arboretum are as follows:

- open areas of grassland with native grassland being reinstated (See also Section 6.2: The Open Area; Section 6.5: The Pleasance; and Section 6.7: The Wildlife Corridor)
- Coastal Sandplain / Burrawang Woodland (See Section 6.3: Precinct 3: Coastal Sandplain Woodland)
- wetland area (See Section 6.3: Coastal Sandplain Woodland, including Wetland)
- riparian zone (See Section 6.4: Riparian Zone)
- threatened species
- local endemic species
- non-endemic species (endemic to other parts of NSW or Australia).

4.5.1 Non-endemic Trees and Shrubs

A number of rainforest and other trees and shrubs from other parts of Australia have been planted in all areas except for Precinct 3: The Sandplain Woodland (See Section 6.3).

A list of significant trees currently found in the Arboretum is available on the Arboretum website; with those that are not endemic to the area highlighted.

4.5.2 Native Grasses

Since 2018 native grasses have been planted and encouraged in the open area, the pleasance and the wildlife corridor.

Policies: Vegetation Management Generally

18. The Arboretum has adopted the following with regard to vegetation management generally:

- The committee will continue to work with other stakeholders (especially stakeholders with expertise in the appropriate fields) to achieve native flora monitoring and management in the Arboretum and adjacent habitat areas.
- Weeds will be removed from the Arboretum using the most up to date bush regeneration techniques and avoiding the use of sprays unless absolutely necessary. Weed eradication in the Arboretum is to be the subject of a working bee blitz at least every six months. Weeds are to be disposed of off-site in general household waste.
- The management of smaller plantings, including shrubs, can be carried out under the direction of experienced volunteers and may include pruning or removal; where there is no risk of injury to the volunteers.
- Fallen trees and shrubs, or parts of trees and shrubs, often provide fauna habitat. Only large fallen elements blocking paths or drainage lines will be removed from the path or drainage line. If the tree sections can be chipped the mulch is to be retained for use around trees and other plantings.
- Fallen branches and palm fronds in (and on the borders of) creeks and wetlands are a natural part of these ecosystems and provide fauna habitat and erosion control. Branches and palm fronds will be left where they fall unless they obstruct a path. They should be placed randomly in nearby scrubland. If necessary they may be cut up and placed in the green bins.
- Leaf Litter: Excess leaves in the open areas will be raked into piles and used either as tree mulch beneath growing trees (ensure mulch is not placed up against trunks) or on the path system to create a comfortable walking surface and help prevent erosion on the paths. Leaf litter should not be raked out of the bush as pathogens may be spread.
- Any bush regeneration activities will be carried out in accordance with the [National Standards for the practice of ecological restoration in Australia](#) (Society for Ecological Restoration). Note this is a condition of the Licence agreement with CCC.

Policies: Tree Management

19. The committee has adopted the following with regard to tree management:

- An arborist is engaged regularly to assess the health of major trees, their habitat value; and the need for pruning or removal of major trees,

particularly:

- in areas where people walk or gather
- after extreme weather events
- after bushfire and/or
- where a tree or its branches are impacting on the health of an adjacent, more significant tree or other planting.

See also Section 2.3.6: Safety and Risk Management (page 9)

- The committee will consider the need to also engage an arborist before major events such as the Jazz or Opera in the Arboretum to minimise risk.
- Trees that prefer moist conditions (e.g. rain forest trees in the riparian zone) shall have watering, fertilising and mulching as required.
- Cabbage tree palms will be thinned out by removing seedlings on a regular basis; and an annual task of removing those less than a metre high. If there is sufficient demand the removed cabbage tree palms can be potted up for sale or free distribution.

Policies: Native Grass Management

20. Native grasses will be encouraged in the open area, the pleasure and the wildlife corridor.
- Some grass species may not be successful and may need to be replaced with more successful species from time to time. Kangaroo Grass, *Themeda australis*, appears to be most successful.
 - Wallaby grass *Austrodanthonia* has been sown in the open area and should be resown in spring and autumn to increase coverage but requires initial watering to ensure success.
 - Bracken *Pteridium esculentum* may need to be curtailed from grassland areas to avoid competition with native grasses.
 - Temporary fencing may be required from time to time to deter walking on native grassland while it is established or regenerates. However, wallabies are not to be curtailed from feeding on the natural grasses or the bracken.

4.6 Propagation and Planting

The Arboretum has a propagation area built in 1993 and renovated in 2021 – including the addition of a fenced “hardening-off” area. The focus of propagation will be on endangered and endemic species, particularly those for conservation of the Arboretum’s ecosystems or to provide fauna habitat and food.

Policies: Propagation and Planting

21. The committee has adopted the following with regard to propagation and planting:

- An annual propagation and planting plan will be developed for implementation.
- Excess plants may be sold (if allowed by law) or given to local residents. Some specialised plants can be “swapped” with other native plant propagators. Note that endangered species may not be sold unless the Arboretum obtains a licence. [Biodiversity Conservation Act 2016](#).
- The propagation area shall be the focus of a maintenance working bee at least every six months.
- Some propagation may be outsourced to propagation areas managed by others provided they can ensure best practice propagation to reduce the risk of introduced pests and diseases to the Arboretum.

4.7 Fauna

The Brisbane Water National Park adjacent to the Arboretum is home to an incredible 270 native animal species and it is assumed that many of these species would also forage in the Arboretum: with some also making their home in the Arboretum. A list of fauna, developed by Robert Payne, is kept on the Arboretum website.

4.7.1 Birds

An extensive list of birds in Pearl Beach was prepared by several people including John Waugh, Stan Zucker and Chris Zucker. It was managed for many years by Paul Wickham and developed into a brochure. The list included birds not found in the Arboretum such as shore birds.

In 2021 an updated bird list was developed by the committee focusing only on the Birds of the Arboretum. Links on the Arboretum website provide further information on the birdlife of the area.

4.7.2 Koalas

The last sighting of a koala in the Pearl Beach Arboretum was in October 2002³. In 2019 the School of Biology at the University of Sydney made an unsuccessful grant application to the NSW Koala Research Strategy. In the grant application the University stated:

Koalas used to occur in the Pearl Beach region of the NSW Central Coast. However, in 1990 a devastating bushfire killed many koalas and destroyed many trees. Koala sightings have been rare since, with the last sighting in 2003. Since the fire, the Crommelin Arboretum Committee has worked hard to enhance Koala habitat within the Pearl Beach Arboretum. In June 2003, one hectare block of a burnt-out pine forest was added to the Arboretum for the purpose of creating a wildlife corridor from the Arboretum through to Brisbane Water National Park. Grey gums, a species known to be preferred food trees for koalas, were planted by Arboretum volunteers, among other species. This action indicates the foresight of the local community in preparing for koala re-introduction, and their strong commitment to re-establishing a koala population within the Arboretum and adjacent Brisbane Water National Park⁴.

In 2019 the Arboretum received a grant to evaluate the feasibility of re-introducing koalas to Pearl Beach area. A Community Engagement Plan and Dog Management Plan were developed. The scientific members of the team were to give regular talks to the community. The project changed considerably due to the COVID19 pandemic and the lack of a completed Koala Relocation Policy from the NSW State Government. In addition to koala conservation, the Arboretum has begun to focus on native bee conservation (see Section 4.7.5).

The Council subsequently used koala song meters to conduct a koala survey in the Arboretum and the nearby Brisbane Water National Park. The song meter results showed Koalas in the far west region of the coast but not in the immediate Pearl

³ The NSW Government database for koala sightings SEED (Sharing and Enabling Data) website shows details of the sightings of koalas in the Brisbane Waters National Park and Pearl Beach area.

⁴ Office of Environment and Heritage Research under the NSW Koala Strategy Submission form 2018-2019 prepared by Associate Professor Matthew Crowther of the University of Sydney. The grant application was unsuccessful.

Beach area⁵.

The NSW government has allocated \$193 million over five years to the University of Sydney for a study of Koalas and possible relocation. The Brisbane Waters National Park and the Pearl Beach area were identified as areas where some of the funding may be utilised. Any involvement by the Arboretum will be negotiated as the project develops.

4.7.3 Other Threatened Species

Other threatened fauna species found in the Arboretum include species such as the Eastern Pigmy Possum, the Powerful Owl, the Barking Owl, the Glossy Black Cockatoo and during very dry weather, the Red-crowned Toadlet.

4.7.4 Nesting Boxes

Twenty nest boxes have been installed in the Arboretum (mainly at the western edge of the natural forest area). Prior to 2000 seven were erected mainly aimed at Eastern Pigmy Possums and bats. In late 2020 the Arboretum received a donation of 13 nest boxes for a variety of native birds and mammals. This was a joint effort between the local State member, WIRES, and the Central Coast Men's Shed movement.

4.7.5 Native Bees and Other Pollinators

In 2021 the Arboretum obtained grant funding to install native beehives and bee hotels; to carry out educational activities about native bees; and to plant natives to attract pollinators.

The Arboretum is also keen to encourage conservation of native butterflies and moths.

Policies: Fauna Management

22. The committee has adopted the following with regard to fauna management:

- The committee will continue to work with other stakeholders (especially stakeholders with expertise in the appropriate fields) to achieve fauna

⁵ The Arboretum has purchased a fauna song meter with grant money for further monitoring of koalas should they return to the Pearl Beach area.

monitoring and management in the Arboretum and adjacent habitat areas.

- The committee will ensure that the nest boxes, beehives, and bee hotels in the Arboretum are appropriately managed and fauna use recorded on at least an annual basis. Expert advice will be obtained when required.
- The committee will continue to educate the local community about the importance of keeping domestic and feral animals out of the Arboretum and surrounding fauna habitat areas.

4.8 Waste Management

Waste management is seen as an essential component of environmental management. The Arboretum aims to minimize waste. All kitchen waste or other waste which is not biodegradable is taken off site by volunteers to dispose of responsibly.

4.8.1 Green Waste

Green waste is left on the forest floor where appropriate. A major green waste issue in the past has been fallen palm fronds. The current policy is that these should be left where they fall unless they are dangerous, prohibit access on paths, or are seen to be creating too heavy a cover (See Section 5.2 Paths).

