



Wyong
Shire
Council
CENTRAL COAST

05 Studies

RZ/12/2014

C. Interim Ecological Inventory EcoLogical 2012 (Cont)

3 Results

Nineteen (19) Biometric Vegetation Types have been mapped across the DLALC North Wyong Land holdings. The area of each vegetation type and status (Red Flag) for each of the proposed development precincts and conservation lands was then calculated and is shown in **Table 6**.

Ten threatened flora species have been recorded across the land holdings, four within the proposed development precincts. Two of these 4 species are „Red Flags“ (**Table 4**).

Of the 29 threatened fauna species requiring targeted survey (excluding those marine/intertidal species) only two (Wallum Froglet and possible Eastern Chestnut Mouse) have been recorded to date (**Table 5**). However, there are a number of hollow roosting microchiropteran bats species that may be recorded and it is likely that one or more of the threatened reptile and amphibian species may also be recorded following additional survey in suitable weather conditions. Several of the species predicted by the biocertification assessment tool are unlikely to occur in the DLALC lands (Broad-headed Snake, Brush-tailed Rock-wallaby, Red-crowned Toadlet).

Table 4: Threatened flora species recorded within the investigation area.

Species	Status	Red Flag	Negligible loss	Recorded within proposed development areas	Number in proposed development lands#	Numbers in proposed offset lands
<i>Acacia bynoeana</i>	V	Yes		Yes	27	
<i>Angophora inopina</i>	V	No		Yes	19,115	13,962
<i>Caladenia porphyrea</i>	E	Yes		Yes	35	17
<i>Callistemon linearifolius</i>	V	Yes	Up to 5	No		8
<i>Cryptostylis hunteriana</i>	V	Yes	Up to 2	Yes	1	
<i>Eucalyptus camfieldii</i>	V	Yes		No		3
<i>Eucalyptus parramattensis</i>	V	Yes	Up to 5	No		440
<i>Grevillea parviflora</i>	V	Yes		No		138
<i>Maundia triglochmoides</i>	V	Yes		No		75
<i>Tetratheca juncea</i>	V	No		Yes	203	2,065

Boundaries of development precincts still to be finalised.

Table 5: Threatened fauna species recorded within the investigation area.

Species recorded in development precincts to data are in **bold**.

Scientific name	Common Name	Likelihood of occurrence
<i>Botaurus poiciloptilus</i>	Australian Bittern	No, no suitable habitat in proposed development precincts
<i>Callocephalon fimbriatum</i> (Breeding)	Gang Gang Cockatoo	Potentially
<i>Chalinolobus dwyeri</i> (Breeding)	Large-eared Pied Bat	Potentially
<i>Crinia tinnula</i>	Wallum Froglet	Yes
<i>Ephippiorhynchus asiaticus</i>	Black-necked Stork	No, no suitable habitat in proposed development precincts
<i>Heleioporus australiacus</i>	Giant Burrowing Frog	Potentially
<i>Hieraaetus morphnoides</i>	Little Eagle	Potentially
<i>Hoplocephalus bitorquatus</i>	Pale-headed Snake	Potentially
<i>Hoplocephalus bungaroides</i>	Broad-headed Snake	Unlikely, no records in area
<i>Irediparra gallinacea</i>	Comb-crested Jacana	No, no suitable habitat in proposed development precincts
<i>Ixobrychus flavicollis</i>	Black Bittern	No, no suitable habitat in proposed development precincts
<i>Litoria aurea</i>	Green and Golden Bell Frog	Unlikely, no records in area
<i>Litoria brevipalmata</i>	Green-thighed Frog	Potentially
<i>Litoria littlejohni</i>	Littlejohn's Frog	Potentially
<i>Lophoictinia isura</i>	Square-tailed Kite	Potentially
<i>Miniopterus australis</i> (Breeding)	Little Bentwing-bat	Potentially
<i>Miniopterus schreibersii oceanensis</i> (Breeding)	Eastern Bentwing-bat	Potentially
<i>Mixophyes iteratus</i>	Giant Barred Frog	Potentially
<i>Myotis macropus</i> (formally <i>Myotis adversus</i>) (Breeding)	Large-footed Myotis	Potentially
<i>Nettapus coromandelianus</i>	Cotton Pygmy-Goose	No, no suitable habitat in proposed development precincts
<i>Pandion haliaetus</i>	Osprey	Potentially
<i>Petrogale penicillata</i>	Brush-tailed Rock-wallaby	Unlikely, no records from area
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale	Potentially
<i>Planigale maculata</i>	Common Planigale	Potentially
<i>Pseudomys gracilicaudatus</i>	Eastern Chestnut Mouse	Hair record to be confirmed
<i>Pseudophryne australis</i>	Red-crowned Toadlet	Unlikely given location
<i>Pteropus poliocephalus</i> (Breeding)	Grey-headed Flying Fox	No known camps
<i>Varanus rosenbergi</i>	Rosenberg's Goanna	Potentially
<i>Vespadelus troughtoni</i> (Breeding)	Eastern Cave Bat	No caves

