



# 9 Byron Bay Rd Lennox Head – Lot 1 & Lot 2 DP 620838

## Ecological Assessment

### Rezoning Proposal

Client: Ballina Shire Council  
Prepared by: Biodiversity Assessments & Solutions Pty Ltd  
Date: 4<sup>th</sup> January 2019

## Project Control

Project name: 9 Byron Bay Rd Lennox Head – Lot 1 & Lot 2 DP 620838  
Ecological Assessment – Rezoning Proposal

Job number: 181017

Client: Ballina Shire Council

Contact: c/o Ardill Payne & Partners Pty Ltd

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# 1 Introduction and Background

Biodiversity Assessments & Solutions has prepared this Ecological Assessment for Ardill Payne & Partners on behalf of Ballina Shire Council. This report is to support their submission for a Planning Proposal to rezone Lot 1 and Lot 2 DP 620838, 9 Byron Bay Road, Lennox Head to R2 Low Density Residential zone, and amend the Minimum Lot Size to 600m<sup>2</sup>.

The aim of this assessment is to determine the significance of the biodiversity of the site and to identify potential ecological impacts of the proposal and any future development, particularly with regard to any threatened species, populations or communities listed under either the *Biodiversity Conservation (BC) Act 2016* or the *Environment Protection Biodiversity Conservation (EPBC) Act 1999*.

This report also identifies the potential ecological constraints associated with the site, provides mitigation recommendations and considers the suitability of the site for the proposal.

## 1.1 The Site

The site comprises two (2) land parcels for a total site area of approx. 1.17 ha at Byron Bay Road, Lennox Head, within 0.8 km of the Lennox Head Post Office (refer Figure 1.1). These land parcels being:

- Lot 1 DP 620838 (2,023 m<sup>2</sup>); and
- Lot 2 DP 620838 (9,735 m<sup>2</sup>).

Lot 1 is currently used for telecommunications infrastructure. The site consists of predominantly cleared areas, managed grass and weeds, with patches of planted landscaping vegetation on the north eastern boundary. The western edge of the lot contains a small patch of degraded Littoral Rainforest, which occupies approximately 675m<sup>2</sup> of Lot 1 and is bordered by tracts of Lantana and other weed species. The landscape has a gently inclined slope of approx. 7.5 %, with a westerly aspect.

Lot 2 is a large residential block consisting largely of maintained lawn. A dwelling and ancillary structures occupy the centre of the parcel with associated landscape plantings. A tract of degraded Littoral Rainforest occurs along the southern boundary of the parcel, with a total area of approximately 1,075m<sup>2</sup> occurring on Lot 2. The parcel has a westerly aspect with a gently inclined slope (approx. 7.5 %).

The property is currently zoned under the Ballina Local Environmental Plan (BLEP) 2012 as RU1 Primary Production (refer Figure 1.2).



*Plate 1.1: View north west from south east corner of Lot 1 showing telecommunication infrastructure.*



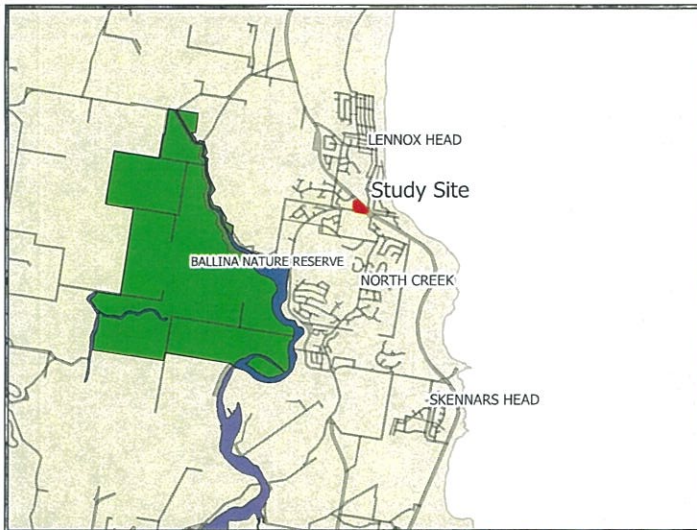
*Plate 1.2: View west from north east corner of Lot 2 showing part dwellings and areas of managed lawn.*

## 1.2 The Proposal

The proposal comprises a Planning Proposal / LEP Amendment Request and involves:

- Rezoning Lot 1 and Lot 2 DP 62038 to R2 Low Density Residential; and
- Amending the Minimum Lot Size to 600 m<sup>2</sup>.





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Figure 1.1: Study site and location



**Legend**

- Study Site
- Lot
- Road
- NPWS Reserve
- Water Feature
- Contours

1:2,750



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Figure 1.2: Study site and current land zoning



**Legend**

- Study Site
- Lot
- Road
- Contours

**Land Zoning**

- B1
- B2
- DM
- E1
- R2
- R3
- RE1
- RU1
- RU2

1:2,750



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## 2 Methods

### 2.1 Introduction

The approach utilised to undertake this Ecological Assessment of the proposal site has been informed by the NSW OEH Survey and Assessment Guidelines (2017) and are as follows:

- GIS data and literature review;
- Review of the BioNet Atlas of NSW Wildlife database on the 4<sup>th</sup> November 2018;
- Review of the EPBC Protected Matters database on the 4<sup>th</sup> November 2018;
- Site field visits including vegetation condition survey (refer Section 2.2) and fauna habitat assessment (refer Section 2.3) on the 5<sup>th</sup> and 9<sup>th</sup> of November 2018;
- Threatened species profile assessment;
- Direct and indirect impact assessment;
- Preliminary constraints analysis; and
- Preliminary statutory assessment.

A summary of the survey methods for the flora and fauna components is described below with the results described in Section 3 and Section 4.

### 2.2 Flora Assessment

Vegetation survey assessment included:

- Desktop delineation of vegetation communities;
- BioNet Atlas of NSW Wildlife species record analysis;
- Random meander of vegetation communities recording flora species and assessing condition;
- Habitat assessment identifying key flora habitat features and suitability for threatened species;
- Searches for threatened species within the proposal area identified from the BioNet Atlas of NSW Wildlife database with the potential to occur; and
- Recording any significant vegetation features by GPS.

### 2.3 Fauna Assessment

Fauna survey assessment included:

- Desktop identification and analysis of fauna habitat types and corridors;
- BioNet Atlas of NSW Wildlife species record analysis; and
- Habitat assessment across the site identifying key fauna habitat features.

## 2.4 Survey Limitations

The field survey methods are in accordance with NSW OEH guidelines for a preliminary assessment. Targeted field survey assessment techniques for threatened fauna were not undertaken, however threatened species are assumed to have the potential to occur if their habitat requirements are met. Due to the objectives of this assessment, the fauna survey methods are considered adequate.