If there is a buildup of such matter (see Section 4.9 Bushfire Management) and it is decided, it should be removed then it can be disposed of in the two green bins supplied by the Council and collected fortnightly; or use made of the two green waste Council pick-ups allowed for in the licence agreement (maximum of five cubic metres per pick up). The fuel load must be managed by keeping each pile to about 1 cubic metre, with each pile separated by at least a metre. Green waste pickups occur at the end of April and November, if needed.

4.8.2 Wood Chipping

The licence with the Council stipulates two wood chipping/mulching services per year. Advice from Council in 2021 is that material for chipping must be a minimum diameter of 2 cms and no less than 1 metre length and should ideally be green not dry or dead branches.

4.8.3 Composting

A composting bin will be retained near the propagation area which can be used to compost some excess vegetative waste. There is also the opportunity to have

small compost sites when areas are thinned for maintenance – the waste removed can be placed in a small pile, say no more than 1 cubic metre, and turned from time-to-time until the material has broken down. Weeds need to be taken off site and disposed of with general household waste.

Policies: Green Waste Management

23. The committee has adopted the following with regard to green wastet management:

- The Arboretum is aiming for a zero green waste system.
- If there is excess green waste (e.g. to reduce fuel load) consider if green waste can be placed either in the compost bin or in a natural pile preferably mulched and no more than one cubic metre. Ensure composted material is fully broken down before use.

See also policies at the end of Section 4.5 on vegetation management; and policies in Section 4.9 on bushfire management.

4.9 Bushfire Management

Bushfire has always been a part of Pearl Beach. Based on past events the committee expects a wildfire event approximately every 10 years in the Pearl Beach area.

The December bushfire of 1991 came from the northwest two days before Christmas. This bushfire completely burnt out the Arboretum vegetation and destroyed bridges, but the vegetation soon returned, with grass trees re-sprouting first.

On 22 and 23 September 2011 there was damage to the southwest corner of the wildlife corridor caused by fire over run because of a hazard reduction burn by the National Parks and Wildlife Service. Twenty-four replacement trees were planted in 2012.

Council maintains an asset protection zone (APZ) along the eastern boundary of the Arboretum so that a fire can be effectively fought to prevent it reaching the dwellings on that boundary.

Crystal Avenue serves as a firebreak along the southern boundary and there are smaller firebreaks on the northern and western boundaries.

In the late 1900s the University of Sydney placed fire hose reels along its boundary with the Arboretum, however these are currently not maintained.

Pearl Beach has a Rural Fire Service Brigade.

Policies: Bushfire Management

24. The committee has adopted the following with regard to bushfire management:
- Continue to facilitate the Council management of the Asset Protection Zone (APZ) on the eastern boundary of the Arboretum at least every 12 months – and ideally every six months (e.g. remind Council of its responsibilities; identify special plants for retention and relocate any threatened species prior to Council maintenance of the APZ);
 - Keep the smaller breaks formed by access paths on the northern and western boundaries by reducing vegetation and relocating fallen logs before every bushfire season.
 - Before each bushfire season aim to reduce litter on the floor of the Arboretum to 15 centimetres deep.
 - Continue to work with other stakeholders to minimise bushfire risk for Pearl Beach.
 - In 2022 the fire danger ratings were standardised across Australia. There are four. Moderate – plan and prepare; High – be ready to act; Extreme – take action now to protect life and property; Catastrophic – for your survival leave bushfire risk areas. If the fire danger rating for Pearl Beach is determined to be Catastrophic or Extreme then the Arboretum executive should consider if the Arboretum should be closed. The Executive would make a decision based on the threat to persons and to the Arboretum. If the decision is to close the Arboretum then the closed signs stored in the tool shed will be placed at each entrance.

5 INFRASTRUCTURE

See also discussion and policies at Sections 6.1: Precinct 1: Parking and Entrances.

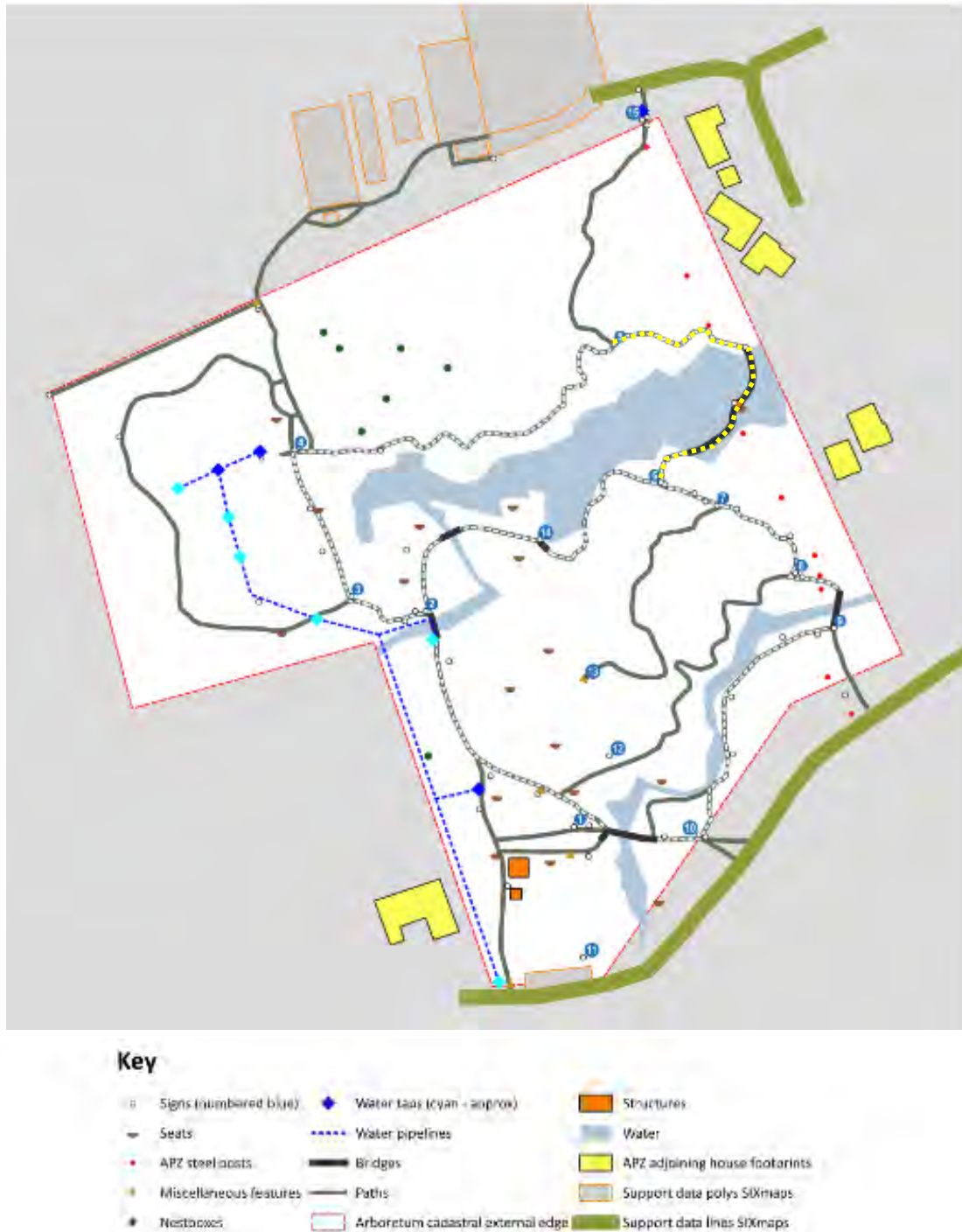


Figure 6: Map of the Arboretum locating main infrastructure.
 Track closed after boardwalk washed away in early 2022.

5.1 Signage

Several types of signs have been erected in and around the Arboretum over the years. Prior to 2009 there was no systematic signage design. Trees were given bronze naming boards and the two large timber entrance signs were installed. In 2009 a graphic designer prepared a suite of signage designs for the Arboretum, including industrial design of the sign supports and graphic design of the signs themselves. These have held up very well over time. The printed aluminum is easily cleaned.

Policies: Signage

25. The committee has adopted the following with regard to signage in the Arboretum:
- Signs will be cleaned on a regular basis and especially prior to major events.
 - The Arboretum will adhere to a consistent signage design for all its permanent signs including consistent use of materials, fixing methods and graphics. All new signs will be in this format.
 - The signage design, condition and content will be reviewed every 10 years to ensure applicability to current situation.
 - The large place naming signs at the carpark, the riparian walk and the pleasure are considered incompatible with the character of the Arboretum and should be replaced when opportunities arise (e.g. redesigned to be more in keeping with the other screen printed aluminium signs).

5.2 Paths

A well-developed signed path system has been established over the years. The paths require regular maintenance and due to growth of surrounding vegetation and in particular the presence of the large number of grass trees in the natural forest area. The location and management of paths has been subject to discussion within the committee. It has been decided by the committee that paths should ideally be 1.2 metres wide to enable people to walk in twos.

Policies: Paths

26. The committee has adopted the following with regard to paths in the Arboretum:

- Changes to path routes should be in accordance with an adopted masterplan.
- Main paths will be maintained to a width of at least 1.2 metres; while secondary paths can be 1 metre wide.
- Tree droppings and other vegetative obstructions will be relocated randomly into the scrub but mulch from within the Arboretum will be spread over paths taking care not to inhibit equitable access (e.g. for mobility devices and pushers). See also Section 4.9 Bushfire Management – including Policy 24, third dot point on a maximum depth of 15 cm for litter on the floor of the Arboretum. Leaf litter should not be raked from bush areas onto the paths as pathogens may be spread.
- Tracks will be maintained at every second monthly working bee and immediately before the major events such as the Opera and the Jazz.
- Pruning of vegetation beside and over paths is required at least every six months and will be undertaken in an aesthetically pleasing manner. When cut, grass tree foliage can have very sharp ends. It is not feasible to leave the foliage to go across the paths unless the tree is above head height. If they are being trimmed they should be cut back close to the trunk.
- Any young special indigenous vegetation (such as grass trees) within the path network will be transplanted. The procedure will be undertaken in spring by cutting the foliage on four sides and leaving the middle of the foliage to carry out photosynthesis. Trees will be dug out with roots intact if possible and replanted in a suitable area.

See also Section 3.2 and Policy 14 on equitable access. A review of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

5.3 Bridges and Boardwalks

The original bridges and boardwalks have been in place since the 1980s and are constructed of telegraph poles, pine, and sometimes metal supports. The decking is pine with chicken wire attached to prevent people slipping. There are three main bridges, two boardwalks and one minor bridge that has been dismantled for safety reasons and only the telegraph pole remains.

