

Valuable & Threatened

Monsoon Vine Thickets of the Dampier Peninsula

A Summary of Key Findings
from the Broome Botanical Society

Introduction

Australian rainforests are fragmented and have a limited range. In the Kimberley, there are only about 7000 hectares of rainforests, less than 0.0001% of the region, yet they contain around 25% of the Kimberley's plant species.

Monsoon vine thickets are just one of many different types of rainforest in Australia, and the network of vine thickets on the Dampier Peninsula forms the southern limit of rainforest in Western Australia.

Monsoon vine thickets are culturally significant for Traditional Owners. They are important sources of seasonal fruits and berries, yams, carving timber, medicines and accessible ground water. Some vine thicket patches contain culturally sensitive law-grounds.



In contrast to other Kimberley and Northern Australian monsoon vine thickets, the Dampier Peninsula's monsoon vine thickets contain different arrangements of plants and are uniquely found behind and within the swales of coastal sand dunes. Vine thickets are not known to occur where the annual rainfall drops below 600mm.

The trees and vines create a dense, shady and protective canopy and are more humid than the open woodlands around them. Monsoon vine thickets are a refuge for many plants and animals and despite only covering less than one tenth of one percent of the Dampier Peninsula they contain nearly a quarter of all plant species found here. Monsoon vine thicket plants depend on frugivorous (fruit-eating) birds, bats and wallabies eating and digesting the seeds and spreading them from one patch to the next. The vine thickets extend patchily between One Arm Point and Broome, and produce fruit at different times; these fruit-eaters move from patch to patch and have reliable food throughout the year.

Vine thickets are often found in small patches or in long, very narrow strands which are easily disturbed or damaged. Vine thicket patches work as an ecological network across the whole Peninsula and conservation and management efforts must treat the network as a whole in order to keep them connected.

The loss of any single rainforest patch can affect all of the other patches in the network.

The Western Australian Department of Environment and Conservation (DEC) lists vine thickets of the coastal sands of the Dampier Peninsula as a 'threatened ecological community' (Category C - vulnerable). These vine thickets are also being considered by the Federal Environment Department (SEWPAC) for listing as a nationally endangered threatened ecological community.

In 2000-2002, the Broome Botanical Society conducted the first detailed study of the vine thickets of the Dampier Peninsula. Sixty-two patches were surveyed, varying from clumps of just a few trees, to patches of over 500 hectares. 94% of patches are less than 100ha, with the most common size being 10ha. Before this study, almost no scientific surveys of the vine thickets of the Peninsula had been published, and no one knew how many patches of thickets there were, or how large an area they covered.

In 2010, the Broome Botanical Society produced a detailed scientific report: A Comprehensive Survey of the Flora, Extent and Condition of Vine Thickets on Coastal Sand Dunes of Dampier Peninsula, West Kimberley 2000-2002.

This booklet provides a summary of the important findings of that report.



Plants of the Monsoon Vine Thickets on the Dampier Peninsula

The survey found 151 native plant species in the vine thickets, which is nearly a quarter of all the known plants found on the Peninsula. Some of these plants are found only in vine thickets and plants are not the same for every patch. It is understood that the many vine thicket patches function as a system or network.

The Peninsula's vine thickets generally have at least one main evergreen tree species, such as **Mamajen** or **Marool**, and tall shrubs - often ones that lose their leaves, such as **Ankoolmarr**. Native vines usually climb through the trees and shrubs, and there are few or no grasses. There is often a good ground layer of moist, nutrient-rich leaf litter.

Common Tree Species

(Language names are a mix of commonly used and recorded Bardi, Nyul Nyul and Yawuru names)

