Broulee Biodiversity Certification Strategy 2013

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CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

1.1 Biodiversity Certification Process

Biodiversity Certification is an alternate assessment pathway given effect through an amendment to the *Threatened Species Conservation Act 1995* (*TSC Act*). Biodiversity Certification allows local government in areas with high development pressure, (urban and coastal areas), to provide for the protection of biodiversity, including threatened species at the strategic planning stage.

By streamlining the current biodiversity assessment process Biocertification provides the opportunity to replace site by site, development by development assessment of threatened species with a landscape-wide strategic assessment.

It's used to help identify areas of high conservation value which need protection, and areas that are less constrained and suitable for development. The process provides for a range of options to offset biodiversity impacts, should this be required, to enable development of an identified area. Biodiversity must be 'maintained or improved' for certification to be conferred by the Minister for Environment and Heritage.

Once Biodiversity Certification is provided over a defined area, development may proceed without the usual environmental assessment requirements under the *Environmental Planning and Assessment Act 1979*.

The Biodiversity Certification process has been identified as an appropriate, equitable and efficient mechanism to address competing biodiversity conservation and development issues in the Broulee residential and airport precincts.

1.2 Assessment Methodology

A central element to Biodiversity Certification is the establishment of the Biodiversity Certification Assessment Methodology 2011 (the Methodology) under section 126S of the *TSC Act*.

An application for Biodiversity Certification must be consistent with the Methodology, which prescribes the manner in which a planning authority must undertake an assessment and sets out a rule set that ensures biodiversity values are improved or maintained as a result of conferring certification over a development area.

This Project applies the endorsed Methodology to the Broulee Assessment Area (Figure 1) with the aim of achieving certification over a defined development footprint of existing residential zoned land and areas surrounding the Moruya airport.

1.3 Background

The Broulee Biodiversity Certification project has been developed as a strategic solution to ongoing planning, development and biodiversity issues in the Broulee area. The approach proposes to resolve long standing land use conflict and development uncertainty being experienced in the remaining undeveloped urban area and concerning the re-development of Moruya Airport.

While residential occupations are expected to increase in Broulee, and commercial opportunities associated with a larger airport facility are anticipated, a range of environmental constraints and threatened entities are present and must be considered in the planning process. These include potential presence of some 36 threatened species, significant cover of an endangered ecological community; Bangalay Sand Forest and a high density of high conservation value habitat features.

The conservation and management of these high conservation value features poses significant challenges in light of the present zoning and development pattern. Continuing decline due to incremental clearing for residential subdivision, developments and the ongoing impacts of occupation (or operation) have the potential to further reduce the extent, condition and ecological function of remnant habitat.

However, the existence of urban zoned land at Broulee, predating the gazettal of Bangalay Sand Forest and the *Threatened Species Conservation Act 1995*, creates a legitimate expectation within landholders of development opportunity.

Following ongoing concerns communicated by frustrated local landholders and developers, feedback from Councils planning and development assessment units and advice received from the Department of Environment and Climate Change that, 'continued cumulative clearing of remnant Bangalay Sand Forest in the Broulee area is not acceptable and a more strategic approach to development is required as a matter of urgency' (September 2009), Council, in 2010, resolved to undertake Biocertification investigations in Broulee. In early 2011, support for the proposal was offered by the Department of Planning and Infrastructure and the Office of Environment and Heritage and the Project commenced.

It is anticipated that certification of urban zoned lands and special use airport lands will permit development to proceed but secure long term and comprehensive protection for the residual occurrence of Bangalay Sand Forest in the locality.

Additional benefits include;

- a streamlined development assessment process
- greater certainty to landowners regarding potential land uses and future development opportunities
- savings in time and money spent on individual flora and fauna studies and negotiating individual conservation outcomes
- secure conservation outcomes for high value natural environments and strategically targeted mitigation or offset efforts
- a reduction in the cumulative impacts resulting from continued ad-hoc development

Whilst Council acknowledges the value and importance of sustainably managing the State's biodiversity, it also recognises the need to provide for economic growth, community services and facilities, and a supply of affordable residential land via sound strategic planning process.

Using the Biocertification pathway it is proposed to deliver better environmental outcomes from anticipated urban development, at lower cost by considering biodiversity issues up-front. This

approach enables practical decision-making and recognises the importance of opting for a cost-effective approach to delivering offset requirements.

A chronological history describing the development of this Project is provided in attachment A.

1.4 Study area

The Study area is located on the NSW South Coast, in the central portion of the Eurobodalla Local Government Area. It is defined by the coast in the east, Moruya River in the south, Tomaga River in the north and by a boundary located by cadastre in the west. The Study area comprises ~2000Ha of mainly vegetated land in both public and private tenure (Figure 1a and 1b). Situated within this broad Study area is the Biodiversity Certification Assessment area together with the village of Broulee and the Moruya Airport facility. The final Biodiversity Certification Assessment area was determined following an initial period of investigation in 2011. The Assessment Area comprises the Development Areas, the Conservation Areas and other Retained Lands (Figure 1b).

Study Area: The wider area assessed as part of the biodiversity certification assessment project from which the assessment area was established following evaluation of biodiversity values.

Assessment Area: The area encompassing land where certification is proposed to be conferred, land proposed for biodiversity conservation via conservation measures to offset the impact of conferring certification and surrounding or adjacent land nominated as retained area.

Development Area: Those areas affected directly by proposed development and proposed for Biodiversity Certification

Conservation Area: Lands that may be proposed for biodiversity conservation, via conservation measures, to offset the impact of conferring biodiversity certification

Retained Area: Land within the biodiversity certification assessment area that is not proposed for biodiversity certification or subject to a proposed conservation measure

The Development Areas were known and well defined at the commencement of the Project being; the existing (undeveloped) residential zoned land in the case of Broulee (36Ha) and the development footprint of the endorsed Moruya Airport Concept Plan 2006 (100Ha, 33Ha of which is vegetated). The total combined clearing of native vegetation within these development areas is 69Ha.

Possible Conservation Areas were identified through a desk top assessment process but were only finalised once field assessments confirmed their suitability and credit generating potential during 2012. There are 8 conservation areas that collectively contribute to offsetting the impacts of certification totalling 406.9Ha and all are public lands owned and managed by Eurobodalla Shire Council.

Retained areas are defined tracts of land adjacent to the Development Areas that do not directly influence the Biodiversity Certification assessment or contribute credit but have been identified as they may be affected by indirect impacts in the event that Biodiversity Certification is conferred.

The Eurobodalla Settlement Strategy describes Broulee as a 'coastal village' where, 'the environment dominates'. Broulee is bounded by Broulee Road, George Bass Drive, Candalagan Creek and the coast and is characterised by a mix of partially developed residential land with minor clusters of commercial development, schools and recreational facilities. Around 50Ha of residential, recreation or medium density zoned land remains undeveloped within the greater urban precinct. Of this land around 36Ha of remnant native vegetation predominantly comprising good condition, undisturbed forest is expected to be impacted if the village is developed to its zoned capacity. It is only this 36Ha that is delineated as a Development Area for the purpose of this application, (figure 1b, appendix L) not the entire village.

The Moruya airport is located to the north of the Moruya River and ~4.5km south of Broulee adjacent to the coast (Figure 1b). While the present operational footprint of the airport is ~65Ha, this is expected to expand to ~100Ha in the future subject to the outcomes of re-development investigations. Approximately 33Ha of remnant native vegetation in varying condition, ranging from derived shrub land to relatively undisturbed forest may be impacted as a result of these activities. While the entire footprint is delineated as a development area – credits were only required for the 33Ha of remnant native vegetation within this footprint.

The Broulee area supports one of the largest occurrences of the Endangered Ecological Community (EEC), Bangalay Sand Forest in State of NSW (Miles 06), and around 46% of the remaining extent of this community in the Shire. The appropriate protection of this Endangered Community in the Broulee area is therefore critical to the survival and recovery of the Endangered Community in NSW as a whole. The entirety of the land proposed for certification both in Broulee (36Ha) and the airport precinct (33Ha) is Bangalay Sand Forest.

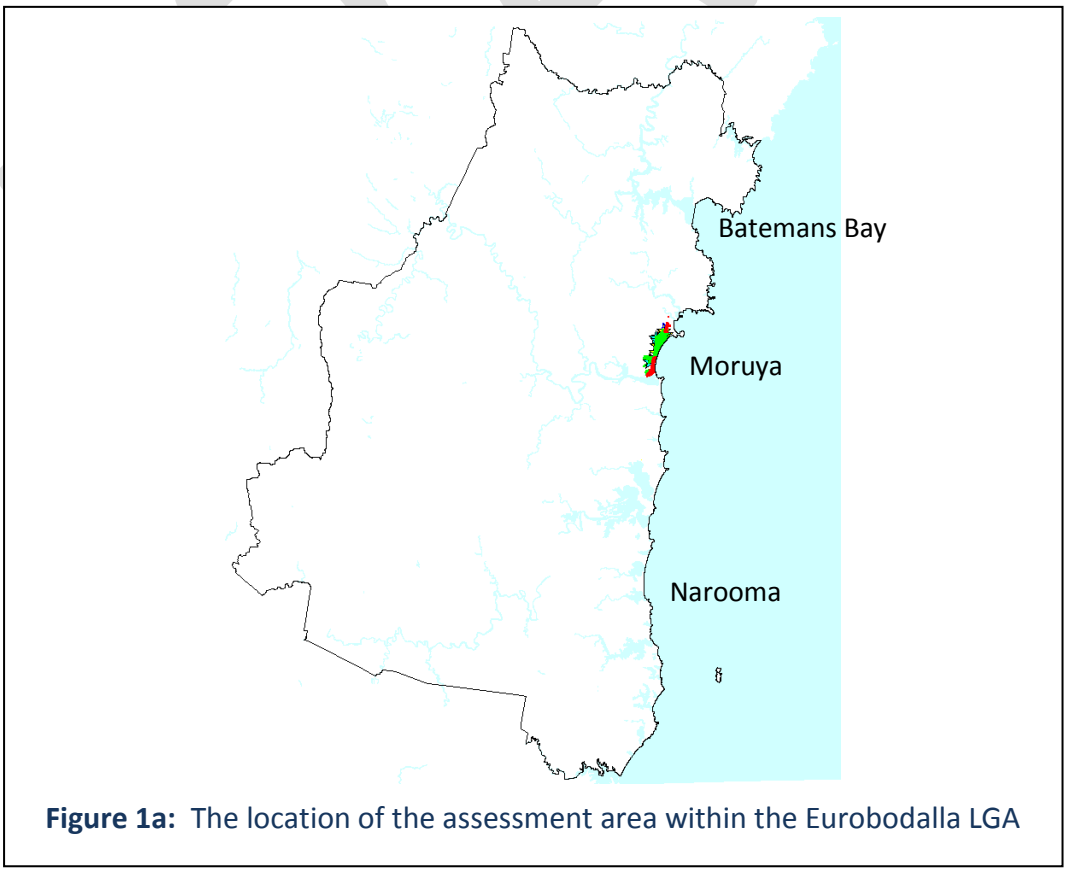

Figure 1a: The location of the assessment area within the Eurobodalla LGA

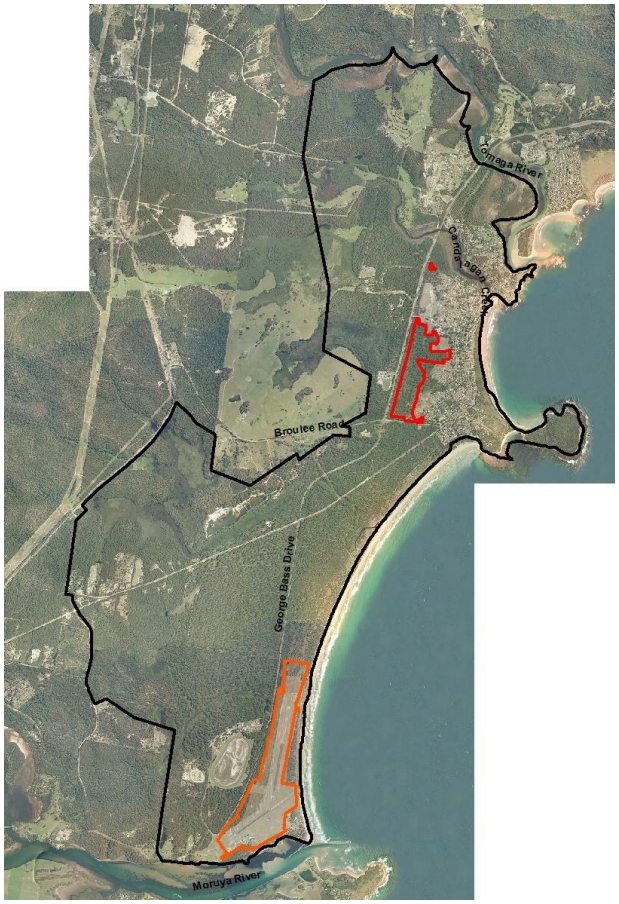

Figure 1b:
The Biodiversity Certification Study Area (left) and the Biodiversity Certification Assessment Area (below)

Legend
- Moruya Airport Development Area
- Broulee Urban Precinct Development Area
- Study Area

Legend
- Biodiversity Certification Assessment Area
- Development Area
- Offset Area
- Retained Lands

1.5 Project Implementation

Eurobodalla Shire Council as a planning authority has prepared this application for Biodiversity Certification in the interests of achieving development outcomes on residential and special use zoned land in an ecologically sustainable manner. The Office of Environment and Heritage will assess the proposal to ensure that it results in an outcome that 'improves or maintains' biodiversity values, with the Minister for the Environment and Heritage determining whether to confer certification on the areas proposed for this purpose.

The Broulee Biodiversity Certification Project has been managed by the Strategic Planning Unit of Council, with technical support and advice provided by a Project reference group over the course of 2011-2013.

In April 2011, expressions of interest were sought for the provision of professional services to undertake Biodiversity Certification Investigations for two distinct development precincts in the Eurobodalla local government area in Broulee and South Moruya. Following evaluation, Ecological Australia were appointed (September 2011) as specialist consultants to prepare both Biodiversity Certification Assessment Reports.

Under S142B of the *Threatened Species Conservation Act 1995 (TSC Act)*, the Director-General may accredit persons to prepare assessments and surveys in connection with the biobanking scheme established under Part 7A of the *TSC Act* and biodiversity certification of land under Part 7AA of the *TSC Act*. Both the project Coordinator, Paula Pollock (preparing the Biodiversity Certification Strategy) and EcoLogical's Senior Ecologist, Ryan Smithers (preparing the Broulee Biodiversity Certification Assessment Report) hold such accreditation.

Further information on the qualifications of staff involved in this assessment are detailed in the Biodiversity Certification Assessment Report appended to this Strategy (Appendix B). While particulars of field assessment, methods, effort and timeframes are provided in the Biodiversity Certification Assessment Report, a brief description of Project sequencing is summarised in Table 1.

Project element	Timeline
Consultant(s) selected	April 2011
Project Inception and literature review	May 2011
STAGE 1.	
Mapping and Scoring of Native	November 2011 – April 2012
Assessing threatened species and communities	November 2011 – August 2012
Red Flag Areas	September 2012
Other attributes	October 2012 - November 2012
STAGE 2.	
Planning	September 2012 – November 2012
Application of conservation measures	October 2012
Credit calculations	November 2012
Biodiversity Certification Assessment Report	December 2012
STAGE 3.	

Preparation of Strategy	January 2013
Reporting	March 2013
Exhibition	Unknown
Review of submissions	Unknown
Adoption and referral to OEH	Unknown

Table 1: Project Elements by date

1.6 Financial

The Department of Environment, Climate Change and Water and the Department of Planning have contributed toward the costs of preparing the Broulee Biodiversity Certification Assessment Report 2012 (Appendix B), with Council allocating $10000 toward the Project from the 2011-2012 Management Plan.