In 2016, the Arboretum replaced the decking on the boardwalk nearest the cottage with “envirowalk” grating.

Generally, the bridges are the responsibility of Council, having been built before the Crommelin Native Arboretum was leased to the committee as an incorporated organisation.

In December 2018 the Council undertook an audit of the bridges and boardwalks and provided a report requiring them to be repaired by June 2019. After explaining to the Council that the bridges and Boardwalk were the responsibility of Council, the then mayor wrote to us on 26 April 2019 confirming that position. An extract follows:

"Thank you for your letter dated 2 April 2019 regarding the Crommelin Native Arboretum Inc bridge inspection report.

Staff have advised that as the bridges were installed prior to the initial lease entered into by Council and the Arboretum, it has been determined Council is responsible for the repair and maintenance of the bridges. The current lease with the Arboretum expires on 29 June 2022.

Council have agreed to undertake the current highlighted repairs needed on the bridges as soon as possible. Quotes will also be obtained to determine the cost of replacing the bridges entirely for Council's consideration."

In early 2019 part of the main boardwalk was washed away. The Council was informed, and it was repaired promptly with the washed away section replaced, however, the repair is not in keeping with the rest of the boardwalk nor other bridges in the Arboretum having tubular metal uprights and handrails.

In 2020 the Council replaced the bridge between the open area and the Pleasance with supports of a compound construction, an envirowalk grating and wooden handrails.

In February 2022, the new section of the boardwalk was undermined by the large volume of water through the wetland because of the very heavy rainfall system. Within a week the main part of the boardwalk was destroyed. This was followed by several large trees being undermined and falling into this area. A meeting was held with the Council administrator, two directors and two senior managers to discuss the replacement. As the forward CAPEX budgets do not have the remaining bridge/boardwalk repairs or replacements listed the Council was not prepared to act. The Arboretum is applying for grant funding as grants become available.

Policies: Bridges and Boardwalks

- 27.** The committee has adopted the following with regard to bridges and boardwalks:

- Changes to bridges and boardwalks should be in accordance with an adopted masterplan.
- The bridges and boardwalks will be inspected biennially for maintenance requirements and defects. Ideally this audit will be carried out by Council, however if Council has not completed this task then the committee may complete the audit and report to the Council.
- Volunteers will undertake general “housekeeping” such as:
 - sweeping of the decks of the bridges and boardwalks; and
 - applying wood oil to the wooden parts of bridges and boardwalks (at least every two years).
- Bridges considered dangerous to the public will be closed until repaired.

See also Section 3.2 and Policy 14 on equitable access. The redesign of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

5.4 The Cottage

The original part of Crommelin Cottage was designed by a local architect Brian Mazlin circa 1991. It originally contained a storage area, kitchenette, and storage for filing cupboards, records, and books.

In 2016 it was renovated and extended including adding a toilet and shower for the use of volunteers. This was funded through grants from the Council and the NSW State Government as well as income from Arboretum events and investments. It was built under the guidance of a local builder, Ken Watnall, with volunteers providing much of the labour. Licensed subcontracted trades such as a plumber, tiler and electrician were used.

As the cottage was extended there is now a meeting area adjacent to the refurbished kitchenette. There is a table and chairs able to fit 8 to 10 people suitable for committee meetings and other small events. It has also become an area that can be used for preparation for weddings and for other events. The extension also provided additional tool storage.

Council carries out an annual property audit including a pest inspection and reporting on fire protection equipment.

Policies: Crommelin Cottage

28. The committee has adopted the following with regard to the cottage:

- The Arboretum will develop and maintain a cottage cleaning roster to ensure cleaning monthly and before any scheduled event. Once a year there will be a more thorough cleaning including cleaning cupboards, removing cobwebs, cleaning glass etc (e.g. before the Opera).
- A committee member will be responsible for stocking cleaning and other supplies to be stored in the cottage.
- At each monthly working bee:
 - the storage shed will be tidied and swept
 - the cottage roof and gutters will be cleared of sticks and leaves each month and the downpipes checked
 - rubbish (other than green waste) will be removed from the Arboretum.

5.5 The Propagation Area

In 1991 a “shade house” was built in the Arboretum. This was a simple structure covered in shade cloth with a battery-operated misting system. It was used successfully by volunteers for many years.

In 2019 the Arboretum received a grant from the Federal Government to improve the propagation area. The old shade house was re-clad as a new propagation shed with a heat mat and misting system and a fenced “hardening-off” area was created with some irrigation. Some materials were also donated by Bunnings.

Policies: Propagation Area

29. The committee has adopted the following with regard to the propagation area:
- The convenor of the propagation and planting group will be responsible for ordering propagation and planting materials.
 - The propagation area and shed will be kept tidy with supplies neatly labelled and stored (vulnerable material should be kept in tubs with lids). Pots for recycling will be cleaned immediately after use and neatly stacked.
 - Plants undergoing propagation or stored in the hardening-off area will be neatly labelled; with a more permanent label fixed to the plant should it be planted out in the Arboretum.
 - A list of plants propagated and purchased and planted out or otherwise disposed of will be maintained.
 - The propagation area will be subject to a monthly working bee including:

- removing leaf litter and fallen branches
- cleaning roofs and gutters and checking downpipes
- checking water level in rainwater tank.

5.6 Equipment

Equipment for the management of the Arboretum is purchased as required. A list of equipment is kept by the secretary in the shared drive.

Policies: Equipment

30. The committee has adopted the following with regard to equipment:
- Equipment shall be:
 - cleaned after use and placed in the space designated for it; and
 - subject to servicing (e.g. sharpening of blades; oiling of mechanisms) at least once per year as applicable.
 - A stocktake of equipment will be carried out every year before the AGM.

5.7 Energy, Water and Sustainability

Electricity use by the Arboretum is minimal. There is a fridge that is left on permanently. Other items are lights in the meeting room, toilet, and tool area but these are used very rarely. We also have an overhead projector and a sound system but again these are used rarely. If a large event is run electricity is used for the sound system. In 2020 electricity was connected to the propagation shed for the misting system and lights. Lights are rarely used.

There are two water tanks connected for the purpose of watering new plants and plantings around the cottage and propagation areas. Town water is used to water other areas of new plantings.

The Arboretum has not been required to pay for electricity or water since taking up the licence. The Council passed a resolution on 26 September 2000: " Council has agreed to waive all existing and future water accounts for the Crommelin Native Arboretum..." Min. CS 168.

In the future the Arboretum will give greater consideration to water and energy sustainability issues including the installation of solar panels for electricity generation at the cottage.

Policies: Energy, Water and Sustainability

31. The committee has adopted the following with regard to energy, water and sustainability:
- The Arboretum will use energy and water wisely. Users of the cottage are to ensure that all lights are turned off before locking up.
 - In the future the Arboretum will give consideration to the installation of equipment towards energy conservation – e.g. solar panels for electricity generation at the cottage.

6 PRECINCTS

In addition to the management issues outlined above, each precinct has some special aims, objectives, and management considerations.

6.1 Parking and Entrances

Finding information about the Arboretum and physically locating the Arboretum are discussed in Section 3.2 Accessing the Arboretum. Parking and entrances are a key part of how visitors experience the Arboretum, and their physical design and management policies are here.

There are currently six pedestrian entrances to the Arboretum, only one of which is also used for vehicular access. The two main pedestrian entrances (from Crystal Avenue and Opal Close) have large timber signs naming the Arboretum. Donation boxes were placed at these two entrances in 2022. Inside some of the entrances there is additional information signage and brochure boxes. Brochure boxes are also in the open area near the Robert Payne bridge.

There is an Arboretum carpark on Crystal Avenue and parking is also available at the tennis courts off Opal Close. For large events the grassed area near the tennis courts is sometimes leased for temporary parking from the Council. The application for use of this area needs to be made well in advance.

The parking areas and entrance ways are generally on land outside of the Arboretum allotments; and therefore, not officially managed by the Arboretum.