Marool Blackberry *Terminalia petiolaris*

Goonj *Celtis philippensis*

Mangarr *Sersalisia sericea*

Jarnba Mistletoe Tree *Exocarpos latifolius*

Goolmi/Goolm Coffee Fruit *Grewia breviflora*

Birimbiri Ebonywood *Diospyros humilis*

Joongoon/Mamajen *Mimusops elengi*

Joomoo/ Jigal Jigal Tree *Bauhinia cunninghamii*

Bilanggamarr /Mirda Helicopter Tree *Gyrocarpus americanus*



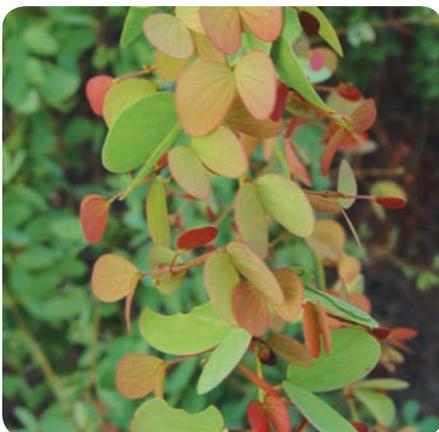
Marool (*Terminalia petiolaris*)



Mangarr (*Sersalisia sericea*)



Mirda in fruit (*Gyrocarpus americanus*)



Distinctive leaf pattern of the Jigal tree (*Bauhinia cunninghamii*)



Jarnba fruit (*Exocarpos latifolius*)



Birimbiri Ebonywood (*Diospyros humilis*)



Common Tall Shrub Species

Gooralgar/Koowal Snowball Bush *Flueggea virosa*

Ankoolmarr *Croton habrophyllus*

Broad-winged Hop Bush *Dodonea platyptera*

Goolyi *Caesalpinia major*



Goolyi (*Caesalpinia major*)
Climbing habit



Gooralgar (*Flueggea virosa*)



Broad Winged Hop Bush (*Dodonea platyptera*)

Common Climbers

Ngoorla Bush Caper *Capparis lasiantha*

Jasminum didymum

Oyster-catcher Bill *Tylophora cinerascens*

Oondal/Kalalamburr Snake Vine *Tinospora smilacina*

Ngaming ngaming/Jinjalgurany Crab's Eye Bean *Abrus precatorius*



Oondal (*Tinospora smilacina*) berries (left) and leaves (centre)



Ngaming ngaming (*Abrus precatorius*)



Plants found in only a few patches on the Peninsula

TREES

Clerodendrum floribundum var. *ovatum*

Pittosporum moluccanum Declared Rare Flora Priority 4

Tuckeroo *Cupaniopsis anacardioides* Declared Rare Flora Priority 3

Wing-leaf Whitewood *Atalaya varifolia*



Clerodendrum floribundum



Pittosporum moluccanum

CLIMBERS

Secamone timoriensi

Potato Vine *Operculina aequisepala*

Capparis jacobsii

Opilia amentacea

SHRUBS

Helicteres rhynchocarpa (Kimberley endemic)

Luvunga monophylla

Musk-scented Plant *Hypoestes floribunda* var. *varia*



Potato Vine (*Operculina aequisepala*)