Table 6: Area and status of each vegetation type in proposed development and conservation area

Proposed development lands

Biometric Vegetation Community	BCAM Red Flag (EEC or >70% Cleared)	PROPOSED DEVELOPMENT SITES										
		Bushells Ridge North (DP&I)	Bushells Ridge North	Bushells Ridge South	Railcorp	Norah Head	Halekulani	Bushells Ridge East	Munmorah	Canton Beach	Lakes Beach	Total
Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin and South East Corner											2.06	2.06
Banksia dry shrubland on coastal sands of the North Coast						12.69				0.40		13.09
Blackbutt - Smooth-barked Apple shrubby open forest on coastal sands of the southern North Coast					0.07							0.07
Coastal floodplain sedgeland, rushlands, and forblands of the North Coast									0.63			0.63
Fern-leaved Banksia - Melaleuca sieberi wallum heath on coastal sands, southern North Coast and northern Sydney Basin						0.46						0.46
Forest Red Gum - Rough-barked Apple open forest on poorly drained lowlands of the Central Coast, Sydney Basin	Yes						0.39					0.39
Melaleuca nodosa closed shrubland on alluvium of the Central Coast, Sydney Basin						0.18						0.18
Melaleuca sieberi - Tall Saw-sedge closed shrubland in drainage lines on the Central Coast, Sydney Basin	Yes	0.23	1.19	0.26	1.44			2.16	0.08			5.38
Paperbark heath on indurated sands at Norah Head on the Central Coast, Sydney Basin	Yes					0.58						0.58
Paperbark swamp forest of the coastal lowlands of the North Coast and Sydney Basin	Yes					1.80				1.44	1.03	4.26

Biometric Vegetation Community	BCAM Red Flag (EEC or >70% Cleared)	PROPOSED DEVELOPMENT SITES										
		Bushells Ridge North (DP&I)	Bushells Ridge North	Bushells Ridge South	Railcorp	Norah Head	Halekulani	Bushells Ridge East	Munmorah	Canton Beach	Lakes Beach	Total
Scribbly Gum - Red Bloodwood heathy woodland on the coastal plains of the Central Coast, Sydney Basin		40.95	56.35	76.41	42.12	0.54	12.84	41.09	57.15			327.46
Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin				11.87		4.01				0.01	1.56	17.46
Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin												0.00
Sydney Peppermint - Smooth- barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin										0.99		0.99
Cleared/planted vegetation							0.03			0.20	0.12	0.35
Total		41.19	57.54	88.55	43.63	20.25	13.25	43.26	57.86	3.05	4.77	373.34

Proposed Conservation lands (# Wyong LGA Veg mapping yet to be validated for some parcels).

Biometric Vegetation Community	CURRENT OFFSET LANDS																	ADDITIONAL OFFSET LANDS (Claims yet to be determined)															Total Possible Offset lands
	Total DLALC land	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	1a	2a	2b	3a	4a#	10a#	14a#	14b	15a#	15b#	15c#	17a#	20a#	Total Claims		
Banksia dry shrubland on coastal sands of the North Coast	32.40														31.98		0.42														0.00	32.40	
Blackbutt - Smooth-barked Apple shrubby open forest on coastal sands of the southern North Coast	33.16	1.76		16.49	14.90															1.67	9.66					19.38					30.71	63.87	
Broad-leaved Paperbark - Wallum Bottlebrush - sedge wet heath on sand, southern North Coast and northern Sydney Basin	0.00																									12.49					12.49	12.49	
Coast Banksia - Coast Wattle dune scrub, Sydney Basin and South East Corner	75.93											39.29	4.51		25.75	6.39								13.17							13.17	89.10	
Coastal floodplain sedgeland, rushland, and forblands of the North Coast	3.66								3.66																						0.00	3.66	
Coastal freshwater lagoons of the Sydney Basin and South East Corner	1.43														1.43										0.96						0.96	2.40	
Melaleuca nodosa closed shrubland on alluvium of the Central Coast, Sydney Basin	31.85	2.83			29.02																										0.00	31.85	
Melaleuca sieberi - Tall Saw-sedge closed shrubland in drainage lines on the Central Coast, Sydney Basin	36.41		0.35	0.72	0.37	1.81	1.98	15.22		15.85	0.12								0.51	1.25	2.12	0.03									3.91	40.32	
Paperbark heath on indurated sands at Norah Head on the Central Coast, Sydney Basin	3.44														3.44																0.00	3.44	