1.7 Technical reference group

The Broulee Biocertification project has been one of the first assessments prepared in accordance with the Biodiversity Certification Assessment Methodology 2011. Consequently, a reference group of accredited officers was convened to assist with the technical aspects of the assessment process and to provide guidance on implementation and approach. The reference group comprised representatives of the funding bodies, Department of Planning and Infrastructure (Louise Wells), Office of Environment and Heritage (Mark Sheahan, accredited biobank assessor) as well as Southern Rivers Catchment Management Authority (Liz Clark, accredited biobank assessor) in an advisory capacity. Additional advice was provided through this group on an as-needs basis by Althea Kinnane, John Seidel, John Briggs, Tobi Edmonds and staff of the Office of Environment and Heritage. Both EcoLogical Australia, (Ryan Smithers and Darren Jones) and planning staff of Eurobodalla Shire Council reported findings, presented issues and work solutions through the reference group.

1.8 Strategic Context

The Eurobodalla Local Environmental Plan 2012 applies to the development areas, with current zoning and lot size applied presented in Figure 2. A full description of lands comprising the development area is provided in Appendix L. Further information on the planning history of the sites is provided later in the Strategy at 4.2 red flag variation.

The conservation lands are a mix of community and operational land (Table 2, Appendix L) and are presently zoned E2 Environmental Conservation under the Eurobodalla Local Environmental Plan 2012, and 1a Rural (Environmental Constraints and Agriculture) and 7a Environment Protection (Wetlands) under the Rural LEP 1987. Conservation areas 1, 2 and 3 were committed to a Conservation Property Vegetation Plan (cPVP) in 2008 in recognition of their high conservation value and this will be discussed further in 4.3 minor variation. The cPVP is attached (Appendix C).

This Biodiversity Certification Project is consistent with a number of higher order Strategies and Plans that guide and inform land use planning and environmental management decisions, particularly in relation to maintenance of biodiversity assets. A summary of priority actions and objectives is provided in Appendix E

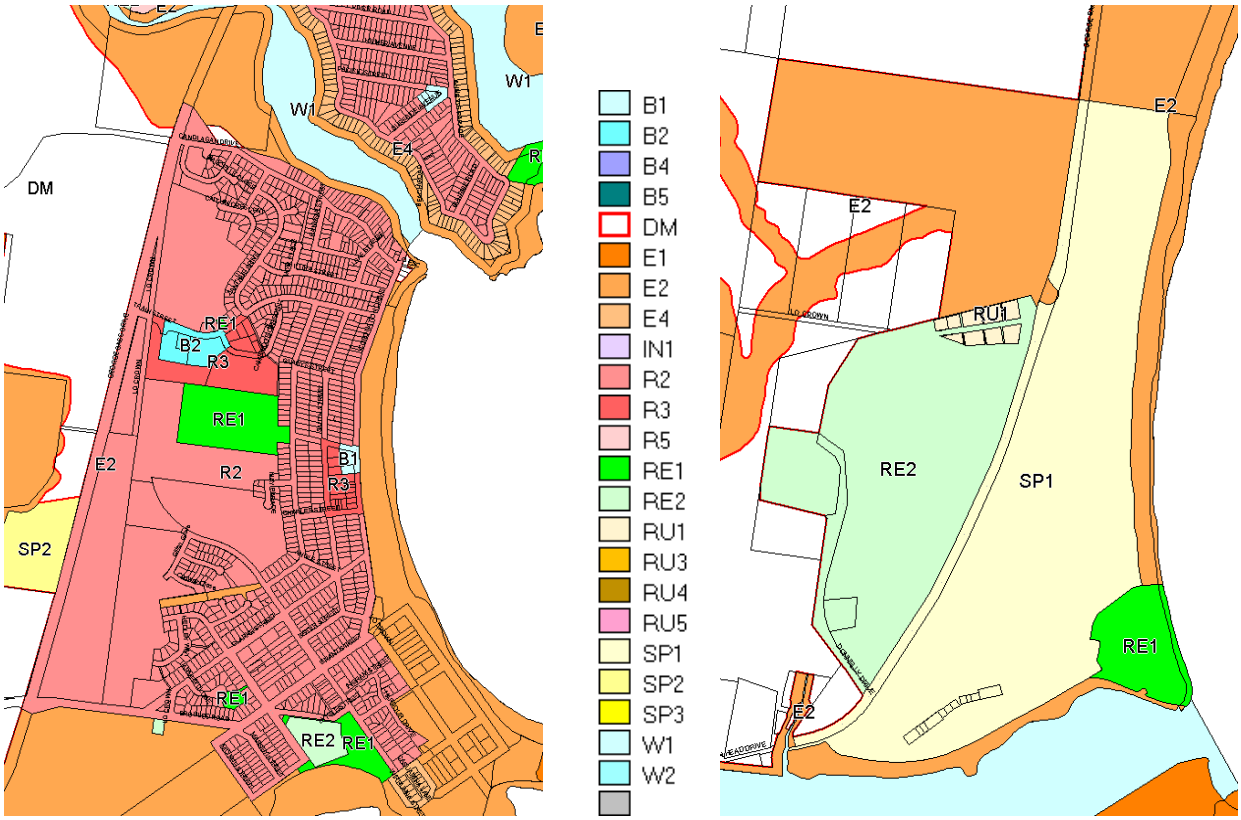

Figure 2 Zoning of development areas as applied in the Eurobodalla LEP 2012 (above)
R2 residential, R3 medium density residential, RE1 public recreation, SP1 special use airport

Minimum lot size of development areas as applied in the Eurobodalla LEP 2012 (below)

Conservation Area	Description	Lot and DP	Area (Ha)	classification	categorisation
1	Bengello north of airport	part Lot 70 DP 831111	187	Community	Natural area bushland Natural area wetland
2	Bengello north of airport	lot 8 DP 258299	61	Reserve	Not categorised
3	Bengello Williga Swamp	part Lot 4 DP 1090948	74	Community	General community use – open slashed
4	Corner Broulee Road and George Bass Drive	Lot 12 DP 831878	11	Operational	
5	Old Broulee tip	part Lot 70 DP 831111	38	Operational	
6	Illawong Swamp	Lot 10 DP 831878	12	Operational	
7	Racecourse west	Lot 11 DP 771575	7	Operational	
8	Racecourse south	Lot 41 DP 1036166	17	Operational	

Table 2 Description of Conservation Areas

1.9 Community Consultation and access

Affected landholders of the Broulee residential area have supported the preparation of this application and have been consulted throughout the Local Environmental Plan process 09-12 and via individual meetings and updates. A tailored Biobanking presentation was delivered for their information in 2010 and followed with a Biocertification workshop in 2011. Council staff have actively maintained regular contact with those landholders in respect of current development proposals, to advise of alternate assessment pathways and of efforts to secure funding assistance to expedite the process.

Broader community engagement and advisory notices have been communicated through local media and community newsletters.

Targeted mail outs to landholders outside the urban precinct and between Moruya and Tomaga Rivers was undertaken, focusing on properties that may support Bangalay Sand Forest and where more information was sought to augment the existing knowledge base. Following initial introduction of the Project, property entry was requested in key locations and individually organised upon receipt of permission.

A summary of engagement activities relating to the Broulee Biodiversity Certification process is described in Appendix F and properties accessed for data collection within the Study Area are shown in Figure 3

Figure 3 Properties accessed for data collection within the Study Area

1.10 Ecological assessment

A range of existing datasets, reports, literature and mapping was accessed and reviewed to build an ecological picture of the study area. Southern Rivers Catchment Management Authority supplied relevant plot data and previous flora and fauna assessments were referenced with modelled vegetation mapping reconciled where appropriate with property scale verified floristic data. The resultant vegetation map was then used to design a sampling regime consistent with the Methodology with 21 plots being undertaken (18 required). Access constraints and opportunities prompted further refinement of the sampling effort, with good coverage being achieved over the bulk of the Study Area (Figure 3)

A full outline of the applied Methodology is provided in the appended Broulee Biodiversity Certification Assessment Report (Appendix B)

2 ASSESSMENT OF VALUES

2.1 Biodiversity values

The Biodiversity Certification Assessment Report 2012 appended to this Strategy (Appendix B) outlines the process undertaken to define biodiversity values and demonstrates compliance with the Methodology. The maps and tables below are reproduced from this report which details in full the biodiversity values of the assessment area.

2.2 Native Vegetation Footprint (s3.2 of the Methodology)

The Assessment Area supports 509Ha of native vegetation in various condition states as mapped in figure 4. Section 3 and appendix 4 of the Biodiversity Certification Assessment Report 2012 provides further information on vegetation within the Assessment Area.

Assessment area	Total Area	Area of Native Vegetation
Development area	137.1 Ha	69Ha
Conservation area	406.9Ha	396.8Ha
Retained area	44.84Ha	43.73Ha
Total	**588.84Ha**	**509.53Ha**

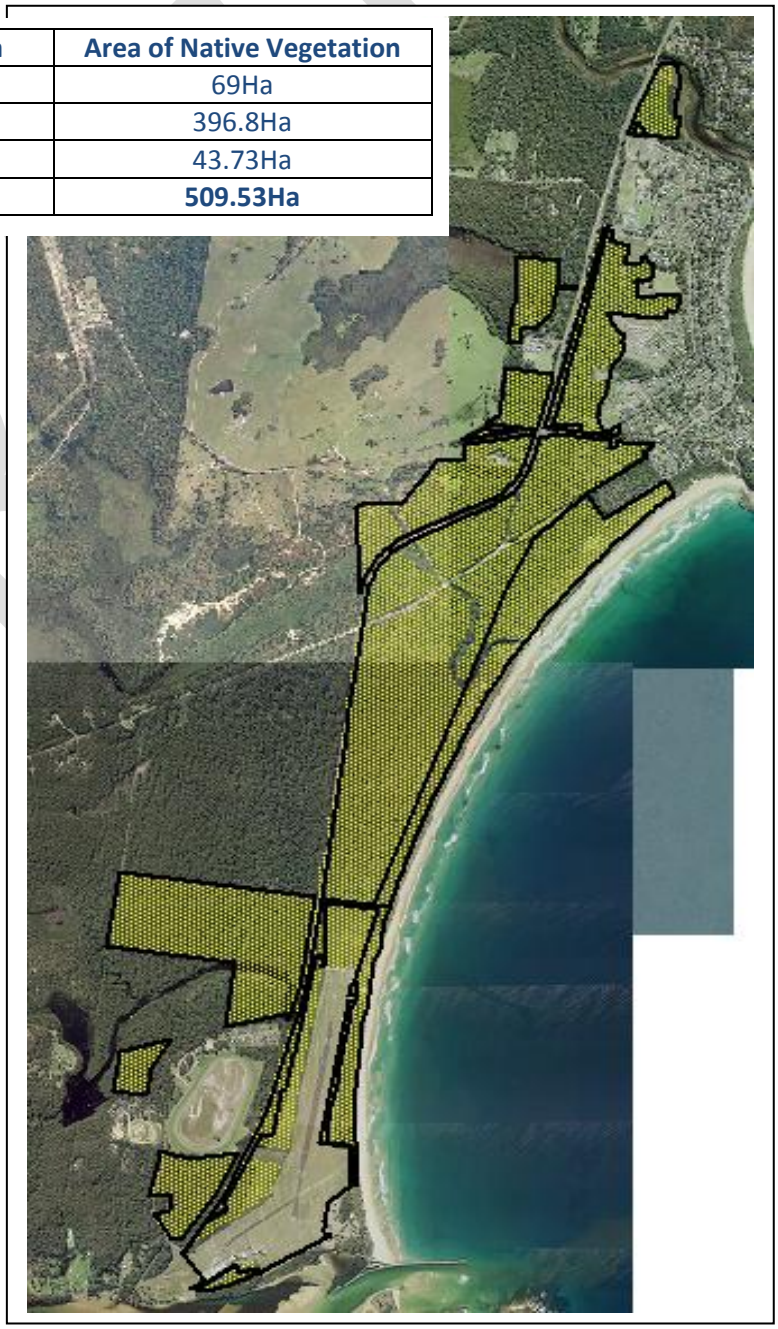

Figure 4
Native Vegetation Footprint
within the Assessment area

2.3 Biometric Vegetation types and delineation of vegetation zones (3.3-3.5 of the Methodology)

The Assessment Area supports 11 vegetation zones of 6 different vegetation types and an area of cleared land. These are mapped and described in figure 5 and tables 3 and 4 below. Section 3 and appendix 4 of the Biodiversity Certification Assessment Report 2012 provides further information on vegetation within the Assessment Area.

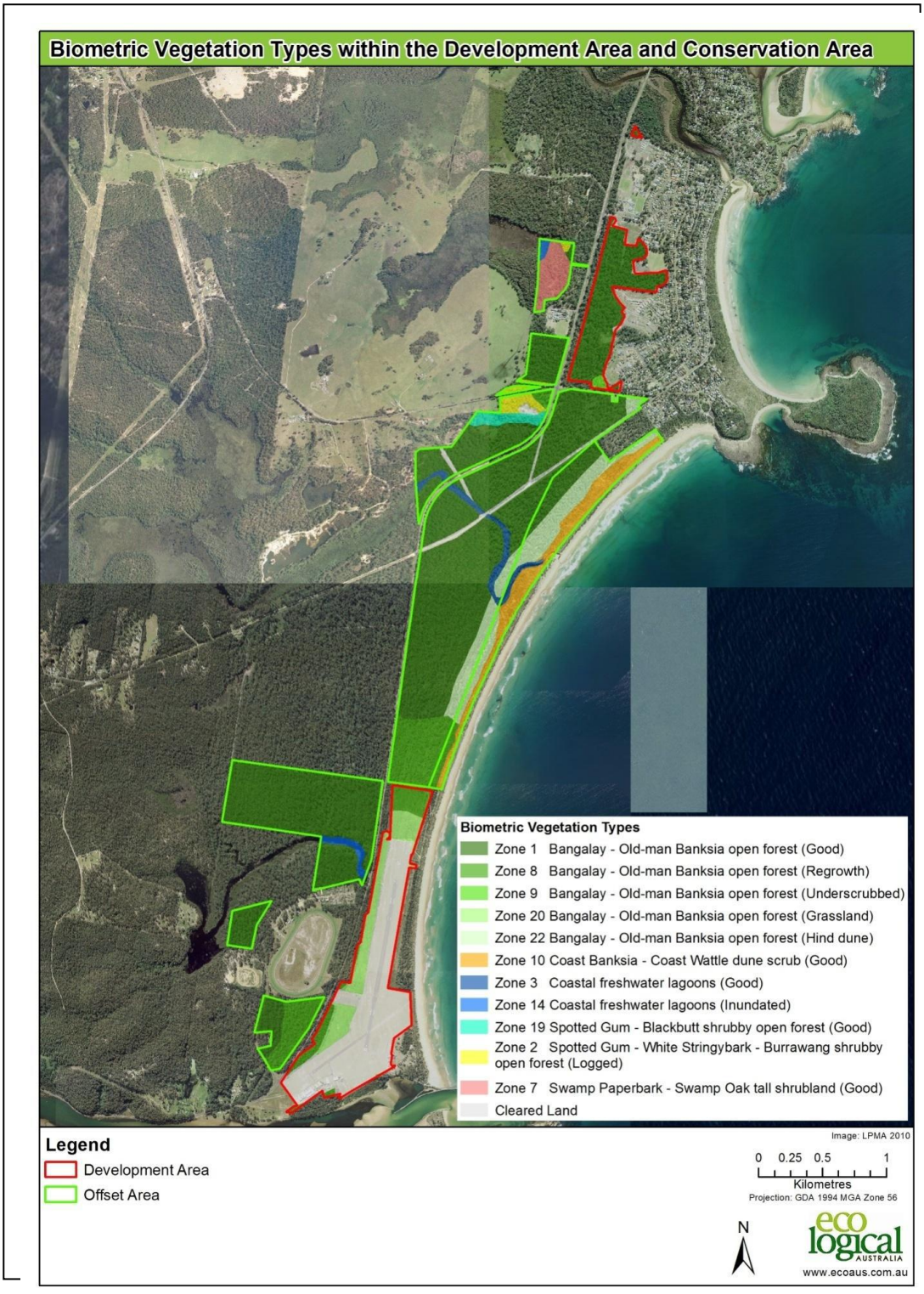

Figure 5 Biometric vegetation zones within the Assessment Area

ZONE	REVISED BIOMETRIC VEGETATION TYPES	ANCILLARY CODE	FORMATION	CLASS	CONDITION
1	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	Good condition with lots of hollows and negligible weeds	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good
2	Spotted Gum - White Stringybark - Burrawang shrubby open forest on hinterland foothills, northern South East Corner	Logged forest with mostly regrowth and only occasional old growth trees	Wet Sclerophyll Forests (Grassy subformation)	Southern Lowland Wet Sclerophyll Forests	moderate to good
3	Coastal freshwater lagoons of the Sydney Basin and South East Corner	*Cladium procerum* dominated swamp	Freshwater Wetlands	Coastal Freshwater Lagoons	moderate to good
7	Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner	Excellent condition, mainly inundated during the survey period	Forested Wetlands	Coastal Floodplain Wetlands	moderate to good
8	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	Relatively young regrowth post clearing. No or very few hollows or other old growth elements	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good
9	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	Under-scrubbed or slashed, but with a reasonable abundance of old growth trees	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good
10	Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	Good condition with some cosmopolitan weeds such as Bitou Bush	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good
14	Coastal freshwater lagoons of the Sydney Basin and South East Corner	Large lagoons/swamps generally inundated during the survey period	Freshwater Wetlands	Coastal Freshwater Lagoons	moderate to good
19	Spotted Gum - Blackbutt shrubby open forest on the coastal foothills, southern Sydney Basin and northern South East Corner	Very moist and in excellent condition	Wet Sclerophyll Forests (Grassy subformation)	Southern Lowland Wet Sclerophyll Forests	moderate to good
20	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	Derived grassland/shrubland	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good
22	Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner	Bangalay dominated typically low forest of the hind dune	Dry Sclerophyll Forests (Shrubby subformation)	South Coast Sands Dry Sclerophyll Forests	moderate to good