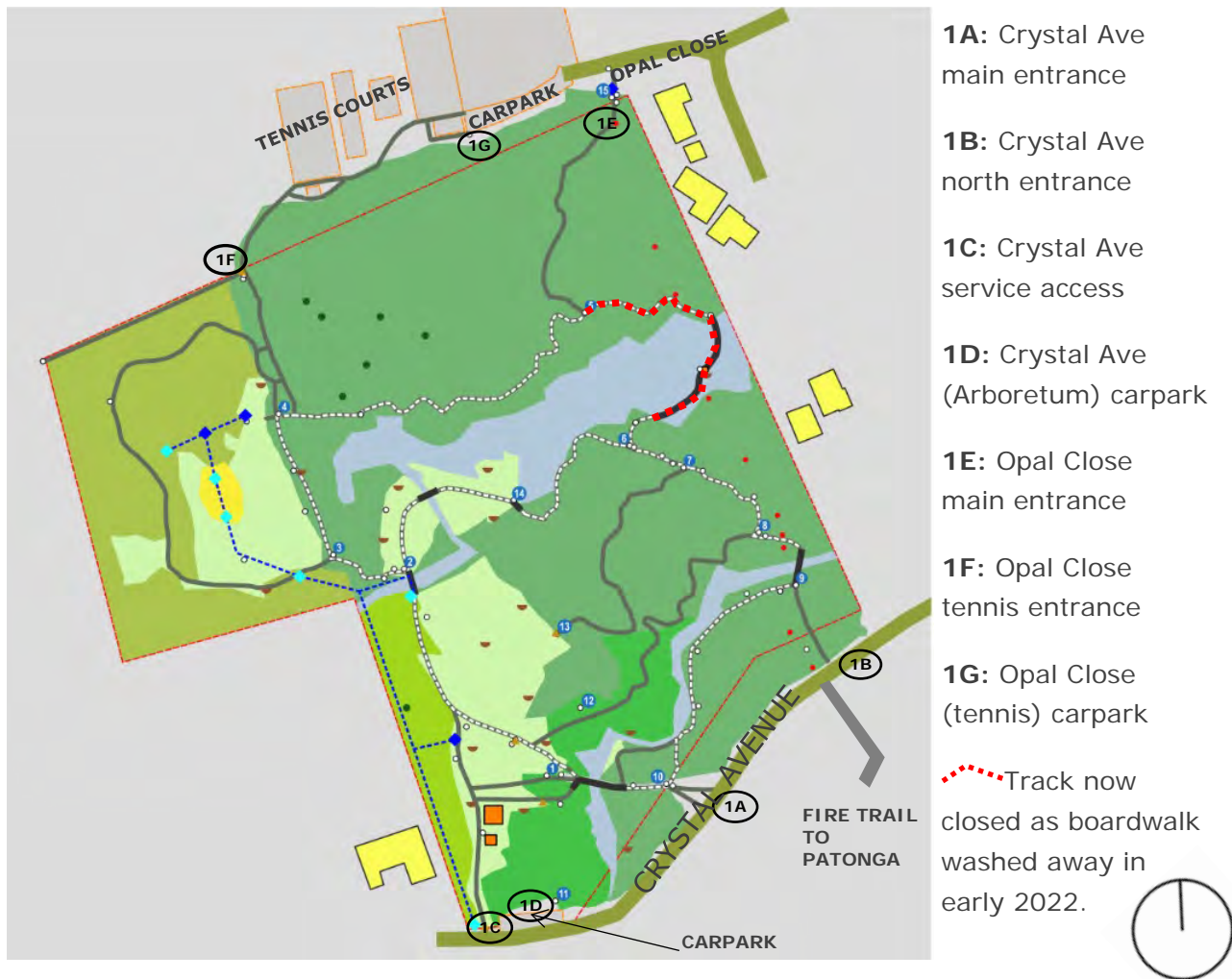



Figure 7: Map of locating key parking and entrance areas.

 Track currently closed due to loss of boardwalk in storms in early 2022.

6.1.1 Equitable Access

Access to the Arboretum is currently difficult for those who have a disability. It is proposed that in 2023 the Arboretum consider what can be done to improve this situation.

See also Section 3.2 and Policy 14 on equitable access. The redesign of some entrances, paths, bridges, and boardwalks as part of the landscape masterplan may facilitate more equitable access.

6.1.2 Maintenance and Emergency Access

Maintenance and emergency vehicle access into the Arboretum is via Crystal Avenue at the western boundary of the Arboretum. Vehicle access from the Opal Close end of the Arboretum is difficult, therefore vehicle access to the wildlife corridor is limited.

6.1.3 Crystal Avenue Entrances and Parking

1A: The main pedestrian entrance from Crystal Avenue is further to the west. This entrance leads to the main pathway across a boardwalk and into the open area and features a timber signboard and regulatory signs. It is somewhat obscured from Crystal Avenue by vegetation. There is also a timber boom gate area near this entrance, which in 2022 is used for green waste collection.

1B: There is an informal entrance to the Arboretum from Crystal Avenue near its eastern boundary (adjacent to No 67 Crystal Avenue) and nearly opposite the entrance to the fire trail walk through Brisbane Water National Park leading to Warrah Trig and to Patonga. This entrance has some regulatory signage but has poor equitable access.

1C: Near the western boundary of the Arboretum is a vehicular service and emergency vehicle entrance closed by a padlocked boom gate (Council and Emergency Services padlock). On a pole near this entrance is the Arboretum switchboard and on the verge is a water meter pit. This entrance is also frequently used by pedestrians as it provides reasonably level access from the adjacent carparking. This entrance is essential for access for emergency vehicles particularly during events or bushfires and must always be kept clear.

1D: To the east of this service entrance is the area with a sign reading "Arboretum carpark". This area has room for approximately 7 cars (nose to the kerb). A disused path leads from the NE corner of the carpark. There is no designated parking for people with a disability.

6.1.4 Opal Close Entrances and Parking

1A: The main Opal Close pedestrian entrance to the Arboretum is opposite No 10 Opal Close and has a signboard and statutory signs on a tall post. Some people miss this entrance path after driving into the carpark and instead enter the Arboretum via the tennis courts.

This entrance receives reasonable sun and is suitable for a display of flowering shrubs. In 2019 it was planted with a number of flowering shrubs including Kangaroo Paw. The area also has a number of important plantings in the vicinity including a large collection of mature grass trees and some large Gynea Lilies.

1B: The path that leads past the tennis courts also leads into the Arboretum. Many people mistake this as a main entrance. The paved path past the tennis courts has been augmented by two dirt paths around the back of the tennis club sheds – so that prams and wheelchairs can avoid the barriers adjacent to the tennis courts.

1C: There is parking for approximately 17 cars at the Pearl Beach Tennis Courts at the end of Opal Close. On weekends and in school holidays this car park can be full. There is no designated parking for people with a disability. During events, the adjacent playing field is often used for overflow parking, however it must be leased for this purpose from the Council.

Policies Precinct 1: Parking and Entrances

- 32.** The Arboretum entrances and carparking areas shall be reviewed including:
- provision of equitable access
 - making the entrances more welcoming (e.g. through a review of plantings) and facilitate visitor orientation
 - signage review (naming, directional, informational, and statutory)
 - positioning of signage and brochure boxes
 - provision of donation boxes.
- 33.** Equitable access for people with a disability should be provided at least at one entrance, including proximity to a designated disability parking space (noting that the parking and entrances are generally on Council land outside of the Arboretum management).

See also Section 3.2 and Policy 14 on equitable access. The redesign of some parking areas, entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

6.2 The Open Area

See map at Figure 8 below.

The open area is immediately adjacent to the Crystal Avenue entrance and is considered the “heart” of the Arboretum where many events are held including

opera, jazz, and weddings. Entering via Crystal Avenue main entrance visitors cross a boardwalk past a man-made pond (boardwalk and pond are in the riparian area Section 6.4). The Arboretum cottage (Crommelin Cottage Section 5.5)) sits on a rise facing north over the open area, with the propagation area behind it (Section 5.6).

A number of non-endemic eucalypt trees have been planted within the open area, including a windbreak of now mature trees along the western boundary (planted in the late 1970s). Much of this area is also grassed and it is the main area used by the public for picnics, in addition to the weddings and music and opera festivals. Within the area an Arborist has undertaken pruning, and in some cases tree removal, to develop these specific trees into well shaped horticultural specimens and/or to minimize risk to visitors.

In 2018 it was decided to only mow the grassed area twice a year, but to instead plant and encourage native grasses, specifically Wallaby Grass. See Section 4.5.2.

A septic system was installed through the open area in 2017 which means that vehicles are excluded from the central grassed area centered on the large *Angophora costata*. Other elements include brochure boxes, interpretive signage, and the foundation plaque. There are also several “bush seats” and one sandstone bench.

6.2.1 The Windbreak

Planted along the western edge of the open area in 1976, the windbreak provides shelter to the open area from westerly winds. These tallowwoods (*Eucalyptus microcorys*), flooded gums (*Eucalyptus grandis*) and brush box (*Lophostemon confertus*), all grow tall and close together in their natural forest habitats elsewhere in Australia. Initially tiny tree seedlings were watered by hand, but they soon showed how quickly native trees can grow in our sandy soils. Once the forest trees had grown, shade-loving smaller trees and shrubs were planted to create a denser understorey⁶.

6.2.2 The Wedding Tree

The large Sydney Red Gum (*Angophora costata*) is a natural tree that has a magnificent shape and appearance. It is many years old but the additional planting

⁶ From the Arboretum storyboard sign installed in 2012.

in the Arboretum has caused shade problems for this tree to the point where in 2007 dieback was identified in some of the lateral branches. The tree is inspected regularly by an arborist. In 2021 some additional plantings of flowering shrubs were introduced under the wedding tree.

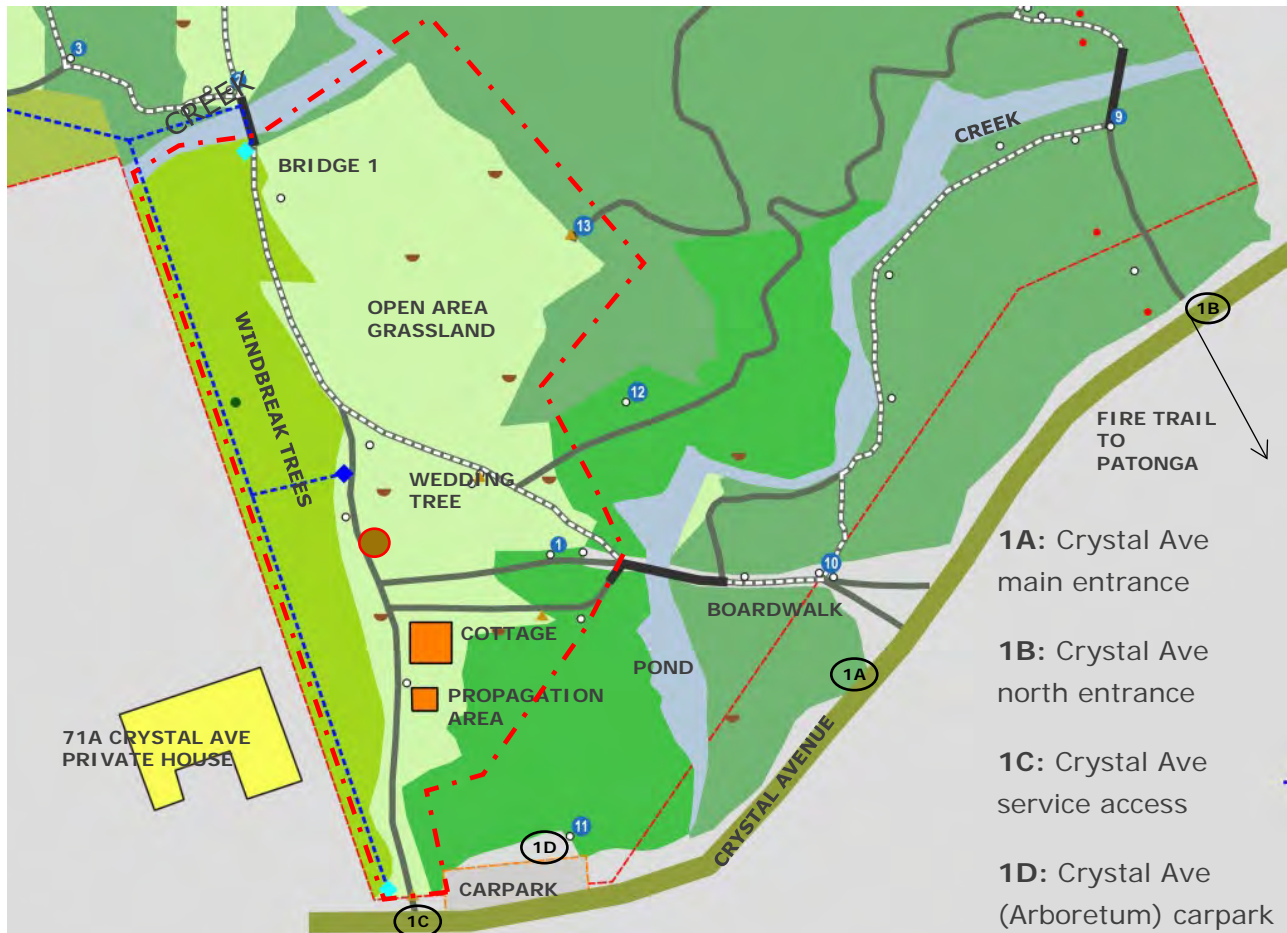


Figure 8: Map of the Open / Entrance Area (outlined in red) locating key elements.