Biometric Vegetation Community	CURRENT OFFSET LANDS																	ADDITIONAL OFFSET LANDS (Claims yet to be determined)															Total Possible Offset lands
	Total DLALC land	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18	1a	2a	2b	3a	4a#	10a#	14a#	14b	15a#	15b#	15c#	17a#	20a#	Total Claims		
Paperbark swamp forest of the coastal lowlands of the North Coast and Sydney Basin	14.60													7.82	6.29	0.20	0.29					6.78	7.16		2.41	49.95	50.66	0.68		33.88	151.53	166.13	
Phragmites australis and Typha orientalis coastal freshwater wetlands of the Sydney Basin	0.00																							2.67						2.67	2.67		
Scribbly Gum - Red Bloodwood heathy woodland on the coastal plains of the Central Coast, Sydney Basin	396.37	11.82	38.59	74.85	28.94	62.10	15.42	73.48	10.03	46.96	34.00				0.19				9.54	23.60	32.75		7.29						28.05	101.23	497.61		
Smooth-barked Apple - Red Bloodwood open forest on coastal plains on the Central Coast, Sydney Basin	82.78	53.20			1.40	0.65								1.82	25.32		0.39	5.76	0.08		4.39									10.23	93.00		
Spotted Gum - Grey Ironbark open forest on the foothills of the Central Coast, Sydney Basin	0.77	0.77																					6.60		1.80				4.59	12.99	13.76		
Swamp Mahogany swamp forest on coastal lowlands of the North Coast and northern Sydney Basin	1.39										1.39																		5.73	5.73	7.12		
Sydney Peppermint - Smooth-barked Apple shrubby open forest on coastal hills and plains of the southern North Coast and northern Sydney Basin	0.86																0.86						4.12					7.20		11.32	12.19		
Tuckeroo - Yellow Tulipwood Littoral Rainforest	0.08															0.08					6.81	21.04	17.29		64.24	50.66	0.68	7.20	38.48	206.40	206.48		
TBC	0.00																												7.34	7.34	7.34		
Bitou Bush	4.23														3.53	0.71														0.00	4.23		
Cleared/planted vegetation	0.47																0.47												0.33	0.33	0.80		
Grand Total	719.85	70.38	38.94	92.07	74.64	64.55	17.40	88.70	13.69	62.80	35.51	39.29	4.51	9.64	97.93	7.38	2.43	5.76	10.12	26.53	48.92	13.62	42.09	34.59	25.42	128.48	101.32	1.36	14.40	118.41	571.01	1,290.86	