*Plate 2.1: View along the southern boundary of the site from the south east corner of Lot 1.*



*Plate 2.2: View from north east boundary of Lot 1 looking north west along Byron Bay Rd.*



## 3 Flora Results

### 3.1 Desktop Review

A search of the BioNet Atlas of NSW Wildlife (4<sup>th</sup> November 2018), based on an area within 1500 m centered on the site returned records for eight (8) threatened flora species listed under the *BC Act 2016*, including six species also listed under the *EPBC Act 1999* (refer Table 3.1).

Table 3.1: Threatened flora species recorded within 1.5 km of the site

Scientific Name	Common Name	NSW status	Comm. status	Records
<i>Archidendron hendersonii</i>	White Lace Flower	V,P	-	3
<i>Arthraxon hispidus</i>	Hairy Jointgrass	V,P	V	1528
<i>Cryptocarya foetida</i>	Stinking Cryptocarya	V,P	V	3
<i>Davidsonia jerseyana</i>	Davidson's Plum	E1,P,2	E	1
<i>Fontainea oraria</i>	Coastal Fontainea	E4A,P,2	E	35
<i>Macadamia tetraphylla</i>	Rough-shelled Bush Nut	V,P	V	3
<i>Phaius australis</i>	Southern Swamp Orchid	E1,P,2	E	5
<i>Tinospora tinosporoides</i>	Arrow-head Vine	V,P	-	2

V = Vulnerable; P = Protected; E = Endangered; pursuant to the *BC Act* or *EPBC Act*.

A review of Schedule 2 of the *BC Act 2016* indicates that ten TECs potentially occur in the Ballina Shire LGA. These are:

- Coastal Cypress Pine Forest in the NSW North Coast bioregion;
- Coastal Saltmarsh in the NSW North Coast, Sydney Basin and South East Corner bioregions;
- Freshwater Wetlands on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions;
- Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner bioregions;
- Lowland Rainforest in the NSW North Coast and Sydney Basin bioregions;
- Lowland Rainforest on Floodplain in the NSW North Coast bioregion;
- Subtropical Coastal Floodplain Forest of the NSW North Coast bioregion;
- Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions;
- Themeda grassland on seacliffs and coastal headlands in the NSW North Coast, Sydney Basin and South East Corner bioregions; and
- White Gum Moist Forest in the NSW North Coast bioregion.

## 3.2 Site Assessment and Discussion

### 3.2.1 Vegetation Communities

Four (4) vegetation associations have been identified at the site based on the flora survey and condition assessment. These are identified in Table 3.2 and shown at Figure 3.1.

Table 3.2: Vegetation communities of the study site

Map Unit	Vegetation Class	Community Name	Dominant Tree Species	Area	TEC
1	Littoral Rainforest	Tuckeroo - Guioa - Banksia - mixed rainforest species assemblage	<i>Cupaniopsis anacardioides</i> <i>Banksia integrifolia</i> <i>Guioa semiglauca</i>	0.175ha	Yes
2	Residential Landscaping	Mixed plantings dominated by exotic garden species	N/A	0.05	No
3	Managed Lawns	Derived grassland of lawn and pasture species	N/A	0.77ha	No
4	Unmanaged Weeds	Lantana and other woody, herbaceous and vine weeds	N/A	0.07ha	No

### 3.2.2 Vegetation Community Descriptions

#### 1 - Littoral Rainforest

**General Comments:** Occurs within the western portion of Lot 1 and along the southern boundary of Lot 2. This community is in a degraded condition, being a small isolated patch with high levels of disturbance and weed invasion throughout. The community extends into the existing Hutley Drive road corridor. The presence of several mature native trees means that the community retains some biodiversity and habitat values. The community includes two individuals of the threatened species, Rough-shelled Bush Nut (*Macadamia tetraphylla*), located in the vicinity of the residential dwelling. This area is considered to be representative of the TEC *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions*.

Whilst this vegetation presents as a small patch of low condition Littoral Rainforest, it is neither mapped under SEPP (Coastal Management) 2018 as Littoral Rainforest, nor within an area mapped as Proximity Area for Littoral Rainforest (refer Figure 6.1).

**Upper Stratum:** Dominated by Tuckeroo (*Cupaniopsis anacardioides*), Guioa (*Guioa semiglauca*) and Coastal Banksia (*Banksia integrifolia*) with occasional occurrences of other native rainforest species such as Foambark (*Jagera pseudorhus*), and Macaranga (*Macaranga tanarius*). Exotic species include Cocos Palm (*Syagrus romanzoffianum*), Umbrella Tree (*Schefflera actinophylla*) and a large Norfolk Pine (*Araucaria heterophylla*).

**Middle Stratum:** Generally sparse with occasional occurrences of young trees including Tuckeroo (*Cupaniopsis anacardioides*), Guioa (*Guioa semiglauca*), Coastal Banksia (*Banksia integrifolia*), Three-



veined *Cryptocarya* (*Cryptocarya triplinervis*), Green Bollygum (*Neolitsea australiensis*) and vines including Whip Vine (*Flagellaria indica*), Cockspur Thorn (*Maclura cochinchinensis*), Water Vine (*Cissus antarctica*) and Native Sarsaparilla (*Smilax australis*). Exotic species include Umbrella Tree (*Schefflera actinophylla*), Senna (*Senna pendula*), Orange Jessamine (*Murraya paniculata*), Hibiscus (*Hibiscus rosa-sinensis*), Mickey Mouse Bush (*Ochna serrulata*) and Camphor Laurel (*Cinnamomum camphora*).

**Ground Stratum:** Dominated by exotic vines and herbs including Ground Asparagus (*Asparagus aethiopicus*), Cape Honeysuckle (*Tecoma capensis*), Passionfruit (*Passiflora spp.*), Morning Glory (*Ipomoea cairica*) and Crofton Weed (*Ageratina adenophora*). Occasional native species include Basket Grass (*Oplismenus undulatifolius*), Scrambling Lily (*Geitonoplesium cymosum*) and Snake Vine (*Stephania japonica*).

**Condition Rating:** Low Condition.



Plate 3.1: Littoral Rainforest occurring as a narrow strip along the southern boundary of Lot 2 and boundary between Lot 1 and Lot 2.

## 2 - Residential Landscaping

**General Comments:** Occurring as small patches in the vicinity of the dwelling building and associated infrastructure on Lot 2 and the communications infrastructure on Lot 1. This community consists of mostly exotic planted landscaping species and fruit trees. While this community contains some habitat elements, it has low native biodiversity and is of low conservation value.

