

## 2. GENERAL LAND USE AND DEVELOPMENT CODES

### 2.1 Environmental Management Codes

#### 2.1.1 Code for Nature Conservation and Biodiversity<sup>1</sup>

- (c) provides for the retention and enhancement of a linked network of habitat areas; and
- (d) protects the specific biodiversity values of the Nature Conservation Management Units shown on Figure No. 4 -2.1.1 and described in the Schedule to this Code<sup>3</sup>.

#### PURPOSE

The purpose of this code is to ensure that development in and adjacent to environmentally sensitive areas<sup>2</sup>:

- (a) conserves and enhances the Shire’s nature conservation and biodiversity values;
- (b) maintains and enhances ecological processes;

PERFORMANCE CRITERIA	ACCEPTABLE MEASURES
<p><b>P1 The nature conservation and biodiversity values of environmentally sensitive areas are protected.<sup>3 4</sup></b></p>	<p><b>A1.1</b> No vegetation is cleared which is:</p> <ul style="list-style-type: none"> <li>(a) an area of critical habitat, or an area containing or likely to contain threatened species (flora or fauna) as defined by the <i>Nature Conservation Act 1992</i>; or</li> <li>(b) an area containing or likely to contain protected or threatened communities or species, or the known habitat of such species as defined by the <i>Environmental Protection and Biodiversity Conservation Act 1999</i>); or</li> <li>(c) an area of ‘Endangered’ regional ecosystem under the <i>Vegetation Management Act 1999</i>; or</li> <li>(d) an area of ‘Of Concern’ regional ecosystem under the <i>Vegetation Management Act 1999</i> that is within a Rural precinct or a Sustainable Rural Residential Precinct; or</li> <li>(e) an area identified as a high nature conservation value area or an area vulnerable to land degradation under the <i>Vegetation Management Act 1999</i>.</li> </ul> <p><b>AND</b></p> <p><b>A1.2</b> Clearing of other remnant or regrowth vegetation shown on Regulatory Map No 1.1 (Nature Conservation Management Areas) is minimised, with at least 70% of the vegetation within the site retained.</p>

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<sup>1</sup> Where a proposal is likely to adversely impact on nature conservation and biodiversity values, an Ecological Assessment Report will be required in accordance with Planning Scheme Policy No.2. Applicants should also be aware of their obligations to comply with any relevant State or Commonwealth requirements for environmentally sensitive areas.

<sup>2</sup> The term “environmentally sensitive areas” is defined in Volume 1 of this Planning Scheme.

<sup>3</sup> A guide to the particular values of Nature Conservation Management Units identified on Figure 4-2.1.1 are set out in the Schedule to this Code.

<sup>4</sup> Any development in a koala habitat area is to be assessed against the koala conservation criteria contained in the Nature Conservation (Koala) Conservation Plan 2005 and the Management Program 2005-2015 or, prior to the adoption of the Conservation Plan, the Interim Guideline: Koalas and Development. Koala habitat areas are identified in these documents.

## 2. GENERAL LAND USE AND DEVELOPMENT CODES

PERFORMANCE CRITERIA	ACCEPTABLE MEASURES
<b>P2 Important habitat link-ages and ecological corridors are retained and enhanced.</b>	A2 Existing corridors of native vegetation in locations identified as a local or strategic linkage or riparian forest on Figure 4-2.1.1 <i>Nature Conservation Strategy</i> are retained to achieve a minimum width of 200m.
<b>P3 Viable connectivity is maintained or created between native vegetation areas or areas of habitat significance within the site and external to the site, such that the connectivity provides for:</b> (a) ecosystem functioning; (b) self generation; and (c) resilience against threatening processes. <sup>5</sup>	No Acceptable Measure is nominated.
<b>P4 Siting, design and construction of the development (including buildings, structures, outdoor activity areas and on-site infrastructure) minimise impacts on biodiversity values, having regard to:</b> (a) the nature of the specific biodiversity values of the site and adjacent land; (b) the potential to contain new development within existing cleared or disturbed areas and avoid further fragmentation of vegetation; (c) the potential to respond sensitively to the natural land form; (d) the provision of adequate separation between the development and the specific biodiversity values of the site and adjacent land; and (e) the provision of other appropriate buffering treatments.	No Acceptable Measure is nominated.
<b>P5 Environmentally sensitive areas are protected from:</b> (a) weed infestation; and (b) changes to the hydrological regime.	No Acceptable Measure is nominated.

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<sup>5</sup> *Threatening processes may include but are not limited to: (a) loss, degradation, fragmentation of native vegetation and animal habitat through land clearing and development; (b) changes in natural biodiversity caused by invasive plants, feral animals, diseases and changes in predation patterns on native animals.*

## 2. GENERAL LAND USE AND DEVELOPMENT CODES

PERFORMANCE CRITERIA	ACCEPTABLE MEASURES
<p><b>P6 Lighting is located and orientated to minimise negative impacts on wildlife and environmentally sensitive areas.</b></p>	<p><b>A6.1</b> Light spill resulting from direct, reflected or other incidental light does not exceed the criteria in AS4282-1997 “Control of the obtrusive effects of lighting” at surrounding sensitive uses; and</p> <p><b>A6.2</b> The vertical illumination resulting from direct, reflected or other incidental light emanating from lighting does not exceed 1 lux when measured at the boundary of environmentally sensitive areas (Nature Conservation Management Unit or a Nature Conservation Management Area shown on Figure 4 - 2.1.1 Nature Conservation Strategy) and protected from estate boundaries at any level from ground level upward.</p>
<p><b>P7 Separation and buffering between development and adjacent environmentally sensitive areas (whether on the site or adjacent land) ensures environmentally sensitive areas are protected from potential adverse impacts on biodiversity values.<sup>6</sup></b></p>	<p><i>For land in the protected estate:</i></p> <p><b>A7.1</b></p> <p>(a) All buildings, structures and operational works are setback a minimum of 100m from the nearest boundary of land in the protected estate<sup>7</sup>; and</p> <p>(b) Native vegetation in the buffer is to be retained or enhanced.</p> <p><b>OR</b></p> <p><i>For other environmentally sensitive areas not in the protected estate:</i></p> <p>No Acceptable Measure is nominated.</p>
<p><b>P8 Rehabilitation and landscaping of cleared or degraded vegetation areas includes:</b></p> <p>(a) retention of existing native vegetation;</p> <p>(b) maximisation of natural regeneration and recruitment;</p> <p>(c) promotion of the site’s pre-European clearing structural and floristic qualities;</p> <p>(d) minimisation of edge effects through small edge to area ratios and suitable planting;</p> <p>(e) promotion of the weed free succession of the area with minimal ongoing management; and</p> <p>(f) minimisation of disturbance to habitat and environmental values of the site through the staging of work over an appropriate timeframe.<sup>8</sup></p>	<p>No Acceptable Measure is nominated.</p>

<sup>6</sup> Any development in a koala habitat area is to be assessed against the koala conservation criteria contained in the Nature Conservation (Koala) Conservation Plan 2005 and the Management Program 2005-2015 or, prior to the adoption of the Conservation Plan, the Interim Guideline: Koalas and Development. Koala habitat areas are identified in these documents.

<sup>7</sup> The “protected estate” is defined in Volume 1 of this Planning Scheme.

<sup>8</sup> A rehabilitation plan may be required to demonstrate the ability to comply with this criterion or as a condition of approval. Planning Scheme Policy No.3 outlines the appropriate measures to be taken into account for rehabilitation.



## Schedule to Code 2.1.1 Description of Environmental Values of Nature Conservation Management Units

The Nature Conservation Management Areas shown on Regulatory Map No 1.1 and Figure 4 – 2.1.1 are based on Queensland Herbarium mapping. The Nature Conservation Management Units shown on Figure 4 – 2.1.1 have been identified and assessed through the supporting remnant vegetation study of the Shire. In assessing development in or otherwise affecting these areas, the environmental values which Council will seek to be protected are as described in this Schedule in accordance with the outcomes of the remnant vegetation study.