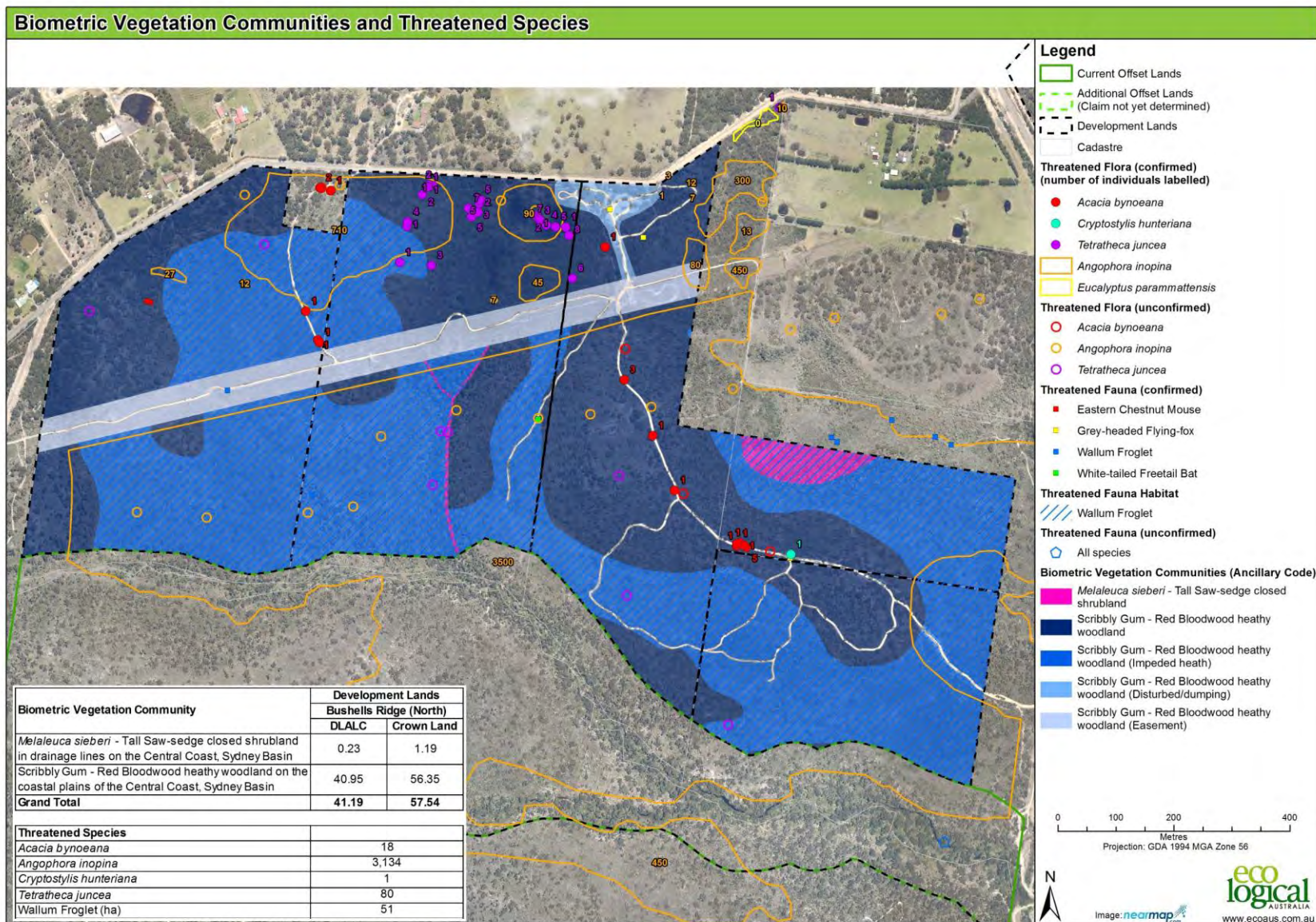


Figure 28: Validated Vegetation mapping and threatened species records – Bushells Ridge North

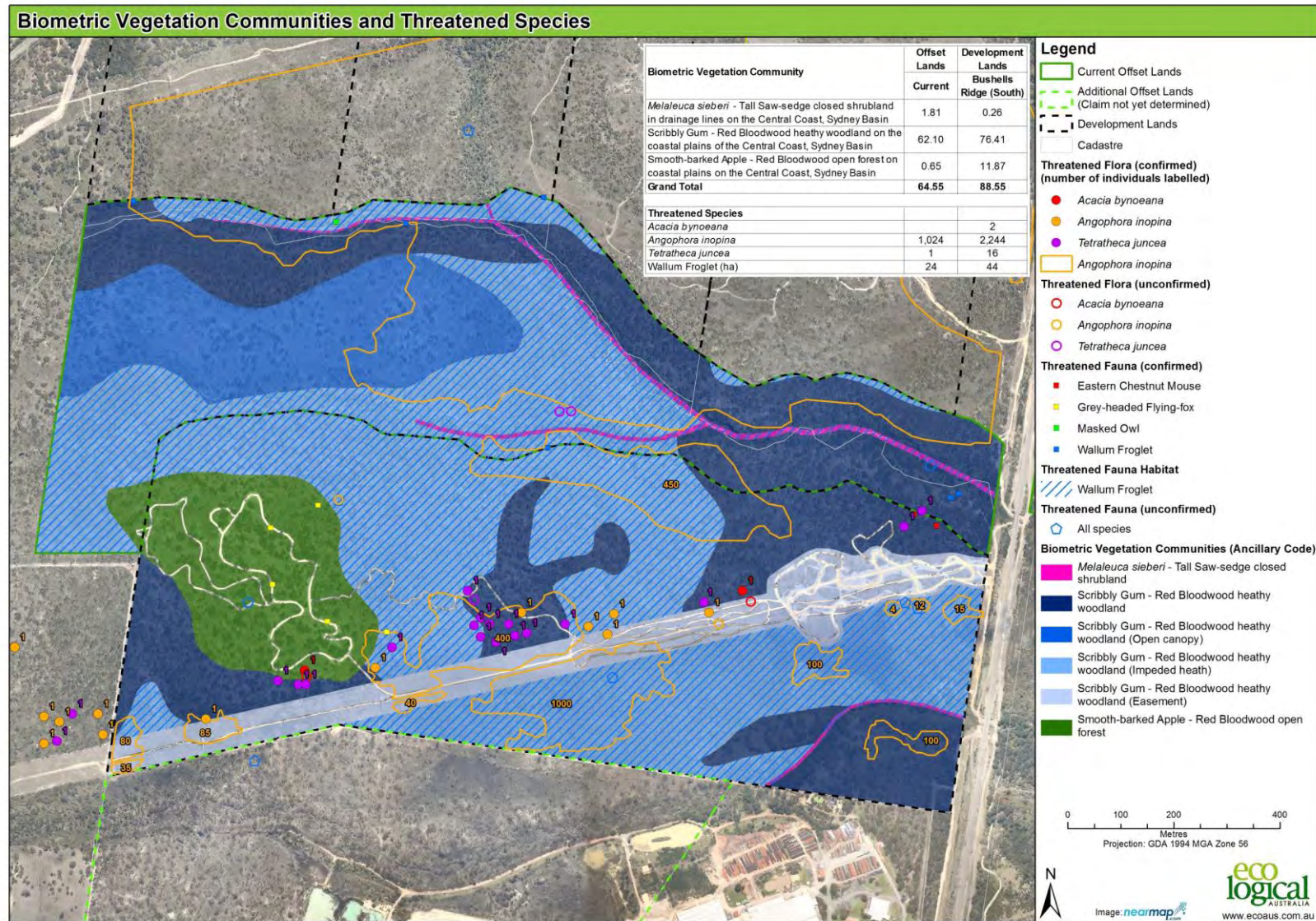


Figure 29: Validated Vegetation mapping and threatened species records – Bushells Ridge South