**Upper Stratum:** Larger trees in this community include Umbrella Tree (*Schefflera actinophylla*), Chinese Tallow (*Triadica sebifera*), Mango (*Mangifera indica*), and Macadamia (*Macadamia integrifolia*).

**Middle Stratum:** Dominated by exotic shrubs including Mulberry (*Morus nigra*), Hibiscus (*Hibiscus rosa-sinensis*), Murraya (*Murraya paniculata*) and vines such as Cat's Claw Creeper (*Macfadyena unguis-cati*).



**Ground Stratum:** Sparse, comprised of exotic grasses and herbs including Broad-leaved Carpet Grass (*Axonopus compressus*), Mother-in-law’s Tongue (*Sansevieria trifasciata*) and Agave (*Agave americana*).

**Condition Rating:** Low Condition.



Plate 3.2: Residential landscaping associated with the dwelling infrastructure on Lot 2.

### 3 - Managed Lawns

**General Comments:** Managed lawns, comprising a low dense derived grassland, occupy much of Lot 2 and the eastern portion of Lot 1. Dominated by predominantly exotic grasses and forbs, this community contains very few habitat elements, has low native biodiversity and is of low conservation value.

**Upper Stratum:** Absent.

**Middle Stratum:** Absent.

**Ground Stratum:** Predominantly consisting of derived grazed grasses and forbs. Exotic species include Narrow-leaved Carpet Grass (*Axonopus fissifolius*), Common Paspalum (*Paspalum dilatatum*), Buffalo Grass (*Stenotaphrum secundatum*), Kikuyu (*Cenchrus clandestinus*), Clover (*Trifolium spp.*) and Dandelion (*Taraxacum officinale*).

**Condition Rating:** Low Condition.





*Plate 3.3: Managed lawns occupy most of Lot 2.*



*Plate 3.4: Unmanaged weeds adjacent to Littoral Rainforest on Lot 1.*

#### 4 - Unmanaged Weeds

**General Comments:** This community occurs primarily on Lot 1, adjacent to the eastern edge of the Littoral Rainforest patch. It is comprised of dense tracts of Lantana with other woody, herbaceous and vine weeds. This community contains very low habitat and little to no native biodiversity. It has no conservation value and represents a risk to the adjacent Littoral Rainforest community as a source of weed invasion.

**Upper Stratum:** Absent

**Middle Stratum:** Dominated by Lantana (*Lantana camara*), Senna (*Senna pendula*) and Tobacco Bush (*Solanum mauritianum*).

**Ground Stratum:** Sparse, with Molasses Grass (*Melinis minutiflora*), Crofton Weed (*Ageratina adenophora*), and Annual Ragweed (*Ambrosia artemisiifolia*) occurring on the edges of the community.

**Condition Rating:** Low Condition.

### 3.2.3 Threatened Communities

#### Threatened Ecological Communities (*BC Act 2016*)

The vegetation in the western portion of Lot 1 and the southern boundary of Lot 2 (refer map unit 1 in Figure 3.1) is characteristic of the TEC *Littoral Rainforest in the NSW North Coast, Sydney Basin and South East Corner Bioregions*. This community represents a very small fragment of only 0.175 ha, with limited connectivity to other native vegetation communities. Due to its small extent, fragmentation, high levels of disturbance resulting in reduced canopy cover, increased edge effects, high weed invasion, relatively low native regeneration and poor structure; this patch is currently considered to be in a degraded condition. However, this area would require a *Test of Significance* (ToS) under the BC Act to be undertaken for any subsequent development of the site that may impact on the vegetation.

Whilst this vegetation presents as low condition Littoral Rainforest, it is neither mapped under SEPP (Coastal Management) 2018 as Littoral Rainforest, or within an area mapped as Proximity Area for Littoral Rainforest (refer Figure 6.1).

#### Threatened Ecological Communities (*EPBC Act 1999*)

The vegetation in the western portion of Lot 1 and the southern boundary of Lot 2 (refer map unit 1 in Figure 3.1) is also characteristic of the Threatened Ecological Community (TEC) *Littoral Rainforest and Coastal Vine Thickets of Eastern Australia*, listed as critically endangered under the *EPBC Act 1999*.

### 3.2.4 Threatened Flora

No threatened flora species listed under the *BC Act 2016* have previously been recorded within the site (refer Figure 3.1), however two specimens of the listed (vulnerable) Rough-shelled Bush Nut (*Macadamia tetraphylla*) were located during the field survey. The mature specimen is in the vicinity of the residence located on Lot 2, and potentially originates as a residential planting. The younger specimen occurs proximal (~25m) to the mature tree and adjacent to the southern boundary. The location of these is shown in Figure 3.1.

## 3.3 Discussion

The site has been historically and continuously impacted since European settlement by way of clearing associated with agriculture and development. Some mature native tree species remain, and some regeneration is present, particularly in association with the south and east boundaries of Lot 2. However,



most of the site contains cleared managed exotic grass, landscaping, or weed dominated vegetation.

The area identified as Littoral Rainforest, is a small, fragmented, and low condition representation of this community, however, it is considered that it does contain sufficient elements by way of location and species to be classified as such. Occasional mature native trees occur, particularly Tuckeroo, Coastal Banksia and Guioa, which are representative of areas of Littoral Rainforest in the locality. Native species regeneration and representative species of Littoral Rainforest scattered through this community indicate sufficient characteristics of this TEC.

One (1) threatened flora species listed in Schedule 1 of the BC Act was recorded at the site. Two (2) individuals of Rough-shelled Bush Nut (*Macadamia tetraphylla*) were identified in proximity to the residential dwelling (refer Figure 3.1).

Whilst this vegetation presents as low condition Littoral Rainforest, it is neither mapped under SEPP (Coastal Management) 2018 as Littoral Rainforest, or within an area mapped as Proximity Area for Littoral Rainforest (refer Figure 6.1). Additionally, the site is not mapped as containing or being adjacent to any Significant Urban Bushland as mapped by Ballina Shire Council.

It would be anticipated that the Littoral Rainforest community and the species identified as Rough-shelled Bush Nut would undergo a *Test of Significance* for any future development of the site that may impact this vegetation.

As the site is of limited ecological value in the locality, it would be expected that the proposal would be able to be accommodated without any significant impacts to vegetation or threatened flora species or be able to be compensated for onsite if required.



Plate 3.5: *Macadamia tetraphylla* recorded within Lot 2 of the site.