### Explanation of the Flora and Fauna status information provided.

Where 'status' is mentioned next to a species name, this refers to the status given under the *Nature Conservation (Wildlife) Regulation 1994*. Status information is current at 8 March 2004.

Where a value is entered for the EPBC Status column, this refers to the status given to the species under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*.

### (1) Core Areas C1 - C10

#### (a) Area C1: Mooloolah River

This area has one of the highest concentrations of rare and threatened species in the coastal lowlands of South East Queensland, including an endangered plant and three other species not found anywhere else in the Shire.

The Wallum froglet (*Crinia tinnula*) and Richmond birdwing (*Ornithoptera richmondia*) and the Glossy Black Cockatoo (*Calyptorhynchus lathami*) have both been recorded from Mooloolah River National Park. The two other wallum frogs, both rated vulnerable, occur here as well. More frogs are likely to be recorded in more favourable seasonal conditions.

The ground parrot has the potential to occur in the area.

Other areas in this unit are rich in threatened plant species including Christmas bells (*Blandfordia grandiflora*), Wide bay boronia, (*Boronia rivularis*) and *Acacia attenuata*, none of which is known to occur in the Park. It is also the site of the largest mainland population of a sedge (*Schoenus scabripes*) and rare vegetation communities that are very spatially restricted (e.g. *Melaleuca quinquenervia* with *Todea barbara* dominant in the understorey). It is important that this area be conserved and managed similar to the National Park to protect these plants, as well as the stands of swamp stringybarks. *Allocasuarina emuina* was recorded from this area in 1954 but appears to be locally extinct.

Wallum froglets are resident, and the other wallum frogs are probably present as well. Other animals recorded here include the grey kangaroo and echidna.

## Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2d1 Coastal Lowland Scribbly Gum Associations	Highly significant or endangered
3a Coastal heath	Highly significant or endangered
3b Wallum banksia associations	Highly significant or endangered
4 Paperbark forests and wetlands	Highly significant or endangered

### Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna	Status
<i>Eucalyptus conglomerata</i>	E	E	Ground parrot ( <i>Pezoporus wallicus</i> ) (locally extinct)	V
<i>Acacia attenuata</i>	V		Wallum froglet ( <i>Crinia tinnula</i> )	V
<i>Acacia baueri</i>	V		Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V
<i>Blandfordia grandiflora</i>	R		Wallum rocket-frog ( <i>Litoria freycinetii</i> )	V
<i>Boronia rivularis</i>	R		Wallum treefrog ( <i>Litoria olongburensis</i> )	V
<i>Schoenus scabripes</i>	R		Glossy Black Cockatoo ( <i>Calyptorhynchus lathami</i> )	V

#### (b) Area C2: Marooloo Wallum

##### Values

This area consists of relatively flat, sandy soils, dominated by paperbarks, wallum and coastal heathlands. All are vegetation communities that now have a restricted distribution within South East Queensland. There are no protected areas within this core, with infrastructure (airport) and industry being the dominant land uses.

This is a highly significant remnant that acts as a core area due to it being:

- of a sufficient extent and good habitat condition to support viable colonies of rare species,
- dominated by regionally endangered ecosystem types (wallum, paperbarks and coastal heath), and
- located in the centre of the former continuum of coastal wallum, paperbark and heathland vegetation that is now disrupted.

It is recognised as a ‘core’ area due to its high concentration of rare and threatened species, some of which are endemic in the Maroochy Shire. Most notable of the plant species is the most substantial colony of *Allocasuarina emuina* known across its range. Given the plant’s highly restricted distribution and tenuous viability, its continuation as a species will require this stand to be protected. A stand of *Acacia baueri* is also found within this unit.

Also located in the acidic streams and swamps which are typical of the wallum and paperbark habitat are the frog species *Crinia tinnula* (Wallum froglet), *Litoria olongburensis* (Wallum tree frog), and *Litoria freycinet* (Wallum rocket frog). This habitat is becoming restricted due to extensive clearing and draining along the South East Queensland coast. Other uncommon species include the eastern chestnut mouse, peregrine falcon, red-backed button quail and grass skink. Other species include the koala, grey kangaroo, swamp wallaby and red-necked wallaby.

### Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
3a Coastal heath	Highly significant or endangered
4 Paperbark forests and wetlands	Highly significant or endangered

## Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Allocasuarina emuina</i>	E	E	Wallum froglet ( <i>Crinia tinnula</i> )	V
<i>Eucalyptus conglomerata</i>	E	E	Ground parrot ( <i>Pezoporus wallicus</i> )	E
<i>Acacia baueri</i>	V		Wallum rocket-frog ( <i>Litoria freycinetii</i> )	V
<i>Blandfordia grandiflora</i>	R		Wallum treefrog ( <i>Litoria olongburensis</i> )	V
			Koala ( <i>Phascolarctos cinereus</i> )	V (SEQ bioregion)

### (c) Area C3: Maroochy River

#### Values

A mosaic of mangrove, riparian and paperbark forest make up this unit. This vegetation diversity provides a range of habitat for fauna, as well as contributing to river health and the aquatic fauna. Although the vegetation is a thin strip in some areas, more extensive vegetated pockets provide substantial habitat and should be conserved, particularly as much of this vegetation type has been cleared elsewhere on the coastal flats in the Shire. This is the only substantial area of mangrove and associated wetland communities in Maroochy Shire.

This unit is an important linkage, which extends to the river mouth. Fauna includes both terrestrial species (mammals, birds, reptiles, insects) and aquatic species (crabs, marine worms).

Seabirds including three vulnerable species the beach stone curlew, eastern curlew and little tern, use the mouth of the river. Black-necked storks and eastern curlews visit the river further upstream, with the latter seen feeding on the mudflats and saltmarshes along the river. A grey goshawk has been seen here.

More significant is the likely presence of the rare false water rat (*Xeromys myoides*), the rarest mammal in the Shire. It is believed that the mangroves, saltmarshes and reedbeds along the river support a significant population. This species is unusual in that it requires two habitats mangroves for feeding and elevated ground or tree hollows in which to burrow.

## Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1f Paperbark vine forest associations	Highly significant or endangered
5a Low energy coastal associations (mangroves)	Significant or of concern
4 Paperbark forests and wetlands	Highly significant or endangered

## Summary of Significant Species

Vegetation	Status	Fauna (*=likely)	Status	EPBC Status
		Beach stone curlew ( <i>Esacus neglectus</i> )	V	
		Eastern curlew ( <i>Numenius madagascariensis</i> )	R	
		*False water mouse ( <i>Xeromys myoides</i> )	V	V

### (d) Area C4: Coolum Paperbarks

#### Values

This unit comprises one of the largest remnants of paperbark forest in southern Queensland, a habitat under threat, and including a unique paperbark rainforest with the largest known population of a rare undescribed tree.

The Coolum Paperbarks are a well-defined area - a vast forest of broad-leaved paperbarks occupying low-lying alluvium, and largely surrounded by higher land. In the north east it connects with the Lake Weyba-Peregrin Mixed Vegetation unit (on higher land) and Peregrin Wallum (on marine sediments). It is connected in the south east with the Marcoola Wallum (on marine sediments) and with forests to the north west (on higher land). A narrow riparian corridor along the Maroochy River links this forest with the Bli Bli Wetland Sanctuary and Eudlo Creek Conservation Park in the south.

The vegetation along the waterways is predominantly paperbark forest, but with a very variable understorey. There is one large sedgeland, one patch of wallum enclosed by paperbarks, and small areas of rainforest, swamp oak forest, and littoral forest. The more coastal areas have the largest remnant of coastal Scribbly Gum community within the Shire, albeit highly fractured by roads and vehicular tracks.