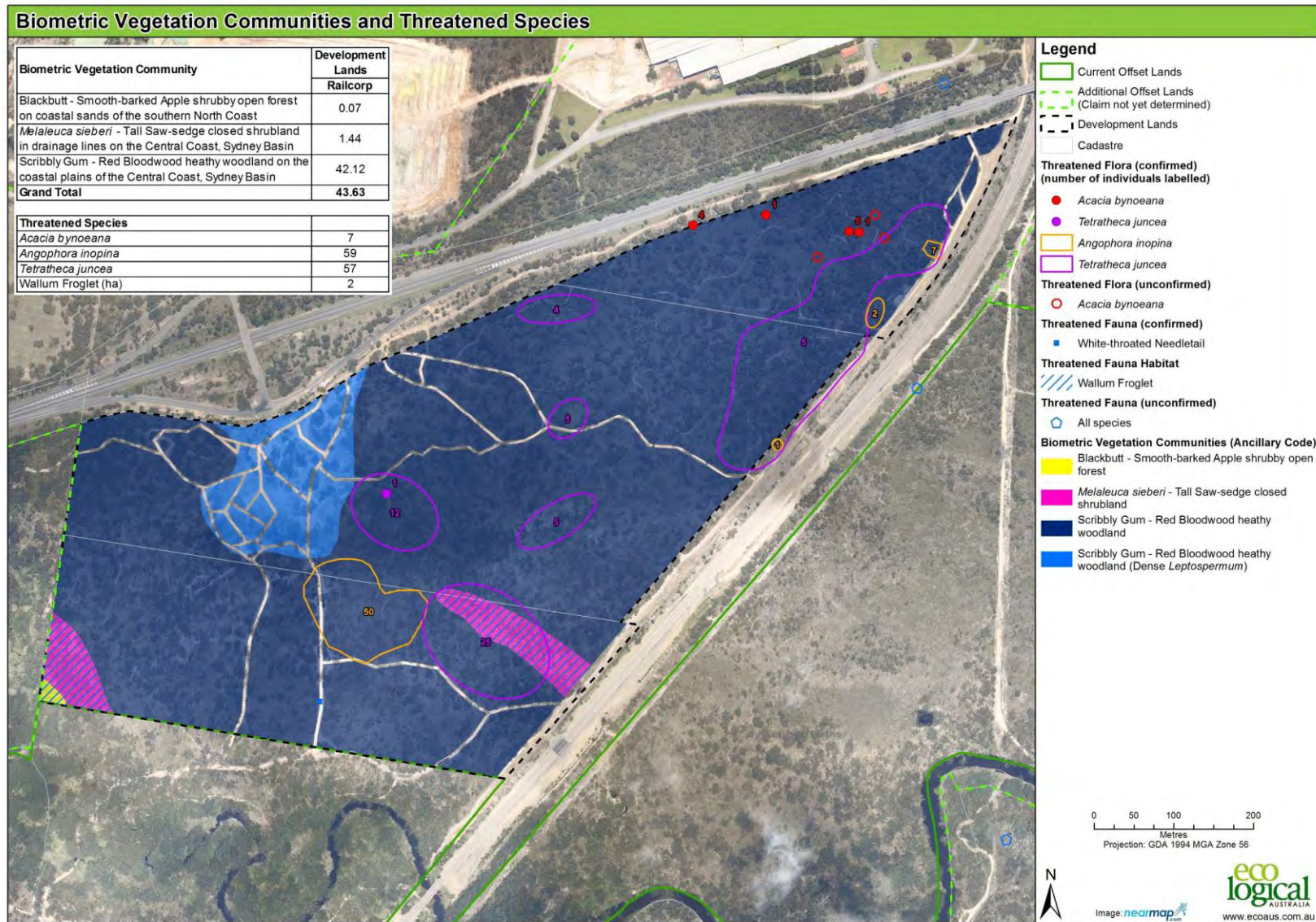


Figure 30: Validated Vegetation mapping and threatened species records – Railcorp