Policies Precinct 2: The Open Area

34. The committee has adopted the following with regard to Precinct 2: The Open Area:

- The open area will continue to be maintained as an area for passive recreation including picnics and for occasional approved small and large events (including weddings, the Opera and Jazz).
- Mowing should occur no more than twice a year and then only lightly. Except pathways 1.2 metres wide.
- Particular care will be taken to manage the health of the large *Angophora costata* (known as the wedding tree).

See also Section 4.5 re maintenance of vegetation including trees and grasslands.

6.3 The Coastal Sandplain Woodland (including the Wetland)

See map at Figure 9.

The Umina Coastal Sandplain Woodland (CSW) is the name given to the ecological community recorded on coastal sands on the Woy Woy peninsula (within the Sydney Basin Bioregion). The areas of CSW within Umina and Woy Woy have been listed as “endangered ecological communities” under the NSW Threatened Species Conservation Act⁷. While a small area of CSW is mentioned in the NSW Threatened Species Conservation Act citation for the endangered CSW in Pearl beach (the Beach Reserve at the end of Pearl Beach Drive); the area of CSW within the Arboretum is not mentioned. Ecologist Robert Payne is a founding member of the committee and has studied the CSW. Robert has determined that the CSW is slightly different to the areas in Umina and Woy Woy⁸, however it is equally worthy of being considered an endangered community. The committee will continue to lobby for improved conservation status of the USW areas in the Arboretum.

The Umina Coastal Sandplain Woodland is described as:

*A low woodland dominated by trees of Eucalyptus botryoides and Angophora floribunda with a diverse understorey of sclerophyllous shrubs species including Banksia integrifolia, Banksia serrata, Monotoca elliptica, Macrozamia communis, Acacia ulicifolia, Platysace lanceolata, Acacia suaveolens and Allocasuarina littoralis. Eucalyptus botryoides is the dominant tree in the zone immediately behind the beach, while Angophora floribunda is dominant in the zone beyond up to 2 km from the beach. The community contains many more species and other references should be consulted to identify these.*⁹

The ecology is described as:

Occurs on sandy soils (iron podzols) of the Woy Woy Soil Landscape which are distinguished from the humus podzols generally associated with foothill talus

⁷ [NSW Scientific Committee – final determination on the Umina Coastal Sandplain Woodland.](#)

⁸ In his paper R. Payne calls the CSW in the Pearl Beach Arboretum “rare burrawang scrubby woodland” – however it is also a form of Umina Coastal Sandplain Woodland.

⁹ [Umina Coastal Sandplain Woodland in the Sydney Basin Bioregion – profile](#)

*slopes further away from the coast on which Angophora costata predominates*¹⁰.

See the research paper “Coastal Sandplain Vegetation at Brisbane Water and Broken Bay – reconstructing the past to plan for the future” by Payne et al for further information. The document can be found on the [Arboretum website](#).

The Freshwater Coastal Wetland

Freshwater wetlands on coastal floodplains of the NSW north coast, Sydney basin and southeast corner bioregions are considered “endangered ecological communities” under the NSW Threatened Species Conservation Act¹¹. The wetland within the Arboretum – with CSW to the north and south – is a fine example of a small coastal wetland of the Sydney basin area.

The Arboretum wetlands are part of the Green Point Creek catchment which drains water from the hillsides around Pearl Beach and runs through the village to the sea. They are an endangered swamp sclerophyll ecological community. It is a low forest with an understorey of lemon-scented tea-tree (*Leptospermum polygalifolium*) and saw sedge (*Gahnia clarkei*)¹².

While the wetland is semi-permanent it is habitat for a variety of flora and fauna – some of which are endangered species.

The deepest part of the wetland is affectionately known as the “Dark Pond”. It is colonised by jointed twig-rush (*Baumia articulata*) in the wet centre and umbrella fern (*Sticherus flabellatus*) around the edges.

Cabbage tree palms (*Livistona australis*), river she-oaks (*Casuarina cunninghamiana*), blueberry ash (*Elaeocarpus reticulatus*) and cheese trees (*Glochidion ferdinandi*) are the predominant wetland species while the understorey is rich with soft bracken fern (*Calochlaena dubia*), umbrella fern (*Sticherus flabellatus*) and sedges (*Cyperaceae*). All these species like the moist, cooler conditions along the creeks compared with the forest trees growing on top of the

¹⁰ Ibid.

¹¹ Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions - [endangered ecological community listing](#).

¹² Arboretum storyboard sign text on the wetlands installed in 2012.

banks which prefer a drier environment¹³.

The Coastal Sandplain Woodland Precinct is the focus for conservation of endemic ecosystems in the Arboretum. The Arboretum's licence with the Council includes the following Special Condition:

j) Maintenance of the Property to include promotion of endemic vegetation and management and removal of any weeds. All bush regeneration activities should be done in accordance with the National Standards for the practice of ecological restoration in Australia (Society for Ecological Restoration).


Policies Precinct 3: Coastal Sandplain Woodland and The Wetland

35. The committee has adopted the following with regard to Precinct 3: the Coastal Sandplain Woodland and the Wetland:
- The committee will continue working with key stakeholders to strengthen the conservation status of the rare Coastal Sandplain Woodland (CSW) found in the Arboretum (including the Arboretum's freshwater coastal wetland).
 - The Arboretum will continue to conserve the CSW and the freshwater coastal wetland in the Arboretum as endangered communities acknowledging that there are paths, bridges and boardwalks through the area which need to be maintained. For example no plants will be planted in these areas unless it is to strengthen the ecological communities.)
 - The committee may need to seek expert advice from time to time on the conservation of these endangered communities.
 - The wetland should be left to naturally change over time. Vegetation (alive or dead) should not be removed, particularly along the edges.

See also Section 4.4 Creeks and Wetlands and 4.5 for vegetation management.

¹³ Arboretum storyboard sign text on the wetlands installed in 2012.



Figure 9: Map of the Arboretum with the rare Coastal Sandplain Woodland Areas outlined in red.  Boardwalk 2 track currently closed due to loss of boardwalk in storms in early 2022.

6.4 Riparian Zone

See map at Figure 10.

Palm riparian forest occurs along the southern drainage line (creek) through the Arboretum - and perhaps would have occurred along other drainage lines in Pearl Beach.

Riparian means 'of or inhabiting a riverbank'. In the Arboretum the riparian zone is the land 20 metres on either side of the creek. There are naturally growing species

such as cabbage tree palm (*Livistona australis*), soft bracken fern (*Calochloena dubia*) and umbrella fern (*Sticherus flabellatus*).

Additionally, species from other rainforest habitats of Australia, which grow well in this moist and partly canopied environment, were planted by Arboretum volunteers. These include silver quandong (*Eleocarpus kirtonii*), small-leaved tamarind (*Diploglottis campbellii*), and white bolly gum (*Neolitsea dealbata*).

Riparian vegetation helps to stabilise banks and prevent erosion.

Occasional emergent trees between 20-25 metres high stand beside the narrow drainage line (creek) with a lower tree, palm or shrub layer between 2.5-12 metres high and with a cover between 70-80 percent. A further shrub, sedge and fern layer sometimes occurs between 1-2 metres high and with a cover between 20-90 percent. Ferns, grasses, and herbs can sometimes be conspicuous up to 0.5 metres high and with a 20 percent cover.

The larger emergent trees are *Eucalyptus piperita subspecies piperita*, *Syncarpia glomulifera* and *Eucalyptus paniculata*. Other trees, palms and shrubs are *Ceratopetalum apetalum*, *Trochocarpa laurina*, *Livistona australis*, *Leptospermum polygalifolium* and *Persoonia pinifolius*.

Sedges, shrubs, monocotyledons, and ferns include *Gahnia clarkei*, *Schoenus brevifolius*, *Leptospermum polygalifolium*, *Lomandra longifolia*, *Calochlaena dubia* and *Blechnum camfieldii*.

Occasional ferns, grasses and herbs are *Hypolepis muelleri*, *Hemarthria uncinata* and *Viola hederacea*.

6.4.1 Palm Area

The palm area has been maintained by past committees as a series of specimen palm trees surrounded by grassland. The grassland is becoming increasingly difficult to maintain under the mature palms due to lack of sunlight.



Figure 10: Map of the Riparian Zone, including Palm Grove Area. outlined in red and locating key elements.

Policies Precinct 4: Riparian Zone (including Palm Area)

36. The committee has adopted the following with regard to Precinct 4 – the Riparian Zone:
- If paths are impacted by creek natural changes they shall be reviewed rather than the watercourse interfered with.
 - Palm fronds should be left where they fall unless they are obstructing a path or becoming a hazard (see Section 4.9 Bushfire Management – organic matter should be no more than 15 cm deep, and piles of organic matter should be no more than 1 cubic metre).

See also Section 4.4 on creek and wetland management and Section 4.5 on tree management.

6.5 The Pleasance

See map at Figure 11.

The word pleasance is an old-fashioned name for a small meadow beside a waterway. The Arboretum has a large and small pleasance on either side of the creek. They are naturally occurring created by the overflow of Green Point Creek. At times of heavy rain, water from the surrounding hills in Brisbane Water National Park floods over the creek banks and rushes through the pleasance, sometimes up to a metre deep. It soon subsides leaving the creeks and wetland areas well-nourished. At times of drought, the creeks and wetlands dry up and all the water-loving ferns and vines die off waiting for the next flooding rains¹⁴.

