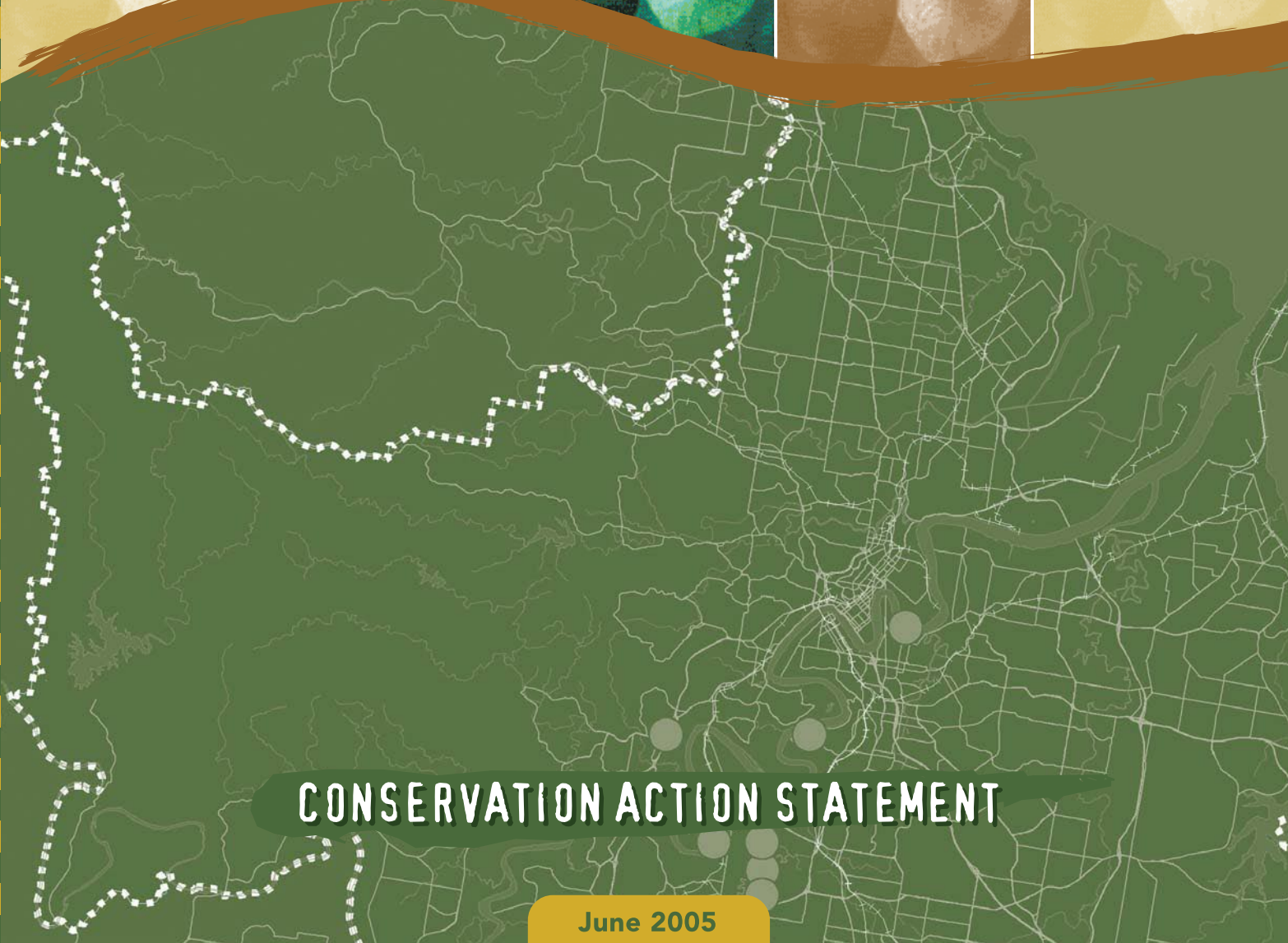


# ANGLE-STEMMED MYRTLE



## CONSERVATION ACTION STATEMENT

June 2005



*Dedicated to a better Brisbane*

# ANGLE-STEMMED MYRTLE

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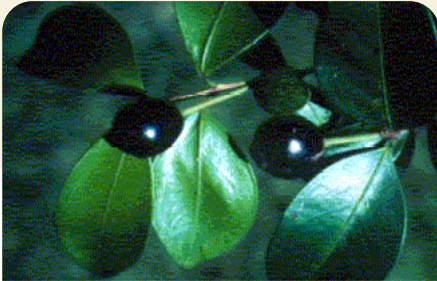
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## ANGLE-STEMMED MYRTLE