An unusual habitat well represented here is Paperbark forest with a rainforest understorey. The Doonan Creek swamp may well be the largest example of this a highly restricted and rare vegetation type anywhere in the world. It extends over a distance of at least one kilometre, with a width of approximately 0.5 kms.

One very important rare plant species occurs here. The rainforest myrtle *Austromyrtus* sp. (Blackall Range P.R.Sharpe 5387), yet to be scientifically named, is known from only about five sites, all in the Nambour-Maroochy area. Doonan Creek swamp is by far the largest and most important of these, and thus the most important site for the survival of this very rare plant.

In addition, the heathlands contain the remaining substantive populations of *Allocasuarina emuina* (outside Area C2) and two populations of the Swamp Orchid (*Phaius tancarvilleae*) are located in associated Paperbark woodlands. Both of these are endangered species. It is also the only site within Maroochy Shire where the vulnerable ground orchid, *Prasophyllum wallum*, has been recorded.

The ground parrot is the most threatened fauna species recorded from this area. All three vulnerable wallum frogs are present, and also the Lewin's rail. More than a hundred bird species occur in the nearby Peregrin Environment Park.

It is also noted that Paperbarks in flower provide a major food resource for honeyeaters, lorikeets, flying foxes, blossom bats, and butterflies. Large numbers of crakes and rails are likely to be using the reedbeds among the paperbarks, including such rare and uncommon species as the Lewin's rail and black bittern.

## Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1f Paperbark vine forest associations	Highly significant or endangered
2a Coastal eucalypt mix	No concern at present
2d1 Coastal scribbly gum associations	Highly significant or endangered
3a Coastal heath	Highly significant or endangered
3b Wallum banksia associations	Highly significant or endangered
4 Paperbark forests and wetlands	Highly significant or endangered

## Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*=likely)	Status
<i>Eucalyptus conglomerata</i>	E	E	Ground parrot ( <i>Pezoporus wallicus</i> ) (locally extinct)	V
<i>Phaius tancarvilleae</i>	E		*Wallum treefrog ( <i>Litoria olongburensis</i> )	V
<i>Allocasuarina emuina</i>	E	E	*Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V
<i>Acacia baueri</i>	V		*Wallum froglet ( <i>Crinia tinnula</i> )	V
<i>Prasophyllum wallum</i>	V	V	*Wallum rocket frog ( <i>Litoria freycinetii</i> )	V
<i>Symplocos harroldi</i>	R		*Lewin's rail ( <i>Rallus pectoralis</i> )	R
<i>Alyxia magnifolia</i>	R		*Elf skink ( <i>Eroticoscincus graciloides</i> )	R
<i>Austromyrtus</i> sp. (Blackall Range P.R.Sharpe 5387)	R			
<i>Alphitonia incana</i>	Noteworthy species			

(e) Area C5: Lake Weyba Mixed Wallum

Values

This very large block of diverse vegetation - wallum heathlands, eucalypt open forest, paperbarks - joins extensive vegetated areas in Noosa Shire to the north.

An important feature of the vegetation is the eucalypt forest with some old-growth characteristics dominated by Scribbly gum (*Eucalyptus racemosa*). This community is highly restricted and of a different provenance to the Scribbly gum located on acid volcanics in the hinterland. These areas, along with similar vegetation in the Coolum Paperbark forest, represent the only extensive remnants of coastal Scribbly Gum within Maroochy Shire.

Rich bird fauna has been recorded in this unit, with diverse fauna including frogs, reptiles, and invertebrates also bound to occur.

This area has been recognised as the most viable habitat for koalas within the Shire, with a sizeable extent, suitable species of eucalypts, and connectivity to adjoining protected areas in Noosa Shire.<sup>9</sup>

Fresh water pools also support significant fish species, including ornate sunfish, Rendfahl's catfish, striped gudgeon, purple spotted gudgeon, and firetail gudgeon.

Other fauna values include important feeding grounds for the powerful owl and grey goshawk with the mature eucalypts providing hollows for gliders and possums important food sources for the owls. The ground parrot is also found here, with the extensive coastal heath providing important habitat for this bird with a wide home range. They are not usually found in any heathland with an area less than 20 hectares.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2a Coastal eucalypt mix	No concern at present
2d1 Coastal scribbly gum associations	Highly significant or endangered
3a Coastal heath	Highly significant or endangered
4 Paperbark forests and wetlands	Highly significant or endangered

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Allocasuarina emuina</i>	E	E	Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R
<i>Alyxia magnifolia</i>	R		Powerful owl ( <i>Ninox strenua</i> )	V
<i>Symplocos harroldi</i>	R		Glossy Black Cockatoo ( <i>Calyptorhynchus lathami</i> )	V
<i>Acacia baueri</i>	V		Ground parrot ( <i>Pezoporus wallicus</i> ) (locally extinct)	V
			Wallum rocket frog ( <i>Litoria freycinetii</i> )	V
			Wallum froglet ( <i>Crinia tinnula</i> )	V
			Wallum treefrog ( <i>Litoria olongburensis</i> )	V

<sup>9</sup> Any development in a koala habitat area is to be assessed against the koala conservation criteria contained in the Nature Conservation (Koala) Conservation Plan 2005 and the Management Program 2005-2015 or, prior to the adoption of the Conservation Plan, the Interim Guideline: Koalas and Development. Koala habitat areas are identified in these documents.

(f) Area C6: Mapleton State Forest

Values

Mapleton State Forest is an important habitat for fauna, including rare and threatened species, and its presence probably contributes to fauna richness in surrounding rural lands. Despite the extensive disturbance from logging and associated artificial fire regimes, this area remains the largest area of remnant native vegetation within Maroochy Shire outside the Conondale Ranges.

Many rare, endangered and vulnerable species of fauna are present, most of them occurring in rainforest or associated communities: red goshawk (visiting), grey goshawk, glossy black cockatoo, powerful owl, sooty owl, marbled frogmouth, Lewin’s rail, red-browed tree creeper (an irregular visitor), death adder (unconfirmed), Stephen’s banded snake, Rose’s shadeskink, elf skink, cascade treefrog, Richmond birdwing and giant barred-frog.

Another species that is almost certainly present is the green-thighed frog and also possibly golden tipped bats and potoroos.

There are four endangered, three vulnerable and five rare plant species recorded from this unit. It represents the largest patch of viable, remnant habitat in which these species have been recorded in Maroochy Shire. Combined with the fauna values, it is one of the most biologically significant assets of this region and South East Queensland.

This area has the greatest representation of the spatially restricted upland *Eucalyptus racemosa* communities on acid volcanics in Maroochy Shire and possibly Australia. This community is elsewhere represented as three small and restricted patches in the Conondale Ranges.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1c Vine forests of basalt uplands	Significant and/or of concern
1d Vine forests of gullies or metasediments	Significant and/or of concern
1e Vine forest associations and relict myrtaceous emergents	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
2d2 Upland scribbly gum associations	Highly significant or endangered

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Phaius australis</i>	E	E	Red goshawk ( <i>Erythroriorchis radiatus</i> )	E	V
<i>Phaius tancarvilleae</i>	E	E	Powerful owl ( <i>Ninox strenua</i> )	V	
<i>Plectranthus torrenticola</i>	E	E	Sooty owl ( <i>Tyto tenebricosa</i> )	R	
<i>Triunia robusta</i>	E	E	Lewin’s rail ( <i>Rallus pectoralis</i> )	R	
<i>Macadamia ternifolia</i>	V	V	*Death adder ( <i>Acanthopis antarcticus</i> )	R	
<i>Marsdenia coronata</i>	V	V	Rose-shaded Skink ( <i>Saproscincus rosei</i> )	R	
<i>Romnaldia strobilacea</i>	V	V	Elf skink ( <i>Eroticoscincus graciloides</i> )	R	
<i>Alyxia magnifolia</i>	R		Stephen’s banded snake ( <i>Hoplocephalus stephensi</i> )	R	
<i>Austromyrtus inophloia</i>	R		Red browed tree creeper ( <i>Climacteris erythropros</i> )	R	
<i>Choricarpia subargentea</i>	R		Marbled frogmouth ( <i>Podargus ocellatus plumiferus</i> )	V	
<i>Nothoalsomitra suberosa</i>	R		Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R	
<i>Papillabium beckleri</i>	R		Powerful owl ( <i>Ninox strenua</i> )	V	
			Glossy Black Cockatoo ( <i>Calyptorhynchus lathami</i> )	V	
			Giant barred frog ( <i>Mixophyes iterates</i> )	E	E
			*Green thighed frog ( <i>Litoria brevipalmata</i> )	R	
			*Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V	

**(g) Area C7: Obi Obi Escarpment**

Values

This unit derives its significance from:

- being centred around the protected areas of Kondalilla and Kondalilla Falls National Park and the State Forest;
- adjoining Mapleton State Forest (Area C6) and therefore part of this regionally significant biological asset with similar biodiversity values; and
- being contiguous with vegetated areas in Caloundra City.