A number of non-endemic rainforest trees have been planted within the large and small Pleasance areas.

The areas are popular for quiet passive recreation and sometimes for wedding ceremonies.

Policies Precinct 5: Pleasance

37. The committee has adopted the following with regard to Precinct 5 – the Pleasance:
- The pleasance and small pleasance will continue to be maintained as areas for passive recreation including picnics and for occasional approved small events (including weddings).
 - Mowing should occur no more than twice a year and then only lightly. Except pathways 1.2 metres wide.
 - The water course will not be interfered with as flooding of the pleasance is a natural phenomenon important for flora and fauna habitat.

See also Section 4.4 re management of creeks and wetlands and Section 4.5 re maintenance of vegetation including trees and grasslands.

¹⁴ From the Arboretum storyboard sign produced in 2012.



Figure 10: The Pleasance Area outlined in red and locating key elements.

6.6 The Wildlife Corridor

See map at Figure 11.

The wildlife corridor is approximately one hectare of land that was added to the northwest corner of the Arboretum in 2003. The previous owner of the land had sought to rezone the land of both lots 132 and 217 at 71A Crystal Avenue for small holdings in 1991 – however this was contested by the Arboretum; and with Council support Lot 217 was added to the Arboretum as the wildlife corridor, while the low-density residential development on Lot 132 was carefully controlled (now 71A Crystal Avenue).

The previously cleared and farmed land was subject to a bushfire in 1990. From 2003 it was regenerated by the committee and members of the Arboretum. Over 30 species of trees were planted but predominantly Grey, Blue and Forest Red Gums, Swamp Mahogany, Scribbly Gum, Tallow, Bangalay and Sydney Peppermint: together with native understory and grasses. The planting of many Grey Gums (*Eucalyptus punctata*) was seen as important as koala habitat (See Section 4.7.2 on Koalas in the Arboretum).

A masterplan for the wildlife corridor was prepared by Landscape Architecture students from the University of NSW circa 2004. The main part of this plan

implemented was the flowering shrub area and an informal path layout. Other parts of the masterplan were not implemented and some of the path layout is not well defined. Two Wollemi pines were planted in a clearing to the north of the wildlife corridor. In 2022 these are about 5 metres tall.

In 2021 beehives, a bee hotel and a fauna drinking station were added to the wildlife corridor, together with additional plantings strengthening the border garden and the creating a bee garden". In addition, *Allocasuarina torulosa* (forest oak) and other additional fauna habitat trees were also planted; together with small grass trees relocated from the asset protection zone on the eastern boundary of the Arboretum, where they were to be removed by Council to ensure firefighting access.

6.6.1 Flowering Shrub Area

The flowering shrub area was planted between 2003 and 2011 with flowering shrubs indigenous to the Pearl beach area. It is considered particularly important in creating habitat for small birds and other native animals. Additional flowering shrubs were added in 2021. In 2022 some of the larger shrubs fell over due to sitting in water after the excessive rain in February and following months.

Policies Precinct 6: Wildlife Corridor (including Flowering Shrub Area)

38. The committee has adopted the following with regard to Precinct 6 – the Wildlife Corridor:
- The wildlife corridor shall remain as an area suitable for habitat by endemic flora and fauna.
 - The grassed areas of the wildlife corridor should be maintained as native grasslands with introduced weeds such as whisky grass (*Andropogon virginicus*) and Parramatta grass (*Sporobolus africanus*) being removed at working bees. It should only be mown a maximum of twice a year and then only lightly.
 - The pathways through the wildlife corridor can be mown on an "as needs" basis to facilitate equitable access along the paths (approximately 1200 mm wide).

See also Section 4.5 re maintenance of vegetation including trees and grasslands.

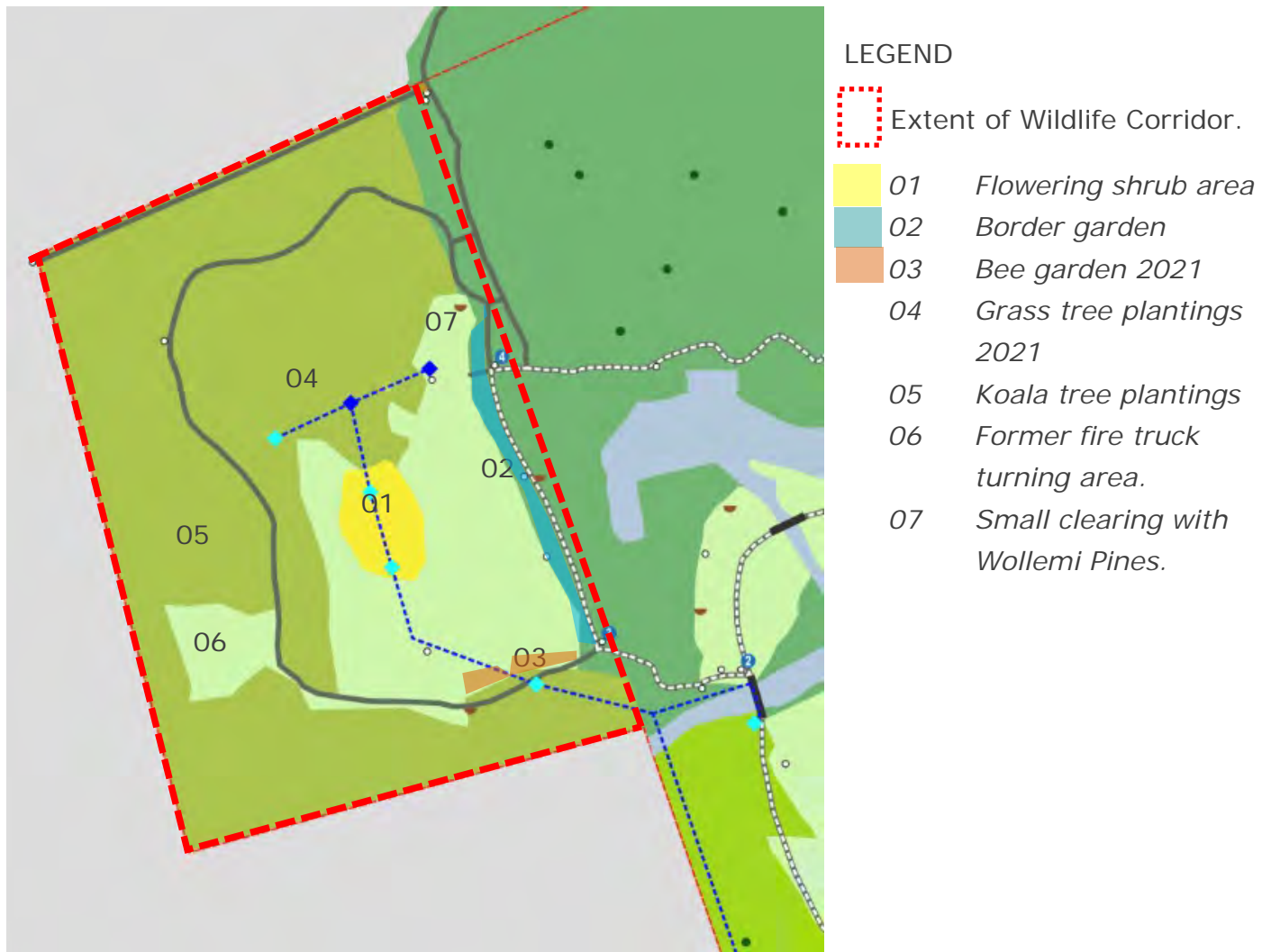


Figure 11: Map of the Wildlife Corridor locating key elements.

7 REFERENCES AND LINKS

7.1.1 References

Crommelin Native Arboretum (2012) *Storyboard Sign Text*. Unpublished.

Laxton, J and E (January 2007) *Analysis of Soils from Plots at Crommelin Native Arboretum*. Unpublished report for the Crommelin Native Arboretum (Note: this study is restricted to the wildlife corridor area).

NSW Department of Environment and Climate Change (2007) *Umina Coastal Sandplain Woodland Endangered Ecological Community Restoration and Rehabilitation Management Plan*.

NSW Threatened Species Scientific Committee (2011). [Umina coastal sandplain woodland in the Sydney Basin Bioregion - endangered ecological community list](#).

Payne, R. (2007) *Draft Maintenance Plan – Crommelin Native Arboretum Pearl Beach*. Unpublished.

Payne, R., Wellington, R. and Somerville, M. (2010). "Coastal Sandplain Vegetation at Brisbane Water and Broken Bay – reconstructing the past to plan for the future". In *Cunninghamia*. 11. 295

Society for Ecological Restoration (2018) [National Standards for the practice of ecological restoration in Australia](#).

State of Victoria Department of Natural Resources and Environment (2002). *The value of dead wood to wildlife and agriculture*.

Webb, J. B. (1994) *Pearl Beach Legacy*

7.1.2 Links

Biography of Minard Crommelin in the Encyclopaedia of Australian Science. <https://www.eoas.info/biogs/P001555b.htm>

Minard Fannie Crommelin History <http://www.crommelin.org/history/Biographies/1881Minard/1881MinardFannie.htm>

Pearl Beach Arboretum Website <https://www.pearlbeacharboretum.org.au/>

Pearl Beach Progress Association Website. <https://pearlbeachprogress.org.au/>

7.1.3 Legislation

[Central Coast Local Environmental Plan 2022](#)

[Central Coast Development Control Plan 2022](#)

[Federal Biodiversity Protection and Conservation Act 1999](#)

[NSW Environmental Planning and Assessment Act 1979.](#)

[NSW National Parks and Wildlife Act 1974](#)

[NSW Threatened Species Conservation Act 1999](#)

[Water Management Act 2000 No 92 .](#)

APPENDIX A: SUMMARY OF POLICIES

Policies: Aim and Review of this Management Plan

1. This Management Plan is to be used for the induction of new members on the committee; and for the information of Arboretum members and volunteers generally. A copy will be available via the Arboretum website and at the cottage.
2. This document should be reviewed:
 - if the constitution of the Arboretum changes
 - if the aims and objectives of the Arboretum change
 - if there are other new important relevant documents made available
 - if the land management structure or zoning changes
 - when a new licence is agreed with the Council
 - at least every five years to take into account changing priorities.