### 1.0 Introduction

Brisbane is recognised as one of the most biologically diverse capital cities in Australia, supporting some 1500 plant species, 523 vertebrate animal species and innumerable invertebrate species.

Brisbane is also part of one of the fastest growing urban regions in Australia. This growth is placing significant pressure on the ecosystems and wildlife of the city. Population pressures and urban development, resulting in the loss and fragmentation of habitat, continue to be the greatest threats to the protection of biodiversity (Brisbane SOE 2001). Since 1990 the rate of clearing has decreased markedly. However, even with no further loss of habitat, some existing flora populations within the city are at risk of local extinction because the small, isolated, remaining habitat areas cannot support them. Other significant threats include pest animals and plants and inappropriate fire regimes. The challenge is to maintain and restore the city's biodiversity while accommodating urban growth.

Brisbane City Council has responded to this challenge with the Brisbane City Biodiversity Strategy, an important part of Council's *Living in Brisbane 2010* vision for a clean and green city. The strategy outlines a range of initiatives designed to secure the long-term conservation of the city's outstanding biodiversity values using available public, community and industry resources. Conservation Action Statements are among these initiatives.

Conservation Action Statements clearly state Council's management intent for the city's most threatened species, and outline key strategies and actions for their management in Brisbane.

This Conservation Action Statement addresses angle-stemmed myrtle (*Gossia gonoclada*), which is identified as a significant species in Brisbane, as per Council's Natural Assets Planning Scheme Policy (Brisbane City Council 2000, *Brisbane City Plan*, vol 2, schedule 3).

This Conservation Action Statement will be updated every two to five years to reflect new information and progress on conservation actions. For more information about this or any other Conservation Action Statement, visit Council's website at [www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au) or phone Council on 3403 8888.

## 1.0 Introduction continued...

### Aims

This Conservation Action Statement details Council's management intent for long-term protection and conservation of angle-stemmed myrtle within Brisbane by:

- collating **existing information** on the distribution, ecology and management requirements of this species within Brisbane and surrounds
- identifying **key threats** that significantly impact upon this species within Brisbane
- identifying **gaps in existing knowledge** of the habitat and management requirements of this species and research priorities
- detailing **practical and affordable strategies and actions** that support the long-term protection and conservation of this species within Brisbane.

## 2.0 Conservation Status

The conservation status of a species will influence how it is managed. 'Threatened' species are typically accorded a more stringent management regime than 'common' species. Various conservation registers identify the status of flora species at local, state, national and international levels. The current conservation status of the angle-stemmed myrtle is provided in **Table 1**.

**Table 1: Official Conservation Status of Brisbane City's Angle-stemmed Myrtle**

Species	Brisbane City <sup>1</sup>	Queensland <sup>2</sup>	National <sup>3</sup>
Angle-stemmed myrtle	Significant	Endangered	Endangered

<sup>1</sup> Brisbane City Council 2000, Brisbane City Plan 2000, Natural Assets Planning Scheme Policy, vol 2

<sup>2</sup> Queensland Nature Conservation (Wildlife) Regulations 1994 under the Nature Conservation Act 1992

<sup>3</sup> Environment Protection Biodiversity Conservation Act 1999

## 3.0 Distribution<sup>1</sup>

The species only occurs in the Moreton Bay region and is unknown elsewhere in the world except as planted trees. Since 1986, the angle-stemmed myrtle has been found in nine localities in the Moreton Bay region, all within a 30-kilometre radius. The species natural distribution (excluding planted trees) extends along the lower reaches of the Brisbane and Logan rivers and their tributaries. New populations of angle-stemmed myrtle have been planted or are planned to be planted within the historical range of the species. **Map 1** shows the records of the species in Brisbane, while **Table 2** identifies original and planted angle-stemmed myrtle trees within the Moreton Bay region.