Table 3 Vegetation zones within the Assessment Area

BIOMETRIC VEGETATION TYPE	AREA (HA)
Bangalay - Old-man Banksia open forest	407.1
Coast Banksia - Coast Wattle dune scrub	25.3
Coastal freshwater lagoons*	12.9
Spotted Gum - Blackbutt shrubby open forest**	5.0
Spotted Gum - White Stringybark - Burrawang shrubby open forest**	5.5
Swamp Paperbark - Swamp Oak tall shrubland on estuarine flats, Sydney Basin and South East Corner*	9.8
Cleared Land*	78.4
Total	**544.0**

* Excluded from assessment of conservation lands as credits do not match the requirements of the impact sites

** Excluded from ecosystem credits but included in species credit calculations

Table 4 Area of vegetation within the Assessment Area

2.4 Threatened Species polygons (s4 of the Methodology)

Targeted surveys were undertaken for 7 species credit fauna species, with one of these, the White Footed Dunnart *Sminthopsis leucopus* being detected in the Development Area. This species is listed as being unable to withstand further loss in the region and as such is a Red Flag (OEH 2012). Further information on species predicted to occur within the Assessment Area and those requiring survey is found in appendix 7 and s4.7 of the Biodiversity Certification Assessment Report 2012.

Figure 6 Threatened Species Polygons (red) within the Assessment Area

2.5 Areas of State or Regional Conservation significance (2.4.4 of the Methodology)

Within the Development Area subject of this Biodiversity Certification application, there are no areas of State or regional conservation significance as defined in s2.3 of the Methodology as;

- land that is mapped or defined as a state or regional biodiversity link in accordance with section 3.7.2 of the Methodology
- a riparian buffer 40 m either side of a major river on the coast and tablelands or 100 m either side of a major river on the western slopes and plains
- a riparian buffer 30 m either side of a minor river or major creek on the coast and tablelands or 60 m either side of a minor river or major creek on the western slopes and plains
- a riparian buffer 20 m either side of a minor creek on the coast and tablelands or 40 m either side of a minor creek on the western slopes and plains
- areas listed as a SEPP 14 wetland

2.6 Environment Protection and Biodiversity Conservation Act (EPBC) considerations (s5 of the Methodology)

Consistent with chapter 5 of the Methodology, an evaluation of nationally significant values was undertaken for the development areas. The EPBC Protected matters search tool was consulted and identified;

- 4 flora species as potentially occurring within the locality
  In consideration of habitat requirements and following assessment, it is considered highly unlikely that these species would occur within the development areas.
- 47 threatened fauna and numerous migratory bird species predicted to occur within the locality.
  While the development area does provide some suitable habitat for a range of EPBC listed species, it does not support any resources that aren't available in remnant vegetation outside of the development area footprints. The development area provides very limited breeding habitat for these species. Suitable habitat is duplicated in the conservation areas. The development area is considered too small to have any substantial effect on these species.
- listed ecological community: *Littoral rainforest and coastal vine thickets of eastern Australia,* potentially occurs within the locality
  Following assessment, this community does not occur within the development areas
- There are no world heritage properties, national heritage places or Ramsar wetlands of national importance within the development area.

In light of the outcomes of this appraisal and in accordance with the Methodology, actions associated with the conferral of certification will not have a significant impact on a matter of national environmental significance and as such 'strategic assessment' under the EPBC Act is not requested. For full assessment refer to the Biodiversity Certification Assessment Report 2012 appended to this Strategy (Appendix B)

2.7 Red flags (s2.3 of the Methodology)

A map of Red Flag areas based on the ecological assessment is provided at figures 7 and 8, with a full description of these values to follow in section 3

2.8 Indirect impacts (s6 of the Methodology)

Maps of areas that may be subject to indirect impacts as a result of the conferral of certification are provided at figures 9-11, with a full description of these impacts to follow in section 3.7

2.9 Credit requirements (s7 of the Methodology)

Following the assessment of values within the development area, credit requirements were determined based on section 7 of the Methodology. The results of this exercise are provided in table 5 below.

Development Area	Credits
Broulee (ecosystem credits)	1561*
Broulee (species credits)	952
Moruya Airport (ecosystem credits)	795**
Moruya Airport (species credits)	864

Table 5 Credit requirements of the Development Areas

* includes; Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (1558), indirect impacts (3)

** includes; Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner (785), Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner (7), indirect impacts (3)

3 STRATEGIC PLANNING

3.1 Development Area (area proposed for certification)

The two Development Areas, defined in figure 1 and Appendix L, comprise 36Ha of residential zoned land in Broulee and 33Ha of native vegetation within the development footprint of the endorsed Moruya Airport Concept Plan 2006. The total combined clearing of native vegetation within these Development Areas is 69Ha.

In total, the Development Area is made up of 14 part lots; 9 of these, or ~33Ha being in private tenure and 5 or ~36Ha of these held in public tenure (primarily Moruya Airport and Captain Oldrey Park).

3.2 Red Flag areas within the development area (s2.3 of the Methodology)

With reference to the Biodiversity Assessment Methodology, a conferral of Biodiversity Certification over the proposed development lands will directly impact on biodiversity values of 2 Red Flag entities; Bangalay Sand Forest and the White Footed Dunnart (Table 6, figures 7 & 8).

Red Flag	**High conservation value**		
Bangalay Sand Forest in the Sydney Basin and South East Corner Bioregion (Appendix H)(Figure 7) Biometric vegetation type: Bangalay – Old-man Banksia Open Forest	An endangered ecological community listed under the Threatened Species Conservation Act (not in low condition)		
	Area (Ha) within dvp & cons areas	Area (Ha) impacted	Area (%) impacted
	385.6	47.1	12.2
Sminthopsis leucopus White Footed Dunnart (Appendix I)(Figure 8)	Threatened species identified in the Threatened Species Profile Database that cannot withstand further loss in the CMA area because • The species is naturally very rare, has few populations or a restricted distribution • The species or its habitat needs are poorly known		
	Area (Ha) within dvp & cons areas	Area (Ha) impacted	Area (%) impacted
	442.9	69.0	15.6

Table 6 Red Flag areas with reference to s2.3 of the Methodology

3.3 Red Flag variation (2.4 of the Methodology)

The following section constitutes a formal application for a Red Flag variation, provides justification for this claim and through addressing the relevant criteria in s 2.4.1 – 2.4.4 demonstrates that the impacts of certification on the red flag areas can be offset in accordance with the rules and requirements in section 10 of the Methodology.

Figure 7 Red Flag area – Bangalay Sand Forest

Figure 8 Red Flag area – White footed dunnart

3.3.1 (a) All reasonable measures have been taken to avoid impacts on Red Flag Areas;

Buffers

A 40m wide buffer along George Bass Drive will be retained consistent with Councils' Policy; Conservation of the Yellow-bellied Glider in the Broulee area. This buffer has also been extended north of the Candalagan Drive intersection adjacent to land proposed to be certified. In total around ~7ha of residential zoned red flag vegetation has been excluded from this application for certification and will remain as habitat and a stepping stone for species dispersal and movement in and out of Broulee and simultaneously provide visual amenity.

The buffer is presently held in private tenure and Council will strongly support consolidation efforts and the minimisation of boundaries and fence lines that could potentially impact on the remnant patch and connectivity within it.

Development Control Plan

A Broulee Development Control Plan will be drafted to ensure sensitive design principles are applied in the planning of subdivision layouts and future developments. It is expected that perimeter roads will be required to create separation between retained vegetation (along George Bass Drive and Broulee Road) and residences for fire protection and also to minimise the number of created parcels abutting HCV vegetation. This will discourage private property encroachments and should minimise indirect impacts such as garden waste dumping and 'tidying up' activities following occupation.

While Certification assumes the total removal of all habitat elements within the Development Area, this may not be the actual outcome once development is effected. The addition of nodes or increasing effective width of the buffer would be supported in principle provided that this does not negatively impact on the broader habitat retained or the purpose of the buffer.

However, a number of other concerns pertaining to wholesale retention of patches within the certification area have been considered. These relate to meeting asset protection and bushfire planning requirements together with the cumulative action of indirect impacts operating on a larger edge to area ratio following development and the likely detrimental impacts on structure, function, composition and habitat value. While the management applied to these patches might mitigate against such impacts, experience dictates that within a residential setting, small isolated patches of retained vegetation are generally converted to under-scrubbed parkland (over time) with a resultant reduction in biodiversity values.

Similarly, the retention of hollow bearing trees within the Certification Area would also be supported in principle as investigations indicate a range of hollow dependant fauna are known from the locality. Although the Methodology does not require the number of hollow bearing trees (HBT) within the certification area to be quantified, the outcome of certification will mean that HBT become a limited commodity within the Broulee area as development proceeds. However, retention of senescing trees has proven problematic within residential areas, with safety and risk management issues causing concern once occupations progress.

Council would be supportive of efforts to design around known habitat features and to reduce impacts of development on vegetation remaining within the Biodiversity Certification Area, (this is

consistent with the existing Conservation of the Yellow-bellied Glider in the Broulee Area Policy), but appreciates the practicalities of doing so. With only 36Ha of developable land proposed to be certified within the existing urban footprint – which must accommodate all infrastructure, easements and services to support residential developments - it is simply not feasible to further reduce the area available for growth. From a planning and investment perspective, it is logical to make the best use of what is available including pre-installed infrastructure capacity to support an intensification of density, while consolidating high conservation value habitats and communities in more strategic locations.

Weed and Pest Management

Due to small localised infestations of grassy weeds in roadsides and power line easements (such as serrated tussock at Barlings Beach), the Assessment Area is, and will continue to be regularly monitored with records kept in Councils Weeds Database. Maintenance works are planned following consultation with the database and management applied in a manner that both contains and suppresses existing infestations and prevents further outbreaks adjacent to the high conservation value areas around Broulee and the Airport.

Conservation areas

The spatial distribution, size of patches and connectedness of the Red Flag areas proposed for conservation measures within the Biodiversity Certification Assessment Area have minimised the overall impacts of conferring Biodiversity Certification on the Red Flag Areas within the Development Area.

With over 400Ha of high conservation value (predominantly Red Flag Area) land proposed to be permanently set aside for conservation purposes and actively managed under a conservation measure, the outcome of this certification proposal is positive. The 8 distinct parcels (Table 2, Appendix L) comprising the Conservation Area are each connected to in-tact vegetation and are all located within one of the largest east-west corridors in the region linking the coast with National Parks of the escarpment.

The parcels range in size from 7 -187Ha and being principally the same vegetation type as the Development Area, provide a significant habitat resource for the suite of species potentially impacted by conferral of Certification. There is limited development (now or proposed) adjacent to these Conservation Areas, so, unlike the impacts generated from higher intensity, higher density developments within the Certification Areas, there should be minimal indirect erosion of biodiversity features and values over time.

3.3.1 (b) Appropriate conservation management arrangements cannot be established over Red Flag Areas given its current ownership, status under a regional plan, zoning and likely costs of future management

Zoning

The ability to apply conservation management to the lands that are both proposed for Certification and that constitute Red Flag Areas is limited and not practical given their history, zoning, status under the South Coast Regional Strategy and issues surrounding future management.

Broulee was surveyed and gazetted as a settlement around 1840. The Eurobodalla Urban Local Environmental Plan 1999 (consistent with previous Interim Development Orders), zoned urban land in Broulee; east of George Bass Drive, north of Broulee Road and south of Candalagan Creek to 2g residential general, 2t residential tourism, 3a business and 6a1 public open space. Subsequent to this, the Eurobodalla LEP 2012 presently zones the lands subject to this application for certification as Low Density Residential R2, Public Recreation RE1 and Medium Density Residential R3 and a small area of Local Centre B2 (Figure 2)

As demonstrated, there is a long history of planning for residential development in Broulee. Roading, stormwater and sewer infrastructure layouts have been designed and in some areas are already installed to support staged development and full residential capacities as per zoning. With numerous development projects ranging from the expansion of an existing aged care facility to residential subdivisions presently held in limbo, Certification of the Broulee Development Area is proposed to enable a collective and strategic solution to ongoing planning, development and biodiversity issues.

The Eurobodalla Local Environmental Plan 2012 zones the Moruya Airport SP1 Special Infrastructure (Airport) (Figure 2). The footprint of the certification area at the Airport is consistent with a publicly exhibited and endorsed Concept Plan of 2006 (Appendix J). Built in 1942, the airport is the Shires sole air transport facility (one of only two on the south coast) and a key regional asset critical in meeting the needs of the community and generating substantial economic, environmental and social benefits. Redevelopment is planned to renew ageing infrastructure including terminal facilities, create commercial, airpark and light industrial opportunities with an anticipated runway extension to ~1800m being considered. Certification over the remnant vegetation within the re-development footprint is essential to enable this to progress and a variation to Red Flag rules would support this outcome.

The South Coast Regional Strategy (SCRS) specifically recognises the importance of the airport by its direction to 'protect all regionally significant employment lands including…Moruya Airport' (p26) and further recommends to 'add to employment lands in existing economic centres' and to 'create infrastructure and service delivery efficiencies'. The Strategy also plans for the provision of sufficient new urban and employment lands to meet expected demands for growth and encourages maximum growth around existing centres while minimising development in sensitive locations. Importantly, the Strategy states that, 'urban areas which are identified in the final version of…the Eurobodalla Settlement Strategy will be supported'. The proposal to certify the Broulee Development Area is consistent with these objectives and a variation will enable consolidation of planned development within a defined footprint while securely offsetting biodiversity impacts in priority locations.

The lands proposed for certification in Broulee (13 parcels, Appendix L) are primarily in private tenure (the exception being an undeveloped area of public, Council managed recreation land – Captain Oldrey Park). Current management applied to the lands by the 5 other individual landowners is minimal with no coordinated effort or secure source of funding available to support such actions. The Moruya Airport precinct is conversely in public tenure with land management focused on maintenance of airport functions. Future plans for expansion and upgrade of the existing regional facility are not compatible with the maintenance of Red Flag Areas within the identified development footprint.

3.3.2 Additional assessment criteria for vegetation types (2.4.2 of the Methodology)

The Red Flag area identified through the Biodiversity Certification Assessment process for which a variation is sought, is an endangered ecological community as defined in s2.3 or the Methodology.