The Committee will decide if the changes to the Management Plan need to go to the full Arboretum membership for comment, before the Committee formally adopting the changes.

Policy: Management in accordance with the Constitution Objects.

3. The committee and membership will continue to manage in The Arboretum in accordance with the “objects” stated in the Constitution.

Policy: Management in accordance with a Vision and Aims

4. The committee will continue to manage the Arboretum in accordance with the Vision and Aims stated above. The Vision and Aims of the Arboretum may be reviewed from time to time in line with the views of the then current committee and/or the membership and as part of any Management Plan review.

Policy: Dispute Resolution

5. All complaints will be acknowledged in writing and addressed promptly, objectively and fairly. If the dispute cannot be resolved by negotiation between the parties, an independent person should be appointed by the committee to mediate the dispute. If this does not resolve the issue then it should be referred to a community justice centre for mediation in accordance

with the Community Justice Centres Act 1983.

Policies: Privacy and Confidentiality

6. Any personal information submitted to the Arboretum is collected in order to provide information and to facilitate the co-ordination of meetings and programs and activities conducted by the Arboretum; and in accordance with the following:
 - The information may only be used for the purpose for which it was collected or with the person's consent, to prevent serious and imminent threat to life, health or safety, or as otherwise required by law.
 - The Arboretum will not disclose, sell or trade personal information to any organisation other than as set out above.
 - Those who have provided information may access the information at any time. If requesting access to personal information, or if there are any concerns regarding its use, the Arboretum should be contacted by e-mail to: secretary@pearlbeacharboretum.org.au.
 - There is the option of not providing certain information requested, but this may prevent the effective provision of information
 - To ensure that personal information is protected from misuse and loss, unauthorized access, interference, unauthorized modification or disclosure the membership register is maintained on an Excel spreadsheet on a personal computer by the treasurer. A copy is kept on the Arboretum Cloud site but can be accessed only by the treasurer, secretary, membership officer and the president.

Policies: IT Management and Record Keeping

7. The committee has adopted the above guidelines and the following IT policies:
 - Keep copies of official Arboretum correspondence and other important items on the Cloud with restricted access.
 - Office bearers and those with specific responsibilities (e.g. events) are to use the Arboretum email for Arboretum business.
 - To enable tracking of emails and searching for information all emails to external bodies/people about Arboretum business/issues/information should be done using role specific emails with a CC to the Secretary. If incoming mail is important it should be forwarded to the Secretary. The Secretary will forward important "to" and "from" emails to correspondence@pearlbeacharboretum.org.au where it is sorted into folders by the month and year received, but can be searched by

keyword.

Policies: Safety and Risk Management

8. The committee has adopted the following safety and risk management tasks:
 - Review the risk management plan annually, considering the latest Council risk management procedures.
 - Develop a risk management plan for all large one-off events.
 - Develop a procedure for recording the risk management induction of new volunteers to the Arboretum.
 - Record accidents or incidents in the incident book held in the first aid box in the cottage.
 - Follow any adopted Department of Health Safe Plan or other health directives.

Policies: Financial Management

9. The committee will maintain a financial policy including:
 - circulating monthly financial summaries to the committee.
 - receipting all income
 - making payments only after an invoice or a receipt (in the case of member reimbursements), is provided to the treasurer
 - expenditure from \$100 to \$500 requires approval of two of the committee office bearers
 - expenditure more than \$500 requires at least two quotes with approval given by the committee majority
 - for some ongoing activities, such as the use of an arborist. a preferred supplier register can be created to be valid for three years this negating the need for quotes
 - auditing of accounts before the before the AGM
 - investments in accordance with the Constitution.

Policies: Training

10. The following training needs for the committee and of other regular volunteers are to be considered each year and may include:
 - first aid to ameliorate the risks of having volunteers working in a

bushland environment

- use of certain equipment: e.g. chainsaws.
- governance: for responsibilities that apply to committee members.
- native plant propagation, planting and care
- ecological training: e.g. volunteer members of the Arboretum may need to be able to maintain and monitor the use of nest boxes.

Policies: Education and Community Outreach

11. The Arboretum will continue “promote and encourage nature conservation at Pearl Beach and elsewhere” by:
 - hosting or partnering in suitable events and providing appropriate facilities for such events such as an enlarged outdoor learning pavilion / verandah
 - providing information on our website and social media
 - producing publications (including online)
 - working with other stakeholders and the media.
12. The committee will continue to encourage educational events – with particular focus on those which are in synergy with the Arboretum Objects, Vision and Aims – for example:
 - school and tertiary institution visits
 - adult education
 - educational events for nature conservation
 - appreciation of the natural environment (including music, literary and art events)
13. The committee will continue to work with other like minded not for profits, local community groups and the media to provide education about the conservation of the natural environment – for example the need to control domestic pets and to identify and control invasive weed species.

Policies: Access

14. The Arboretum needs to improve equitable access to at least the cottage and the open area within the next 2 years. A review of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

Policies: Event Bookings

15. The committee has adopted the following event policies:
- Other than committee managed events; all events must be booked using a signed 'Event Booking Form' available via the website; or through a signed 'Event Agreement'.
 - The committee will regularly review the standard and special conditions for event bookings.

Policy: Endangered and Vulnerable Species and Ecosystems

16. The Arboretum will continue to maintain a list of endangered and vulnerable species and ecological systems at the Arboretum, and will continue to improve its understanding and management of such species and ecosystems.

Policies: Creek and Wetland Management

17. The committee has adopted the following policies with regards to creek and wetland management:
- The creeks and other natural waterways in the Arboretum will be allowed to take their natural course in accordance with current best environmental practice and with any required approvals.
 - If necessary paths or other infrastructure impacted on by changing natural watercourses will be removed or relocated.
 - Any erosion control will be limited to planting of the edges of the creeks with suitable endemic species to enable plant roots to minimise erosion. Previous inappropriate erosion control will be remediated where necessary.

See also Sections 6.3 The Coastal Sandplain Woodland (including the Wetland) and Section 6.4: The Riparian Zone.

Policies: Vegetation Management Generally

18. The Arboretum has adopted the following with regard to vegetation management generally:
- The committee will continue to work with other stakeholders (especially stakeholders with expertise in the appropriate fields) to achieve native flora monitoring and management in the Arboretum and adjacent habitat areas.

- Weeds will be removed from the Arboretum using the most up to date bush regeneration techniques. Avoid the use of sprays unless absolutely necessary. Weed eradication in the Arboretum is to be the subject of a working bee blitz at least every 6 months. Weeds are to be disposed of off-site in general household waste.
- The management of smaller plantings, including shrubs, can be carried out under the direction of experienced volunteers and may include pruning or removal; where there is no risk of injury to the volunteers.
- Fallen trees and shrubs, or parts of trees and shrubs, often provide fauna habitat. Only large fallen elements blocking paths or drainage lines will be removed from the path or drainage line. If the tree sections can be chipped the mulch is to be retained for use around trees and other plantings.
- Fallen branches and palm fronds in (and on the borders of) creeks and wetlands are a natural part of these ecosystems and provide fauna habitat and erosion control. Branches and palm fronds will be left where they fall unless they obstruct a path. They should be placed randomly in nearby scrubland. If necessary they may be cut up and placed in the green bins.
- Leaf Litter: Excess leaves in the open area will be raked into piles and used either as tree mulch beneath growing trees (ensure mulch is not placed up against trunks) or on the path system to create a comfortable walking surface and help prevent erosion on the paths. Leaf litter should not be raked out of the bush as pathogens may be spread.
- Any bush regeneration activities will be carried out in accordance with the [National Standards for the practice of ecological restoration in Australia](#) (Society for Ecological Restoration). Note this is a condition of the Licence agreement with CCC.

Policies: Tree Management

19. The committee has adopted the following with regard to tree management:

- An arborist is engaged (at least yearly) to assess the health of major trees, their habitat value; and the need for pruning or removal of major trees, particularly:
 - in areas where people walk or gather
 - after extreme weather events
 - after bushfire and/or
 - where a tree or its branches are impacting on the health of an adjacent, more significant tree or other planting.

See also Section 2.3: Safety and Risk Management (page 9)

- The Committee will consider the need to also engage an arborist before major events such as the Jazz or Opera in the Arboretum to minimise risk.
- Trees that prefer moist conditions (e.g. rain forest trees in Riparian zone) shall have watering, fertilising and mulching as required.
- Cabbage tree palms will be thinned out by removing seedlings on a regular basis; and an annual task of removing those less than a metre high. If there is sufficient demand the removed cabbage tree palms can be potted up for sale or free distribution.

Policies: Native Grass Management

20. Native grasses will be encouraged in the Open Area, the Pleasance and the Wildlife Corridor.
- Some grass species may not be successful and may need to be replaced with more successful species from time to time. Kangaroo grass, *Themeda australis*, appears to be most successful.
 - Wallaby grass *Austrodanthonia* has been sown in the open area and should be resown in spring and autumn to increase coverage but requires initial watering to ensure success.
 - Bracken, *Pteridium esculentum*, may need to be curtailed from grassland areas to avoid competition with native grasses.
 - Temporary fencing may be required from time to time to deter walking on native grassland while it is established or regenerates. However, wallabies are not to be curtailed from feeding on the natural grasses.

Policies: Propagation and Planting

21. The committee has adopted the following with regard to propagation and planting:
- An annual propagation and planting plan will be developed for implementation.
 - Excess plants may be sold (if allowed by law) or given to local residents. Some specialised plants can be "swapped" with other native plant propagators. Note that endangered species may not be sold unless the Arboretum obtains a licence. Biodiversity Conservation Act 2016.
 - The propagation area shall be the focus of a maintenance working bee at least every six months.
 - Some propagation may be outsourced to propagation areas managed by others provided they can ensure best practice propagation to reduce the risk of introduced pests and diseases to the Arboretum.

Policies: Fauna Management

22. The committee has adopted the following with regard to fauna management:
- The committee will continue to work with other stakeholders (especially stakeholders with expertise in the appropriate fields) to achieve fauna monitoring and management in the Arboretum and adjacent habitat areas.
 - The committee will ensure that the nest boxes, beehives, and bee hotels in the Arboretum are appropriately managed and fauna use recorded on at least an annual basis. Expert advice will be obtained when required.
 - The Committee will continue to educate the local community about the importance of keeping domestic and feral animals out of the Arboretum and surrounding fauna habitat areas.