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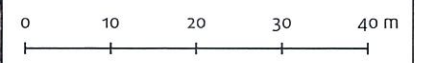
Figure 3.1: Vegetation communities and threatened species



**Legend**

- Study Site
- Lot
- Road
- Contours
- Site Boundary Vegetation**
- Littoral Rainforest - 1
- Residential Landscaping - 2
- Managed Lawns - 3
- Unmanaged Weeds - 4
- ◆ Macadamia tetraphylla

1:600



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Figure 3.2: Threatened flora species within 1.5km assessment circle.



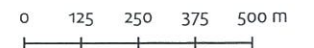
**Legend**

-  Study Site
-  1500m assessment buffer
-  Road
-  Macadamia tetraphylla

**Flora\_Threatened Spp.\_1.5km BioNet Atlas**

-  Arrow-head Vine
-  Coastal Fontainea
-  Davidson's Plum
-  Hairy Jointgrass
-  Rough-shelled Bush Nut
-  Southern Swamp Orchid
-  Stinking Cryptocarya
-  White Lace Flower
-  NPWS Reserve
-  Water Feature

1:11,250



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## 4 Fauna

### 4.1 Desktop Assessment

A search of the NSW Wildlife Atlas (4<sup>th</sup> November 2018), based on an area within 1,500m centered on the site identified confirmed records of 16 threatened fauna species, including 13 species also listed under the *EPBC Act 1999* (refer Table 4.1). No threatened fauna populations listed in the *BC Act 2016* occur in the Ballina LGA.

Table 4.1 Threatened fauna recorded within 1.5 km of the site

Scientific Name	Common Name	NSW Status	Comm. Status	Records
<b>Amphibia</b>				
<i>Crinia tinnula</i>	Wallum Froglet	V,P	-	1
<b>Aves</b>				
<i>Botaurus poiciloptilus</i>	Australasian Bittern	E1,P	E	1
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	V,P,2	-	1
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	E1,P	-	1
<i>Gygis alba</i>	White Tern	V,P	-	1
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	V,P	-	1
<i>Haematopus longirostris</i>	Pied Oystercatcher	E1,P	-	1
<i>Irediparra gallinacea</i>	Comb-crested Jacana	V,P	-	1
<i>Sternula albifrons</i>	Little Tern	E1,P	-	2
<b>Mammalia</b>				
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	2
<i>Miniopterus australis</i>	Little Bentwing-bat	V,P	-	1
<i>Phascolarctos cinereus</i>	Koala	V,P	V	3
<i>Planigale maculata</i>	Common Planigale	V,P	-	1
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	1
<b>Reptilia</b>				
<i>Caretta caretta</i>	Loggerhead Turtle	E1,P	E	3
<i>Eretmochelys imbricata</i>	Hawksbill Turtle	P	V	1

V = Vulnerable; P = Protected; E = Endangered; pursuant to the *BC Act* or *EPBC Act*.



## 4.2 Site Assessment and Discussion

The on-ground assessment involved a detailed habitat assessment of the site with particular regards to the area of the proposal and adjacent areas with the potential to be directly or indirectly impacted. This assessment was undertaken with high regard for the suitable habitat for threatened species that have been recorded within 1,500m of the site (NSW BioNet) and that have the potential to occur at the site.

Habitat characteristics and disturbance parameters were assessed and scored to provide an indication of habitat quality and condition of the site. These results are shown in Table 4.2.

Table 4.2: Habitat characteristics and disturbance parameters

Habitat Assessment Parameters	Community/Map Unit			
	1	2	3	4
Hollows in trees and snags	1	0	0	0
Nests and roosts	3	1	0	0
Natural burrows	0	0	0	0
Fallen logs (>10cm diam.)	1	0	0	0
Decorticating bark	3	2	0	0
Coarse litter (>2cm diam.)	5	4	0	4
Fine litter (<2cm diam.)	4	3	2	4
Bare ground	2	2	2	2
Grass	2	3	7	3
Stones (20-60cm)	0	0	0	0
Boulders ((61cm-2m)	0	0	0	0
Large boulders (>2m)	0	0	0	0
Wetlands, streams, other waterbodies	0	0	0	0
Wildfire/prescribed burn	0	0	0	0
Clearing/logging	-2	-3	-3	-3
Grazing	0	0	0	0
Weeds	-2	-3	-3	-3
Erosion	0	0	0	0
<b>TOTAL</b>	<b>17/91 - (18.7%)</b>	<b>9/91 - (9.9%)</b>	<b>5/91 - (5.5%)</b>	<b>7/91 - (7.7%)</b>

**Characteristic Abundance Key:**

0 = Nil; 1 = Rare; 2 = Rare to occasional; 3 = Occasional; 4 = Occasional to common; 5 = Common; 6 = Common to abundant; 7 = Abundant

**Disturbance Rating Key:**

0 = Nil; -1 = Rare to occasional; -2 = Common; -3 = Abundant

**Total Habitat Rating Key:**

0-9 = Low Value; 10-24 = Moderate Value; 25-39 = Good Value; 40-65 = High Value; 66-91 = Near Pristine

#### 4.2.1 Threatened Fauna Habitat

The suitability of the site for threatened vertebrate fauna previously recorded in the area is described in Table 4.3. This assessment has been undertaken following desktop spatial analysis, field habitat surveys and review of OEH Threatened Species Profiles.

The likelihood of occurrence for any of the threatened fauna species identified through the NSW Wildlife Atlas Database search (refer Table 4.1) have been considered in reference to the vegetation communities identified at the site (refer Table 4.2). An indication of whether a *Test of Significance* is likely to be required based on this initial assessment is also provided (refer Table 4.3).

Table 4.3: Potential for threatened fauna to occur at the site based on habitat suitability and local occurrences.

Scientific Name	Common Name	Site Habitat Suitability	Likelihood of Occurrence	ToS
<b>Amphibia</b>				
<i>Crinia tinnula</i>	Wallum Froglet	Site does not contain suitable habitat. Potential habitat occurs approximately 1 km north west of site.	Nil	No
<b>Aves</b>				
<i>Botaurus poiciloptilus</i>	Australasian Bittern	Site does not contain suitable habitat. Potential habitat occurs approximately 1.5 km south west of site.	Nil	No
<i>Calyptorhynchus lathami</i>	Glossy Black-Cockatoo	Site contains limited habitat with no <i>Casuarina spp.</i> or <i>Allocasuarina spp.</i> recorded. Potential habitat occurs approximately 1.5 km south west of site.	Low	No
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	Site does not contain suitable habitat. Potential habitat occurs approximately 1.5 km south west of site.	Nil	No
<i>Gygis alba</i>	White Tern	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No
<i>Haematopus fuliginosus</i>	Sooty Oystercatcher	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No
<i>Haematopus longirostris</i>	Pied Oystercatcher	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No
<i>Irediparra gallinacea</i>	Comb-crested Jacana	Site does not contain suitable habitat. Potential habitat occurs approximately 1.5 km south west of site	Nil	No
<i>Sternula albifrons</i>	Little Tern	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No
<b>Mammalia</b>				
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	Site is very unlikely to provide habitat being a small, isolated fragment. Potential habitat exists approximately 1.5 km south west of site in the Ballina Nature Reserve.	Low	No