3.3.2 (i) viability must be low or not viable (2.4.2.1 of the Methodology)

(a) The current or future uses of lands surrounding the red flag area where biodiversity certification is to be conferred reduce its viability or make it unviable

In respect of biodiversity values within the red flag area proposed for certification, long term persistence or viability is considered to be low due to impacts of the current and future uses of adjacent land. Urban and commercial developments and subsequent occupation introduce a range of indirect impacts such as:

- Asset protection and fuel reduction activities significantly modifying structure, function and composition by either application of burning regimes or requiring removal of significant mid, understorey and other habitat elements such as fallen logs and litter.
- 'Tidying up' of adjacent bushland reduces available habitat and simplifies structure
- Encroachment
- Predation by domestic animals and concentration of pest animals
- Weed invasions and garden escapes reduce biodiversity values

If unmanaged, as they presently are, these collateral impacts can have detrimental effects on communities, species and habitat over time.

(b) The size and connectedness of the vegetation in the red flag area where biodiversity certification is to be conferred to other vegetation is insufficient to maintain viability

No claim is made against this criteria

(c) The composition of native vegetation in the Red Flag area where biodiversity certification is to be conferred is substantially degraded, resulting in a loss of or reduced viability

It is probable that the condition of pockets of vegetation around the airport may result in reduced long term viability. As demonstrated by the results of the Assessment, (Appendix B), condition in the Red Flag Area has been substantially degraded over time as a result of the operational management activities around the runways and in maintaining obstacle limitation surfaces. In fact, portions of the vegetation (zone 20) in the Red Flag area of the airport where conferral of Biodiversity Certification is proposed was actually found to have a site value score of <34 and subsequently downgraded to 'low condition', effectively removing it from the Red Flag Area.

(d) The area of a vegetation type in a Red Flag area on land where Biodiversity Certification is conferred is minor relative to the area containing that vegetation type on land subject to proposed Conservation Measures

The area of red flagged vegetation subject of this variation request is about 12% of the total (moderate to good condition) Bangalay - Old Man Banksia open forest occurrence within the assessment area, with 47Ha proposed for Certification and 338Ha proposed for conservation management.

3.3.2 (ii) contribution of Red Flag Area to regional biodiversity values is low (2.4.2.2 of the Methodology)

In a regional context, the red flagged Bangalay - Old Man Banksia open forest within the Development Areas makes a relatively low contribution to biodiversity values in consideration of its relative abundance, percentage remaining and high total native vegetation cover in the Bateman subregion.

(a) relative abundance

The vegetation types database indicates that the Bangalay Sand Forest is 50% cleared across its range, which is relatively high for an endangered ecological community, although, it is acknowledged that its association with coastal sand plains limits its occurrence. The Bangalay Sand Forest community is however represented in the formal reserve system (Royal, Seven Mile Beach, Conjola, Meroo, Murramarang, Eurobodalla and Biamanga National Parks) but it is often exposed to degradation by visitor overuse due to proximity to beaches and camping areas.

A significant proportion of Bangalay Sand Forest's entire extent is contained within the region (defined as the Bateman, Jervis, Ettrema, Bungonia, South East Coastal Ranges (c) and South East Coastal Plains subregions of the Southern Rivers Catchment Management area) as described in the final determination of the NSW Scientific Committee. The Bangalay coastal forests of Broulee are the larger of two main clusters of the community left, not only within the Shire of Eurobodalla, but in the whole south-east corner bioregion of NSW (Miles 06). From this perspective, the endangered ecological community comprising the Red Flag Area is relatively abundant in the region.

(b) percent remaining is high

See address of criteria above (a)

(c) percent native vegetation (by area) remaining is high

In totality, there is a very high native vegetation cover generally across the region, with a high proportion of land committed to conservation reserve and production forestry.

Of the 1,527,058 Ha in the region spanning the Bateman and neighbouring sub-catchments of; Jervis, Ettrema, Bungonia, South east coastal ranges (c) and south east coastal plains, 1,232,129 Ha are covered with native vegetation. This is based on the best available regional mapping (SCIVI) and represents 80.6% native vegetation by area remaining.

In the Eurobodalla alone 41% of the LGA is National Park and 31% is State Forest. Landscape native cover scores calculated during this assessment within a 6000Ha circle around the Development Areas resulted in a 61-70% cover class.

From the data provided above and the google map image at Appendix M, the percent native vegetation remaining across the region is argued to be 'high'.

3.3.3 Additional assessment criteria for threatened species that cant withstand further loss (2.4.3 of the Methodology)

The Threatened Species Profile Database identifies the White Footed Dunnart as a species that cannot withstand further loss.

3.3.3 (i) viability must be low or not viable (2.4.3.1 of the Methodology)

In consideration of the factors presently operating in the Development Areas and a limited ability to manage available habitat for biodiversity values, the long term viability of the White Footed Dunnart within the Development Areas is low. In reference to the s2.4.3 of the Methodology, key points are addressed below;

(a) current or future uses of land surrounding the red flag area reduce its viability or make it unviable

In both the Airport and Broulee Development Areas, the impacts from current and future uses of adjacent land (residential and commercial developments) would be expected to affect the population in time. Aside from direct removal and/or modification of habitat resulting from clearing associated with; subdivision, service provision and asset protection/fuel management activities, there is typically a cumulative and often significant impact from 'tidying up' and encroachment into adjacent land that results in further loss of available resource for the species. Further to this, occupation introduces a range of indirect impacts and pressures on populations, not the least of which is increased predation and presence of domestic and pest animals which is a reasonable outcome of from a higher density of residency. With existing approvals in place on adjacent land, the available habitat within Broulee is cumulatively reducing with edge to area ratios increasing. Cumulatively, these impacts reduce the viability of the red flag area.

The lands within the Broulee Development Area, in their present state, are regarded as a liability by some land managers due to ongoing expenditure on rates and land tax, a lack of return on existing investment and major limitations on development potential. There is little chance of voluntary conservation effort or investment and limited means to manage the land for biodiversity values.

(b) the size and connectedness of vegetation in the Red Flag Area to other native vegetation is insufficient to maintain its viability

No claim is made against this criteria

(c) the condition of native vegetation in the Red Flag Area is substantially degraded resulting in loss of or reduced viability

No claim is made against this criteria

(d) the area of a Red Flag area containing a threatened species on land where Biodiversity Certification is conferred is minor relative to the area containing that threatened species on land subject to proposed conservation measures

The Red Flag Area (White Footed Dunnart Habitat) subject of this variation request is 69ha and represents about 18% of the total available dunnart habitat within the Conservation

Area. A significant 373.8Ha of equivalent habitat is proposed for conservation management to offset the impacts of conferring Certification.

In terms of available habitat, the 69Ha subject of this application for certification is minor relative to the thousands of hectares available within the region (as defined in the Methodology Appendix M). Habitat features within the conservation area are very similar to that found in the Broulee Development Area where it was detected (appendix K). Moreover, the mosaic of patches and abundance of fallen timber within the conservation areas, coupled with a documented ability of *Sminthopsis* to travel long distances indicate that the species would be able to exploit suitable areas within the broader forest complex.

3.3.3 (ii) Contribution to regional biodiversity values is low (2.4.3.2 of the Methodology)

An expert report prepared in support of this Strategy documents over 100 records of the species within the region (defined as the Far South Coast, Eurobodalla, Shoalhaven and upper Shoalhaven subregions of the Southern Rivers Catchment Management area) (Appendix K). Although the greatest density of records is in the far south coast this could be a consequence of sampling effort rather than a population cluster. The Broulee area is within the species expected range.

The scarcity of species specific data makes quantitative evaluation of relative abundances difficult, however, what is known of its habitat preferences (Appendices I and K) suggests that there is ample suitable habitat to support its existence along the NSW coastal range and plain. Literature indicates that low numbers of *Sminthopsis leucopus* have been captured in a wide range of habitats from foredune heathland to montane forest. Further, studies have documented the species' response to episodic events such as logging and fire with reported persistence of breeding and dynamic population responses through vegetation recovery phases with activity dropping markedly as density of regrowth increased. In fact, the ability of the species (and its close relatives) to disperse and opportunistically utilise suitable areas as they develop has been well documented, (Appendix K)

With a single male captured through this investigation and a sub-adult through another, as is, the lands proposed for certification (69Ha) clearly provide suitable habitat for White Footed Dunnart. What is not clear is if this is by way of dispersal ground or if the area supports one or more home ranges (~2Ha) and resident population. However, the structural characteristics of the habitat where the record was identified and notable variability or patchiness of microhabitat qualities within the broader forest complex are remarkably similar to areas both within the conservation lands and more broadly within the region, particularly the more coastal sections. Essential structural habitat elements such as decaying fallen logs are also not unique to the Broulee development lands.

On the basis that's the Dunnart is not at the limit of its known range, that the habitat on site in the development area is not unique in the region (in terms of resource availability) and that there is some connectivity between the development sites and broader forest patches (dunnarts being reasonably mobile), it is argued that the contribution of this 69Ha red flag area to regional biodiversity values is low.

3.3.4 Additional assessment criteria for areas with regional or state biodiversity conservation significance (s2.4.4 of the Methodology)

Not relevant

3.4 Conservation measures

The 8 distinct parcels (Table 2) comprising the Conservation Area are each connected to in-tact vegetation and are all located within one of the largest east-west corridors in the region linking the coast with National Parks of the Escarpment, (OEH 2013).

The parcels range in size from 7 -187Ha and being principally the same vegetation type as the Development Area, provide a significant habitat resource for the suite of species potentially impacted by conferral of certification. There is limited development (now or proposed) adjacent to these conservation lands, so, unlike the impacts generated from higher intensity, higher density developments within the Certification Areas, there should be minimal indirect erosion of biodiversity features and values over time.

The offset lands (Figure 1, Appendix L) are proposed to be permanently managed for conservation and will be committed to a Property Vegetation Plan, secured on title and applying in perpetuity. The proposed action is consistent with a permanently managed conservation measure outlined in s8.1.2 of the Methodology and as such achieves 90% of possible credit generated.

The specific management actions that will be applied to all of the Conservation Areas through inclusion in the Property Vegetation Plan are:

- Management of grazing for conservation
- Weed control
- Management of fire for conservation
- Management of human disturbance
- Retention of regrowth
- Replanting or supplementary planting where natural regeneration will not be sufficient
- Retention of dead timber
- Erosion control
- Retention of rocks

Additional management actions as specified in the Threatened Species Profile Database for *Sminthopsis leucopus* will also be included in the Property Vegetation Plan or where relevant used to enhance the base actions specified for creation of ecosystem credits:

- Control feral predators and rabbits
- Apply mosaic pattern hazard reduction techniques to ensure the same areas are not burned continuously
- Retain standing and fallen timber and other nest sites in areas of habitat
- Avoid overgrazing by stock in areas of habitat
- Apply forestry regimes that maintain floristic and structural diversity
- Prevent domestic cats and dogs from roaming in habitat areas
- Protect habitat and retain linkages across the broader landscape

The Southern Rivers Catchment Management Authority has indicated support for the proposal (Appendix G) and will draft the PVP to support the intent outlined above. The Plan, if endorsed by Council, will formalise Council's commitment to ongoing management of the offset lands. A copy of

the existing cPVP voluntarily applied to a number of conservation areas is appended at (Appendix C) to demonstrate the specific and binding nature of the management actions proposed.

3.5 Minor Variation to the Methodology

Eurobodalla Shire Council formally requests the Ministers' consideration for a minor variation to the Biodiversity Certification Methodology (2011) provided for under section 126Q of the *Threatened Species Conservation Act 1995.*

The variation requested relates to certain lands (Lot 70 DP831111 and part Lot 4 DP 1090948) at Broulee voluntarily conserved via a Property Vegetation Plan (PVP) in March 2008 (Appendix C). These lands, known as 'Bengello Forest' are categorised as community land and are presently zoned E2 (Environmental Conservation) in the Eurobodalla Local Environmental Plan 2012 (ELEP).

This request is made to allow for full biodiversity credit generating potential to be realised from the lands which would otherwise be subject to credit discounting or additionality, on account of existing conservation obligations. The request is essentially for the existing PVP to be treated as a new Conservation Measure, and refers specifically to s8.4 and s8.1.2 of the Methodology.

Section 126Q of the *Threatened Species Conservation Act 1995* permits minor variation to the Biodiversity Certification Methodology (2011) in certain circumstances being;

a) the variation to the Methodology is minor
b) the variation would result in a determination that the overall effect of Biodiversity Certification is to improve or maintain biodiversity values
c) strict adherence to the Methodology is in the particular case unreasonable and unnecessary

In response to this:

a) the variation to the Methodology is minor

The variation proposed is not inconsistent with the classification of any plant species as a threatened species and does not propose a change in the status of any endangered ecological community. All threatened entities predicted and detected and all biodiversity values established through the application of the Assessment Methodology have been accounted for in credit calculations.

The variation requested simply enables a greater capacity to generate the required number of credits from available offset lands (subject of a cPVP) to support an application for Biodiversity Certification over existing urban zoned land at Broulee.

Further, Eurobodalla Shire Council was the first local government authority in the State to voluntarily enter into an in-perpetuity, on-title cPVP in March 2008. There are so few cPVPs voluntarily entered on public lands that a variation on this occasion will not result in a flood of similar requests or set a precedent of Policy challenge.

(b) the variation would result in a determination that the overall effect of Biodiversity Certification is to improve or maintain biodiversity values

If granted, a variation will enable the statutory 'maintain or improve' test to be met as described in this Strategy.

As per credit calculations undertaken for the certification and conservation areas, the available offset (inclusive of Bengello Forest) cannot provide the required number of credits to compensate for losses at the development site simply due to the discounting applied via additionality.

Council has been advised in recent correspondence from the Office of Environment and Heritage that, as a result of existing obligations created by the cPVP, a 55% discount would apply to the subject parcels under additionality rules, significantly affecting the ability of these voluntarily conserved lands to generate credit.

The minor variation requested, would, by treating the Bengello cPVP as a new conservation measure, allow for the existing obligations of the cPVP to be waived, in this case due to;

- the circumstances leading to its voluntary application; and
- that it was in place well before gazettal of the Methodology; and
- that it currently does not meet the standards required by the Methodology for a conservation measure (s8.1.2) as it is not presently registered on title

Discounting would then be limited to that which would apply to general community land categorised as 'natural area' and subject to Councils Plan of Management: Natural Areas and Undeveloped Reserves. Under these discounting conditions, available credits would enable biodiversity values to be improved or maintained through this Biodiversity Certification proposal.

c) strict adherence to the Methodology is in the particular case unreasonable and unnecessary

The Bengello lands were voluntarily conserved via a cPVP in March 2008. *Before* establishing this agreement over the land at Bengello, Council sought advice from the then Department of Environment and Climate Change (DECC) on future eligibility of the lands as a Biobanking offset site, (refer to COUNCIL MINUTE 06/483, 20 December 2006). Advice confirming that the subject area *would* be eligible as a Biobanking site was received, the initiative was supported by the DECC, and in consideration of this response, Council proceeded with placing the area under the formal conservation management agreement. Council submits that under these circumstances, strict adherence to the Methodology is unfair and unreasonable, and requests support for a variation in the application of the Methodology on this occasion.

In this instance, strict adherence to the gazetted Methodology may result in unacceptable impacts on a commendable community driven, cross-agency conservation initiative. Attached to this application is a summary of the development of the Bengello cPVP, including community consultation and engagement (Appendix D). The OEH have suggested that a way forward in obtaining credits may be the revocation of the existing cPVP and the simultaneous application of a Biobanking Agreement or new PVP over the Bengello lands. Given the history and investment described, this is considered to be an unreasonable and impractical approach. Moreover, this alternative option delivers exactly the same biodiversity outcome as would approving a minor variation of the Methodology as proposed.

The failure to realise the required number of credits from the Bengello offset land in the Broulee locality because of the discounting applied as a consequence of taking decisive and positive action to conserve high conservation value lands is politically insupportable. Such an outcome would be a

disincentive for Council's to support similar initiatives on other high conservation value public lands in the future. This perverse outcome may be avoided by permitting the requested minor variation.