Capparis jacobsii

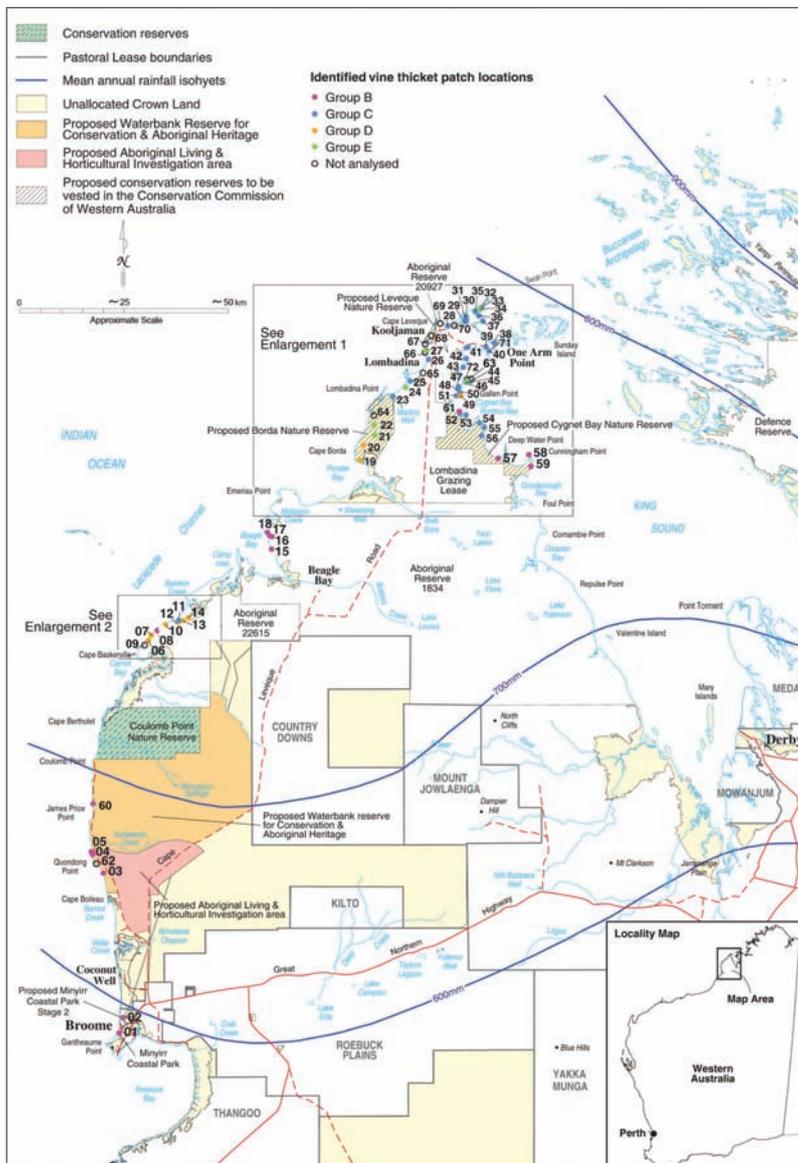


Location & Extent of Vine Thickets on the Dampier Peninsula

Less than 2685 hectares of vine thickets are recorded on the Dampier Peninsula, covering a tiny portion of the Peninsula. The patches occur in five obvious main clusters across the Peninsula (see map below). These are:

- Two patches in Broome;
- Four patches from Cape Boileau to just north of James Price Point;
- Nine patches from Cape Baskerville and Baldwin Creek;
- Four patches north of Beagle Bay;
- 52 northern patches following the western coastline from Pender Bay to the tip of One Arm Point, and then following the eastern coast to Goodenough Bay.

Following the on-ground surveys, the plant species recorded in each patch were analysed and then the thickets were categorised into four main patch group types according to the plants found in each group. These patch groups are named B, C, D and E, and each group is described on the following page.



Please note: Some tenure arrangements may have changed since these maps were produced.

Key

-  **Joongoon/ Mamajen**
(*Mimusops elengi*)
-  **Goolnji/Goonj**
(*Celtis philippensis*)
-  **Goolm/Goolmi**
(*Grewia breviflora*)
-  **Birimbiri**
(*Diospyros humilis*)
-  **Marool**
(*Terminalia petiolaris*)
-  **Mangarr**
(*Sersalisia sericea*)
-  **Bilanggamarr/ Mirda**
(*Gyrocarpus americanus*)
-  **Joomoo/Jigal**
(*Bauhinia cunninghamii*)
-  **Ankoolmarr**
(*Croton habrophyllus*)
-  **Jamba**
(*Exocarpus latifolius*)
-  **Balbal**
(*Flagellaria indica*)
-  **Ranya/Jirib**
(*Ficus opposita*)
-  **Goorlgar/ Goowal**
(*Flueggea virosa*)
-  **Bilooloorr/ Gumamu**
(*Santalum lanceolatum*)
-  (*Tylophora cinerascens*)



Group C

Group C has the highest number of plant species and is the most numerous patch group on the Peninsula (29 patches). More than 750mm of rain falls over almost all this patch group each year. Found on well-formed dunes, these vine thickets grow across the dune system and onto red pindan soil plains behind the dunes. Group C thickets contain a number of the main evergreen tree species.



Group E

These patches are found amongst the Group C patches, mostly within large coastal dune systems that are either very broad or very high. These patches can be in sheltered areas behind very tall dunes (some up to 29 metres high), or surrounded by broad strips of bare sand. The dune systems protect them from ocean winds and fire. Most Group E patches contain only one main tall evergreen tree species, such as **Mamajen** (*Mimusops elengi*) or **Birimbiri** (*Diospyros humilis*), and little understorey.