For more information about angle-stemmed myrtle populations in Brisbane refer to the *Recovery Plan for the Angle-stemmed Myrtle (Austromyrtus gonoclada) 2001-2005* (QPWS 2001).

# ANGLE-STEMMED MYRTLE

## 3.0 Distribution<sup>1</sup> continued...

**Table 2: Species Distribution**

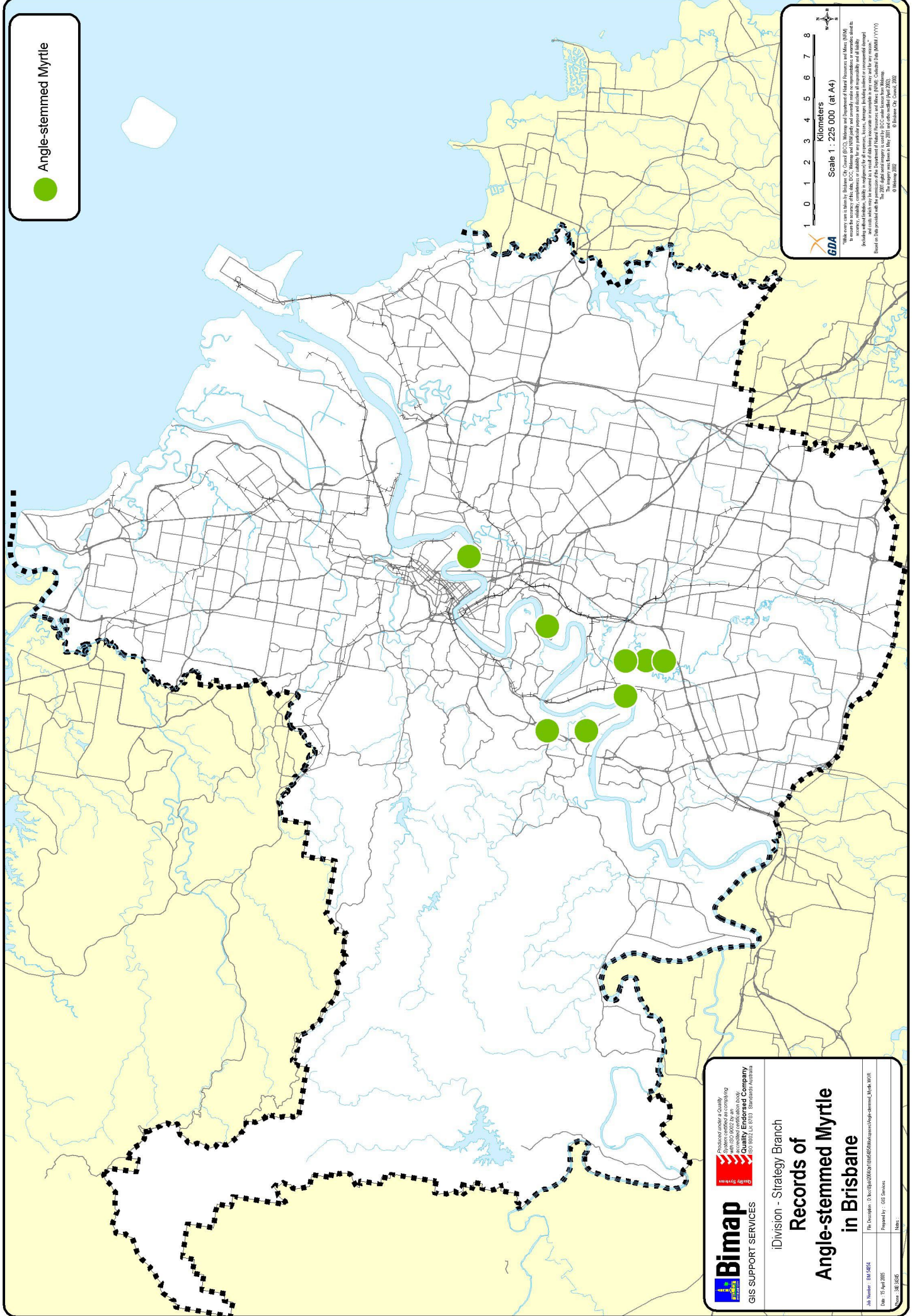
Location	Original Trees	Planted Trees
<b>Logan City</b>		
Murray's private property, Tanah Merah	49	0
Murray's Environmental Reserve, Tanah Merah	8	27
Murray's Road reserve, Tanah Merah	1	0
Logan Motorway, Tanah Merah	1	0
Usher Park, Daisy Hill	3	21
Alexander Clark Park, Loganholme	2	31
Logan City Golf Course, Logan	0	24
Leslie Parade Park	0	9
Tansey Park	0	7
Riverdale Park, Meadowbrook	0	18
<b>Logan Subtotal</b>	<b>64</b>	<b>137</b>
<b>Brisbane City</b>		
Nosworthy Park, Corinda	1	18
Cliveden Avenue, Corinda	4	16
Allen Street, Corinda	0	6
Sutling Street, Corinda	0	5
Aminga Street, Fig Tree Pocket	1	0
Manaton Park, Fig Tree Pocket	1	0
Lone Pine, Fig Tree Pocket	1	0
CSIRO, Long Pocket*	1	0
Rafting Ground Reserve, Pullenvale	0	21
Rainbow Forest Park, Indooroopilly	0	13
Mt Coot-tha Botanic Gardens, Toowong	0	2
Sherwood Arboretum, Sherwood	0	10
<b>Brisbane Subtotal</b>	<b>9</b>	<b>91</b>
<b>Total</b>	<b>73</b>	<b>228</b>