The rainforests here provide habitat for several rare and threatened species: the marbled owl, rare sooty owl, red-browed tree creeper, cascade treefrog, marsupial frog, Rose’s shadeskink. Coxen’s fig parrot may visit the area.

This area shares not only contiguity with the Mapleton State Forest, but also a similar suite of rare and threatened flora including the only record of *Syzygium hodgkinsoniae* in Maroochy Shire. Much of the rainforest has suffered encroachment by fire and invasion by *Lantana camara*.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1c Vine forests of basalt uplands	Significant and/or of concern
1d Vine forests of gullies or metasediments	Significant and/or of concern
1e Vine forest associations and relict myrtaceous emergents	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2b Mary Valley eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Plectranthus torrenticola</i>	E	E	Cascade treefrog ( <i>Litoria pearsoniana</i> )	E	
<i>Arthraxon hispidus</i>	V	V	*Coxen’s fig parrot ( <i>Cyclopsitta diophthalma coxeni</i> )	E	E
<i>Macadamia ternifolia</i>	V	V	Red-browed tree creeper ( <i>Climacteris erythropros</i> )	R	
<i>Romnaldia strobilacea</i>	V	V	Rose-shaded Skink ( <i>Saproscincus rosei</i> )	R	
<i>Syzygium hodgkinsoniae</i>	V	V	Pouched frog ( <i>Assa darlingtoni</i> )	R	
<i>Austromyrtus inophloia</i>	R		Sooty owl ( <i>Tyto tenebricosa</i> )	R	
<i>Nothoalsomitra suberosa</i>	R				

**(h) Area C8: Parklands Bli Bli**Values

In this area, the cascade treefrog is recorded from a property near Wappa Dam, and the glossy black cockatoo, red-browed treecreeper and yellow-tufted honeyeater have been recorded as visitors to this region. The elf skink and grey goshawk probably occur here.

The rainforests (which have been subject to degradation through logging impacts) contain a number of rare and threatened species along with an ancient cycad, *Lepidozamia peroffskyana*, which has a disjunct distribution in South East Queensland. Several tall individuals (> 2m) of this species were observed here and in Mapleton State Forest. These are the tallest cycads observed in South East Queensland.

Wappa State Forest contains the easternmost representation of the upland Scribbly Gum communities along with areas of rocky heath. Both areas have suffered from excessive fires and other artificial disturbance regimes. Rocky heath is a spatially highly restricted community, and consists of many endemic species.

The endangered species, *Pouteria eerwah*, has been recorded from this area along with two vulnerable and two rare species all associated with rainforest communities.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian vine forest	Significant and/or of concern
1d Vine forests of gullies or metasediments	Significant and/or of concern
1e Vine forest associations and relict myrtaceous emergents	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
2d2 Upland scribbly gum associations	Highly significant and/or endangered
Rocky heath (not mapped as a separate unit)	Endangered

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Pouteria eerwah</i>	E	E	Glossy black cockatoo ( <i>Calyptorhynchus lathami</i> )	V
<i>Macadamia ternifolia</i>	V	V		
<i>Romnaldia strobilacea</i>	V	V	Red-browed treecreeper ( <i>Climacteris erythroptis</i> )	R
<i>Alyxia magnifolia</i>	R		Cascade treefrog ( <i>Litoria pearsoniana</i> )	E
<i>Nothoalsomitra suberosa</i>	R		*Elf skink ( <i>Eroticoscincus graciloides</i> )	R
			*Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R

(i) Area C9 : Mt Eerwah

Values

This area supports Mt Eerwah summit complex vegetation. This community is spatially restricted to the summit plateau and southern cliff line of Mt Eerwah. *Lophostemon confertus* and *Eucalyptus acmenoides* dominates a grassy understorey of *Themeda triandra* on the plateau, but the cliff line has a remarkable array of lithophytic and terrestrial orchids and other flora which have been lost or diminished in many similar situations across the Shire. The rocky areas have a greater diversity of shrubs. The associated rainforests of slopes and foothills are the type locality of *Pouteria eerwah*, an endangered plant. These rainforests also support two other rare species.

Little is known about the fauna using this area. Some rare species are probably present, for example grey goshawk.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1d Vine forest of gullies or metasediments	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
2g Mt Eerwah Summit complex	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Pouteria eerwah</i>	E	E	*Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R
<i>Alyxia magnifolia</i>	R			
<i>Nothoalsomitra suberosa</i>	R			

**(j) Area C10: Conondales**Values

Large parts of this area are in very good condition, and provide excellent habitat to a very diverse range of fauna including many rare and threatened species: red goshawk, grey goshawk, black-breasted button-quail, eastern bristlebird, sooty owl, marbled frogmouth, Rose's shadeskink, elf skink, cascade treefrog, marsupial frog and others. Very few forest remnants in southern Queensland have such high fauna values.

The major threat to the long term viability and integrity of the biota of this area are the current logging practices and associated artificial fire regimes.

The most notable rare vegetation communities are three small patches of upland Scribbly Gum community and an area of *Eucalyptus montivaga* (the latter is the only area of this community in the region).

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1d Vine forests of gullies or metasediments	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2f Conondale dry eucalypt associations	No concern at present
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Arthraxon hispidus</i>	V		Cascade treefrog ( <i>Litoria pearsoniana</i> )	E	
<i>Floydia praealta</i>	V	V	Red goshawk ( <i>Erythroriorchis radiatus</i> )	E	V
<i>Macadamia ternifolia</i>	V	V	Eastern bristlebird ( <i>Dasynoris brachypterus</i> )	E	
<i>Marsdenia coronata</i>	V	V	Black breasted button quail ( <i>Turnix melanogaster</i> )	V	V
<i>Acomis acoma</i>	R		Marbled frogmouth ( <i>Podargus ocellatus plumiferus</i> )	V	
<i>Acianthus amplexicaulis</i>	R		Rose-shaded Skink ( <i>Saproscincus rosei</i> )	R	
<i>Austromyrtus inophloia</i>	R		Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R	
<i>Choricarpija subargentea</i>	R		Sooty owl ( <i>Tyto tenebricosa</i> )	R	
<i>Papillabium beckleri</i>	R		Elf skink ( <i>Eroticoscincus graciloides</i> )	R	
			Marsupial frog ( <i>Assa darlingtoni</i> )	R	

(2) Special Small Remnant Areas SR1 - SR3

(a) Area SR1: Mudjimba Forest

Values

Mudjimba is a remnant of forest on flat alluvial land. It is the smallest of the major vegetation remnants. Almost half the vegetation is conserved in Mudjimba Environment Park in the north east. As well, much of the coastal vegetation is conserved in Maroochy River Conservation Park.

The beach communities include very small areas of littoral vine forest, growing as low thickets. This habitat type is very rare and warrants special protection. The beach communities contain fewer weeds than most such vegetation along the coast.

The small and isolated nature of this remnant limits current fauna values. The mudflats along the north shore of the Maroochy River support a variety of wading birds.