Scientific Name	Common Name	Site Habitat Suitability	Likelihood of Occurrence	ToS
<i>Miniopterus australis</i>	Little Bentwing-bat	Site is very unlikely to provide habitat being a small, isolated fragment. Potential habitat exists approximately 1.5 km south west of site in the Ballina Nature Reserve.	Low	No
<i>Phascolarctos cinereus</i>	Koala	The site is very unlikely to provide habitat with no preferred Koala food trees recorded. Little preferred habitat exists within the vicinity of the site.	Low	No
<i>Planigale maculata</i>	Common Planigale	The site is very unlikely to provide habitat being a small, isolated fragment. Potential habitat occurs approximately 1 km north of site.	Low	No
<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	The site provides some habitat. Preferred habitat exists approximately 1.5 km south west of site in the Ballina Nature Reserve.	Medium	Yes
<b>Reptilia</b>				
<i>Caretta caretta</i>	Loggerhead Turtle	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No
<i>Eretmochelys imbricata</i>	Hawksbill Turtle	Site does not contain suitable habitat. Preferred habitat occurs approximately 750 m east of site.	Nil	No

A *Test of Significance* (ToS) under Clause 7.3 of the BC Act would be required for those species with potential to be significantly impacted based on final design. The completion of a ToS falls outside the scope of this ecological assessment as concept layout and quantification of impacts haven't been finalised. A ToS is likely to be required if it is considered that any impacts would occur which are likely to have some impact on threatened species recorded at the site or with the potential to occur.

### 4.3 Discussion

The site has been extensively cleared, with remnant native species and important habitat structural features being rare. Forest vegetation is limited to a small, fragmented and disturbed patch located on the south and boundary between Lot 1 and Lot 2. The remainder of the site is essentially cleared and/or almost exclusively dominated by exotic vegetation.

Considering the significant historical impacts, small area and low condition of habitat, the site represents mostly marginal habitat value for most native fauna. Vegetation is degraded, fragmented, and does not form part of an important habitat corridor. The habitat assessment survey indicated that the value of habitat at the site is of low to moderate quality (refer Table 4.2).

It was generally concluded that the site does not represent significant habitat for any threatened species, however, a *Test of Significance* (ToS) would be required for those threatened fauna species with the potential to occur and to be impacted by the proposal.





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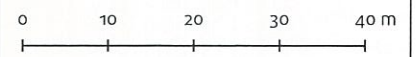
Figure 4.1: Study site habitat assessment



**Legend**

- Study Site
  - Lot
  - Road
  - Contours
  - NPWS Reserve
  - Water Feature
- Habitat Assessment\_Fauna**
- Low Value (0-9.5%)
  - Low Value (9.6-12.5%)
  - Moderate Value (18.5-26%)

1:600



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Figure 4.2: Threatened fauna species within 1.5km assessment circle.

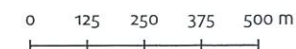


**Legend**

-  Study Site
-  NPWS Reserve
-  Water Feature

**Fauna\_Threatened Spp.\_1.5km BioNet Atlas**

-  Australasian Bittern
-  Black-necked Stork
-  Comb-crested Jacana
-  Common Planigale
-  Glossy Black-Cockatoo
-  Grey-headed Flying-fox
-  Hawksbill Turtle
-  Koala
-  Little Bentwing-bat
-  Little Tern
-  Loggerhead Turtle
-  Pied Oystercatcher
-  Sooty Oystercatcher
-  Spotted-tailed Quoll
-  Wallum Froglet
-  White Tern



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## 5 Ecological Constraints

The proposal has been examined in the context of relevant environmental legislation and planning instruments. It has also been assessed based on the site attributes, threatened species records, vegetation condition and habitat potential. These have been overlaid onto the site aerial to produce a preliminary ecological constraints map as shown in Figure 5.1. Key considerations included:

- SEPP 44 habitat areas;
- Coastal Management SEPP 2018;
- Threatened ecological communities;
- Wetlands, creeks and drainage lines;
- Native vegetation communities and associations;
- Mature native trees; and
- Threatened species records or potential habitat.

Preliminary assessment suggest that the ecological constraints of the site are generally low due to:

- The small size of the site and low habitat value;
- The fragmented nature of native vegetation communities in the locality;
- The absence of mapped wetlands or Koala habitat;
- The small and degraded condition of the Littoral Rainforest TEC on the site, and
- The likelihood that the threatened flora (2 x *Macadamia tetraphylla*) located on the site are associated with residential plantings.



Plate 5.1: *Macadamia tetraphylla* recorded within Lot 2 of the site.





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Figure 5.1: Preliminary constraints analysis



**Legend**

Study Site

Lot

Road

Contours

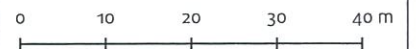
Coastal Use Area Extent

Macadamia tetraphylla

**Site Boundary Vegetation**

Littoral Rainforest - 1

1:600



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## 6 Statutory and Planning Assessment

The proposal has been examined in the context of relevant environmental legislation and planning instruments. It has also been assessed based on the site attributes, threatened species records, vegetation condition and habitat potential. Key legislation and planning instruments assessed and of most relevance include:

- Ballina Local Environmental Plan (BLEP) 2012;
- Ballina Development Control Plan (BDCP) 2012;
- Biodiversity Conservation Act 2016 (BC Act);
- Environmental Planning and Assessment Act 1979 (EP&A Act);
- State Environmental Planning Policy No 44 – Koala Habitat Protection (SEPP 44);
- State Environmental Planning Policy (Coastal Management) 2018; and
- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).

### 6.1 Ballina Local Environmental Plan 2012

The Ballina LEP 2012 guides the planning decisions for the Ballina LGA. It specifies the objectives of each zone and the uses permitted with or without consent, as well as prohibited uses. It is supported by the Ballina DCP 2012 which provides more detailed information relating to development controls.

The site is currently zoned RU1 Primary Production. The proposal seeks to rezone the site to R2 Low Density Residential. Land adjacent to the site to the north and west is zoned R2 Residential, while land to the south is currently zoned RU1 Primary Production. The site currently supports residential use and telecommunication infrastructure. There is no evidence of the site currently being used for primary production.

### 6.2 Ballina Development Control Plan 2012

The Ballina DCP 2012 has been examined in the context of the proposal, with consideration being given to *Section 2A – Vegetation Management*. This was reviewed to ascertain if any constraints to the removal of vegetation exist or are relevant to the proposal.