In summary, Council submits that the variation to the Methodology requested is 'minor', the variation would result in a determination that the overall effect of Biodiversity Certification is to improve or maintain biodiversity values, and, for the reasons outlined above, in this instance, strict adherence to the Methodology is unreasonable and unnecessary. In order to achieve an outcome in Broulee through this Project, Council must secure the required amount of credit to offset future impacts in a manner that's reasonable. Without this variation, the credit yield from nominated offset lands (Bengello) cannot meet requirements.

The Southern Rivers Catchment Management Authority (SRCMA) have been involved in the development of the Broulee Biocertification Project and have an advisory role on the Project's technical reference group. As a co-signatory of the cPVP over the proposed Bengello Forest offset lands, the Southern Rivers Catchment Management Authority have indicated in-principle support for this variation request, and the claim to utilise the full credit yield from the subject land to balance credit requirements resulting from certification of the residential zoned Broulee Development Area, (Appendix G)

While this Strategy relates to Biodiversity Certification and not Biobanking; the issue of existing obligations and additionality also has relevance to the Biobanking Assessment Methodology 2008.

In further considering the potential for Biobanking credit generation from the proposed Bengello offset lands subject of a cPVP, and in relation to s7.2 of the Biobanking Assessment Methodology and clause 4 of the *Threatened Species Conservation (Biodiversity Banking) Regulation 2008*; biodiversity credits can only be created on land where the management actions are additional to any biodiversity conservation measures, or other actions that are already being carried out on the land, or, are required to be carried out under the following kinds of existing obligations:

- a restriction on use or public positive covenant under Part 4A of the *Crown Lands Act 1989*
- a conservation agreement entered into under the *National Parks &Wildlife Act 1974*
- a trust agreement entered into under the *Nature Conservation Trust Act 2001*
- any agreement entered into with a public authority under which the owner of the land receives funding for biodiversity conservation purposes (other than a biobanking agreement)
- in the case of publicly owned land, any legislative requirements to manage the land for biodiversity conservation purposes.

Clause 4(2) of the *Regulation* effectively sets a sunset provision that land management actions specified in the types of agreement nominated above, if signed before 10 March 2009, do not constitute existing conservation management obligations.

Although the cPVP applied to this land does not meet the specifications above, it is equivalent in all respects to a Voluntary Conservation Agreement (VCA), being voluntary in nature, applied in perpetuity through a public authority, made under the authority of State legislation and requiring Ministerial approval to vary. The cPVP was signed before the 10th March 2009.

Despite this, the exclusion of cPVP's from clause 4(2), means that additionality applies to the subject lands whereas, conversely, a VCA would exempt the same conservation actions from discounting for the purposes of Biobanking credit generation. In 2008, a cPVP was the most practical and readily accessible on-title conservation mechanism available to Council - VCAs were not being offered or serviced by DECCW in the Eurobodalla Shire at the time. This is still the case today.

Further, it is considered unreasonable that Council should be effectively penalised on the basis of the form of agreement applied to the proposed offset lands when other conservation mechanisms, being equivalent in intent and function, are not regarded as existing conservation obligations. It is submitted that this would be an inequitable impediment to full credit generation if Biobanking were being considered at Bengello.

3.6 Additionality rules and discounting as applied (s8.4 of the Methodology)

Section 8.4 of the Biodiversity Certification Assessment Methodology 2011, limits the generation of biodiversity credits to instances where management actions are additional to any biodiversity conservation measures required to be carried out under existing obligations.

In the case of publicly owned land, any legislative requirement to manage land for biodiversity conservation purposes is considered to constitute an 'existing obligation'. The OEH has advised that the core objectives for natural areas outlined in the Local Government Act 1993 and associated objectives and means of achievement contained within the Natural Areas and Undeveloped Reserves Plan of Management http://www.esc.nsw.gov.au/site/Publications/Strategies/Management/undevelopedreserves.pdf, create such an obligation. Biodiversity credits therefore created in respect of such lands are to be subject to discounting.

Council understands that the allocation of credits for a site will be discounted according to the number and type of conservation measures or actions required to be carried out in relation to the existing obligation.

In consideration of the effect of additionality on community lands in the Eurobodalla proposed as conservation areas in this Strategy Council submits that;

1. The core objectives for the management of land categorised as natural area bushland, wetland, escarpment, watercourse and foreshore, in essence, do not provide specific

conservation measures and actions on which to base a discounting valuation. It is suggested that, in fact, these objectives form an 'intent' rather than an 'action' and an additionality assessment is not practical on these grounds or in respect of examples and guidance issued by the OEH.

2. With regard to the Natural Area PoM, the OEH and Council have undertaken a discounting analysis, taking into account the specific performance targets therein, and have determined a 10% discount to credit yield would apply. This figure was arrived at as follows:

Conservation measure	**% discount in credit allocation**	**Relevant objective in Natural Area PoM (means of achievement)**
Weed control	0	• Maintain the community land free of noxious weeds and feral animals in accordance with Council guideline (manage the eradication of any declared noxious weeds) (encourage community involvement in Landcare activities) **RESPONSE:** The only weed control activities referred to in the Natural Area PoM relate specifically to Noxious weeds, not environmental weeds. The *Noxious Weeds Act 1993* requires all land managers to implement control actions specific to the species and class of weed listed for each LGA. It is therefore not appropriate that discounting be applied for lawfully required measures.
Management of human disturbance	5	• Preserve and restore the natural and cultural values on the land • Allow activities and structures which aid the preservation and enjoyment of the natural landscape and are in keeping with natural landforms and vegetation • Developments and improvements limited to those that ensure the preservation and enhancement of the natural area • Compliance with appropriate zoning, development and building regulations • In harmony with natural landscape character • Align with any Council adopted Plans for local and regional recreational uses (provide appropriate training to volunteers to ensure all work is undertaken safely and does not negatively impact on the environment) (continue to provide support and resources to Bushcare & other care groups undertaking restoration and regeneration work in natural areas) (limit access to natural areas which have been assessed as vulnerable and/or support threatened species)
Control of feral &/or overabundant	5	• Maintain the community land free of noxious weeds and feral animals in accordance with Council guidelines (Take effective steps to keep the community land free od

herbivores Vertebrate pest control (pigs & foxes)		foxes, rabbits and other feral animals)
TOTAL	**10%**	

A precautionary approach was taken in the additionality analysis, and a maximum rate of discounting applied despite the reality that the actual extent to which any of the nominated conservation measures are carried out on each community land parcel varies across the Assessment Area, but on the whole, investment in public land management is limited.

This approach is applied in the interests of determining a reasonable approach to and establishing opportunities for Biodiversity credit generation from public lands categorised as community land within the Eurobodalla Shire Local Government Area.

3.7 Indirect impact assessment (s6 of the Methodology)

In order to meet this obligation, an indirect impact assessment was undertaken on lands adjacent to the Development Areas to examine possible effects associated with Certification and how these might be mitigated. These adjacent lands are either Retained Areas or land subject to conservation measures (Figure 1, Table 2)

Despite the fact that s8.6 of the Methodology states that no ecosystem credits or species credits for Biodiversity Certification are calculated for retained areas, s6 of the Methodology requires that relevant negative indirect impacts on biodiversity values resultant from certification must be identified and assessed.

The indirect impact assessment carried out is described in 4.10 of the Biodiversity Certification Assessment Report with proposed mitigative measures further outlined in this Strategy at 4.2 (red flag variation). *The following paragraphs summarise the approach taken*.

A range of impacts are already operating on high conservation value vegetation within and adjacent to the Development Areas. These impacts would encompass (but are not limited to) increased weediness, predation, microclimatic changes, dumping, removal of woody debris and cumulative erosion of cover through encroachment and 'tidying up' activities.

Notwithstanding the application of active management and planning, there will be unavoidable impacts resultant from Certification. As such a 10 m buffer was applied to both the Broulee and Moruya Airport development footprints where the Development Area abuts remnant forest (Figure 9 and 10). Within this buffer exotic plant site attribute scores for each vegetation zone were reduced in response to anticipated increases in weediness (3.46ha). With regard to adjusting other attributes, the floristic and structural benchmarks for the Bangalay – Old-man Banksia open forest are so broad it is unlikely that any floristic or structural changes attributable to indirect impacts would have meaningful impacts on the site value of the affected areas. This reduction in site value was then used to calculate ecosystem credits required to offset indirect impact – amounting to a total of 7 credits.

Consistent with the Methodology, where a conservation measure is proposed to protect land that is a Red Flag area, a buffer has been applied to moderate the influences of edge effects. In the context of this assessment, the only margin where a conservation measure directly abuts a Development Area is to the north of the airport where impacts associated with the development and operation of the airport land following certification may occur and affect a Red Flag.

In this instance, the buffer applied is proposed to be secured via a conservation measure and used to offset impacts of Certification rather than being designated as a Retained Area. In consideration of the specific and more general impacts anticipated, the size of the buffer has been determined based on Obstacle Limitation Surface (OLS) zones and attendant management (Figure 11). Consequently, the site value scores have been adjusted according to the degree of impact on the various condition attributes. Further detail on treatment applied to OLS zones can be found at s4.2.1 of the Biodiversity Certification Assessment Report and relevant appendices.

A fuel management zone (FMZ) of 2.5 Ha will be established at the northern periphery of conservation area 1 adjacent to Broulee Road and Mcnee Street Broulee. This 30m wide buffer will essentially be maintained in a fuel reduced state for added fire protection, increasing separation and defendable space between Broulee and the Conservation Area, (average distance between assets and conservation area proper will be 70m), while simultaneously providing a buffer in which to manage weed incursion and other indirect impacts on the Red Flag Area.

In regard to indirect impacts on species credit species, (white footed dunnart) it is assumed that within Retained and Conservation Areas adjoining the Development Area, Certification will not introduce any new indirect impacts above those which are currently acting on these lands. The fact that the species persists within the Broulee Development Area despite the operation of a range of indirect impacts (not least of which would be predation by feral and domestic animals) and appears to have a tolerance to episodic events (refer to expert report Appendix K) the indirect impacts of the proposal on the White-footed Dunnart are considered to be minor.

In any case, the Methodology has limited flexibility with respect to trying to assess indirect impacts on species credit species. As such, any methods to quantify potential indirect impacts of the proposal on the White Footed Dunnart are likely to be subjective and not based on any robust or empirical evidence.

Figure 9 - Indirect Impact buffer Broulee Development Area

Figure 10 - Indirect impact buffer Moruya airport Development Area

Figure 11 Obstacle Limitation Surface over conservation areas

4 MATCHING LOSSES AND GAINS IN BIODIVERSITY

4.1 Ecosystem credits (s7.2 & 8 of the Methodology)

Ecosystem credits have been calculated for the impact produced by the proposed development and the improvements to biodiversity values through the management of the Conservation Areas identified. As described earlier, the ongoing management of the conservation lands will be secured using a 'managed conservation measure' (PVP). The credit entitlement for the Conservation Areas within the Assessment Area will therefore be 90%.

In total, 2,350 credits are required for the land proposed to be developed (Table 7), the majority of credits being required for the 'Bangalay – Old-man Banksia open forest' community (2,343 credits). Seven (7) credits are required for Coast Banksia - Coast Wattle dune scrub. An additional 7 credits are required for indirect impacts.

Due to existing obligations over conservation area 1, an additional discount of 10% has been applied to the credits generated by this conservation area. Further detail on the number of credits generated on the lands proposed for conservation is presented in s4.11 of the Broulee Biodiversity Certification Assessment Report 2012 (Appendix B).

The results of the assessment demonstrate that the Conservation Areas identified are sufficient to offset the impacts of the proposal, with a surplus of 1,329 credits. Therefore, excluding the impacts on Red Flag areas, the proposal meets the improve or maintain test required under the Methodology

VEGETATION TYPE NAME	CREDITS REQUIRED	CREDITS REQUIRED (INDIRECT)	CREDITS GENERATED* (90%)	CREDIT STATUS (90%)
Bangalay - Old-man Banksia open forest	2343	7	3402	1052
Coast Banksia - Coast Wattle dune scrub	7	0	284	277
Total	2350	7	3686	**1329**

*credits generated also reduced by an additional 10% for conservation area 1

Table 7 Final ecosystem credit results

4.2 Species credits (s7.4 & 8 of the Methodology)

Species credits were calculated for the White Footed Dunnart, which was confirmed within the development footprint, and for which an expert report was prepared confirming habitat is present within the Conservation lands identified within the Assessment Area (Appendix K). The ongoing management of the Conservation Area will be secured using a 'managed conservation measure' (PVP). The credit entitlement for the Conservation lands within the Assessment Area will therefore be 90%.

A total of 1,816 credits are required to offset the impacts to 69 ha of White Footed Dunnart habitat (Table 8). The 372.4 ha of Conservation Area generates 1,924 credits, subject to the expert report being accepted, resulting in a 108 credit surplus.

The results of the Assessment demonstrate that the Conservation Areas identified are sufficient to offset the impacts of Certification to the White Footed Dunnart. Therefore, excluding the impacts on Red Flag Areas, the proposal meets the 'improve or maintain' test required under the Methodology.

SPECIES NAME	CREDITS REQUIRED	CREDITS GENERATED* (90%)	CREDIT STATUS (90%)
White-footed Dunnart	1816	1924	108

*credits generated also reduced by an additional 10% for conservation area 1

Table 8 Final species credit results

4.3 Credit profiles (s10 of the Methodology)

The direct impacts on the biodiversity values of land on which conferral of Biodiversity Certification is proposed are offset in accordance with the rules and requirements of section 10 of the Methodology. No variation is requested or required.

Credit profile attributes (ecosystem) of credits both required and generated are from the Bateman subregion of the Southern Rivers CMA, and vegetation types (Bangalay - Old-man Banksia open forest and Coast Banksia - Coast Wattle dune scrub) are matched with a surplus of each ecosystem credit generated for the conservation measure.

Credit profile attributes for species credits both required for land proposed for Biodiversity Certification and generated by proposed conservation measures are matched (white footed dunnart) with a surplus in the number of species credits generated.

4.4 Expert Report – white footed dunnart (s4.5 Methodology)

Expert opinion may be used in a Biodiversity Certification Assessment to provide a professional judgement or opinion on a particular matter.

An expert for the purpose of preparing a report is a person who is accredited by the Director General under s. 142B(1)(b) of the *Threatened Species Conservation Act*, *or* (if arrangements for accreditation under s. 142B(1)(b) are not in place), a person who has the relevant experience and/or qualifications to provide expert opinion about the specific biodiversity values to which an expert report relates.

Section 4.3 (Step 5) of the Methodology states that:

> *An expert report is a report prepared by a suitably qualified expert in accordance with section 4.5 of the Methodology to determine whether the species is likely or unlikely to*

use the potential habitat on the land proposed for Biodiversity Certification or on land subject to proposed conservation measures.

The White Footed Dunnart has been identified in the Threatened Species Profile database as a Species that cannot withstand further loss of any individuals in this region.

Consistent with the Biodiversity Certification Assessment Methodology 2011, targeted surveys for White Footed Dunnart were conducted in the Broulee Development Area. Pitfall lines, remote cameras and Elliot A traps were deployed during March 2012 and a single individual was captured in a pitfall trap. (Subsequently, another individual was captured and confirmed within 500m of the original record by another Consultancy)

As the species has been positively associated with the Development Area, efforts to identify suitable habitat and confirm the occurrence of the species in the offset areas has been a Project priority. Targeted White Footed Dunnart survey has been undertaken in the offset parcels with the aim of detecting the species and allowing creation of required species credits. Survey was undertaken at an appropriate time of year for the species (July and August), and was designed and undertaken by an appropriately qualified officer, but, given the size of the offset areas, the reliability of recording a species through survey is particularly low.

While the Dunnart surveys in the Development Area were designed to meet the guidelines for Threatened Species surveys under s4.4 of the Methodology, survey in the offset areas was designed simply to detect the presence of absence of the species.