Group D

These patches mostly occur on the mid-west coast between Cape Baskerville and Baldwin Creek; the exceptions are two patches to the north-west near Cape Borda, and one in the north-east near Cygnet Bay. Group D patches have the smallest number of plant species of all the group types, most being core rainforest plants such as **Marool** (*Terminalia petiolaris*), **Mamajen** (*Mimusops elengi*), **Goonj** (*Celtis phillipensis*) and **Birimbiri** or Ebonywood (*Diospyros humilis*).



Group B

Group B patches occur at and near the southern part of the Peninsula. These patches are quite exposed, and found on or near very low sand dunes, above cliffs or on beaches, headlands and storm ridges. These thickets are less sheltered from ocean winds or inland fires. They have a high number of plant species, though these patches feature less evergreen trees, and more shrubs. The main tall trees are more likely to be Helicopter Tree (*Gyrocarpus americanus*), **Goolmi** (*Grewia breviflora*), and **Marool** (*Terminalia petiolaris*). These tree species tend to lose some or all of their leaves in the dry season.



Threats to the Monsoon Vine Thickets

The survey identified a number of threats to the network of monsoon vine thickets found on the Dampier Peninsula including: weeds, fire, clearing, off-road 4 wheel driving and camping, feral and domestic animals, and the impacts of development.

Weeds

Eighteen species of weeds were recorded, across more than half of the vine thicket patches. Weeds were found on the edges and in the disturbed areas of the vine thickets. Though weeds were found across most of the vine thicket network, in most cases, weeds were found in less than 10% of any one patch.

Weeds are a significant threat to monsoon vine thickets because they make them more flammable and also because they compete with the native species that belong there for important resources like sunlight, space, nutrients and water. The most serious weed is Siratro (*Macroptilium atropurpureum*). Siratro is a fast-growing climber that grows over the trees and shrubs, strangling out most species and creating a fire hazard.



Siratro flower (far left); Siratro leaf (centre), and Siratro infestation of vine thicket

Other high priority weeds include Butterfly Pea (*Clitoria ternatea*); White Creeper (*Merremia dissecta*); Coffee bush (*Leucaena leucocephala*); Rubber vine (*Cryptostegia madagascariensis*); Mintweed (*Hyptis suaveolens*); Neem (*Azadirachta indica*) and Yellow Poinciana (*Peltophorum pterocarpum*).



Butterfly Pea (*Clitoria ternatea*)



White Creeper (*Merremia dissecta*)



Rubber vine (*Cryptostegia madagascariensis*)

Garden weeds

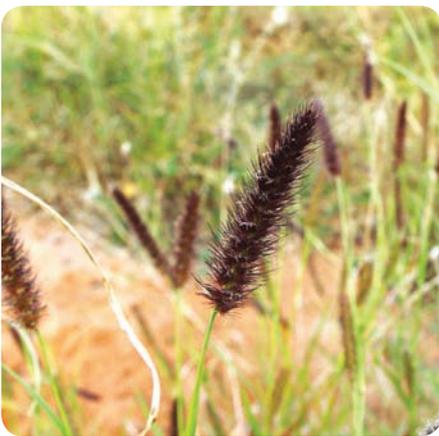
Gardens are part of the weed problem: Neem (*Azadirachta indica*) and Coffee Bush (*Leucaena leucocephala*) are high priority weeds that are often planted in gardens, and then easily spread from there into nearby bushland. The badly degraded vine thickets within the Minyirr Park Coastal Park show just how fast weeds can escape from residential gardens and take hold of an area of native bushland.



Plant me instead! - Native trees such as **Joongoon/Mamajen** (pictured above left) provide great shade and will benefit the local bushland, rather than becoming problem weeds like Coffee Bush (centre) and Neem (right).

Medium priority weeds

Medium-priority weeds in the vine thickets include Buffel Grass (*Cenchrus ciliaris*) and Birdwood Grass (*Cenchrus setiger*). Both species are widespread and difficult to eradicate and provide dense fuel for fires on the edges of vine thickets.