Section 2A 1.1 identifies the zones to which vegetation management provisions in the DCP apply. Land zoned R2 Low Density Residential is identified as land to which vegetation management provisions apply, while land zoned RU1 Primary Production is not subject to vegetation management provisions under the DCP.

Under the DCP, development consent is required for vegetation management works within land zoned R2 when the works will affect:

- a) Any tree (either native or non-native) with a height of 6 metres or greater;



- b) Any tree of the species *Pandanus tectorius* (Screw Pine) with a height of 3 metres or greater and located in the localities of East Ballina, Lennox Head or Skennars Head;
- c) Any vegetation located on land identified as Significant Urban Bushland on the Significant Urban Bushland Map; and
- d) Any tree with a height of 3 metres or greater located on land containing an Item of Environmental Heritage as specified in Schedule 5 of the Ballina Local Environmental Plan 2012.

The site contains native and non-native trees above 6 m in height (map units 1 and 2) and therefore future vegetation management works would be subject to development consent as per the provisions of the DCP following the proposed rezoning of the site to R2. The site is not mapped as containing or being adjacent to any Significant Urban Bushland as mapped by Ballina Shire Council.

### 6.3 Biodiversity Conservation Act 2016

Consideration has been given to the BC Act throughout the undertaking of this preliminary assessment.

One (1) threatened flora species, Rough-shelled Bush Nut (*Macadamia tetraphylla*), listed under the BC Act was recorded at the site (refer S3.2.2), with two (2) individuals located in association with residential plantings near current dwelling. A small fragment (0.175 ha) of the listed threatened ecological community Littoral Rainforest was recorded at the site, although this is currently in a highly degraded condition with only marginal habitat value.

No threatened fauna species were recorded, although targeted fauna surveys were not undertaken. The likelihood of threatened fauna to occur within the site was assessed and was found to be nil or low for all species, apart from Grey-headed Flying-fox which was found to have a moderate likelihood of occurrence.

The rezoning proposal does not constitute an activity that will exceed the thresholds of the Biodiversity Offsets Scheme (BOS) under Clause 7.4 of the Act and Part 7 of the BC Regulation (refer S.6.4). Further assessment under the Act would be required for subsequent DAs. A *Test of Significance* (ToS) under Clause 7.3 of the Act would be required for those species recorded at the site, and for those with potential to be impacted.

### 6.4 Biodiversity Conservation Regulation 2017

Part 6 of the BC Regulation introduces the Biodiversity Offsets Scheme (BOS) with Clause 6.1 identifying additional biodiversity impacts to which scheme applies. These impacts on biodiversity values would need to be assessed under the BOS for any future development of the site. As the site is generally in low condition, it would be expected that concept design would be able to avoid and minimise impacts on the biodiversity of the site, mitigate for development impacts, and adopt strategies to improve the biodiversity values of the site.

Part 7 of the BC Regulation prescribes the biodiversity assessment and approvals under Planning Act and details when an activity exceeds a threshold and therefore requires assessment under the



Biodiversity Offset Scheme (BOS). Three main threshold triggers apply.

1. Area clearing threshold (Clause 7.2) – depends on the minimum lot size under the relevant LEP as defined in Table 6.1.

Table 6.1: Clearing thresholds Part 7.2 BC Regulation.

Minimum lot size of land	Area of clearing
Less than 1 hectare	0.25 hectare or more
Less than 40 hectares but not less than 1 hectare	0.5 hectare or more
Less than 1,000 hectares but not less than 40 hectares	1 hectare or more
1,000 hectares or more	2 hectares or more

2. Biodiversity Values Map threshold (Clause 7.3) – clearing of native vegetation or additional biodiversity impacts (Clause 6.1) within Biodiversity Values (BV) Map exceeds threshold. No areas of the site are mapped on the Biodiversity Values Map, and this trigger therefore does not apply (refer Figure 6.1).

3. A threatened species 'Test of Significance' – for all local developments that do not exceed the BOS threshold. If the 'Test of Significance' assessment indicates that there will be a significant impact, this exceeds the threshold and the proponent must carry-out a BAM assessment.

## 6.5 SEPP No. 44 – Koala Habitat Protection

SEPP 44 provides a series of questions as a basis for the assessment of lands as potential and/or core Koala habitat. These questions are:

### 1. Does the Policy apply?

*Does the subject land occur in an LGA identified in Schedule 1?*

Yes

*Is the landholding to which the DA applies greater than 1 hectare in area?*

Yes, however, the proposal is for the rezoning of the site and there is no DA at this stage. It is submitted that Part 2 of SEPP 44 does not apply.

### 2. Is the land potential Koala habitat?

*Does the site contain areas of native vegetation where the trees of types listed in Schedule 2 constitute at least 15% of the total number of trees in the upper or lower strata of the tree component?*



No – Trees listed in Schedule 2 do not occur at the site. Therefore, the study site does not contain any areas of native vegetation where Schedule 2 trees constitute at least 15% of total trees and the site does not constitute potential habitat.

### 3. Is there core Koala habitat on the subject land?

No - Core Koala Habitat means an area of land with a resident population of Koalas, evidenced by attributes such as breeding females (that is, females with young) and recent sightings of and historical records of a population.

No records of Koalas occur at the site, no recent sightings or evidence of use have been observed. The site is also not within a regional or sub-regional corridor identified as being of importance to the Koala.

### 4. Is there a requirement for the preparation of a Plan of Management for identified core Koala habitat?

No - it is therefore concluded that the site does not meet the definitions of either 'core' or 'potential' Koala habitat and the SEPP 44 policy does not apply.

## 6.6 SEPP (Coastal Management) 2018

All of Lot 1 and the eastern portion of Lot 2 (approximately 0.5 ha) falls within the mapped Coastal Use Area under the Coastal Management SEPP.

As per Division 4 of the SEPP, potential impacts of proposed developments within the Coastal Use Area on any of the following must be considered prior to consent:

- (i) existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,
- (ii) overshadowing, wind funnelling and the loss of views from public places to foreshores,
- (iii) the visual amenity and scenic qualities of the coast, including coastal headlands,
- (iv) Aboriginal cultural heritage, practices and places, and
- (v) cultural and built environment heritage.

The site does not contain any areas mapped as Littoral Rainforest, Coastal Wetlands, nor does it occur in an area mapped as proximal to these (refer Figure 6.1). The site lies at the extent of the Coastal Use Area and the proposal is unlikely to result in any of the listed impacts.