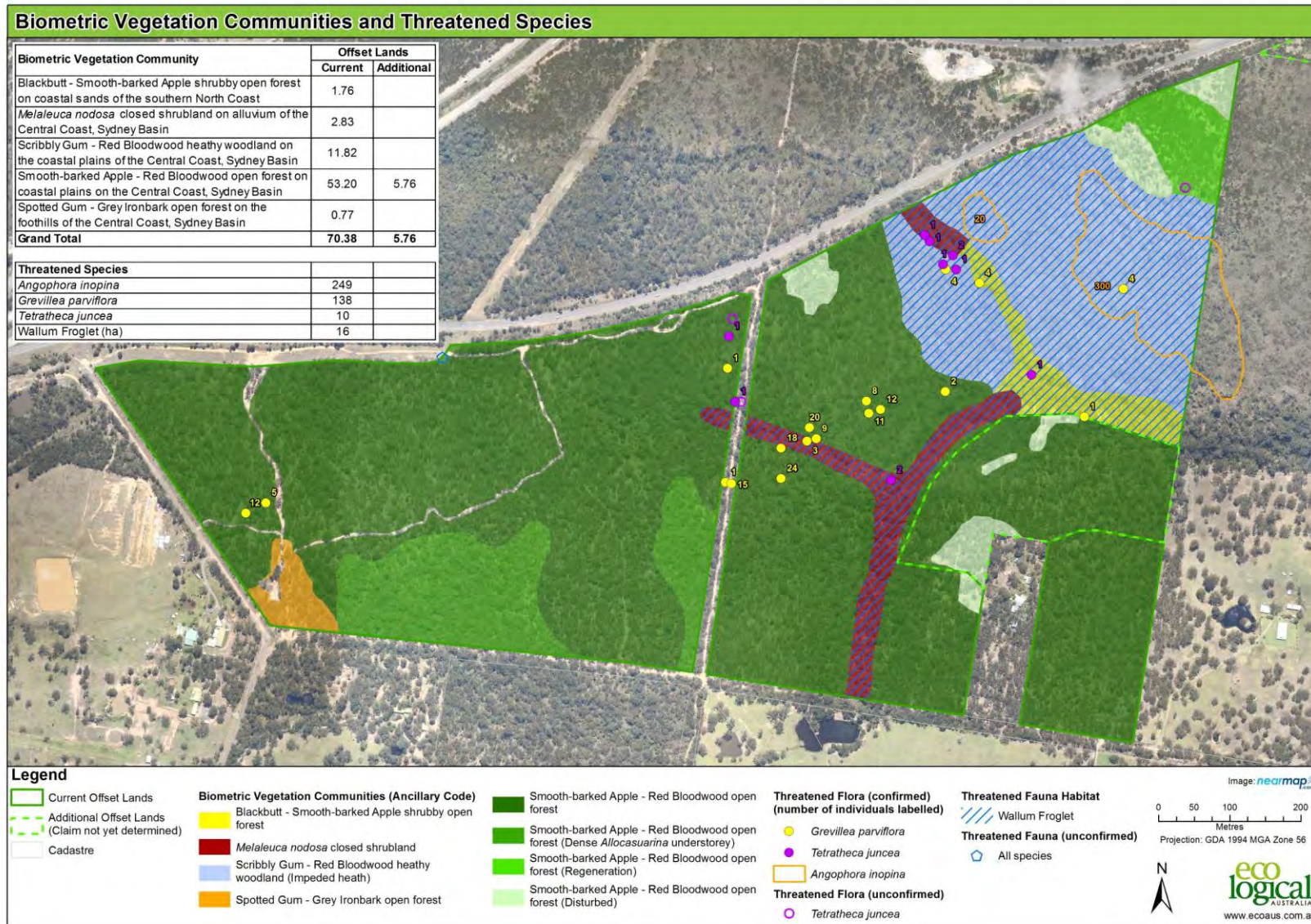


Figure 31: Validated Vegetation mapping and threatened species records – Offset lands 1