Use of an expert report follows a failure to detect the species in the offset area through survey and hence directly relate the species to the offset site. An expert report has been prepared that is consistent with the Biodiversity Certification Assessment Methodology 2011 and that;

1. Provides an opinion as to whether or not White Footed Dunnart *Sminthopsis leucopus* is likely to be present in the identified Biodiversity Certification offset areas and capacity of the habitat to support a population, and
2. Provides an estimate of the number of individuals based on area of habitat to be impacted by development in the Certified area and available habitat in the offset area (based on density of individuals in known populations) and
3. Demonstrates what information was considered and/or rejected or discounted in relation to the determination made in the expert report. The report must state facts relevant to the species (referring to local data where known), discuss details, explain reasoning and justify the experts' conclusions and opinions

To this end, Elizabeth Ashby of Keystone Ecological was identified by the Office of Environment and Heritage as an expert on the White footed Dunnart, having studied the species extensively within the south east corner bioregion and published literature on these findings. Ms Ashby is accredited under s142B(1)(a) of the *Threatened Species Conservation Act*.

Ms Ashby's findings are appended to this Strategy (Appendix K) but supports initial observations that '*the offset areas are overwhelmingly similar to the sites where Sminthopsis leucopus had been*

captured' and that '*… (it is my opinion) that they should occur in all of the habitats other than the riparian, wetland and estuarine areas and those patches dominated by weeds*'.

In accordance with the Methodology (s 4.3):

> *Where the survey or expert report confirms that the threatened species is likely to use the potential habitat on land in the biodiversity certification assessment area, no further assessment is required and the species or its habitat is assumed to be present.*

And on the weight of evidence presented, the White Footed Dunnart has been assumed to be present in the Conservation Areas and credit calculations performed on this basis.

4.5 Conclusion

The Biodiversity Certification Assessment Methodology (BCAM) has been used to conduct a Biodiversity Certification Assessment of proposed urban development in the Broulee area and proposed development at Moruya Airport.

The ecosystem credits required and generated by the proposal were calculated based on the Methodology.

The results of the assessment demonstrate that the Conservation Area identified is sufficient to offset the impacts of the proposal, with a surplus of 1,329 credits.

Parts of the Conservation Area are affected by existing and proposed land management activities associated with the safe operation of Moruya Airport and the provision of bushfire hazard management adjoining the Broulee Development Area. The impact of these land management activities was acknowledged as far as is possible within the Methodology. However, the Methodology does not allow the future site value to be reduced from its current level in conservation lands. This resulted in a slight over estimation of the ecosystem credits generated in those parts of the Conservation area affected by the OSL and FMZ zones.

The species credits required and generated by the proposal were calculated based on the Methodology. A total of 1,816 credits are required to offset the impacts to 69 Ha of White Footed Dunnart habitat.

The 372.4 ha Conservation Area generates 1,924 credits, resulting in a 108 credit surplus. Therefore, the proposal meets the improve or maintain test required under the Methodology.

Under the Methodology a Red Flag variation is required and consideration by the Director General is requested in order to confer Biodiversity Certification over the Development Area. Details of the variations and justification of claims in support of the same are detailed in s3.1.2 and s3.2.1.

5 APPLICATION FOR BIODIVERSITY CERTIFICATION (to be completed)

a) Details of the exhibition of the Biodiversity Certification Strategy and Application

b) Submissions Report (following exhibition)

c) Details of how/if the Biodiversity Certification Strategy has been amended after the exhibition in response to submissions

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Appendix A

Chronological background - Broulee planning and development issues

DATE	ACTION
1837-1840	Broulee village surveyed by Larmer and gazetted shortly after
1999	Eurobodalla Urban Local Environmental Plan 1999 (consistent with previous Interim Development Orders), zones urban land in the village; east of George Bass Drive, north of Broulee Road and south of Candalagan Creek to 2g residential general, 2t residential tourism, 3a business and 6a1 public open space
1995	The *Threatened Species Conservation Act 1995* comes into force
2005	Bangalay Sand Forest is gazetted as an endangered ecological community in the schedules of the *Threatened Species Conservation Act 1995*. This gazettal was both pre and post-dated by the listing of numerous other threatened entities occurring in the immediate locality of Broulee, many of which demonstrate an association with the Bangalay Sand Forest vegetation community
2007 - present	Ongoing requests from landholders for Council to intervene and resolve the existing land use planning conflicts in Broulee, where long planned developments are in limbo due to consistently triggering significant impacts on threatened species and the ecological community.
Sept 2009	The Department of Environment and Climate Change advise Council that continued cumulative clearing of remnant Bangalay Sand Forest in the Broulee area is not acceptable and a more strategic approach to development is required as a matter of urgency.
2010	Council resolves to undertake a biocertification process in Broulee with the aim of gaining certification over urban zoned lands; permitting development to proceed but securing long term protection for the residual occurrence of Bangalay Sand Forest
2011	Support for the proposal is offered by the Department of Planning and Infrastructure and the Office of Environment and Heritage. Both Departments respond to Councils request for financial assistance to undertake the Project.
April 2011	A Project Brief is developed and expressions of interest sought for the provision of professional services to undertake Biodiversity Certification investigations in south Moruya and Broulee
Sept 2011	A Consultant is appointed, Ecological Australia, and the assessment process is underway
Nov 2011	Council drafts a letter to the Office of Environment and Heritage requesting formal advice on issues encountered while applying the Biodiversity Certification Methodology and Additionality rules
Mar 2012	A response from the Office of Environment and Heritage to these enquiries is received, but Council continues to have concern regarding discounting applied to community lands and specific lands adjacent to Broulee available as a biodiversity offset (Bengello Forest)
June 2012	A request for a minor variation to the biodiversity certification methodology is made by Council to Minister Parker
Aug 2012	Response received from the Office of Environment and Heritage on additionality and community land discounting
Nov 2012	Response received from the Office of Environment and Heritage on minor variation request
March 2012	Broulee Biodiversity Certification Strategy is reported to Council

Appendix B

Broulee Biodiversity Certification Assessment Report 2012 – EcoLogical Australia

Appendix C

Bengello Conservation Property Vegetation Plan

Appendix D

Chronological background - PVP development - history and legacy

DATE	ACTION
80's/90's	Adjacent developments raise community concerns about ongoing impacts and environmental values of the Bengello area (communicated through formal submission processes)
2004	Council proposes to rezone part of the Bengello lands to 7f1 Coastal Lands Protection through an amendment to the Eurobodalla Rural LEP 1987. This application was not supported by the Department of Planning, who instructed Council to address the issue through a full Rural Local Environmental Plan review (commenced 2009)
July 2005	Broulee Community Association, Coastwatchers and Broulee/Mossy Point Dunecare request that Council take action (again) to address key threatening processes impacting on the ecological integrity of the Bengello Forest area
2005	Bangalay Sand Forest is gazetted as an Endangered Ecological Community
2006-2007	The Eurobodalla Aboriginal Heritage Project, Airport Re-development Concept Plan and Broulee Beaches Masterplan are prepared and formally exhibited prompting strong community feedback for action in protecting the high conservation value Bengello parcels
Nov 2006	Report put to Council on the ecological values of the Bengello area with accompanying recommendation to investigate the application of a formal conservation covenant over the area
Dec 2006	Field based workshop for Councillors at Bengello. Follow-up report to Council recommending protection, Councillors vote in support of the concept of an 'in perpetuity' agreement over the Bengello lands. Staff are instructed (MINUTE 06/483) to investigate the application of a Voluntary Conservation Agreement or a Property Vegetation Plan, and to **'investigate the opportunities for the site as a biodiversity offset or for biobanking…'**
2006-2007	Consistent with Council's instruction, advice is sought from the Department of Environment and Climate Change on the eligibility of the site as a biobanking offset. A response in the affirmative is received and subsequently communicated to Council.
2007	Southern Rivers Catchment Management Authority commit to assisting Council in preparing a Conservation Property Vegetation Plan; field work and research commence
2007	Agency, stakeholder and community consultations are undertaken
June 2007	Funding to undertake works is secured, a Council renewal and maintenance budget commitment is secured
Nov 2007	Final round of specific community consultation conducted, 86% of respondents support the application of a secure conservation agreement over the Bengello Forest Lands
Dec 2007	Council votes to formalise the Property Vegetation Plan
Mar 2008	Property Vegetation Plan signed by Council and the Southern Rivers Catchment Management Authority.
2008 - present	Ongoing community support and cooperation in management and education initiatives at Bengello

Appendix E

Priority actions and directives from relevant Strategies and Plans

Planning document	Priority action
NSW Biodiversity Strategy 2011	greater focus on biodiversity in urban settlement planning processes to minimise impacts on biodiversity and to offset unavoidable impacts using secure, well-targeted offsetting mechanisms
South Coast Regional Strategy 2007	Protect high value environments Important natural assets will be identified and protected through the land use planning process Urban areas which are identified in the final version of…Eurobodalla Settlement Strategy will be supported LEPs will protect and add to employment lands in existing economic centres…and protect all regionally significant employment lands including…Moruya Airport
South Coast Regional Conservation Plan 2010	1.2 *Objectives of the Plan* Seek an overall improvement or maintenance of biodiversity values across the South Coast *3.1 Conservation objectives for the south coast* Maintain and enhance the regions biodiversity *2.3 Biodiversity Planning Principles and Priorities* • The first priority is to avoid losses to biodiversity and promote protection of biodiversity values in situ. • The second priority, where the first priority is unachievable, is to mitigate against adverse impacts to biodiversity. • The last resort is to compensate for unavoidable losses to biodiversity by applying offsets in the priority locations *8.3 Biodiversity certification* Identify areas that are appropriate for biodiversity certification
Eurobodalla Settlement Strategy 2006	• Balance urban growth within ecological, natural resource and servicing constraints • Consolidate growth in existing urban and rural residential areas to prevent new unsustainable settlement patterns developing • Conserve, manage and enhance the Eurobodalla Nature Coast values in perpetuity by ensuring that development does not harm or compromise significant environmental values • Support the use of offsets to protect and/or restore land of high conservation value and habitat linkages • Adequately conserve threatened species and their habitats • Ensure subdivision and building design incorporates adequate environmental protection requirements • Reduce the cumulative negative impacts on water quality, biodiversity and ecological processes of individual planning and development decisions

	• Identify opportunities generated by the forthcoming Regional Conservation Plan to obtain biodiversity certification, or implement conservation agreements or offsets for ongoing environmental protection
Southern Rivers Catchment Action Plan 2013	From 2015 information will be available to support adaptive and evidence-based decision making by land and water managers From 2015 frameworks and protocols will be implemented for devolved, adaptive and evidence-based decision making By 2023 land and water managers are supported to increase their capacity to manage natural resources By 2023, land and water Managers will be supported to increase the adoption of practices that maintain or improve the 1. extent and condition of priority habitats and 2. connectivity of habitat
NSW Statewide Targets	By 2015 there is an increase in native vegetation extent and an improvement in condition By 2015 there is an increase in the recovery of threatened species, populations and ecological communities By 2015 there is a reduction in the impact of invasive species
Priority Action Statement (White Footed Dunnart)	• Conduct population surveys and identify key habitats and populations (high priority) • Protect key habitat and populations on private and public land • Control and monitor abundance of feral predators (cats, foxes and dogs) and rabbits around key populations. • Control weeds where they are present near key habitats • Promote community awareness to prevent collection of firewood (standing dead timber and logs on the ground) from areas of habitat and to prevent domestic dogs and cats roaming in habitats near urban areas. • Develop and distribute EIA guidelines for decision makers • Assess fire and logging impacts on populations and habitat • Monitor known populations at selected sites • Collect hair samples to enable identification of genetic structure of populations across the species range • Conduct ecological research on population ecology, habitat use and relationships with seral stages of vegetation communities • Control feral predators and rabbits. • Apply mosaic pattern hazard reduction techniques to ensure the same areas are not burned continuously. • Retain standing and fallen timber and other nest sites in areas of habitat. • Avoid overgrazing by stock in areas of habitat.

(Bangalay Sand Forest)	• Apply forestry regimes that maintain floristic and structural diversity. • Prevent domestic cats and dogs from roaming in habitat areas. • Protect habitat and retain linkages across the broader landscape. • Use pitfall traps when surveying for the species, in addition to "Elliot" traps. • Research into the relationship between this species and the seral stages of vegetation communities is required before its habitat needs can be fully understood • Collate existing information on vegetation mapping and associated data for this Endangered Ecological Community and identify gaps in knowledge. Conduct targeted field surveys and ground truthing to fill data gaps and clarify condition of remnants • Use mechanisms such as Voluntary Conservation Agreements to promote the protection of this Endangered Ecological Community on private land. • Liaise with landholders and undertake and promote programs that ameliorate threats such as grazing and human disturbance • Undertake weed control for Bitou Bush and Boneseed at priority sites in accordance with the approved Threat Abatement Plan and associated PAS actions • Identify and prioritise other specific threats and inform or undertake appropriate on-ground site management strategies where required.

Appendix F

Engagement activities relating to the Broulee Biodiversity Certification process

Activity	Date	Reach
Report to Council	December 2009	Full Council meeting, public documents
Councillor briefing	December 2010	Elected representative plus executive and staff
Website information	February 2011	Promoted through correspondence & workshops
Councillor briefing	February 2011	Elected representative plus executive and staff
Report to Council	April 2011	Full Council meeting, public documents
Councillor Workshop	April 2011	Elected representative plus executive and staff
Respond to enquiries	Ongoing	Various; written, over counter, email, phone
Broulee Landholders Workshop	April 2011	5 landholders
Project Inception Meeting	September 2011	Technical reference group
Correspondence: Methodology & Additionality	September 2011	Minister/OEH
Broulee Landholders Workshop	October 2011	10 landholders
Media release	November 2011	Shire wide
Direct Mail out to landholders	November 2011	44 landholders
Broulee Community Workshop	November 2011	30 landholders/community
Progress meeting	November 2011	Technical reference group
Property Access request	December 2011	24 properties
Broulee Key landholders update		5 properties
Report to funding bodies	December 2011	Funding bodies
Property Access request	February 2012	16 properties
Progress meeting	March 2012	Technical reference group
OEH/CMA	April 2012	8 officers – methodology and approach
Broulee Key landholders update	April 2012	Project update
Correspondence: additionality	May 2012	Minister/OEH
Broulee Key landholders update	May 2012	Project update
Report to funding bodies	June 2012	Funding bodies
Correspondence: Minor variation to Methodology	June 2012	Minister/OEH
Executive Leadership Team	August 2012	Project update
Broulee Key landholders update	August 2012	Project update
Progress meeting	September 2012	Technical reference group
Presentation	September 2012	Goulburn secondary students
Broulee Key landholders update	September 2012	Project update
Airport redevelopment group	September 2012	Project update
Information/discussion	November 2012	Broulee secondary students
Progress meeting	December 2012	Technical reference group
Council briefing	December 2012	Project overview
Council briefing	February 2013	Project update
Internal workshops	February 2013	Offset management
Councillor site inspection	March 2013	Meet landholders, inspect certification and offset sites
Executive Leadership Team	March 2013	Project update
Report to Council	March 2013	Permission to Exhibit Strategy
Progress meeting		Technical reference group
Public exhibition		Draft Strategy
Executive Leadership Team		Submissions report and Strategy amendments
Council briefing		Results of exhibition
Report to Council		Submissions report and Strategy amendments
Refer to OEH		Application for certification

Appendix G

Copy of the Southern Rivers CMA letter of support for the Biodiversity Certification proposal

Catchment Management Authority
Southern Rivers

28 May 2012

The Hon. Robyn Parker MP
Minister for the Environment
PO Box A290
SYDNEY SOUTH NSW 1232

Dear Minister Parker

Support for a minor variation to the Biodiversity Certification Methodology

Eurobodalla Shire Council (ESC) is approaching you to consider a minor variation to the Biodiversity Certification Methodology (2011). The request is to allow for full Biocertification credit generation to be realised for lands covered by the Bengello Conservation Property Vegetation Plan (PVP).

The Bengello Conservation PVP was the first of its kind in NSW between a public land manager and the NSW Government via Southern Rivers CMA. It was based on a strong partnership between ESC, Southern Rivers CMA and local communities and represents a major milestone in conservation management in the Eurobodalla area.