## 6.7 Environment Protection and Biodiversity Conservation Act 1999

Rough-shelled Bush Nut, which is listed as Vulnerable under the EPBC Act 1999, was recorded at the site. Other species such as the Grey-headed Flying Fox have the potential to occur from time to time. These species would require a *Test of Significance* (ToS) under Clause 7.3 of the BC Act with the submission of a DA.



The vegetation community identified as low condition Littoral Rainforest also likely meets the criteria for the threatened ecological community *Littoral Rainforest and Coastal Vine Thickets of Eastern Australia*.

Where land may be subject to the EPBC Act, the Federal Minister for Environment has no power to prohibit the rezoning of land, because the rezoning of land is not an ‘action’ for the purposes of the EPBC Act.





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Figure 6.1: Biodiversity Values, Regulated Land, Coastal Wetlands and Littoral Rainforest mapping



**Legend**

-  Study Site
-  Lot
-  Road
-  Contours
-  Coastal Wetlands
-  Coastal Wetlands proximity area
-  Littoral Rainforest
-  Littoral Rainforest proximity area
-  Biodiversity Values
-  1500m assessment buffer
-  Vulnerable Land

1:11,250

0 100 200 300 m  


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## 7 Potential Impacts and Mitigation

Potential impacts beyond the immediate rezoning proposal have been considered as part of this preliminary assessment. The potential impacts taken into consideration include the future development of the site in accordance with the rezoning application proposed, including the construction of road and building infrastructure. Future development of the site would be subject to a separate approval process.

Potential mitigation measures have been identified in consideration of the key objective of maintaining and improving the biodiversity values of the site.

### 7.1 Clearing or Fragmentation

Native vegetation in the vicinity of the site is highly fragmented and much of the site is currently cleared of native vegetation. There is a very small, degraded patch of Littoral Rainforest within the site and loss of some of this native vegetation may occur at the site for roads, infrastructure, services and residences. Any impact of this, however, is expected to be negligible due to the very small size of the patch (0.2 ha), its poor connectivity to surrounding native vegetation areas and its current condition. If required, restoration of currently degraded parts of the community or rehabilitation of areas at the site not currently supporting native vegetation would result in a net gain in the native vegetation extent and biodiversity values of the site.

#### Mitigation Measures

- Mature native trees (DBH > 0.8m) and native vegetation be retained where possible.
- Potential restoration of retained native vegetation communities through bush regeneration works.
- Landscaping incorporating locally occurring native species reflective of on-site and adjacent vegetation communities.

### 7.2 Habitat Loss or Disturbance

Much of the site has been assessed as having low habitat value, and there is generally a low likelihood of threatened fauna utilising the site. The small patch of native vegetation (Littoral Rainforest) occurring within the site is likely to have only moderate habitat value due to its disturbed state and limited connectivity. Therefore, habitat loss and disturbance for native fauna is expected to be negligible. Where possible, the retention of mature trees and native vegetation within the area of the rezoning proposal would mitigate against any potential losses and serve as stepping stone habitat.

#### Mitigation Measures

- Implement mitigation measures identified in 7.1.
- Construct habitat protection buffer fencing around all vegetation to be retained and areas of conservation significance.



### 7.3 Water Quality and Hydrology Impacts

Although there are no wetlands or drainage lines identified on the site or immediately adjacent to it, there is the potential for changes in hydrology or sediment and nutrient loads to impact wetlands or watercourses and downstream environments. The construction phase of any future development would represent a potential impact, particularly from sediment loads and would require planning and mitigation development to reduce threats.

#### Mitigation Measures

- Ensure development and implementation of best practice erosion and sediment controls prior to any vegetation removal or construction activities.
- Ensure delineation and protection of downstream wetlands and drainage lines from potential construction and post-development impacts that may impact on water quality.
- Incorporate a suite of sustainable stormwater quality improvement design principles such as gross pollutant traps and vegetated swales between future development site and downstream wetlands to mitigate impacts.

### 7.4 Increased Feral or Domestic Animal Impacts

Any future development of the site has the potential to increase the impact of domestic animals on local native fauna or facilitate an increase in feral animal activity at the site. It is likely that there is already impacts occurring as a result of both feral and domestic animals based on local records, existing land use, current site conditions and habitat assessments.

#### Mitigation Measures

- Potential weed control works identified in 7.1 would reduce shelter for feral animals.
- Consider planning options to minimise domestic animal impacts to sensitive habitat areas.
- Facilitate positive community attitudes to undertake activities to protect native fauna from impacts of feral and domestic animals.



## 8 Rehabilitation Opportunities

There are opportunities to mitigate for potential impacts that may be associated with future developments within the site. Much of the land within the site currently represents low biodiversity and habitat value, and areas of unmanaged weeds at the site represent a risk to surrounding native vegetation. The small patch of native vegetation (Littoral Rainforest) within the site is currently in a highly degraded condition, with high levels of weed invasion, increased edge effects and poor structure. In its current state it has limited biodiversity and habitat values. Any impacts to native vegetation required for future developments could be mitigated, and the ecological value of the site enhanced, through the following rehabilitation opportunities:

- Restoration of any areas of retained Littoral Rainforest through weed control/bush regeneration;
- Weed control in areas of currently unmanaged weed infestations adjacent to any areas of retained Littoral Rainforest community to reduce weed invasion; and
- Revegetation in areas currently devoid of native vegetation - where possible, this could be targeted to increase the size and reduce the edge effects of any areas of retained Littoral Rainforest.

Opportunities also exist for land identified for future development to contribute positively to local landscape scale biodiversity through measures including:

- Protection and enhancement of mature native vegetation species and community patches through assisted regeneration;
- Incorporation of locally occurring and suitable native vegetation able to contribute as habitat into site landscape planning; and
- Integration of sustainable and ecologically aesthetic storm water quality improvement devices into site planning and development.



## 9 Summary and Conclusion

This Ecological Assessment has been prepared for Ardill Payne & Partners on behalf of Ballina Shire Council. This report is to support their submission for a Planning Proposal to rezone Lot 1 and Lot 2 DP 620838, 9 Byron Bay Road, Lennox Head to R2 Low Density Residential zone, and amend the Minimum Lot Size to 600m<sup>2</sup>.