Buffel grass (*Cenchrus ciliaris*) in flower (left), and infesting a vine thicket (centre), opening up the naturally closed canopy through providing fuel for fires. **Lantana** (right) are weeds to watch out for on the Peninsula.

Lantana (*Lantana camara*) is a Weed of National Significance and a serious weed in vine thickets in Queensland. Though there are a few plantings on the Peninsula, its potential to become weedy is not yet known and further plantings of this potential weed should be avoided.

Control of weed infestations in the vine thickets should focus urgently on preventing disturbances such as those created by fire or cattle, or clearing for new tracks or larger developments, and minimising weed invasion to other vine thickets. Weed hygiene measures such as wash-down facilities for vehicles and heavy machinery are also needed.



Fire

Traditional Aboriginal burning practices in northern Australia are known to have involved lighting many small fires at the appropriate season in restricted areas. This patchwork mosaic of plants in varying stages of growth and fire recovery increased plant and animal diversity and helped prevent the repeated spread of hot, late dry-season fires. The Bardi Jawi people (and possibly others) are known to have taken care to keep fire away from the Peninsula's vine thickets in order to protect the valuable food resources found there.

European settlement in the Kimberley brought large changes to the ecology and fire regimes of the Dampier Peninsula, including through cattle grazing and the decline in traditional Aboriginal land management practices, particularly burning.

Fire - most importantly, the frequency of fire - plays a major role in controlling vine thicket boundaries.

Frequent, hot wild fires in adjacent vegetation late in the dry season cause vine thicket patches to shrink in size over time. Disturbance from vehicles, cattle or artificial stormwater flows open up the normally closed tree and shrub canopy and allow grasses and weeds to invade. These invaders in turn create fuel for future fires. Over time, this pattern of continued disturbance and/or intense late dry season fires will degrade vine thicket patches, and may even eliminate the vine thicket patches all together.

This survey recorded fire damage in one third of the surveyed patches and included recent severe fire damage well into the patch, burnt-out trees (see images), and evidence of the vine thicket patch being reduced in size after the fire.



Fires burning out of control on the Peninsula are causing damage to the monsoon vine thickets, especially to fire-sensitive species like Ingirri, or Bush Currant (*Vitex glabrata*), pictured above right.

Sensitive and restricted species are at risk of disappearing on the peninsula due to hot late season fires. For example, local people have expressed concern that the Ingirri / Bush Currant (*Vitex glabrata*) has been lost from vine thicket patches known to them. Ingirri is a small tree with edible fruit found throughout the Kimberley. It is only recorded within three vine thicket patches and was not found in this survey.

Maintaining the diversity of plants and animals within the vine thickets requires active fire management by humans to influence how often, where, and when the landscape is burned.



Clearing

At the time of the 2002 survey, few vine thicket areas had been cleared (about 5%). Clearing is becoming more of a problem as development pressures on the Peninsula increase, including urban developments, buildings, tracks, campsites and tourism infrastructure. The thickets are popular campsites and house-sites because they are nice and shady. Broome and One Arm Point, Lombadina-Djarindjin communities are all close to large vine thickets.

Larger scale development also poses a serious threat. The State government and Woodside Petroleum Ltd have proposed building a major onshore gas processing facility on the Dampier Peninsula. If it goes ahead, vine thickets of high conservation value will be cleared.

Clearing Monsoon Vine Thickets without a permit is illegal.

Other Significant Threats

- **Stormwater runoff** from roads causes soil erosion and is having a serious impact on some vine thicket species, e.g. Helicopter Trees (*Gyrocarpus americanus*), which can't cope with the increased periods of flooding.
- **Unmanaged tourism** is causing damage to some vine thickets. Vehicles compact the soil, damage plants, erode dunes and open up the canopy, helping to spread weeds. Fallen branches and trees, which are part of the habitat created by vine thickets, are often used for firewood. Too many walking tracks over the dunes also cause damage.
- **Feral cattle:** damage from cattle was found in about 40% of the vine thickets surveyed, although at present cattle are not common. They could become a bigger problem if people living on the Peninsula continue to take up small herds.
- **Feral pigs** cause serious soil disturbance and spread weeds on the margins of the thickets although at present, pigs are not common.
- **Rubbish**
- **Forest product harvesting:** Ebonywood (*Diospyros humilis*) is valued as a craft wood and any large scale harvesting of this species should be monitored, regulated and managed.
- **Climate Change** is likely to occur faster than many vine thicket species can adapt to it, causing big changes in the animal and plant interactions that maintain the vine thicket system. With climate change, more frequent extreme events such as fire, flood, drought and tropical storms will weaken many plant communities. Rising sea levels, stronger tropical cyclones and increased intensity of ocean storm surges will be particularly damaging to vine thickets.