In the development of the Conservation PVP, Southern Rivers CMA was of the understanding that the PVP could be able to be utilised for biobanking. We considered this to be an appropriate situation at the time due to the complex land-use issues of the area surrounding the Bengello PVP. It is the opinion of the Southern Rivers CMA that it would still be appropriate for the Bengello Conservation PVP to generate biobanking credits as part of the biocertification process currently being undertaken by ESC. The Southern Rivers CMA therefore supports the request for a minor variation to the Biodiversity Certification Methodology being submitted by ESC.

Should you require additional information on this matter, please contact Mr Brett Miners, Landscape Manager on 02 64521455.

Yours Sincerely

Pamela Green
Chair

Southern Rivers Catchment Management Authority
Level 1, 84 Crown Street, Wollongong NSW 2500 PO Box 3095, Wollongong East NSW 2520
Telephone: 02 4224 9700 Facsimile: 02 4224 9669 Website: www.southern.cma.nsw.gov.au

Appendix H

Final determination Bangalay Sand Forest NSW Scientific Committee 1995

Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions - Determination to make a minor amendment to Part 3 of Schedule 1 of the Threatened Species Conservation Act

NSW Scientific Committee

The Scientific Committee, established by the Threatened Species Conservation Act, has made a Determination to make a minor amendment to Part 3 of Schedule 1 (Endangered ecological communities) of the Act by inserting the Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions (as described in the determination of the Scientific Committee under Division 5 Part 2) and as a consequence to omit reference to the Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions (as described in the final determination to list the ecological community) which was published in the NSW Government Gazette No. 129 dated 21 October 2005 (pages 8866 and 8920 to 8923) and in the NSW Government Gazette No. 137 dated 4 November 2005 (pages 9314 to 9317). Minor amendments to the Schedules are provided for by Division 5 of Part 2 of the Act.

The Scientific Committee is of the opinion that the amendment is necessary or desirable to correct minor errors or omissions in the Determination in relation to the Thackway and Cresswell (1995) reference and species names.

The Scientific Committee has found that:

1. Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is the name given to the ecological community associated with coastal sand plains of marine or aeolian origin. It occurs on deep, freely draining to damp sandy soils on flat to moderate slopes within a few kilometres of the sea and at altitudes below 100 m. Bangalay Sand Forest is characterised by the assemblage of species listed in paragraph 2 and typically comprises a relatively dense or open tree canopy, an understorey of mesophyllous or sclerophyllous small trees and shrubs, and a variable groundcover dominated by sedges, grasses or ferns.

2. Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is characterised by the following assemblage of species:

Acacia longifolia	*Acacia sophorae*
Acmena smithii	*Allocasuarina littoralis*
Astroloma pinifolium	*Banksia integrifolia* subsp. *integrifolia*
Banksia serrata	*Billardiera scandens*
Breynia oblongifolia	*Cassytha pubescens*
Carex longebrachiata	*Casuarina glauca*
Commelina cyanea	*Desmodium gunnii*
Dianella caerulea var. *caerulea*	*Dianella crinoides*
Dichondra repens	*Echinopogon ovatus*
Entolasia marginata	*Eucalyptus botryoides*
Eucalyptus pilularis	*Geranium potentilloides*
Glycine clandestina	*Gonocarpus teucrioides*
Hardenbergia violacea	*Hibbertia scandens*
Imperata cylindrica var. *major*	*Isolepis nodosa*
Kennedia rubicunda	*Lagenifera stipitata*
Lepidosperma concavum	*Leptospermum laevigatum*
Lomandra longifolia	*Marsdenia rostrata*
Microlaena stipoides var. *stipoides*	*Monotoca elliptica*
Notelaea longifolia	*Oplismenus imbecillus*

Parsonsia straminea	*Pittosporum revolutum*
Pittosporum undulatum	*Pratia purpurascens*
Pteridium esculentum	*Ricinocarpus pinifolius*
Rubus parvifolius	*Solanum pungetium*
Stephania japonica var. *discolor*	*Stellaria flaccida*
Themeda australis	*Viola hederacea*

3. The total species list of the community is larger than that given above, with many species present only in one or two sites, or in low abundance. The species composition of a site will be influenced by the size of the site, recent rainfall or drought conditions and by its disturbance (including grazing, land clearing and fire) history. The number and relative abundance of species will change with time since fire, and may also change in response to changes in fire frequency or grazing regime. At any one time, above-ground individuals of some species may be absent, but the species may be represented below ground in the soil seed banks or as dormant structures such as bulbs, corms, rhizomes, rootstocks or lignotubers. The list of species given above is mainly of vascular plant species, however the community also includes micro-organisms, fungi, cryptogamic plants and a diverse fauna, both vertebrate and invertebrate. These components of the community are poorly documented.

4. Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions typically has a dense to open tree canopy, approximately 5 – 20 m tall, depending on exposure and disturbance history. The most common tree species include *Eucalyptus botryoides* (Bangalay) and *Banksia integrifolia* subsp. *integrifolia* (Coast Banksia), while *Eucalyptus pilularis* (Blackbutt) and *Acmena smithii* (Lilly Pilly) may occur in more sheltered situations, and *Casuarina glauca* (Swamp Oak) may occur on dunes exposed to salt-bearing sea breezes or where Bangalay Sand Forest adjoins Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner bioregions, as listed under the *Threatened Species Conservation Act 1995*. The open shrub stratum may be dominated by sclerophyllous species, such as *Banksia serrata* (Old Man Banksia), *Leptospermum laevigatum* (Coast Teatree) and *Monotoca elliptica*, or mesophyllous, species, such as *Breynia oblongifolia* (Coffee Bush) and *Pittosporum undulatum* (Sweet Pittosporum), or a combination of both. Shrubs may vary in height from one to ten metres tall. The groundcover varies from open to dense, and may be sparse where the tree canopy is dense or where there is a thick litter of leaves and branches. Dominant species include *Dianella* spp. (Blue Flax Lilies), *Lepidosperma concavum, Lomandra longifolia* (Spiny-headed Matrush), *Pteridium esculentum* (Bracken), and the grasses *Imperata cylindrica* var. *major* (Blady Grass), *Microlaena stipoides* var. *stipoides* (Weeping Grass) and *Themeda australis* (Kangaroo Grass), while herbs, such as *Desmodium gunnii*, *Dichondra repens* (Kidney Weed), *Pratia purpurascens* (Whiteroot) and *Viola hederacea* (Ivy-leaved Violet), are scattered amongst the larger plants. Vines of *Glycine clandestina, Hardenbergia violacea* (False Sarsparilla), *Kennedia rubicunda* (Running Postman)*, Marsdenia rostrata* (Common Milk Vine) and *Stephania japonica* var. *discolor* (Snake Vine) scramble through the groundcover and occasionally over shrubs or tree trunks.

5. Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is currently known from parts of the Local Government Areas of Sutherland, Wollongong, Shellharbour, Kiama, Shoalhaven, Eurobodalla and Bega Valley but may occur elsewhere in these bioregions. Bioregions are defined in Thackway and Cresswell (1995).

6. A number of vegetation surveys and mapping studies have been carried out across the range of Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions. In the Sydney-South Coast region, this community includes 'Ecotonal Coastal Hind Dune Swamp Oak-Bangalay Shrub Forest' (ecosystem 27) excluding those stands that are dominated by *Casuarina glauca* and 'Coastal Sands Shrub/Fern Forest' (ecosystem 28) of Thomas *et al*. (2000); 'Littoral Thicket' (map unit 63) and part of 'Coastal Sand Forest' (map unit 64) of Tindall *et al*. (2004); 'Coastal Sand Bangalay-Blackbutt Forest' (map unit 25) of NPWS (2002); and 'Dry Dune Shrub Forest' of Keith and Bedward (1999). Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is included within the 'South Coast Sands Dry Sclerophyll Forests' vegetation class of Keith (2002, 2004). There may be additional or unmapped occurrences of Bangalay Sand Forest within and beyond these surveyed areas.

7. Near its northern limit in the Bundeena area, Bangalay Sand Forest co-occurs with Kurnell Dune Forest in the Sutherland Shire and City of Rockdale, which is listed as an Endangered Ecological Community in Part 3 of Schedule 1 of the Act. In this area, Bangalay Sand Forest is generally restricted to foredunes and hind dunes of beaches, while Kurnell Dune Forest generally occurs on sheltered sand flats further from the immediate influence of the sea. Characteristic species of Kurnell Dune Forest, such as *Angophora costata, Banksia ericifolia, Cupaniopsis anacardioides, Endiandra sieberi, Eucalyptus robusta* and *Maclura cochinchinensis*, are not common components of Bangalay Sand Forest. However, the two communities may intergrade where they co-occur. This Determination and the Determination of Kurnell Dune Forest collectively encompass all intermediate stands of vegetation between the two communities.

8. Another Endangered Ecological Community, Umina Coastal Sandplain Woodland in the Sydney Basin bioregion, occupies a similar sandplain habitat to the north of Sydney. However, this community occupies podsolised sands that are rich in iron (Burges & Drover 1952), as distinct from the humic podsols that characterise Bangalay Sand Forest, and is

dominated by *Angophora floribunda* with *E.paniculata*, while *E.botryoides* predominates only in the vicinity of the beach. In addition, Umina Coastal Sandplain Woodland includes a greater diversity of mesic understorey species and *Acacia* species than Bangalay Sand Forest.

9. Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions is threatened by land clearing; degradation and disturbance associated with heavy recreational use; frequent burning; rubbish dumping; and weed invasion. These threats are generally associated with existing and proposed urban development along the coast. However, areas of Bangalay Sand Forest within conservation reserves, including Royal, Seven Mile Beach, Conjola, Meroo, Murramarang, Eurobodalla and Biamanga National Parks, are exposed to degradation by visitor overuse due to their proximity to popular beaches and camping areas.

10. Available vegetation mapping indicates that Bangalay Sand Forest has suffered substantial levels of clearing. The coastline between Gerroa and Bermagui includes an estimated area of about 3450 ha, representing one-quarter of the estimated pre-1750 distribution of the community (ecosystems 27 and 28 of Thomas *et al*. 2000). Similarly, Tindall *et al*. (2004) map about 2200 ha of Littoral Thicket, representing about one-third of the its estimated pre-European distribution between Sydney and Moruya. South of Bermagui, Keith & Bedward (1999) mapped a further 650 ha, representing less than two-fifths of the estimated pre-1750 distribution. However, recent reconnaissance suggests that these studies may have over-estimated the remaining area of Bangalay Sand Forest (J. Miles, pers. comm.). North of Gerroa, only small fragments of the community persist, for example, on Minnamurra Spit (Mills 2000), around Primbee and Windang (NPWS 2002), Bundeena and Taren Point. Overall, these estimates indicate large reductions in the geographic distribution of the community. Clearing of native vegetation is listed as a Key Threatening Process under the *Threatened Species Conservation Act* (1995.

11. Some areas of Bangalay Sand Forest are exposed to frequent burning, particularly around camping areas, towns and other sources of ignition. High frequency fire alters species composition by favouring fire-tolerant rhizomatous grasses, sedges and ferns at the expense of woody plants that are slow to regenerate after fire (Keith 1996). Elimination of woody species by frequent burning is likely to be accelerated by grazing. These processes of degradation represent large reductions in the ecological function of the community. High frequency fire resulting in disruption of life cycle processes in plants and animals and loss of vegetation structure and composition is listed as a Key Threatening Process under the *Threatened Species Conservation Act* (1995).

12. Weed invasion occurs where Bangalay Sand Forest is exposed to disturbance and degradation. Common weed species include *Asparagus* spp., *Chrysanthemoides monilifera* subsp. *rotundata* (Bitou Bush), introduced forms of *Cynodon dactylon* (Couch), *Cirsium vulgare* (Spear Thistle)*, Conyza bonariensis* (Fleabane)*, Hypochaeris radicata* (Cats Ear)*, Ipomoea* spp. (Morning Glory spp.), *Lantana camara, Pennisetum clandestinum* (Kikuyu). These and other weed species may achieve considerable abundance within stands of Bangalay Sand Forest, indicating a large reduction in ecological function of the community. Invasion of native plant communities by exotic perennial grasses is listed as a Key Threatening Process under the *Threatened Species Conservation Act* (1995).

13. Additions to the coastal reserve system and land use zoning have protected some stands of Bangalay Sand Forest from clearing. However, pressures associated with increasing human populations and recreational activity on the coast continue to intensify, especially where stands of the community occur in the vicinity of coastal villages and urban centres, and where new reserves involve the establishment of camping areas and other visitor infrastructure. Disturbance associated with increased human access contributes particularly to habitat degradation, increased frequencies of bushfire ignitions, and weed invasion, posing major threats even on land managed for conservation. In addition to the processes outlined above, activities such as illegal fire wood collection by campers and coastal residents may threaten habitat for vertebrate and invertebrate fauna and disrupt nutrient and carbon cycling. Removal of dead wood and dead trees is listed as a Key Threatening Process under the *Threatened Species Conservation Act* (1995). These processes may result in a large reduction in ecological function of the community.

14. In view of the above, the Scientific Committee is of the opinion that Bangalay Sand Forest of the Sydney Basin and South East Corner bioregions it is likely to become extinct in nature in New South Wales unless the circumstances and factors threatening its survival cease to operate.

Dr Richard Major

Chairperson

Scientific Committee

Proposed Gazettal date: 08/07/11

Exhibition period: 08/07/11 - 02/09/11

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Appendix I

White Footed Dunnart profile from Environment and Heritage website: threatened species

Scientific name: *Sminthopsis leucopus*
Conservation status in NSW: Vulnerable
Commonwealth status: Not listed

Indicative distribution

The areas shown in pink and/purple are the sub-regions where the species or community is known or predicted to occur. They may not occur thoughout the sub-region but may be restricted to certain areas. (click here to see geographic restrictions). The information presented in this map is only indicative and may contain errors and omissions.

Description

The dunnarts are a group of mouse-like marsupial carnivores, found throughout the continent and in every habitat. Needle-shaped incisors, five toes on the forefoot and a furred, brown tail help distinguish them from the House Mouse, which has rodent-teeth, four front toes and a naked, pinkish tail. The fur on the back and face of the White-footed Dunnart is grey-brown, and the belly is off-white. It has a fox-like face with large, dark, protruding eyes and large deeply-notched, thin ears that can be laid back against the head. The feet are pink and are covered with fine white hair. Adults have a head and body length less than 10 cm. Males are

usually larger and heavier, averaging around 26 grams, while females average 19 grams. It can easily be confused with the Common Dunnart *S. murina*; the characteristics used to tell them apart require expert knowledge (White-footed Dunnart has striated inter-digital footpads on the hindfeet, compared to the those of the Common Dunnart which are unfused and granular in appearance).
Show section details

Threats

- Loss and fragmentation of habitat resulting from land clearing for residential and agricultural developments.
- Modification and disturbance of habitat in coastal forest and foredune complex vegetation by camping and other recreational activities.
- Predation by foxes, cats and dogs.
- Collection of firewood from areas of habitat, including standing dead timber and logs on the ground.
- Fire regimes that result in continual absence of cover or thick regeneration may be deleterious.
- Studies conducted to date suggest that the species copes well in the short-term following events such as intensive logging, but populations may disappear within three years post-disturbance as the density of regrowth increases.

Recovery strategies

Priority actions are the specific, practical things that must be done to recover a threatened species, population or ecological community. The Office of Environment and Heritage has identified 10 priority actions to help recover the White-footed Dunnart in New South Wales.

Activities to assist this species

- Control feral predators and rabbits.
- Apply mosaic pattern hazard reduction techniques to ensure the same areas are not burned continuously.
- Retain standing and fallen timber and other nest sites in areas of habitat.
- Avoid overgrazing by stock in areas of habitat.
- Apply forestry regimes that maintain floristic and structural diversity.
- Prevent domestic cats and dogs from roaming in habitat areas.
- Protect habitat and retain linkages across the broader landscape.
- Use pitfall traps when surveying for the species, in addition to "Elliot" traps.
- Research into the relationship between this species and the seral stages of vegetation communities is required before its habitat needs can be fully understood.