Following assessment of all available information, threatened species records and habitat assessment of the site, it is concluded that:

- The area identified for rezoning is heavily disturbed and of limited ecological value;
- A majority of the site is devoid of native vegetation and is of low habitat value, and where native vegetation exists, it is highly disturbed and fragmented, with little connectivity to local native vegetation communities of significance. Therefore, habitat impacts at the site based on the proposal and potential future development would be negligible;
- The TEC (Littoral Rainforest) patch identified at the site is very small (0.175 ha) and heavily degraded with only limited habitat value;
- Vegetation identified as Littoral Rainforest represents as a small low condition patch and is neither mapped under SEPP (Coastal Management) 2018 as Littoral Rainforest, or within an area mapped as Proximity Area for Littoral Rainforest (refer Figure 6.1);
- The site is not mapped as containing or being adjacent to any Significant Urban Bushland as mapped by Ballina Shire Council;
- The threatened flora species, Rough-shelled Bush Nut (*Macadamia tetraphylla*), has been recorded at the site with two (2) individuals identified;
- The site has a very low likelihood of occurrence of any threatened fauna except for Grey-headed Flying-fox (*Pteropus poliocephalus*), which has the potential to occur from time to time;
- Additional impact assessments would potentially be required when site concept design is finalised, with regards to the threatened flora species and threatened ecological community identified at the site;
- Opportunities exist to mitigate development impacts through restoration of any native vegetation retained on the site through regeneration; and/or rehabilitation of any areas of the site currently devoid of native vegetation through revegetation; and
- Based on the information provided for this assessment, and as a result of the assessment undertaken, the site is generally considered entirely suitable for the proposal covered by this assessment.



## 10 References

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<https://www.environment.nsw.gov.au/determinations/LittoralRainforestEndSpListing.htm>



## Appendices

### Appendix A – Flora Species List

Species Name	Vernacular Name
<i>Agave americana</i> *	Agave
<i>Ageratina adenophora</i> *	Crofton Weed
<i>Ageratina riparia</i> *	Mistflower
<i>Alectryon coriaceus</i>	Beach Alectryon
<i>Ambrosia artemisiifolia</i> *	Annual Ragweed
<i>Araucaria heterophylla</i> *	Norfolk Pine
<i>Arytera divaricata</i>	Coogera
<i>Asparagus aethiopicus</i> *	Ground Asparagus
<i>Asplenium australasicum</i>	Birds-Nest Fern
<i>Axonopus compressus</i> *	Broad-leaved Carpet Grass
<i>Axonopus fissifolius</i> *	Narrow-leaved Carpet Grass
<i>Banksia integrifolia</i>	Coastal Banksia
<i>Bidens pilosa</i> *	Cobblers Peg
<i>Bromus catharticus</i> *	Prairie Grass
<i>Cenchrus clandestinus</i> *	Kikuyu
<i>Centella asiatica</i>	Pennywort
<i>Chloris gayana</i> *	Rhodes Grass
<i>Chrysanthemoides monilifera</i> *	Bitou Bush
<i>Cinnamomum camphora</i> *	Camphor Laurel
<i>Cissus antarctica</i>	Water Vine
<i>Commelina cyanea</i>	Scurvy Weed
<i>Conyza sumatrensis</i> *	Tall Fleabane
<i>Cryptocarya triplinervis</i>	Three-veined Cryptocaria
<i>Cupaniopsis anacardioides</i>	Tuckeroo
<i>Cyperus brevifolius</i> *	Mullumbimby Couch
<i>Dichondra repens</i>	Kidney Weed
<i>Dracena sanderiana</i> *	Lucky Bamboo
<i>Ehrharta erecta</i> *	Panic Veldtgrass



<i>Erechtites valerianifolius</i> *	Brazilian Fireweed
<i>Eriobotrya japonica</i> *	Loquat
<i>Flagellaria indica</i>	Whip Vine
<i>Geitonoplesium cymosum</i>	Scrambling Lily
<i>Guioa semiglauca</i>	Guioa
<i>Hibiscus rosa-sinensis</i> *	Hibiscus
<i>Hydrocotyle bonariensis</i>	Largeleaf Pennywort
<i>Hypoestes phyllostachya</i> *	Freckle Face
<i>Ipomoea cairica</i> *	Coastal Morning Glory
<i>Jagera pseudorhus</i>	Foambark
<i>Lantana camara</i> *	Lantana
<i>Lysimachia arvensis</i> *	Scarlet Pimpernel
<i>Macadamia integrifolia</i>	Macadamia
<i>Macadamia tetraphylla</i> #	Rough-shelled Bush-nut
<i>Macaranga tanarius</i>	Macaranga
<i>Macfadyena unguis-cati</i> *	Cat's Claw Creeper
<i>Maclura cochinchinensis</i>	Cockspur Thorn
<i>Mallotus discolor</i>	White Kamala
<i>Mangifera indica</i> *	Mango
<i>Melinis minutiflora</i> *	Molasses Grass
<i>Melodinus australis</i>	Southern Melodinus
<i>Microlaena stipoides</i>	Weeping Grass
<i>Monstera deliciosa</i> *	Fruit Salad Plant
<i>Morus nigra</i> *	Mulberry
<i>Murraya paniculata</i> *	Orange Jessamine
<i>Neolitsea australiensis</i>	Green Bollygum
<i>Nephrolepis cordifolia</i> *	Fishbone Fern
<i>Ochna serrulata</i> *	Mickey Mouse Bush
<i>Oplismenus undulatifolius</i>	Basket Grass
<i>Ottochloa gracillima</i>	Slender Shade Grass
<i>Paspalum dilatatum</i> *	Paspalum
<i>Paspalum mandiocanum</i> *	Broadleaf Paspalum
<i>Passiflora suberosa</i> *	Corky Passion Flower



<i>Passiflora subpeltata</i> *	White Passion Fruit
<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Prunus persica</i> *	Peach
<i>Psidium guajava</i> *	Yellow Guava
<i>Pteridium esculentum</i>	Bracken
<i>Rumex crispus</i> *	Curled Dock
<i>Salvia coccinea</i> *	Red Salvia
<i>Sansevieria trifasciata</i> *	Mother-in-law's Tongue
<i>Schefflera actinophylla</i> *	Umbrella Tree
<i>Senna pendula</i> *	Senna
<i>Setaria sphacelata</i> *	Setaria
<i>Sida rhombifolia</i> *	Paddy's Lucerne
<i>Smilax australis</i>	Native Sarsaparilla
<i>Solanum mauritianum</i> *	Tobacco Bush
<i>Solanum nigrum</i> *	Blackberry nightshade
<sup>†</sup> <i>Sorghum halepense</i> *	Johnson Grass
<i>Stenotaphrum secundatum</i> *	Buffalo Grass
<i>Stephania japonica</i>	Snake Vine
<i>Syagrus romanzoffiana</i> *	Cocos Palm
<i>Syzygium corynanthum</i>	Sour Cherry
<i>Taraxacum officinale</i> *	Dandelion
<i>Tecoma capensis</i> *	Cape Honeysuckle
<i>Triadica sebifera</i> *	Chinese Tallow
<i>Trifolium spp.</i> *	Clover

\* introduced species

#threatened species