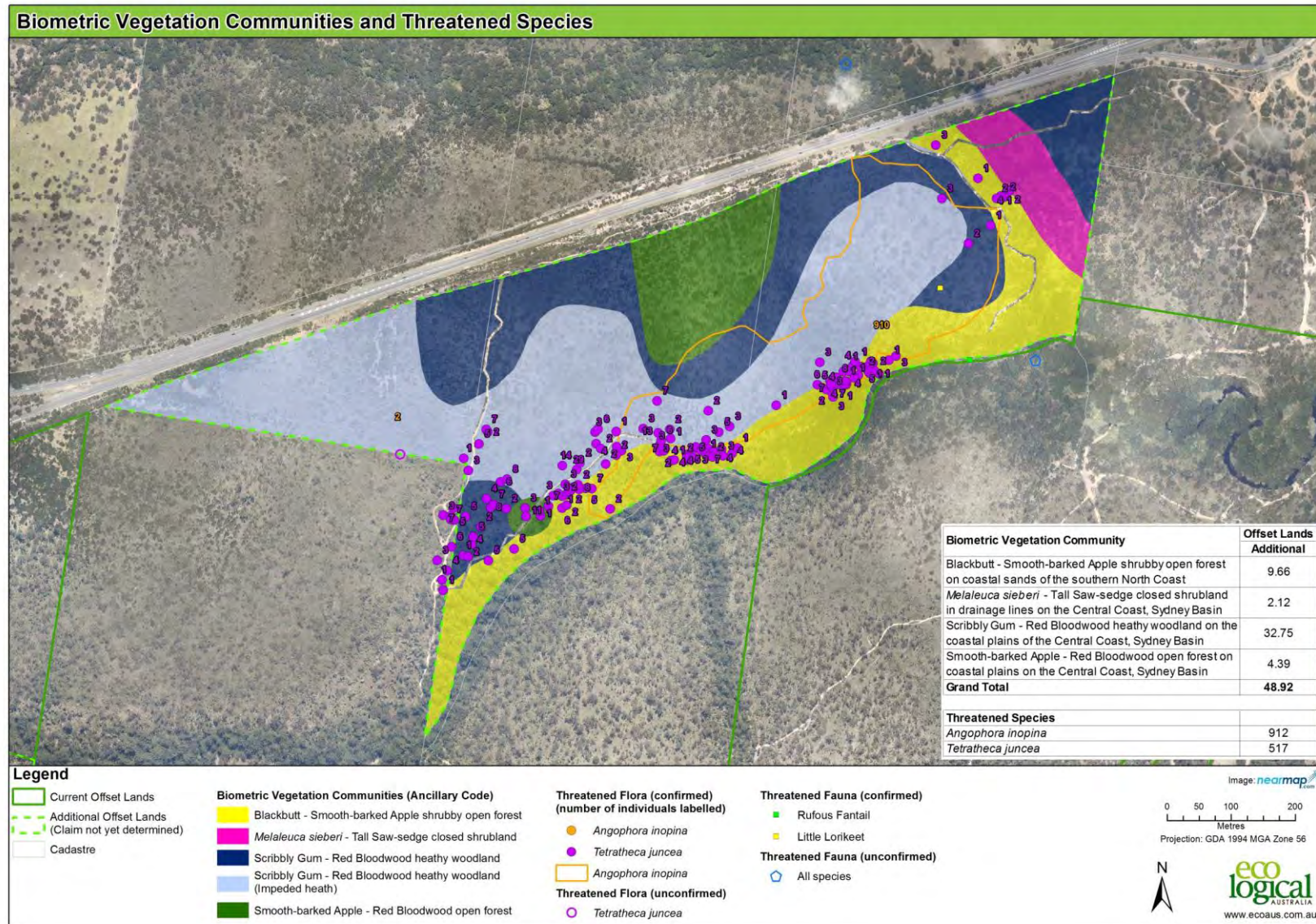


Figure 32: Validated Vegetation mapping and threatened species records – Offset lands 3a