Four rare and threatened animal species have been recorded from Mudjimba plus the swamp crayfish (*Tenuibranchiurus glypticus*). All of these, apart from the crayfish, are associated with marine environments.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1b Littoral Vine Forest	Highly significant and/or endangered
2a Coastal eucalypt mix	No concern at present
4 Paperbark forests & Wetlands	Highly significant and/or endangered
5a Low energy coastal associations	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	Fauna (*= likely)	Status
		Beach stone curlew ( <i>Esacus neglectus</i> )	V
		Eastern curlew ( <i>Numenius madagascariensis</i> )	R
		Little tern ( <i>Sterna albifrons</i> )	E

**(b) Area SR 2: Mt Coolum Complex**Values

This site is centered on Mt Coolum, which is protected as Mt Coolum National Park. It is a small but imposing mountain that looms up from the coastal plain composed principally of alkali rhyolite rock, rising to an elevation of 208 metres. Until recently the vegetation on the mountain was connected to paperbark forests in the west.

Plant surveys have shown the presence of about 50% of plant species recorded on the Sunshine Coast. Five vegetation communities are represented: herb land, heathland, woodland, open forest and rainforest.

Mt Coolum is remarkable in supporting four rare and threatened plants, one of which is endangered: the Mt Coolum she-oak (*Allocasuarina thalassoscopica*) which is only known from this single peak.

Very little is known about the fauna of this small national park. The fauna is unlikely to be diverse, but unusual species may be represented. A buff-breasted pitta, a rainforest bird, has been seen at the base.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2d1 Coastal lowland scribbly gum	Significant and/or of concern
2e Mt Coolum eucalypt associations	Highly significant and/or endangered
3a Heathlands	Highly significant and/or endangered

**Summary of Significant Species**

Vegetation	Status	EPBC Act Status	Fauna (*= likely)	Status
<i>Allocasuarina thalassoscopica</i>	E	E		
<i>Marsdenia coronata</i>	V	V		
<i>Bertya sharpeana</i>	R			
<i>Leptospermum oreophilum</i>	R			
<i>Alyxia magnifolia</i>	R			

(c) Area SR 3: Point Arkwright Mudjimba Coastal Strip

Values

The fauna values are not high in this area but the beach provides habitat for little terns. There is also a small patch of a unique mallee form of the endangered *Eucalyptus conglomerata* on the western margin of this unit. It will be surrounded by dense urban development in the very near future.

*Acacia baueri*, a rare wattle, was recorded from this area of heathland and Christmas Bells (*Blandfordia grandiflora*) have been observed in this area. It is doubtful if either of these two species have survived recent urban development.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
3a Heathlands	Highly significant and/or endangered
5b High energy coastal associations	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Eucalyptus conglomerata</i>	E	E	Little tern ( <i>Sterna albifrons</i> )	E
<i>Acacia baueri</i>	V			

(3) Mosaic Units (urban) M1 - M2 and (rural) M3 - M14

(a) Unit M1: Point Arkwright Rainforest

Values

The vegetation consists of tiny forest remnants surviving around Point Arkwright, plus the stretch of beach vegetation extending along the coast. The area is mostly hilly, with a maximum elevation of 100 metres (at Eugunder Hill), but includes flat land to the south at Yaroomba. Point Arkwright is the only place in Maroochy Shire where elevated land, with native vegetation, occurs by the sea. The soil is also fertile in places, allowing the development of a relatively rich coastal plant community, unique within Maroochy Shire, containing very diverse vegetation including rainforest species and cypress pines.

The vegetation is noteworthy in three respects: it supports rainforest, a rare habitat; it includes a stand of paperbark rainforest, a very rare habitat; and it includes a fine example of coastal vegetation (beach community), one of the best along the Maroochy Coast. At one site at Yaroomba, rainforest is growing beneath a paperbark canopy.

This is the only site in the Shire where *Cryptocarya foetida* has been recorded. The vulnerable grass, *Arthraxon hispidus*, has been previously collected from this remnant.

Most of the rainforest occurs on private land, much of which is allocated for urban development.

Another important site is the paperbark rainforest on the grounds of the Hyatt Regency Golf Club. Paperbark rainforest is an extremely rare habitat. This patch was found to be rich in birds, including eastern yellow robin, large-billed scrubwren, eastern whipbird, little shrike-thrush, white-eared honeyeater, varied triller, red-browed finch, brown thornbill.

This site is very important for harbouring what appears to the northern-most population of the Richmond birdwing butterfly. The rocky shores support the rare sooty oystercatcher. More than 90 bird species have been recorded from this vicinity.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1b Littoral Vine forest	Highly significant and/or endangered
1f Paperbark Vine forest	Highly significant and/or endangered
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
4 Paperbark forests & Wetlands	Highly significant and/or Endangered

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Cryptocarya foetida</i>	V	V	Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V
<i>Arthraxon hispidus</i>	V		Sooty oystercatcher ( <i>Haematopus fuliginosus</i> )	R

**(b) Unit M2: Buderim Rainforest Remnants**

Values

This assemblage of 11 remnants dominated by rainforest is set within an urban landscape. Despite their relatively small area and some disturbance from residential development (weeds, predation from pets), they support a rich diversity of significant plant and animal species. The pattern of this mosaic is complex, with some very small but significant areas in good condition nestled amongst housing.

This rainforest is different in structure and species composition to the small remnants located at Point Arkwright, being located on different geology and soil type. These areas also have a high local amenity value, forming an important green backdrop, to the residential communities.

Vegetation significance is derived from rainforest species located within a developed setting, and the presence of a number of endangered, vulnerable and rare species. They include *Graptophyllum reticulatum*, currently known from only two locations in the world.

The most significant fauna species include mountain brushtail possum, green catbird, eastern whipbird, spectacled monarch, brush turkey and breeding colonies of the Richmond birdwing butterfly. The green-thighed frog has been reported from Buderim Tip. Other rainforest species include the spectacled monarch, large-billed scrub-wren, little shrike thrush and brush turkey. These species are not usually found in very degraded areas, and their presence shows that the rainforest fragments in the area, although very small and fragmented, still have value as habitat. Other rare birds include the powerful owl. Koalas and swamp wallabies are present but in decline. Similarly, the long term viability of the powerful owl and grey goshawk is doubtful.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1c Vine forest on basalt uplands	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
1f Paperbark Vine forest	Highly significant and/or endangered
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Graptophyllum reticulatum</i>	E	E	Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V
<i>Macadamia ternifolia</i>	V	V	Powerful owl ( <i>Ninox strenua</i> )	V
<i>Arthraxon hispidus</i>	V		Sooty oystercatcher ( <i>Haematopus fuliginosus</i> )	R
<i>Corynocarpus rupestris</i>	R		Grey goshawk ( <i>Accipiter novaehollandiae</i> )	R
<i>Alyxia magnifolia</i>	R		Koala ( <i>Phascolarctos cinereus</i> )	V (SEQ bioregion)
<i>Rulingia salviifolia</i>	R			

**(c) Unit M3: Buderim-Eudlo /Ilkely**Values

Many rainforest birds are known to visit the riparian rainforests (including the wompoo pigeon), and koalas are common, in this area. The vulnerable Richmond birdwing has bred in the area on planted birdwing vines, and the grey goshawk and powerful owl are probably present, as are the elf skink, cascade treefrog and greenhighed frog.