Feral pigs and cattle are causing damage to the vegetation of the Peninsula, including the monsoon vine thickets.



Priority Conservation Management Actions

Although it was beyond the scope of this project to research or include Indigenous cultural values, these are an important overlay in conservation planning for the vine thickets.

The following priority management actions for the vine thickets were identified:

- Develop a planning strategy for the Dampier Peninsula, with effective vine thicket protection and management a priority.
- Implement environmental impact assessment and planning processes for all developments on the Dampier Peninsula, particularly where vine thickets may be cleared.
- Prevent clearing and retain vegetation buffer zones at least 500m wide around all vine thicket patches.
- Ensure conservation significance is recognised by state and federal legislation.
- Finalise and implement the DEC interim recovery plan, including a monitoring program.
- Continue to support Indigenous Ranger groups to manage and protect vine thicket patches.
- Progress existing plans for formal protection for vine thickets consistent with Traditional Owners' aspirations for country and add to the proposed conservation reserve system.
- Develop and implement a sustainable tourism plan for the Peninsula, taking vine thickets into account, and encourage low-impact eco-cultural tourism. e.g. guided bushwalks.
- Establish a co-ordinated fire management program at local and landscape scale e.g. a combination of aerial burning and small-scale burns on the ground with the help of local people.
- Survey, map and monitor weed infestations. Start work immediately to control outbreaks of priority weeds.
- Establish wash-down facilities for heavy earth-moving equipment working in the area.
- Stop planting known problem plants in residential gardens (e.g. Rubber Vine, Neem, Lantana and Yellow Poinciana). Encourage residents not to dump garden weeds.
- Monitor and regulate harvesting of vine thicket (e.g. for craft-wood timbers) and replant harvested species in vine thickets and/or plantations.
- Increase community awareness and understanding of the environmental and cultural importance of vine thickets.
- Control vehicle access to the vine thickets by appropriate planning, development and construction of roads and tracks. Erosion can be minimised through slashing rather than machinery that removes the topsoil.
- Contain livestock, especially cattle and pigs.
- Maximise seed dispersal of vine thicket species by protecting all **Albay** Strangler Fig trees (*Ficus virens*), **Jalgir** Styptic Trees (*Canarium australianum*), **Marool** Blackberry Trees (*Terminalia petiolaris*) and the Blackberry hybrid **Gariling/Barragool** Red Gubinge (*Terminalia petiolaris x ferdinandiana*). Plant these species, along with **Joongoon/Mamajen** (*Mimusops elengi*) and **Birimhiri** Ebonywood (*Diospyros humilis*) in towns and communities.
- Identify and protect all known flying fox roost sites on the Dampier Peninsula and include a buffer zone.
- Consider and plan for the impacts of climate change on the vine thicket network.

Priority Vine Thicket Patches

This survey identified six unusually large vine thicket patches, of the 62 surveyed. All six of these patches are a high conservation priority and, taken as a whole, represent all four groups of vine thicket patches. Other priority areas for conservation identified in this study are based on: health of the monsoon vine thicket patch; healthy tree/shrub and understorey structure, presence of significant plants, and species-richness.

