



# Warnervale Town Centre Biodiversity Certification Strategy

**FINAL**

Prepared for  
**Wyong Shire Council (WSC)**

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## ACKNOWLEDGEMENTS

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# 1. WARNERVALE TOWN CENTRE

## **Background**

Wyong continues its rapid growth rate, mainly due to migration of young families and retirees seeking affordable housing or empty nesters downsizing the metropolitan family home. The Australian Bureau of Statistics recorded growth in Wyong Shire between 2001 and 2009 was 1.3% per annum against the NSW growth rate for the same period of 1.7%

This increasing growth places demand for housing, employment and implementing upgrades of existing and new infrastructure programs. Currently more than 30% of Wyong's employment population leaves the Shire each day commuting to metropolitan areas such as Sydney and Newcastle.

The release of Warnervale Town Centre, a greenfield development site, provides 2,000 affordable housing lots, employment and investment opportunities. More than 1,200 jobs will be created through the Woolworths/Big W retail commercial zone, public transport nodes, established educational facilities, new medical facility (currently under construction) and recreational precincts.

Woolworths has a development application for \$150 million retail commercial development in the heart of the Warnervale Town Centre, anticipated to be approved around March 2012 according to the Department of Planning, assessing the application under the Part 3A assessment.

Council has received a development application for 132 residential lots proposed for the most south eastern portion of the development site. Construction of the recently approved Super Clinic Medical Centre is well under way with the structure of the building starting to take form.

## **Biodiversity Certification Assessment Area**

The Warnervale Town Centre Biodiversity Certification Assessment Area (BCAA) is located on the NSW Central Coast, in the Wyong Local Government Area (Figure 1). The site is located west of Tuggerah Lake, approximately 12 kilometres from the coast.

The WTC is 113.4ha in size. It is bounded by Sparks Road in the south, Hakone Road in the north and Hiawatha Road in the east, and the site is dissected by the main northern railway.

A biodiversity certification assessment has been completed for the WTC, using the Biodiversity Certification Assessment Methodology (BCAM) (DECCW 2011). For more details of how the assessment was conducted please see the Biodiversity Certification Assessment Report for the Warnervale Town Centre (ELA 2012).

# 2. BIODIVERSITY CERTIFICATION STRATEGY

The BCAA contains two proposed land uses to be assessed (Figure 2):

- Land proposed for biodiversity certification (i.e. development)
- Retained lands (the 'Daisy Reserve' and footbridge located to the west of the railway, which are being considered as part of another development approval and therefore are not considered in this assessment)

It is noted that the land proposed for biodiversity certification (i.e. development) has been identified using a precautionary approach, and as such the area to be biodiversity certified is larger than what will actually be impacted during development.