Policies: Green Waste Management

23. The Arboretum has adopted the following with regard to green waste management:
- The Arboretum is aiming for a zero green waste system.
 - If there is excess green waste (e.g. to reduce fuel load) consider if green waste can be placed either the compost bin or in a natural pile preferably mulched and no more than one cubic metre. Ensure composted material is fully broken down before use.

See also policies at Section 4.5 on vegetation management; and policies in Section 4.9 on bushfire management.

Policies: Bushfire Management

24. The Arboretum has adopted the following with regard to bushfire management:
- Continue to facilitate Council management of the Asset Protection Zone (APZ) on the eastern boundary of the Arboretum at least every 12 months – and ideally every six months (e.g. remind Council of its responsibilities; identify special plants for retention and relocate any threatened species prior to Council maintenance of the APZ);
 - Keep the smaller breaks formed by access paths on the northern and western boundaries by reducing vegetation and relocating fallen logs before every bushfire season.
 - Before each bushfire season aim to reduce litter on the floor of the

Arboretum to 15 centimetres deep.

- Continue to work with other stakeholders to minimise bushfire risk for Pearl Beach.
- In 2022 the fire danger ratings were standardised across Australia. There are four. Moderate – plan and prepare; High – be ready to act; Extreme – take action now to protect life and property; Catastrophic – for your survival leave bushfire risk areas. If the fire danger rating for Pearl Beach is determined to be Catastrophic or Extreme then the Arboretum executive should consider if the Arboretum should be closed. The Executive would make a decision based on the threat to persons and to the Arboretum. If the decision is to close the Arboretum then the closed signs stored in the tool shed will be placed at each entrance.

Policies: Signage

25. The committee has adopted the following with regard to signage in the Arboretum:

- Signs will be cleaned on a regular basis and especially prior to major events.
- The Arboretum will adhere to a consistent signage design for all its permanent signs including consistent use of materials, fixing methods and graphics. All new signs will be in this format.
- The signage design, condition and content will be reviewed every 10 years to ensure applicability to current situation.
- The large place naming signs at the carpark, the riparian walk and the pleasance are considered incompatible with the character of the Arboretum and should be replaced when opportunities arise (e.g. redesigned to be more in keeping with the other screen printed aluminium signs).

Policies: Paths

26. The committee has adopted the following with regard to paths in the Arboretum:

- Changes to path routes should be in accordance with an adopted masterplan.
- Main paths will be maintained to a width of at least 1.2 metres; while secondary paths can be 1 metre wide.
- Tree droppings and other vegetative obstructions will be relocated randomly into the scrub but mulch from within the Arboretum will be spread over paths taking care not to inhibit equitable access (e.g. for

mobility devices and pushers). See also Section 4.9 Bushfire Management – including Policy 54 on a maximum depth of 15 cm for litter on the floor of the Arboretum. Leaf litter should not be raked from bush areas onto the paths as pathogens may be spread.

- Tracks will be maintained at every second monthly working bee and immediately before the major events such as the Opera and the Jazz.
- Pruning of vegetation beside and over paths is required at least every six months and will be undertaken in an aesthetically pleasing manner. When cut, grass tree foliage can have very sharp ends. It is not feasible to leave the foliage to go across the paths unless the tree is above head height. If they are being trimmed they should be cut back close to the trunk.
- Any young special indigenous vegetation (such as grass trees) within the path network will be transplanted. The procedure will be undertaken in spring by cutting the foliage on four sides and leaving the middle of the foliage to carry out photosynthesis. Trees will be dug out with roots intact if possible and replanted in a suitable areas.

See also Section 3.2 and Policy 14 on equitable access. A review of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

Policies: Bridges and Boardwalks

27. The committee has adopted the following with regard to bridges and boardwalks:
- Changes to bridges and boardwalks should be in accordance with an adopted masterplan.
 - The bridges and boardwalks will be inspected biennially for maintenance requirements and defects. Ideally this audit will be carried out by Council, however if Council has not completed this task then the committee may complete the audit and report to the Council.
 - Volunteers will undertake general “housekeeping” such as:
 - sweeping of the decks of the bridges and boardwalks; and
 - applying wood oil to the wooden parts of the bridges and boardwalks (at least every two years).
 - Bridges considered dangerous to the public will be closed until repaired.

See also Section 3.2 and Policy 14 on equitable access. The redesign of some entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

Policies: Crommelin Cottage

28. The committee has adopted the following with regard to the cottage:
- The Arboretum will develop and maintain a cottage cleaning roster to ensure cleaning monthly and before any scheduled event. Once a year there will be a more thorough cleaning including cleaning cupboards, removing cobwebs, cleaning glass etc (e.g. before Opera).
 - A committee member will be responsible for stocking cleaning and other supplies to be stored in the cottage.
 - At each monthly working bee:
 - the storage shed will be tidied and swept
 - the cottage roof and gutters will be cleared of sticks and leaves each month and the downpipes checked
 - rubbish (other than green waste) will be removed from the Arboretum.

Policies: Propagation Area

29. The committee has adopted the following with regard to the propagation area:
- The convenor of the propagation and planting group will be responsible for ordering propagation and planting materials.
 - The propagation area and shed will be kept tidy with supplies neatly labelled and stored (vulnerable material should be kept in tubs with lids). Pots for recycling will be cleaned immediately after use and neatly stacked.
 - Plants undergoing propagation or stored in the hardening-off area will be neatly labelled; with a more permanent label fixed to the plant should it be planted out in the Arboretum.
 - A list of plants propagated and purchased and planted out or otherwise disposed of will be maintained.
 - The propagation area will be subject to a monthly working bee including:
 - removing leaf litter and fallen branches
 - cleaning roofs and gutters and checking downpipes
 - checking water level in rainwater tank.

Policies: Equipment

30. The committee has adopted the following with regard to equipment:
- Equipment shall be:
 - cleaned after use and placed in the space designated for it; and
 - subject to servicing (e.g. sharpening of blades; oiling of mechanisms) at least once per year as applicable.
 - A stocktake of equipment will be carried out every year before the AGM.

Policies: Energy, Water and Sustainability

31. The committee has adopted the following with regard to energy, water and sustainability:
- The Arboretum will use energy and water wisely. Users of the cottage are to ensure that all lights are turned off before locking up.
 - In the future the Arboretum will give consideration to the installation of equipment towards energy conservation – e.g. solar panels for electricity generation at the Cottage.

Policies Precinct 1: Parking and Entrances

32. The Arboretum entrances and carparking areas shall be reviewed including:
- provision of equitable access
 - making the entrances more welcoming (e.g. through a review of plantings) and facilitate visitor orientation
 - signage review (naming, directional, informational, and statutory)
 - positioning of signage and brochure boxes.
 - provision of donation boxes.
33. Equitable access for people with a disability should be provided at at least one entrance, including proximity to a designated disability parking space (noting that the parking and entrances are generally on Council land outside of the Arboretum management).

See also Section 3.2 and Policy 14 on equitable access. The redesign of some parking areas, entrances, paths, bridges and boardwalks as part of the landscape masterplan may facilitate more equitable access.

Policies Precinct 2: The Open Area

34. The committee has adopted the following with regard to Precinct 2: The Open Area:

- The open area will continue to be maintained as an area for passive recreation including picnics and for occasional approved small and large events (including weddings, the Opera and Jazz).
- Mowing should occur no more than twice a year and then only lightly. Except pathways 1.2 metres wide.
- Particular care will be taken to manage the health of the large *Angophora costata* (known as the wedding tree).

See also Section 4.5 re maintenance of vegetation including trees and grasslands.

Policies Precinct 3: Coastal Sandplain Woodland and The Wetland

35. The committee has adopted the following with regard to Precinct 3: the Coastal Sandplain Woodland and the Wetland:

- The committee will continue working with key stakeholders to strengthen the conservation status of the rare Coastal Sandplain Woodland (CSW) found in the Arboetum (including the Arboretum's freshwater coastal wetland).
- The Arboretum will continue to conserve the CSW and the freshwater coastal wetland in the Arboretum as endangered communities acknowledging that there are paths, bridges and boardwalks through the area which need to be maintained. For example: no plants will be planted in these areas unless it is to strengthen the ecological communities.
- The Committee may need to seek expert advice from time to time on the conservation of these endangered communities.
- The wetland should be left to naturally change over time. Vegetation (alive or dead) should not be removed, particularly along the edges.

See also Section 4.4 Creeks and Wetlands and 4.5 for vegetation management.

Policies Precinct 4: Riparian Zone (including Palm Area)

36. The committee has adopted the following with regard to Precinct 4 – the Riparian Zone:

- If paths are impacted by creek natural changes they shall be reviewed rather than the watercourse interfered with.

- Palm fronds should be left where they fall unless they are obstructing a path or becoming a hazard (see Section 4.9 Bushfire Management – organic matter should be no more than 15 cm deep, and piles of organic matter should be no more than 1 cubic metre).

See also Section 4.4 on creek and wetland management and Section 4.5 on tree management.

Policies Precinct 5: Pleasance

37. The committee has adopted the following with regard to Precinct 5 – the Pleasance:

- The pleasance and small pleasance will continue to be maintained as areas for passive recreation including picnics and for occasional approved small events (including weddings).
- Mowing should occur no more than twice a year and then only lightly. Except pathways 1.2 metres wide.
- The water course will not be interfered with as flooding of the Pleasance is a natural phenomenon important for flora and fauna habitat.

See also Section 4.4 re management of creeks and wetlands and Section 4.5 re maintenance of vegetation including trees and grasslands

Policies Precinct 6: Wildlife Corridor (including Flowering Shrub Area)

38. The committee has adopted the following with regard to Precinct 6 – the Wildlife Corridor:

- The wildlife corridor shall remain as an area suitable for habitat by endemic flora and fauna.
- The grassed areas of the wildlife corridor should be maintained as native grasslands with introduced weeds such as whisky grass (*Andropogon virginicus*) and Parramatta grass (*Sporobolus africanus*) being removed at working bees. It should only be mown a maximum of twice a year and then only lightly.
- The pathways through the wildlife corridor can be mown on an “as needs” basis to facilitate equitable access along the paths (approximately 1200 mm wide).

See also Section 4.5 re maintenance of vegetation including trees and grasslands.