▲ Patch 5 (190ha; Group B)

Patch 5 is a narrow strip stretching from near Quondong Point to James Price Point. As well as being large, this patch is the most species-rich patch in Group B, as well as one of the best structured, dominated by the tree species *Goonj* (*Celtis philippensis*)

▲ Patch 20 (150ha; Group D)

▲ Patch 22 (130ha; Group E)

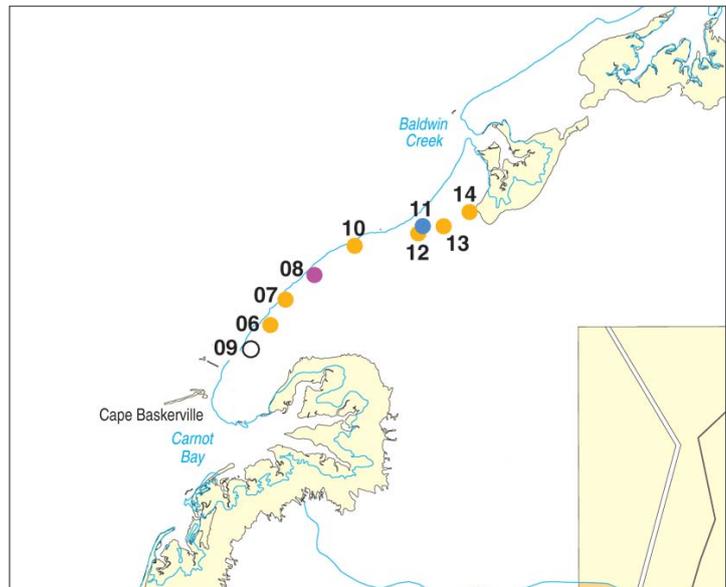
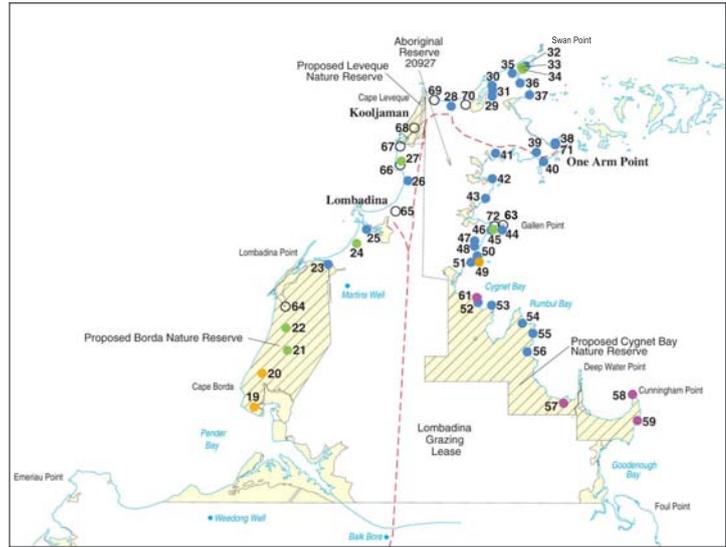
These large patches 20 and 22 occur on Unallocated Crown Land in the proposed Borda Nature Reserve (proposed since 1983). Patch 20 is the only large patch representative of Group D.

▲ Patch 39 (90ha; Group C)

Patch 39, near Riddell Point/Mission Bay, is an unusually large, well-structured vine thicket. At the time of survey, it was in particularly good condition, having had long-term protection from fire. This patch along with nearby patches 40 and 41 contain some restricted and endemic species.

▲ Patch 47 (110ha; Group C) Patch 71 (150ha after clearing; Group C)

Two unusually large patches - 71 at One Arm Point and patch 47 at Gallen - are both within Aboriginal Reserves. Patch 47 is one of the most species-rich vine thicket patches on the Peninsula with 42 species recorded. Patch 71 is highly culturally significant for Bardi people. It may be appropriate to establish an Indigenous Protected Area for this site, to better protect its combined cultural and environmental values.



Please note: Some tenure arrangements may have changed since these maps were produced.

ADDITIONAL CONSERVATION PRIORITIES WITHIN EACH GROUP

Group B
Patches 15 and 18 and patch 59

Group D
Patch 06 and patch 10

Group C

All Group C patches are a high priority, particularly patches 40, 41, 25, 28, 26 and secondarily, patches 42, 30, 43, 55, 37, 36 & 52

Group E

Patch 45, Patch 21 is a high priority due to its unusually dense evergreen structure.