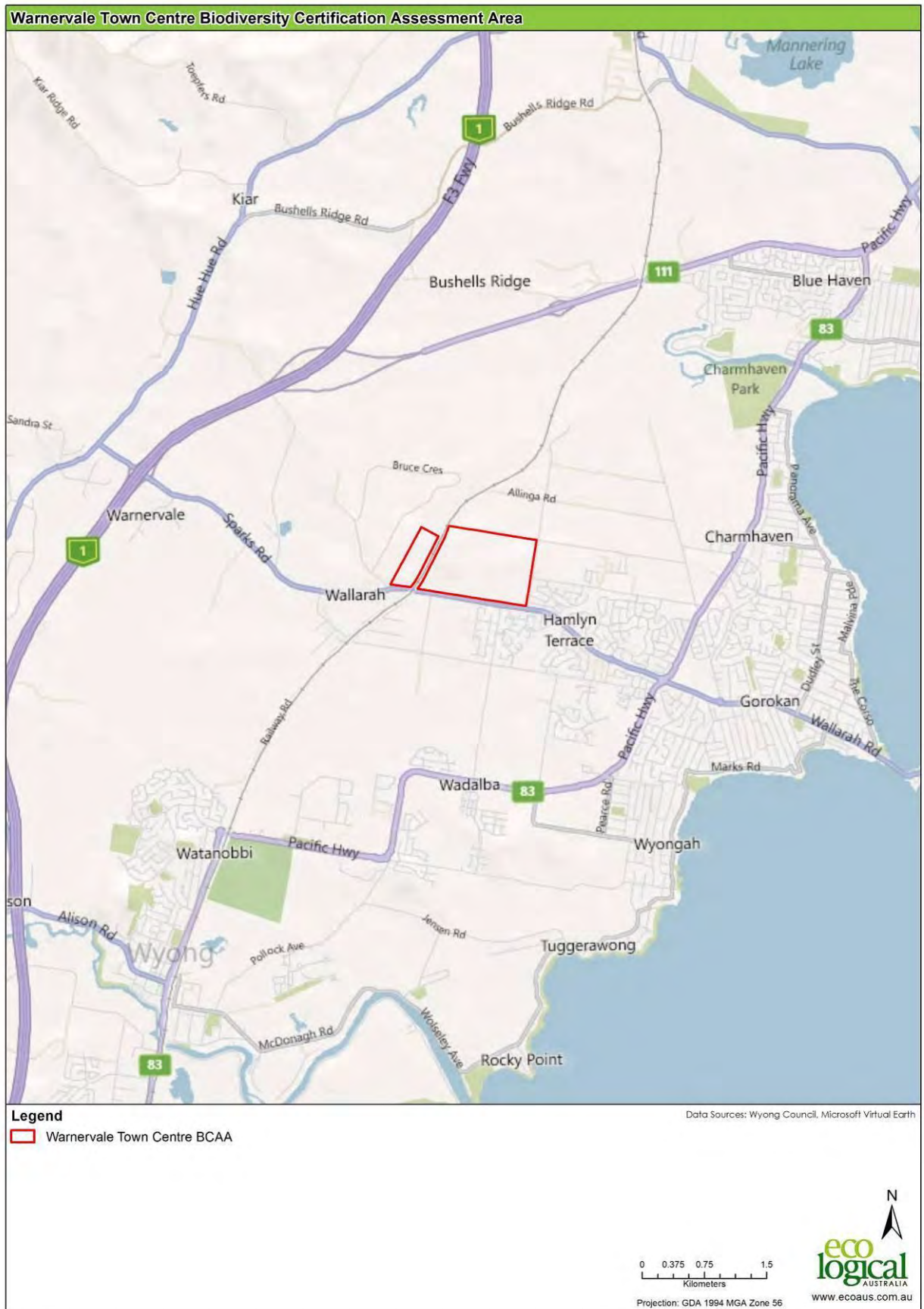


Figure 1: Warnervale Town Centre Biodiversity Certification Assessment Area

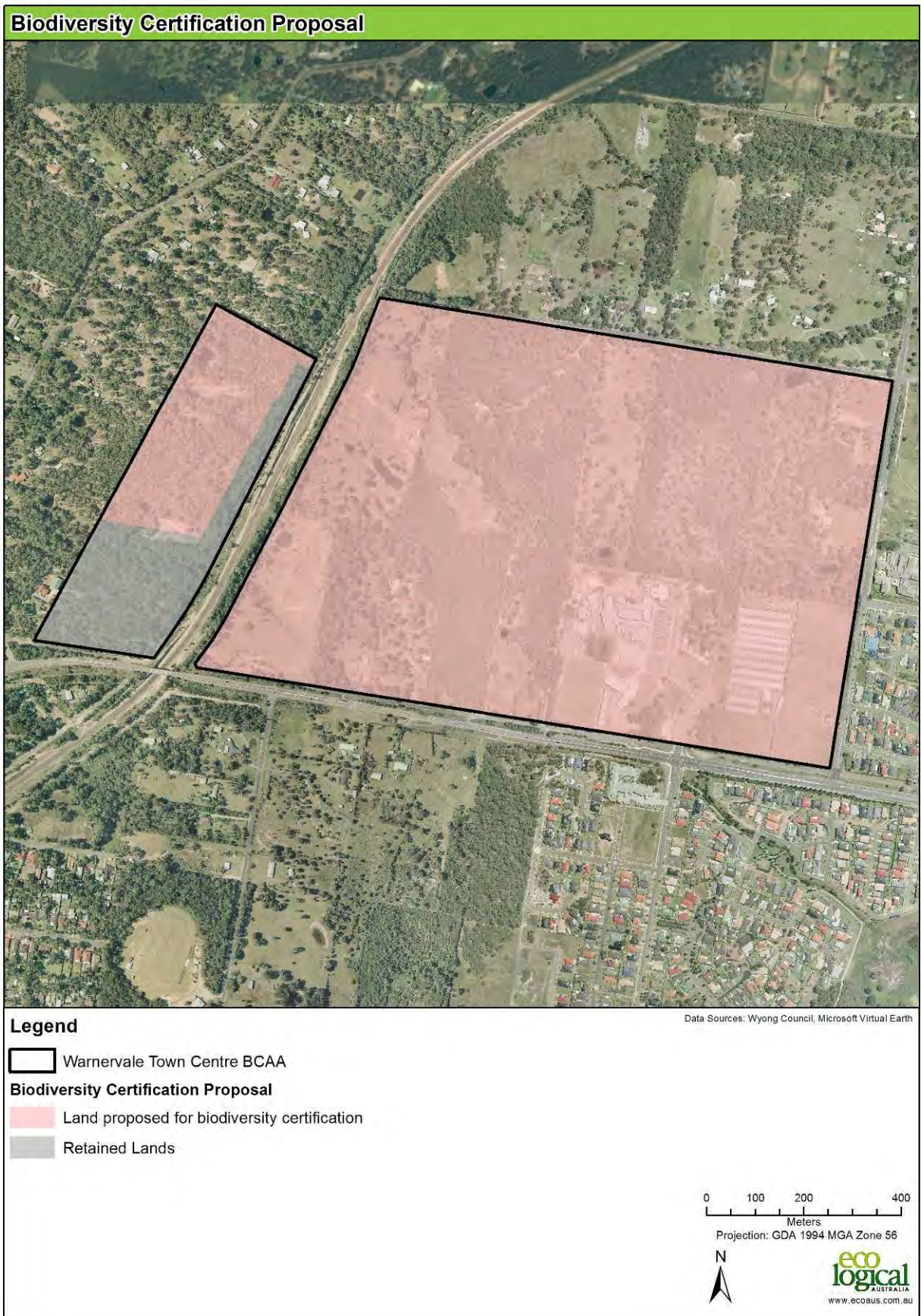


Figure 2: Biodiversity Certification Proposal

There are several areas within the land proposed for biodiversity certification where the final land use is proposed to be public recreation or environmentally zoned land (riparian corridors). Although these areas will maintain significant native vegetation and biodiversity value after development, the amount of impact to these areas from services related to the development, such as roads, sewer, cycle ways/pathways and water storage/treatment is currently not known.

The BCAM requires certainty before credits can be generated within 'conservation' lands (such as environmentally zoned land). As the final footprint for these areas is not yet known, this assessment has had to assume impact to these areas, despite the fact that vegetation will most likely remain to some degree. In addition, the BCAM assumes the total loss of biodiversity in areas impacted, and partial loss cannot be calculated. Therefore the areas of public recreation and riparian corridors have been included in 'land proposed for biodiversity certification', with an assumption of total loss, even though significant vegetation will remain after certification.

The retained (excluded) lands identified within the BCAA are associated with the development proposed for North Warnervale Station, including a footbridge to the west of the station and the 'Heath Wrinklewort Reserve' (or Daisy Reserve). Because these lands are part of another development approval they are not considered in this assessment. In addition, the Daisy Reserve has already been used as an offset for the development of North Warnervale Station, and can therefore not be used in the biocertification assessment to offset the impacts of the town centre.

Rather than meeting the Improve or Maintain principle (and achieving biodiversity certification) through on-site conservation measures, a financial contribution will be used to secure the conservation measures required off-site for the WTC. The financial contribution will be raised through the Warnervale Town Centre State Infrastructure Contribution (SIC), which provides for the collection of \$4M to secure the required offsets. The funding will enable the Office of Environment and Heritage (OEH) to acquire land or to set up Biobanking Agreements in order to offset impacts to biodiversity arising from the Warnervale Town Centre development. The offsets secured will need to meet the credit profile of each vegetation type impacted. The credit converter developed by the OEH has been used to estimate the cost of the additional offset lands.