\*This specimen, initially thought to be an original, may have been planted, as it is located in an arboretum (QPWS 2001).

Angle-stemmed Myrtle



Scale 1 : 225 000 (at A4)  
GDA  
While every care is taken to ensure the accuracy of the data, GDA, MetNet and BIMmap are not responsible for any inaccuracies or omissions that may arise from the use of this data. The data is provided as a service to the public and is not intended for use in any way that may cause injury, damage, loss or expense. The data is provided as a service to the public and is not intended for use in any way that may cause injury, damage, loss or expense. The data is provided as a service to the public and is not intended for use in any way that may cause injury, damage, loss or expense.



**Bimap** GIS SUPPORT SERVICES  
 iDivision - Strategy Branch  
**Records of Angle-stemmed Myrtle in Brisbane**

Project Number: BIM-0524  
 Date: 15 April 2025  
 Prepared by: GIS Services  
 File Description: D:\bim\0524\BIM-0524-Records of Angle-stemmed Myrtle.mxd  
 Project Manager: [Name]

Produced under a Quality Management System  
 ISO 9001:2015  
 Quality Endorsed Company  
 ISO 9001:2015  
 Standards Australia

## 4.0 Ecology<sup>2</sup>

### Habitat

- Habitat consists of remnant lowland riparian rainforest/notophyll vine forest communities situated between the Logan and Brisbane rivers.
- Grows on moderately well-drained, clay soils derived from alluvium of mainly clay, silt, sand and gravel (permanent soil moisture levels).
- Usually found below the peak flood level on sloping or flat alluvial terraces (ranging between five and 50 metres ASL) of permanent watercourses subject to tidal influence.

### Reproduction

#### General

- Regenerates vegetatively from stem suckers after damage to the main stem.
- Seed recruitment levels are low, perhaps due to habitat disturbance or disturbance to the species' pollinators. Unspecialised flowers, similar to those of many species in the Myrtaceae family, suggest that pollinators are insects (Beardsell et al. 1993). Native bees have been suggested as likely pollinators, although this is yet to be confirmed.

#### Flowering and Fruiting

- Buds and flowers in late spring (October to November); fruits ripen mid-January to February and remain viable for only a short period.
- Quantity of fruit produced and viability of the seeds vary markedly from year to year; trees in open habitat appear to produce more viable seeds.
- Produces only a small quantity of fruit in a season perhaps because of self-incompatibility and shading.