Priority Vine Thicket Plants

Pittosporum moluccanum is a Priority IV plant restricted in the Kimberley to two Dampier Peninsula sites either in or near vine thickets. These sites, patches 5 and 14, and patch 11, where there is potential for *P. moluccanum* to occur, are important to conserve. If these patches are not conserved, there is a likelihood that *P. moluccanum* could disappear from the Peninsula.

Priorities for Further Study of Monsoon Vine Thickets on the Dampier Peninsula

1. Complete plant and health surveys for unsurveyed patches on the Dampier Peninsula.
2. Refine patch boundary mapping, especially near town sites.
3. Identify vine thicket patches that are at the most risk from fire damage.
4. Document Traditional Ecological Knowledge, and Indigenous priorities for protection and management of vine thicket patches.
5. Survey flying fox roost sites and frugivorous (fruit-eating) bird species on the Dampier Peninsula.
6. Research the ecology of fruit-eating birds and bats on Dampier Peninsula, their role in vine thicket seed dispersal, and the importance of these relationships for local conservation management.
7. Carry out taxonomic studies of *Capparis* aff. *jacobsii* on Dampier Peninsula to determine its conservation status.
8. Review the conservation status of the rare and restricted *Parsonsia kimberleyensis* and *Pittosporum moluccanum*.



Weedong lake is bordered by an ecologically and culturally significant stretch of monsoon vine thicket (unmapped).



Improved management should prioritise the recording and conservation of Traditional Ecological Knowledge.



Goolyi, the Great Bowerbird (*Chlamydera nuchalis*) feeds on many of the vine thicket fruits and plays an important role in seed distribution.

Conclusion

The focus of conservation should be to protect networks of patches and adjacent vegetation types, and maintain the processes that keep the vine thickets ecologically connected and viable.

There is only one formally protected monsoon vine thicket on the Dampier Peninsula and it is among the most degraded thickets found in the Kimberley. All patches should be protected, including through formal reserves, and also Indigenous Protected Areas.

Environmental planning needs to ensure better and more strategic protection of vine thickets, especially regarding clearing.

Monsoon vine thickets and the surrounding woodlands will need to be managed at the landscape and local scale, and across different tenures, both within and outside any reserves that are established.

The monsoon vine thickets of the Dampier Peninsula are one of the Kimberley's most culturally and environmentally significant places. We need to work together to look after them.



Bardi Jawi Rangers work with Environs Kimberley staff to develop management planning for monsoon vine thickets on Bardi Jawi country.



Goolmi (Coffee fruit) are collected by Traditional Owners from the monsoon vine thickets.

COVER IMAGES: Aerial photo of monsoon vine thicket at Quondong Point on the Dampier Peninsula (main image). Mamajen fruits (left inset image) are an important food for many animals, including the Rose-crowned Fruit-Dove (centre image). Traditional Owners gather and consume the fruits and berries of the vine thicket plants (right inset image).

Broome Botanical Society

Broome Botanical Society conducted the 2000-2002 field work and survey as a joint project with DEC (then CALM). The extensive support, assistance and permissions from Traditional Owners, administrators and caretakers of the Dampier Peninsula made this work possible. Broome Botanical Society has compiled the full report independently of the original survey.

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Copies of the full report and recommendations can be accessed at www.environskimberley.org.au (click through to the West Kimberley Nature Project page) and published in the West Australian Naturalist.

About the West Kimberley Nature Project

Environs Kimberley's West Kimberley Nature Project (WKNP) has been working with Indigenous Ranger groups, communities and other stakeholders to actively support, manage and protect monsoon vine thickets of the Dampier Peninsula since 2007. Key partnerships include: Bardi Jawi, Bardi Jawi Oorany and Nyul Nyul Indigenous Rangers. These Ranger Groups are Commonwealth-funded through the Working on Country Program and are facilitated by the Kimberley Land Council. Other key partners include the Department of Environment and Conservation, Society for Kimberley Indigenous Plants and Animals (SKIPA) and the Broome Botanical Society.

The WKNP is run by ecologist Louise Beames from Environs Kimberley, and funded by Rangelands NRM WA through Caring for our Country, with support from the State NRM WA.

For more info, see www.environskimberley.org.au, call 08 9192 1922 or email Louise at louise.natureproject@environskimberley.org.au

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