### 3. BIODIVERSITY CERTIFICATION ASSESSMENT RESULTS

#### *Biodiversity Certification Impacts*

The footprint proposed for biodiversity certification is 104.9ha (68.4ha of which is vegetated) (Table 1). Zero (0) hectares of land are proposed for conservation measures, with 8.5ha of land identified as retained land (i.e. the Daisy Reserve and footbridge).

**Table 1: Land use breakdown**

Development Footprint	Area (ha)
Land Proposed for Biodiversity Certification (Development)	104.9
Land Proposed for Conservation	0.0
Retained Lands (Land excluded from this assessment)	8.5
<b>Total</b>	<b>113.4</b>

Across the entire site four vegetation types were identified (Table 2). In total 76.6ha of vegetation was mapped across the site, with the dominant vegetation types being Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin (45.7ha) and Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin (24.2ha). Cleared

land makes up 36.8ha of the site. The total amount of vegetation impacted is 68.4ha, with 8.2ha mapped within retained lands.

**Table 2: Area of vegetation and impacts within the BCAA**

Biometric Vegetation Type	Land Proposed for Biodiversity Certification	Retained Lands
Blackbutt - Turpentine open forest of the foothills of the North Coast	6.6	0
Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin	45.7	0
Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin	16	8.2
Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin	0.1	0
Cleared land	36.5	0.3
<b>Total</b>	<b>104.9</b>	<b>8.5</b>

Two species were also impacted that require species credits. Impacts included:

- 0.16ha of Wallum froglet habitat
- An estimated 114 individual *Rutidosis heterogama*

### **Credit Calculations**

In total, 2,191 credits are required for the land proposed to be developed (Table 3). The largest number of credits is required by the Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin community (1,355 credits). This is followed by Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin (536 credits), Blackbutt - Turpentine open forest of the foothills of the North Coast (296 credits) and Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin (4 credits).

As conservation areas were not identified during this assessment (due to unknown impacts within these areas and the fact that the methodology assumes total loss) no credits are generated by the proposed biodiversity certification. Therefore all 2,191 credits need to be identified and secured off-site.

**Table 3: Final ecosystem credit results**

Vegetation type name	Credits Required	Total credits created as managed offset	Credit Status
Blackbutt - Turpentine open forest of the foothills of the North Coast	296	0	-296
Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin	1,355	0	-1,355
Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin	536	0	-536
Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin	4	0	-4
<b>Total</b>	<b>2,191</b>	<b>0</b>	<b>-2,191</b>

Species credits have been calculated for the impact caused to both Wallum froglet habitat and *Rutidosia heterogama* individuals by the proposed development (Table 4). Two Wallum froglet credits are required for the land proposed to be developed. No credits are generated as lands have not been identified for conservation. Therefore the species requires 2 credits.

The impact on 114 *Rutidosia heterogama* individuals requires 1,754 credits. Again, no credits are generated as lands have not been identified for conservation. The credit requirement for the species is therefore 1,754 credits.

**Table 4: Final species credit results**

Species name	Credits Required	Total credits created as funded/managed offset	Credit Status
Wallum froglet	2	0	-2
<i>Rutidosia heterogama</i>	1,754	0	-1,754

### Red Flags

The 0.1ha polygon of Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin has been identified as the listed Endangered Ecological Community (EEC) Swamp sclerophyll forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner bioregions. Impacts to this vegetation type are therefore red-flagged. A red flag variation has been prepared for this vegetation type and is provided in the Biodiversity Certification Assessment Report.

It is the opinion of the assessor that *Rutidosia heterogama* can withstand a temporary reduction in numbers within the BCAA. The use of approved 'certified local data' is permitted under Section 3.4 of the BCAM, and is considered in the Biodiversity Certification Assessment Report. The threatened fauna species impacted by the proposal (Wallum froglet) is not red flagged under the BCAM.

### Credit Profiles

A credit profile is the set of attributes that are used to characterise ecosystem or species credits. They form part of the rules for using ecosystem and species credits to offset the impacts on land proposed to be Biocertified. The rules ensure that the vegetation impacted by the land proposed for Biocertification is offset within the same vegetation formation and habitat suitability for threatened species.