#### Seed Dispersal and Germination

- As seeds are located within a sweet, soft and fleshy fruit, it is suspected that they are dispersed by animals, particularly birds and bats. At the Murray's Road sites, silvereyes (*Zosterops lateralis*) and figbirds (*Sphecothebes viridis*) have been seen feeding on the fruits of angle-stemmed myrtle (Leiper [who rediscovered the species in 1986], pers. comm. 1996). Lizards, small mammals and tortoises may also play a role in seed dispersal (Stephens, pers. comm. 1996).
- Although fruit does not float, gravity and water may also help disperse seeds of trees near waterways (Playford, pers. comm. 1996).
- Fruit is edible for humans (Leiper [who rediscovered the species in 1986], pers. comm. 1996).
- Germination is 8-60 days from the time of sowing, with a success rate ranging from 0-95% (Stephens, pers. comm. 1996).
- Nursery-grown seedlings can reach 30 centimetres in height within 12 months.

## 5.0 Threats<sup>3</sup>

The main threats for all angle-stemmed myrtle populations are:

- vegetation clearing
- weed invasion
- illegal or inappropriate collection of cuttings and seeds
- repeated grazing or damage from livestock
- inbreeding depression due to the very limited number of individuals in the species
- adjacent land use activities (eg. use of fertilisers may increase nutrient loads due to runoff; human traffic may cause soil compaction).

## 6.0 Conservation

The Angle-stemmed Myrtle Recovery Team was formed in December 1995 with the aim of arresting the decline of the species in the wild and maintaining viable *in situ* populations. The team has discovered new populations of angle-stemmed myrtle since 1995 and has subsequently sponsored a highly successful replanting strategy.

Currently, there are only 12 trees that produce viable seeds, and cuttings have been collected from nine trees. The angle-stemmed myrtle population will not become self-sustaining until all propagated seedlings have matured. The age of the tree when maturity is reached is unknown.

Council's Natural Assets Local Law prohibits the clearing, destruction or modification of angle-stemmed myrtle trees within Brisbane. It is also an offence under the *Queensland Nature Conservation Act 1992* to destroy, remove or collect seeds and cuttings from a protected plant such as the angle-stemmed myrtle.

## 7.0 Research

No research projects regarding the angle-stemmed myrtle are currently underway within Brisbane.



## 8.0 Management Intent

### Strategies

Brisbane City Council intends to contribute to the long-term conservation of the angle-stemmed myrtle in the city by:

- adopting and encouraging innovative voluntary and statutory mechanisms that protect important habitats and corridors
- ensuring appropriate ecological assessment, reporting and survey procedures are adopted in the development, planning and management activities
- encouraging land management practices that avoid, or minimise, direct and indirect impacts on angle-stemmed myrtle and its habitat on both public and private lands
- ensuring the timely availability of accurate, adequate and contemporary information for policy, planning and management decisions
- facilitating research that targets priority information gaps and contributes positively to the conservation of Brisbane's angle-stemmed myrtle and its habitat
- providing the Brisbane community with appropriate information and opportunities to contribute in a practical way to better understanding and protecting angle-stemmed myrtle in Brisbane.

## 8.0 Management Intent continued...

### Actions

**Table 3** describes priority conservation actions that Brisbane City Council will pursue with its partners to address the stated strategies. These priority actions have been drawn from studies undertaken for Council by recognised botanists and ecologists, and consultation with a range of stakeholders. Actions will be undertaken as funds become available through Council's budgetary process. It should be recognised that Council must consider the timing of these actions against other priorities across the whole of the city.

**Table 3: Management Actions**

Management Aspect	Action	Timing	Lead Agent and Key Stakeholders
Habitat Protection	Conserve and protect important angle-stemmed myrtle populations on privately-owned lands within Brisbane through Council acquisition (Bushland Acquisition Program) and conservation partnerships (Land for Wildlife; Voluntary Conservation Partnership).	Ongoing	Brisbane City Council (BCC)
Habitat Management	Continue to support the activities of the Angle-stemmed Myrtle Recovery Team.	Ongoing	BCC; Logan City Council; Local Asset Services (LAS)
Information Management	Map the location of all known specimens of angle-stemmed myrtle within Brisbane.	Underway	BCC; LAS
	Undertake a targeted systematic survey of potential habitat to establish distribution of angle-stemmed myrtle.	Commence 2006	BCC; Queensland Parks and Wildlife Service (QPWS); Universities
Community Involvement	Support and facilitate community surveys of angle-stemmed myrtle.	Commence 2006	BCC; QPWS; Universities

### Guidelines

The habitat protection and management guidelines detailed in **Table 4** are provided to better assist land owners, land managers, the development industry and the broader community in and undertaking land use activities that may otherwise disturb the angle-stemmed myrtle and/or its habitat. These guidelines are preliminary and will be refined as more information about this species and its habitat requirements becomes available.