Despite the fractured nature of the remnant vegetation landscape, the various copses of native plant communities still retain several rare and threatened plant species and provide essential habitat for a wide array of significant fauna species.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian vine forest	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Eucalyptus conglomerata</i>	E	E	Richmond birdwing ( <i>Ornithoptera richmondia</i> )	V
<i>Phaius tancarvilleae</i>	E	E	Greenhighed frog ( <i>Litoria brevipalmata</i> )	R
<i>Acianthus amplexicaulis</i>	R		Wompoo pigeon	
<i>Austromyrtus inophloia</i>	R		Elf skink ( <i>Eroticoscincus graciloides</i> )	R
			Cascade treefrog ( <i>Litoria pearsoniana</i> )	E

**(d) Unit M4: South Maroochy River**

Values

The significance of this unit is derived from a number of factors, including the riparian rainforest along Eudlo Creek. In addition, the creek flows into Eudlo Creek Conservation Park, which has extensive areas of mangrove, melaleuca and coastal heath. The quality of incoming water is fundamental to the functioning and ecological health of the wetland, and in this regard, the condition of riparian vegetation is an important factor.

This unit also provides an ecological connection with the Mooloola Range (in the adjoining Caloundra City) which is an important corridor connecting the hinterland to the coast. It is therefore a creek-based mosaic which links with other important linkages and provides fragmented habitat from the ranges to the coastal lowlands.

The scattered rainforest remnants in this region presumably provide habitat for rainforest birds travelling east from the Blackall Range. No rare and threatened animal species are known from this region, but the grey goshawk, powerful owl and green-thighed frog are probably present.

This area also supports a considerable number of rare and threatened plants within the scattered remnants of native vegetation, including the endangered orchid, *Phaius tancarvilleae*.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian vine forest	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
4 Paperbark forests & wetlands	Highly significant and/or endangered

**Summary of Significant Species**

Vegetation	Status	Fauna (*= likely)	Status
<i>Phaius tancarvilleae</i>	E	*Greenthighed frog ( <i>Litoria brevipalmata</i> )	R
<i>Acianthus amplexicaulis</i>	R	*Grey goshawk ( <i>Accipter Novaehollandiae</i> )	R
<i>Aponogeton elongatus</i>	R	*Powerful owl ( <i>Ninox strenua</i> )	V
<i>Austromyrtus inophloia</i>	R		
<i>Austromyrtus sp.</i> (Blackall Range P.R.Sharpe 5387)	R		

**(e) Unit M5: Mt Ninderry**Values

This unit is focused on the Ninderry Range, a steeply sloping and elevated area supporting pockets of remnant rainforest and a plant species endemic to this area. The unit also provides a fractured, but identifiable, link north to the State Forest which is an important connection between the coastal and hinterland core areas.

The scattered rainforest remnants in this region presumably provide habitat for rainforest birds travelling east from the Blackall Range. No rare and threatened animal species are known from this region but the grey goshawk and powerful owl are probably present, and perhaps also the glossy black cockatoo, giant barred-frog and elf skink.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1d Vine forests of gullies or metasediments	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present

**Summary of Significant Species**

Vegetation	Status	Fauna (*=likely)	Status
		*Glossy black cockatoo ( <i>Calyptorhynchus lathami</i> )	V
		*Powerful owl ( <i>Ninox strenua</i> )	V
		*Giant barred frog ( <i>Mixophyes iteratus</i> )	E
		*Elf skink ( <i>Erotoscincus graciloides</i> )	R
		*Grey goshawk ( <i>Accipter Novaehollandiae</i> )	R

**(f) Unit M6: Eumundi Uplands**

Values

This unit includes rainforest remnants located north of the Eumundi-Noosa Road extending north to the Shire boundary. It consists of privately owned land, and supports scattered rural residential and small rural holdings. The vegetation cover is fragmented and thinned in many areas, particularly along the gullies and valley floors. In contrast, ridgelines support dense vegetation.

This unit provides for a significant connection through to Noosa Shire, which has extensive vegetated areas (including Tewantin State Forest and Mount Cooroy Conservation Park).

The scattered rainforest remnants in this region provide habitat for rainforest birds travelling east from the Blackall Range. The grey goshawk and powerful owl are probably present, perhaps also the elf skink.

The rainforest patches may well accommodate other rare and threatened species other than the single recorded rare plant *Alyxia magnifolia*.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1d Vine forests of gullies or metasediments	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present

**Summary of Significant Species**

Vegetation	Status	Fauna (*=likely)	Status
<i>Alyxia magnifolia</i>	R	*Powerful owl ( <i>Ninox strenua</i> )	V
		*Elf skink ( <i>Erotoscincus graciloides</i> )	R
		*Grey goshawk ( <i>Accipter Novaehollandiae</i> )	R

**(g) Unit M7: Blackall Range Dulong Escarpment**

Values

This unit is characterised by its structural and species diversity. Although vegetation plays an important role in scenic amenity, the character of the area and in stabilising steep slopes, many rare plant species are located along the numerous creeks which dissect the area. For many species, this area is the northern or most easterly limit of their geographic distribution. Other species have a very limited geographic range, or are very specific in their habitat requirements.

Some species have significant cultural values; the Bunya pine (*Araucaria bidwilli*) playing an important cultural aspect in the lives of early Aboriginal peoples, and species critical to the origins and development of the macadamia nut trade, *Macadamia ternifolia* and *M. integrifolia* which are both vulnerable species.

A diverse fauna of rainforest animals is probably using this area, despite the fragmented state of the rainforest remnants. The grey goshawk and powerful owl are probably present, perhaps also the elf skink and cascade treefrog.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1c Vine forest of basalt uplands	Significant and/or of concern
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Graptophyllum reticulatum</i>	E	E	*Cascade treefrog ( <i>Litoria pearsoniana</i> )	E
<i>Pouteria eerwah</i>	E	E	*Powerful owl ( <i>Ninox strenua</i> )	V
<i>Triunia robusta</i>	E	E	*Grey goshawk ( <i>Accipter Novaehollandiae</i> )	R
<i>Floydia praealta</i>	V	V	*Elf skink ( <i>Eroticoscincus graciloides</i> )	R
<i>Macadamia integrifolia</i>	V	V		
<i>Macadamia ternifolia</i>	V	V		
<i>Romnalda strobilacea</i>	V	V		
<i>Choricarpia subargentea</i>	R			
<i>Corynocarpus rupestris</i>	R			
<i>Nothoalsomitra suberosa</i>	R			

**Unit M8: Blackall Range**

Values

A diverse fauna of rainforest animals is probably using this area, despite the fragmented state of the rainforest remnants. The grey goshawk and powerful owl are probably present, perhaps also the elf skink and endangered cascade treefrog.

This area contains Triunia National Park that has one of the greatest concentrations of rare and threatened flora in Queensland. Adjoining rainforests and associated communities share this richness of biodiversity assets of rare and threatened flora.

Many of the areas support regrowth rainforest, although their generally degraded state may hide rare and threatened plants. Surveys are lacking for most of these scattered remnants.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1c Vine forest of basalt uplands	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Graptophyllum reticulatum</i>	E	E	*Grey goshawk ( <i>Accipter Novaehollandiae</i> )	R
<i>Pouteria eerwah</i>	E	E	*Powerful owl ( <i>Ninox strenua</i> )	V
<i>Triunia robusta</i>	E	E	*Elf skink ( <i>Erotoscincus graciloides</i> )	R
<i>Floydia praealta</i>	V	V	*Cascade treefrog ( <i>Litoria pearsoniana</i> )	E
<i>Macadamia integrifolia</i>	V	V		
<i>Macadamia ternifolia</i>	V	V		
<i>Romnalda strobilacea</i>	V	V		
<i>Choricarpia subargentea</i>	R			
<i>Corynocarpus rupestris</i>	R			
<i>Nothoalsomitra suberosa</i>	R			

### Unit M9: Mary River Open Forest

#### Values

This unit is essentially located around the Mary River, associated riparian vegetation and some eucalypt forest. The area is rural is character.

Mary River cod live in the river system. The woodlands provide seasonal habitat for the red goshawk, glossy black cockatoo, and grey goshawk and square-tailed kite. Koalas occur here. Cascade treefrogs and giant barred-frogs may occur within riparian rainforest along the Mary River. They are known from Belli Creek. Coxen's fig parrots may be visiting fig-trees during winter.

### Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present

### Summary of Significant Species

Vegetation	Status	Fauna (*= likely)	Status	EPBC Status
		*Coxen's fig parrot ( <i>Cyclopsitta diophthalma coxenii</i> )	E	E
		Red goshawk ( <i>Erythrotriorchis radiatus</i> )	E	V
		Mary River cod ( <i>Maccullochella peelii marensis</i> )	E	E
		Glossy black cockatoo ( <i>Calyptorhynchus lathami</i> )	V	
		Grey goshawk ( <i>Accipiter Novaehollandiae</i> )	R	
		Square tailed kite ( <i>Lophoictinia isura</i> )	R	
		*Cascade treefrog ( <i>Litoria pearsoniana</i> )	E	
		*Giant barred frog ( <i>Mixophyes iteratus</i> )	E	E
		Koala ( <i>Phascolarctos cinereus</i> )	V (SEQ bioregion)	

**Unit M10: Mapleton Connection**

Values

This unit is the only possible corridor linking forest in the uplands with forest in the lowlands. As it links forested habitat in the hinterland and coast, it provides a substantial connection for fauna movement. To the west are elevated and steeply sloping areas, while in the east are low-lying coastal plains which support intensive agricultural production.

The remnant located at Gneering is an important element, being the largest remnant in this unit. It contains eucalypt, rainforest and riparian areas and adjoins the Mapleton State Forest. The remainder of the area is focused upon the creeks and rivers especially Running Creek, Browns Creek and Bunya Creek - which flow east to join the Maroochy River. Although the Bruce Highway provides a barrier to movement through this unit, the riparian vegetation along the creeks is the basis for connectivity and maintaining water quality values.

The elf skink occurs in riparian rainforest here and other rare species are likely, including grey goshawk, cascade treefrog and the swamp crayfish (*Tenuibranchiurus glypticus*).

The degraded riparian ecosystems and copses of rainforest contain two endangered and two rare plants.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Pouteria eerwah</i>	E	E	*Elf skink ( <i>Erotoscincus graciloides</i> )	R
<i>Triunia robusta</i>	E	E		
<i>Austromyrtus inophloia</i>	R		*Cascade treefrog ( <i>Litoria pearsoniana</i> )	E
<i>Aponogeton elongatus</i>	R			

**Unit M11: Mary River Connection**

Values

This unit connects the western-most parts of Mapleton State Forest further west to Kenilworth Bluff and the Conondales. It also extends across the Shire border north into Cooloola Shire. It traverses the Mary River valley, which is largely cleared except for isolated small remnants and some riparian vegetation along the river. Although somewhat degraded, the unit has important aquatic values.

Fauna movements though much of the Shire have a diffuse pattern, and this area is important for the seasonal movement particularly of open forest birds from the higher, rainforest areas of the Conondales through to the lowlands. They visit small remnants of lowland rainforest and eucalypt forest in lowland areas, and therefore these areas benefit migratory bird populations.

The Mary River cod lives in the river. Many birds migrate from the Conondale Ranges to forest remnants in the Mary River Valley in winter. They include the red goshawk and grey goshawk and possibly Coxen’s fig parrot.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present
7a Mary River Riparian associations	No concern at present

**Summary of Significant Species**

Vegetation	Status	Fauna (*= likely)	Status
		Red goshawk ( <i>Erythrorichis radiatus</i> )	E V
		Mary River cod ( <i>Maccullochella peelii marensis</i> )	E E
		Grey goshawk ( <i>Cyclopsitta diopthalma coxeni</i> )	R
		*Coxen’s fig parrot ( <i>Cyclopsitta diopthalma coxeni</i> )	E E

**Unit M12: Walli State Forest**

Values

Although the total vegetated area in this unit is relatively large, the extensive areas of exotic pine plantation make it function more as a mosaic. Much of the rainforest vegetation and the riparian rainforest along the Mary River occurs on private land.

The vegetated area extends south into Caloundra City where a substantial tract of remnant native vegetation is located.

Not much is known about the fauna of this forest. The black-breasted button-quail is known to live here, probably also the grey goshawk. The only other area in the Shire known to support the button-quail is the Conondales. This unit may provide important habitat for this species.

The sooty owl and grey goshawk have been recorded from nearby private land and no doubt occur within the State Forest as well. Other rainforest birds recorded from private land adjoining the forest include wompoo fruit-dove, rose-crowned fruit-dove, pale yellow robin, white-eared monarch and regent bowerbird. Rare rainforest frogs probably live along the gullies.

The fringing rainforest contains a number of rare and threatened species which should be afforded protection from further weed invasion and degradation by artificial fire regimes.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Macadamia ternifolia</i>	V	V	Black-breasted button- quail ( <i>Turnix melanogaster</i> )	V	V
<i>Choricarpia subargentea</i>	R		*Grey goshawk ( <i>Cyclopsitta diopthalma coxenii</i> )	R	
<i>Papillabium beckleri</i>	R				

**Unit M13: Southern Buderim Blackbutt**Values

This area contains escarpment forests and associated communities that partially provide a vegetated link between Paynter Creek and the Buderim plateau, focused on the Keil Mountain locality. The unit is highly fragmented, although it supports a variety of ridgeline vegetated areas as well as those extending toward the lowlands and Paynter Creek.

Together with riparian, eucalypt and rainforest communities located in adjoining units, this area contributes to the ecological diversity of an increasingly urbanised area. The range of fauna using these fragmented areas is indicative of the function and importance of such mosaics.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	Fauna (*=likely)	Status
		*Grey goshawk ( <i>Cyclopsitta diopthalma coxenii</i> )	R
		Powerful owl ( <i>Ninox strenua</i> )	V

Unit M14: Forest Glen Blackbutt

Values

These remnant patches are considered to perform a similar landscape function to the remnants in Unit M13. Although very irregular in shape, this unit supports the largest, most eastern, area of Blackbutt forest in the Shire.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2c Blackbutt associations	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	Fauna (*=likely)	Status
		*Grey goshawk ( <i>Cyclopsitta diophthalma coxenii</i> )	R
		*Powerful owl ( <i>Ninox strenua</i> )	V

(4) Riparian Forests RF1 - RF4

(a) Unit RF1: Mary River and Tributaries

Values

This unit is located along the largely cleared Mary River Valley, and is closely aligned with the riparian vegetation along the Mary River and Obi Obi Creek. Both waterways flow close to significant large mosaics and core areas (the Conondales, Walli State Forest, Mapleton State Forest) and as such, provide an important ecological link which fauna may use when moving between these remnants.

Many fauna movements through much of the Shire have a diffuse pattern, and this area is important for the seasonal movement particularly of open forest birds from the higher, rainforest areas of the Conondales through to the lowlands. They visit small remnants of lowland rainforest and eucalypt forest in lowland areas, and therefore benefit migratory bird populations.

The endangered Mary River Cod lives in the river. The grey goshawk and possibly the cascade treefrog use the riparian vegetation.

The small remnant areas of riparian rainforest probably house more rare and threatened flora than have been recorded to date. Their role in seasonal fauna habitat may be critical.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
2b Mary Valley eucalypt mix	No concern at present
7a Mary Valley riparian	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Floydia praealta</i>	V	V	Mary River cod ( <i>Maccullochella peelii marensis</i> )	E	E
			Grey goshawk ( <i>Cyclopsitta diophthalma coxeni</i> )	R	
			*Cascade treefrog ( <i>Litoria pearsoniana</i> )	E	

**(b) Unit RF2: North Maroochy River**

Values

This unit consists of Eerwah Creek which flows into the North Maroochy River. It also extends up into the northern escarpment of the Blackall Range. The vegetated area extends beyond the Shire boundary into Tuckechoi Conservation Park, located to the north in Noosa Shire. Part of the value of this unit derives from it extending south and connecting with larger vegetated areas.