Provided in Table 5 are the credit profile details for each of the vegetation types impacted by the WTC proposal. Generally the geographic region able to provide an offset is quite large, with three of the 4 vegetation types able to be offset within five CMA subregions. The exception to this is Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin which can only be offset within the Wyong CMA subregion.

The vegetation types able to provide the offset are more restricted. A total of nine vegetation types can provide the offset, however no vegetation types are able to provide an offset for all vegetation types impacted. Therefore, the offset site(s) will be required to contain several vegetation types to achieve the offset requirements of the methodology, or several offset sites will be required.

Credit profiles for species credits are not required as there are no geographic restrictions on obtaining species credits. Should the credit type (i.e. species) be difficult to obtain a variation to the credit rules can be prepared. Again, all options must be exhausted before a variation can be prepared.



Table 5: Ecosystem credit profiles

Vegetation type name	% Cleared in HCR CMA	Vegetation Formation	CMA Subregions Able to Receive Offset	Vegetation Types Able to Receive Offset
Blackbutt - Turpentine open forest of the foothills of the North Coast	30%	Wet sclerophyll forests (grassy sub-formation)	<b>Hunter Central Rivers CMA</b> Wyong Macleay Hastings Yengo Hunter  <b>Hawkesbury Nepean CMA</b> Pittwater Yengo	Blackbutt - Tallowwood dry grassy open forest of the southern North Coast Blackbutt - Turpentine open forest of the foothills of the North Coast Small-fruited Grey Gum - Tallowwood shrubby open forest on coastal foothills of the southern North Coast Tallowwood - Small-fruited Grey Gum dry grassy open forest of the foothills of the North Coast
Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin	35%	Dry sclerophyll forests (shrubby sub-formation)	<b>Hunter Central Rivers CMA</b> Wyong Yengo Hunter  <b>Hawkesbury Nepean CMA</b> Pittwater Yengo	Scribbly Gum - Red Bloodwood heathy woodland on the coastal plains of the Central Coast, Sydney Basin Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin
Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin	45%	Dry sclerophyll forests (shrub/grass sub-formation)	<b>Hunter Central Rivers CMA</b> Wyong Yengo Hunter  <b>Hawkesbury Nepean CMA</b> Pittwater Yengo	Broad-leaved Stringybark - Blakely's Red Gum grassy woodlands of the gorges and upper Hunter Valley, North Coast Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin

Vegetation type name	% Cleared in HCR CMA	Vegetation Formation	CMA Subregions Able to Receive Offset	Vegetation Types Able to Receive Offset
Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin	60	Forested Wetlands	Wyong	Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin

### ***Credit Converter***

The OEH Credit Converter was used to estimate the cost of securing the credits required for the biodiversity certification of the WTC. Assuming the offset site generates 9.3 credits per hectare (as defined by the OEH Credit Converter), the total additional area required to offset impacts is estimated to be 236ha. To secure the offset through a financial contribution, the total offset is estimated to be 262ha by the OEH Credit Converter.

The cost of purchasing the four (estimated) offset sites required is calculated at \$2,830,000. The average management cost per hectare (as provided by OEH) is \$3,250/ha, therefore the total cost required for purchase and management is \$3,682,216. An administration fee is also required, which is calculated at 10% of the purchase price of the properties. Therefore the total cost of the additional offset requirement is \$3,965,216.

The Warnervale Town Centre State Infrastructure Contribution (SIC) was approved by Cabinet in October 2008, and provides for the collection of a \$4M infrastructure contribution for biodiversity offsets. The funding will enable the (OEH) either to acquire land or to set up Biobanking Agreements in order to offset impacts to biodiversity arising from the Warnervale Town Centre development. The provision of a SIC will thus enable the offsets required for biodiversity certification to be sourced and secured. Priority will be given to using the SIC money for the protection of key conservation lands within the North Wyong Shire Structure Plan Green Corridor and the use of a SIC gives OEH the ability to achieve strategic conservation gains by focussing on areas of regional conservation priority, and the opportunity to deliver long term conservation security.

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