## 8.0 Management Intent continued...

**Table 4: Habitat Management Guidelines**

Issue	Guideline	Explanatory Notes
Site Disturbance	An identified site is to be fenced, where deemed as necessary.	The Recovery Plan (QPWS 2001) has identified that grazing, slashing and human recreation are impacting on angle-stemmed myrtle populations. Fencing is required to control and manage these impacts.
	Works within the vicinity of known sites must undergo impact assessment.	Impact assessment should be undertaken to ensure that any works undertaken in the vicinity of a known population do not affect the plants. For example, works undertaken above any angle-stemmed myrtle plants have the potential to impact the species during run-off events.
	Protective zones may need to be established on a site-by-site basis and should be registered under the appropriate Natural Assets Local Law category.	The size of any required protective zones should be specified through recovery planning research and monitoring of outcomes.
Weed Management	Angle-stemmed myrtle sites require a weed species management plan.	Recovery planning research and monitoring of outcomes will guide a specific weed management plan.
Fire Management	Controlled burns must incorporate the fire regime for lowland riparian rainforest/notophyll vine forest communities.	The fire regime required to maintain lowland riparian rainforest/notophyll vine forest communities supporting the angle-stemmed myrtle must be consistent with the overall requirements of species that naturally occur at these sites. The angle-stemmed myrtle is one of several species of conservation significance whose ecological requirements with respect to fire must be addressed.
Cultivation and Propagation	Where angle-stemmed myrtle has been identified as susceptible to collection pressure its locality should not be made public.	Collection pressures may become commercial in nature and result in illegal trade. Opportunistic collection of susceptible species may be compounded by easy access.
	Seedlings and/or cuttings are to be collected from every known mature tree.	As the population has fewer than 250 mature plants located within a radius of 100 kilometres, it is necessary to have a collection of seedlings/cuttings from all mature plants to reduce inbreeding depression and increase the genetic viability of the seed/plant.
	At least two plants from each viable, genetically dissimilar, mature tree should be established at all known sites.	As explained above.
Grazing Impacts	Monitor the impact of stock and/or stocking rates on the angle-stemmed myrtle according to factors such as topography, vegetation type, season, rainfall, water location and fire.	Grazing has been identified as a threat at known angle-stemmed myrtle sites within Logan City. While grazing does not occur at any currently known sites within Brisbane it is possible that it may occur at unknown sites. Grazing may cause soil compaction and nutrient loading. Identifying when these impacts are unacceptable will relate to factors such as those listed. For example, annual spring burns are commonly employed to promote high nutrient feed for stock and this may be detrimental to the longer-term ecological requirements of the angle-stemmed myrtle.

## 9.0 Further Information

### Agencies

- Angle-stemmed Myrtle Recovery Team (Coordinated by Logan City Council) ([www.logan.qld.gov.au](http://www.logan.qld.gov.au))
- Brisbane City Council ([www.brisbane.qld.gov.au](http://www.brisbane.qld.gov.au))
- Brisbane Forest Park ([www.brisbaneforestpark.qld.gov.au](http://www.brisbaneforestpark.qld.gov.au))
- Department of Environment and Heritage ([www.deh.gov.au](http://www.deh.gov.au))
- Environmental Protection Agency/Queensland Parks and Wildlife Service ([www.epa.qld.gov.au](http://www.epa.qld.gov.au))
- Queensland Herbarium ([www.epa.qld.gov.au/nature\\_conservation/plants/queensland\\_herbarium](http://www.epa.qld.gov.au/nature_conservation/plants/queensland_herbarium))
- Queensland Museum ([www.qmuseum.qld.gov.au](http://www.qmuseum.qld.gov.au))

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### Photography Acknowledgement

Angle-stemmed Myrtle, *Gossia gonoclada*, Logan City Council