Giant barred frogs and cascade treefrogs occur along Belli Creek. Richmond birdwing vines are found along the river and they may support significant numbers of Richmond birdwing butterflies. The elf skink occurs in the riparian rainforest and probably also the cascade treefrog and grey goshawk. The swamp crayfish (*Tenuibranchiurus glypticus*) has been recorded from a drain at Wilson's Lane, and also from the Eumundi-Kenilworth turnoff.

As with other rainforest remnants, a number of rare and threatened flora have been recorded and detailed surveys would be expected to confirm the presence of further significant species.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present

**Summary of Significant Species**

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status	EPBC Status
<i>Macadamia ternifolia</i>	V	V	Richmond birdwing butterfly ( <i>Ornithoptera richmondia</i> )	V	
<i>Aponogeton elongatus</i>	R		Elf skink ( <i>Eroticoscincus graciloides</i> )	R	
<i>Austromyrtus inophloia</i>	R		Giant barred frog ( <i>Mixophyes iteratus</i> )	E	E
			Cascade treefrog ( <i>Litoria pearsoniana</i> )	E	
			Grey goshawk ( <i>Cyclopsitta diophthalma coxeni</i> )	R	

**(c) Unit RF3: Paynter Creek****Values**

The significance of this unit is derived from a number of factors, including the riparian rainforest aligning the creek. In addition, the creek flows into Eudlo Creek Conservation Park which has extensive areas of mangrove, melaleuca and coastal heath. The quality of incoming water is fundamental to the functioning and ecological health of the wetland, and in this regard, the condition of riparian vegetation along Paynter Creek is an important factor. The creek extends from the flat, low lying alluvial plains of the Maroochy River south west to the volcanic uplands and escarpments of the Blackall Range. It therefore reflects a gradual transition of geology, soil types and vegetation communities. Most of the valley floors are intensively cultivated, with riparian vegetation generally confined to a thin linear strip.

The diversity of this unit is complex, with mangrove, heath and melaleuca communities in the northern parts, and riparian and rainforest and blackbutt vegetation in the southern areas.

Rainforest birds presumably use the riparian forest along the river. No rare and threatened species are known, but the grey goshawk is probably present, and rare frogs may be present.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forest of gullies or metasediments	Significant and/or of concern
1e Vine forest associations	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern

**Summary of Significant Species**

Vegetation	Status	Fauna (*= likely)	Status
<i>Austromyrtus sp.</i> (Blackall Range P.R.Sharpe 5387)	R	*Grey goshawk ( <i>Cyclopsitta diophthalma coxenii</i> )	R
<i>Austromyrtus sp.</i> (Upper Mudgeeraba Creek N.B. Byrnes + 4069)	R		

(d) Unit RF4: Petrie Creek

Values

This area has been the focus of considerable restoration work by community groups. The creek and its associated vegetation communities are significant due to its high profile through an urban area (Nambour) and its source in the rainforested escarpment of the Blackall Range at Woombye and Towen Mountain. The creek traverses these two contrasting environments in a relatively short distance. Although much of the valley floor has been cleared, thin strips of rainforest from ridgelines down to the creek occur along its route. Substantial pockets of riparian rainforest also occur along the creek.

As with other riparian forests, the rainforest areas are the sites of significant flora.

Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
1d Vine forests of gullies or metasediments	Significant and/or of concern

Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Floydia praealta</i>	V	V		
<i>Aponogeton elongatus</i>	R			
<i>Austromyrtus inophloia</i>	R			

## (5) Linkages L1 - L8

## (a) Unit L1: Eumundi Connection

Values

This unit provides the only viable and possible corridor linking forest in the uplands particularly Mapleton State Forest - with forest in the lowlands coastal eucalypt, melaleuca, scribbly gum and wallum associations. It provides the most viable and functional linkage for a wide range of fauna movements, including macropods, between these two landscape systems, as well as an ecological transition between lowland, coastal environments to volcanic, mountainous terrain and associated vegetation.

The strategic linkage traverses a wide area and consists of many fragmented pockets, rather than being a solid, continuous belt of vegetation. It functions on a broader scale, rather than at the parcel or local area level.

Although some cleared areas are included within the unit boundary, they offer opportunities for revegetation and reinstating connectivity. These cleared areas, whilst not included in the vegetation mapping, nevertheless support scattered trees and vegetation clumps, which could easily become the basis for restoration efforts. Although most areas are privately owned, substantial remnants remain in two State Forests in the Eumundi and Verrierdale localities.

Not much is known about the fauna values of this region, although the glossy black cockatoo has been recorded here. Two endangered plants also have been recorded from this area.

## Significant Vegetation Communities and Ecosystems

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian Vine forest	Significant and/or of concern
2a Coastal eucalypt mix	No concern at present
2c Blackbutt associations	Significant and/or of concern
4 Paperbark forests & Wetlands	Highly significant and/or endangered

## Summary of Significant Species

Vegetation	Status	EPBC Status	Fauna (*= likely)	Status
<i>Phaius tancarvilleae</i>	E	E	Glossy black cockatoo ( <i>Calyptorhynchus lathami</i> )	V
<i>Triunia robusta</i>	E	E		

**(b) Units L2 and L3: Dulong - Kondalilla and Mapleton - Conondales**

Values

These two areas are intended to indicate general fauna movement corridors between important core and mosaic areas. This function would be preserved and enhanced through vegetation retention and restoration.

**(c) Unit L4: Mt Coolum Maroochy River**

Values

This small area connects the Mt Coolum National Park east to the Maroochy River. It previously consisted of melaleuca associations. With recent clearing, Mt Coolum is now isolated. Re-establishment of this local linkage (through revegetation) would connect two highly significant natural systems, and enhance species movement.

**(d) Unit L5: Mudjimba Maroochy River**

Values

This unit connects Core Area C2 (Marcoola wallum) west to Core Area C3 (Maroochy River), with the intent of decreasing the isolation of these coastal areas.

Previously, melaleuca associations were present along a minor drainage line. It is intended that the linkage be re-established in this vicinity.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
4 Paperbark forests & Wetlands (rehabilitation required.)	Highly significant and/or endangered

**(e) Unit L6: Bli Bli**

Values

This area is the most eastern part of the linkage connecting the Mapleton State Forest with the coastal ecosystems of the Maroochy River. Although it has a strong urban character, vegetation located along ridgelines and in scattered parks provides a sound basis for establishing a linkage through streetscape planting and enhancement of local parks or bikeways, as well as retention of existing vegetation.

The remnant vine forest in the vicinity of Camp Flat Road is the only known occurrence of *Tecomanthe hillii*, a rare vine, in Maroochy Shire.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2a Coastal eucalypt mix	Not of concern at present

**Summary of Significant Species**

Vegetation	Status	Fauna (*= likely)	Status
<i>Tecomanthe hillii</i>	R		

**(f) Unit L7: Buderim Ridgeline**

Values

This unit largely follows a ridgeline in the Mons locality crossing Mons Road. It is a small but solid remnant of coastal eucalypt vegetation set within expanding residential communities. Retention of this link would enhance scenic amenity, and improve the setting for important adjacent rainforest remnants of Buderim Forest Park by providing a less fragmented and degraded landscape. It would also provide a vegetated connection between rainforest remnants located immediately east of the Bruce Highway with the rainforest of Buderim Forest Park.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
2a Coastal eucalypt mix	Not of concern at present

**(g) Unit L8: Martins Creek**

Values

This unit is centred around a small creek that flows from the significant rainforest of Buderim Forest Park through lowland areas to Eudlo Creek Conservation Park. It supports riparian rainforest along the creek banks, though areas away from the creek are cleared for intensive cultivation.

It is crucial for the condition and viability of the conservation park that incoming water is of good quality and maintains aquatic ecosystems.

Riparian rainforest provides habitat for significant fauna and may contain unrecorded significant flora.

**Significant Vegetation Communities and Ecosystems**

Community or Ecosystem Present in Unit	Conservation Status within South East Queensland
1a Riparian vine forest	Significant and/or of concern