Information sources

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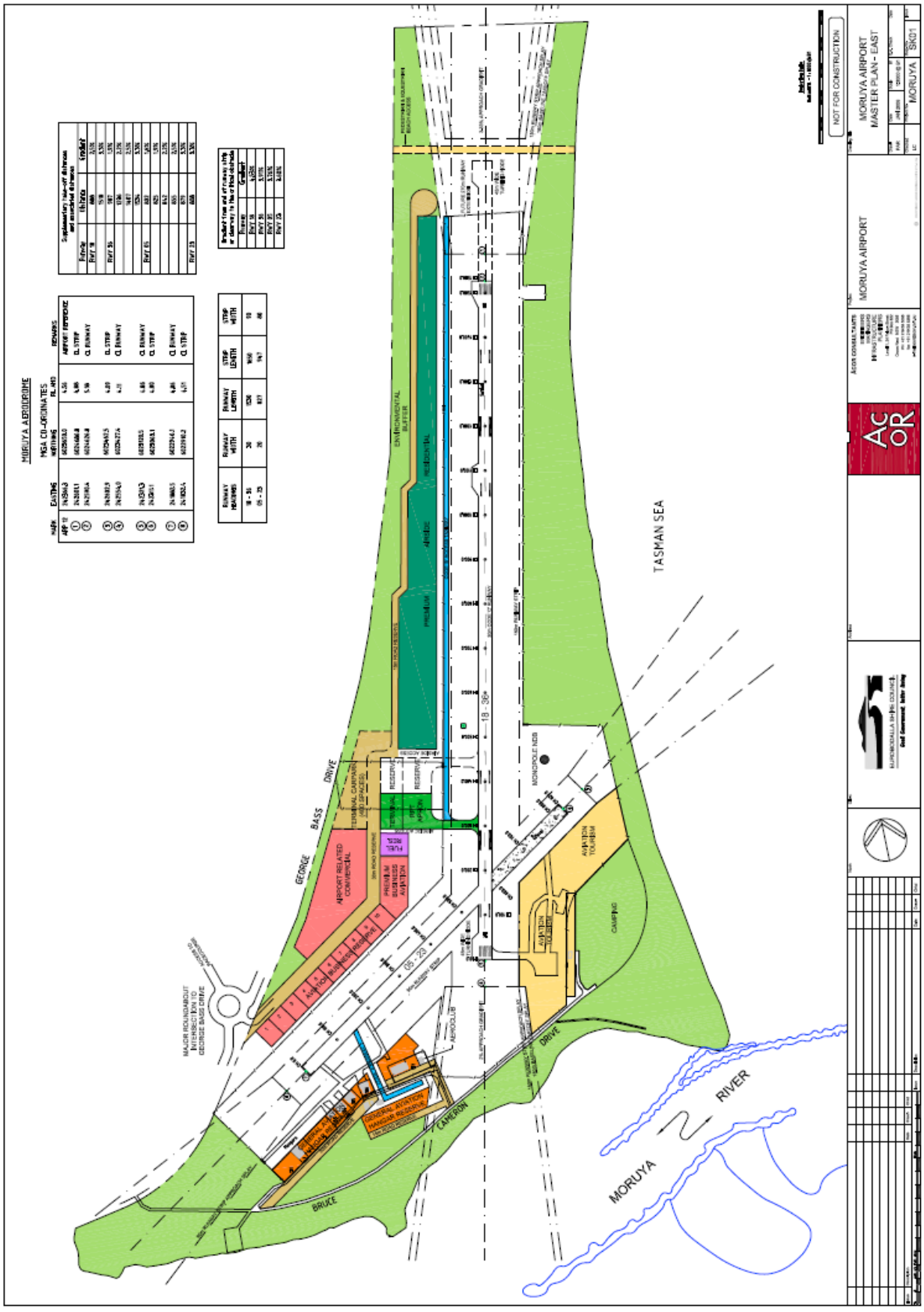
Appendix J

Moruya Airport Concept Plan (2006)



Appendix K

Sminthospsis leucopus White Footed Dunnart Broulee Biocertification Area: Keystone Ecological

Appendix L

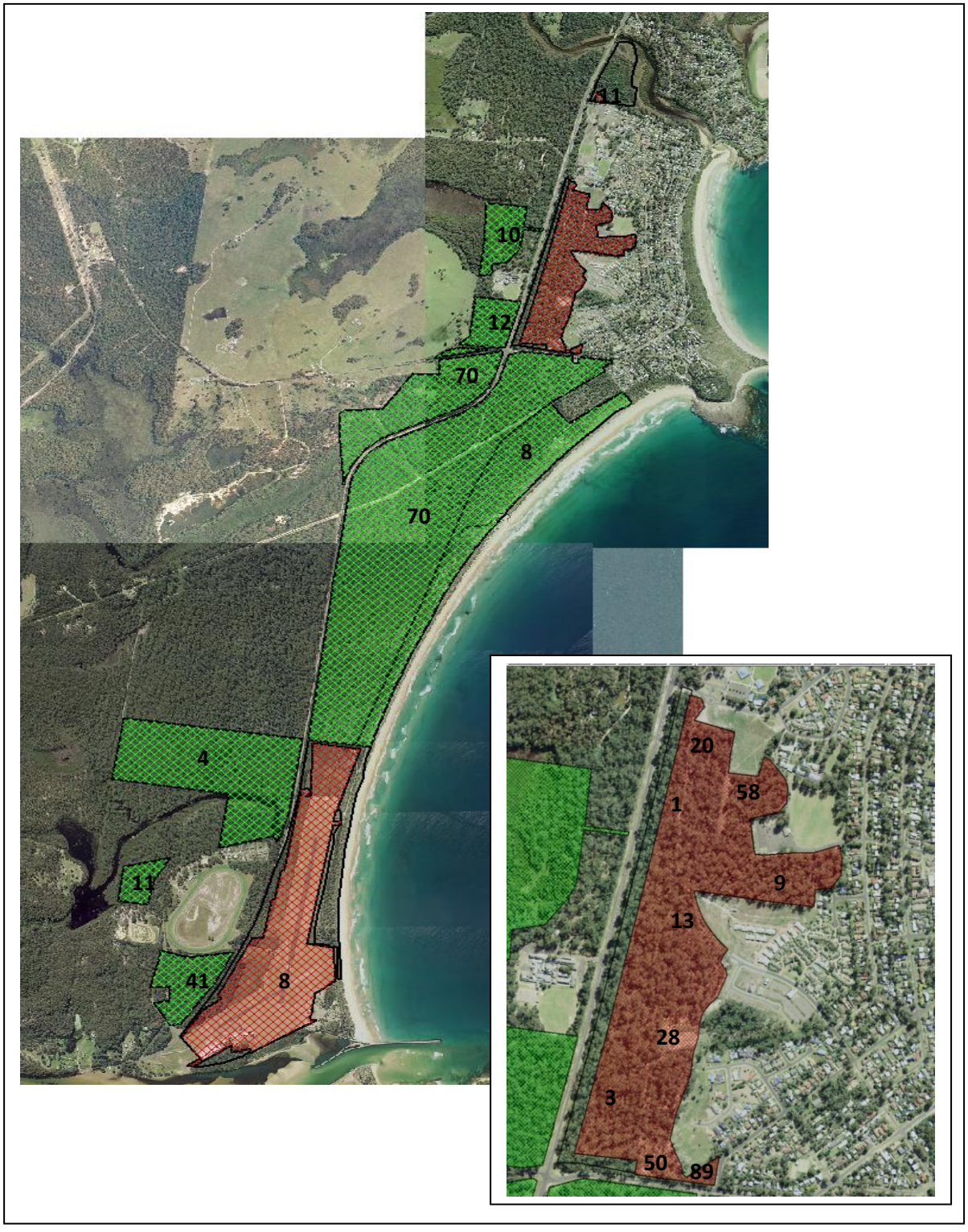
Parcels Proposed for Biodiversity Certification

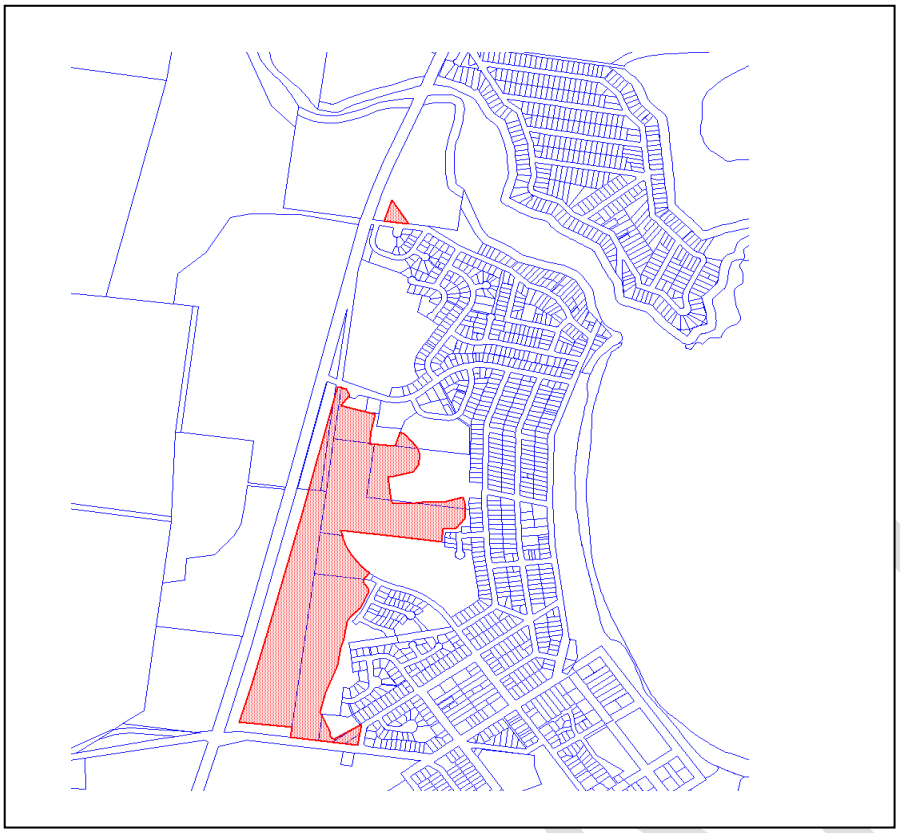
Lot	Deposited Plan	Lot Area (Ha)	Certification Area (Ha)	Description
4	1090948	232.8	100	Part lot. Airport Concept Plan (2006) footprint. Bruce Cameron Drive, Moruya.
3	633700	15.3	11.2	Part lot. Broulee Road.
50	837279	1.0	0.3	Part lot. Broulee Road.
28	1172003	12.1	8.0	Part lot. Heath Street.
9	1068530	9.4	9.0	Part lot. Adams way.
13	1136019	2.1	2.0	Part lot. Heath Street.
58	245167	7.4	2.7	Part lot. Captain Oldrey Park.
2	718667	2.9	0.2	Part lot. Broulee Primary School.
20	1174639	2.7	1.7	Part lot. Train Street.
1	825610	2.3	0.7	Part lot. George Bass Drive.
		0.8	0.8	Unformed crown road off Train Street
11	1066592	6.38	0.4	Part lot. George Bass Drive.
89	1093710	0.09	0.09	Corner Lot. Clarke Street.
		0.3	0.3	Unformed road segment Clarke Street
Total			**137**	

Parcels proposed for Conservation Measures

Lot	Deposited Plan	Lot Area (Ha)	Description
70	831111	188.5	Part Lot. George Bass Drive north of airport 'Bengello'
70	831111	36.5	Part Lot. Corner George Bass Drive and Broulee Road
8	258299	61.3	Part Lot. George Bass Drive north of airport 'Bengello'
4	1090948	74	Part Lot. George Bass Drive, Williga (Y) Swamp
12	831878	10.6	Corner George Bass Drive and Broulee Road

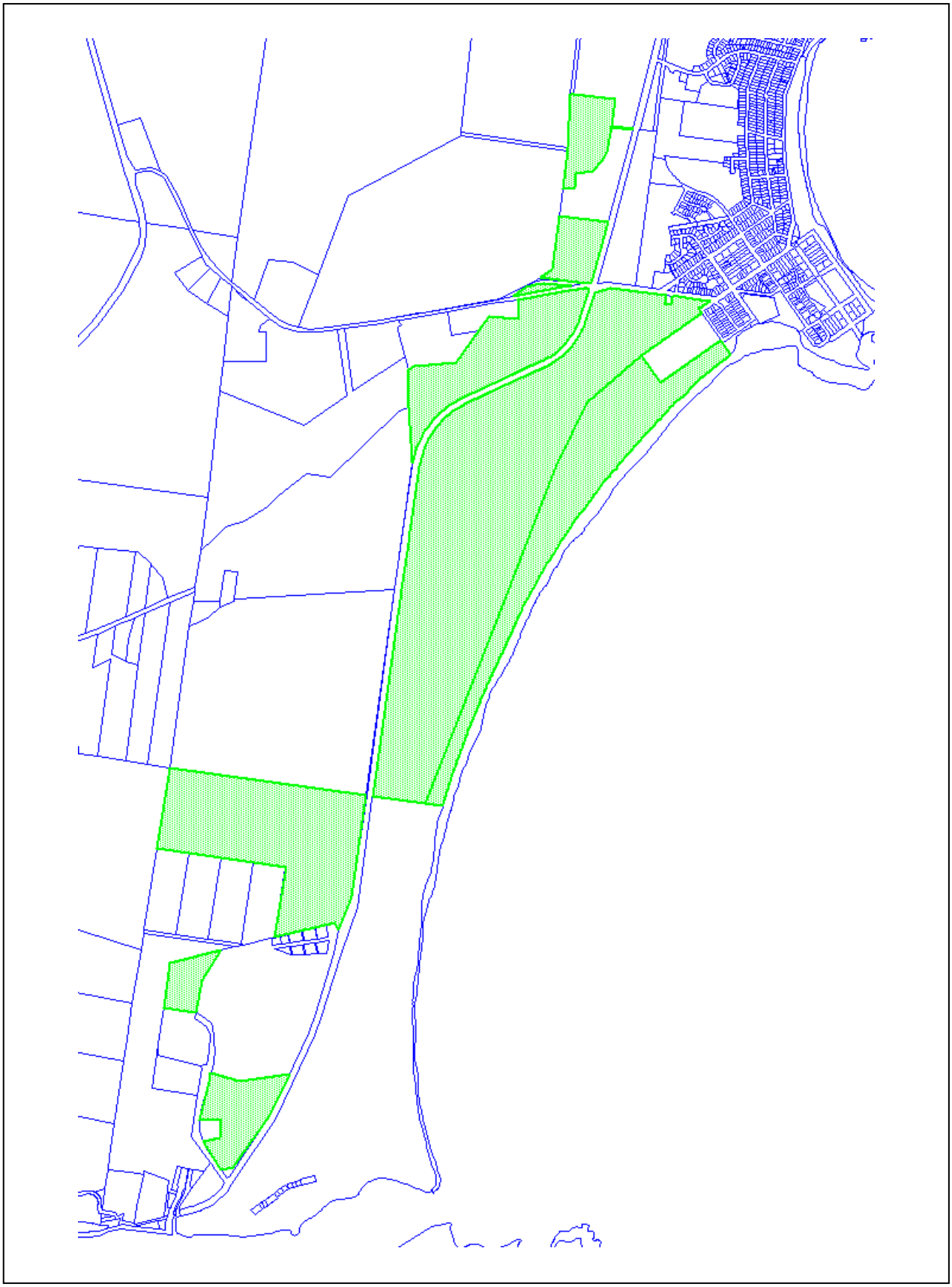
10	831878	12	George Bass Drive, Illawong Swamp
11	771575	7.1	Part Lot. Donnelly Drive west of racecourse
41	1036166	17.3	Part Lot. Donnelly Drive south of racecourse
Total		**407**	





Left: The Broulee Development Area

Left: The Moruya Airport Development Area



Above: The Biodiversity Certification Conservation Area

Appendix M

Map of the region - defined as the CMA subregion in which the Red Flag is located (Bateman) and any adjoining subregions (Jervis, Ettrema, Bungonia, South east coastal ranges (c) and south east coastal plains), together with a google maps image approximating the 'region'.