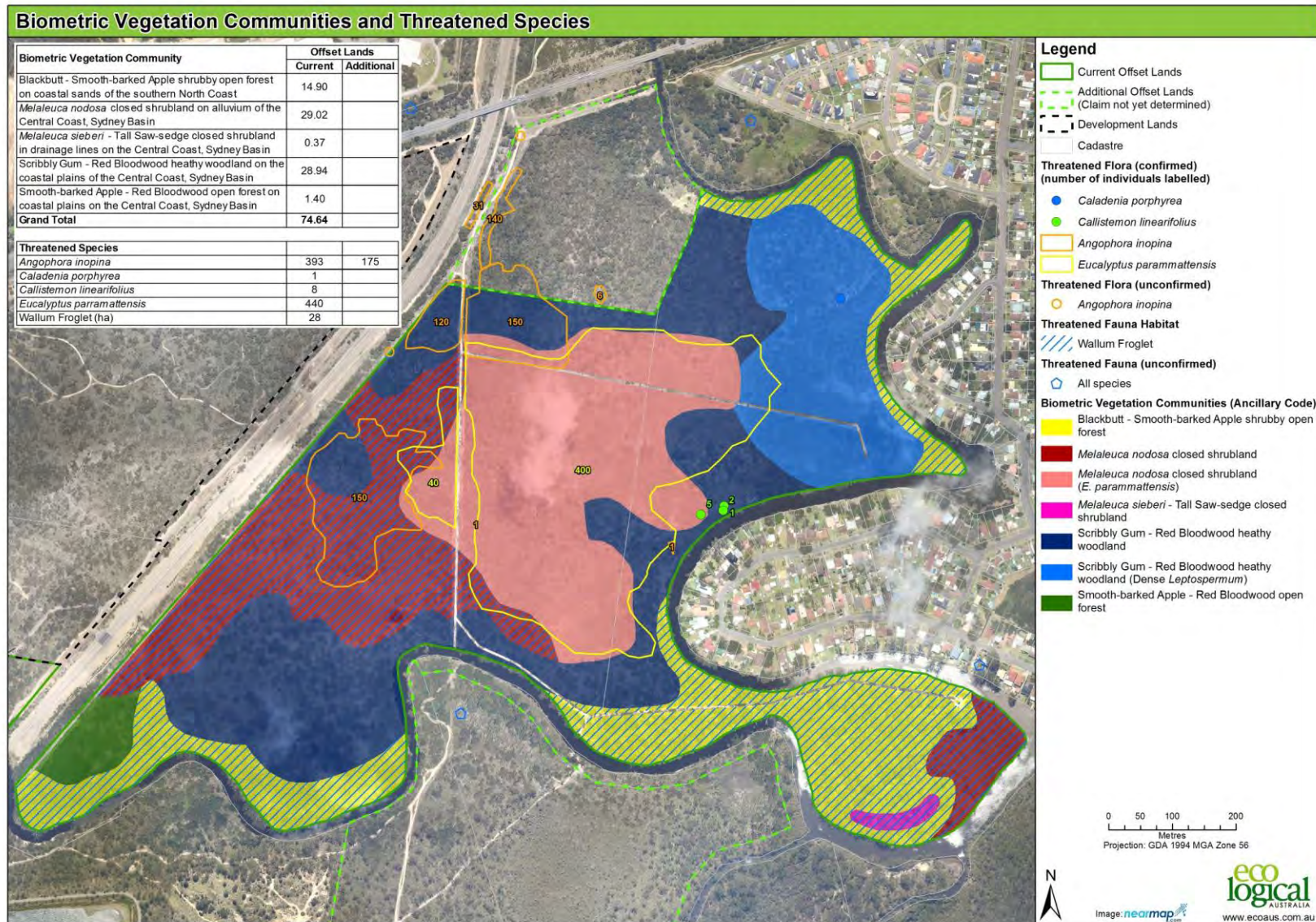


Figure 33: Validated Vegetation mapping and threatened species records – Offset lands 4

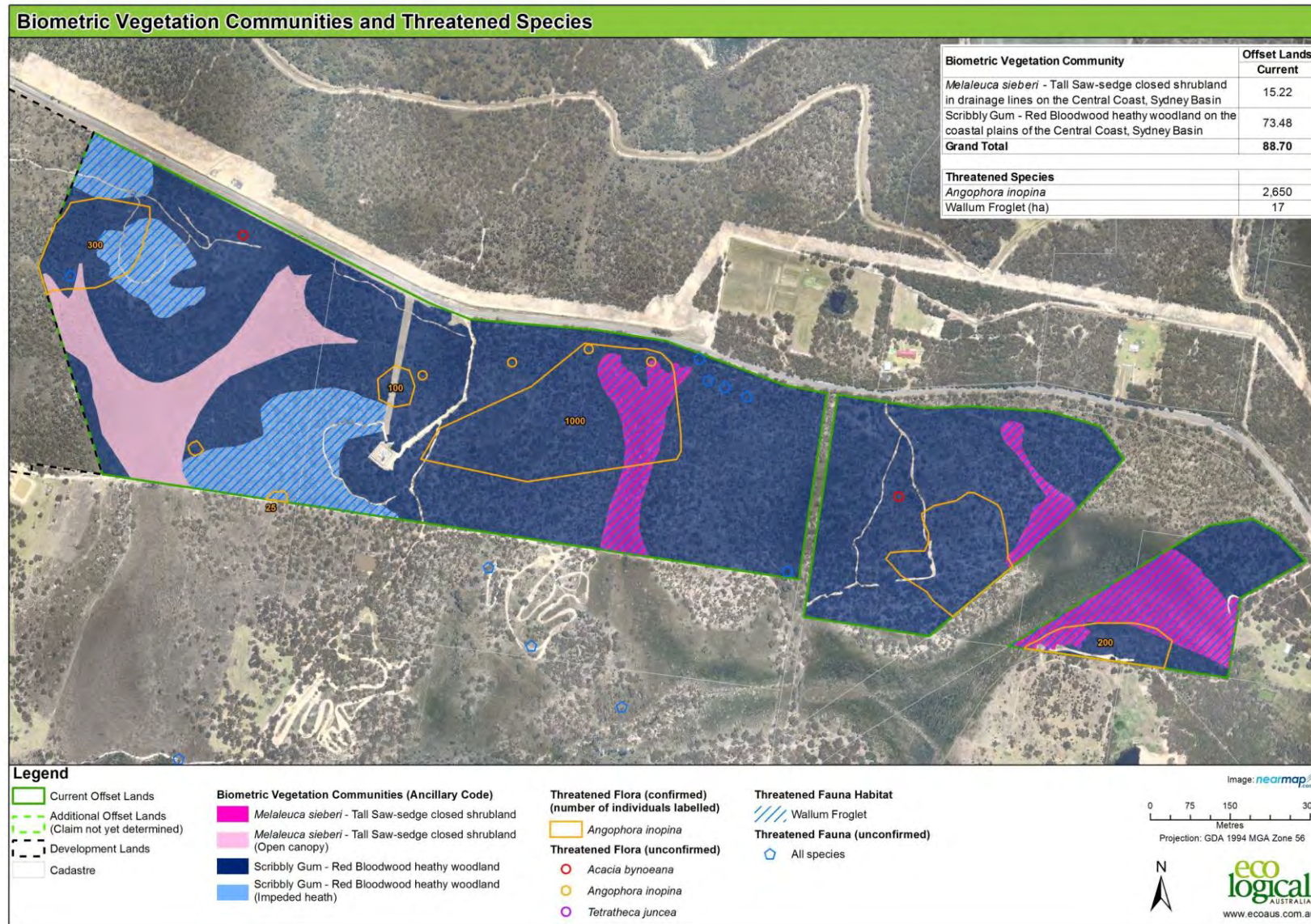


Figure 34: Validated Vegetation mapping and threatened species records – Offset lands 7

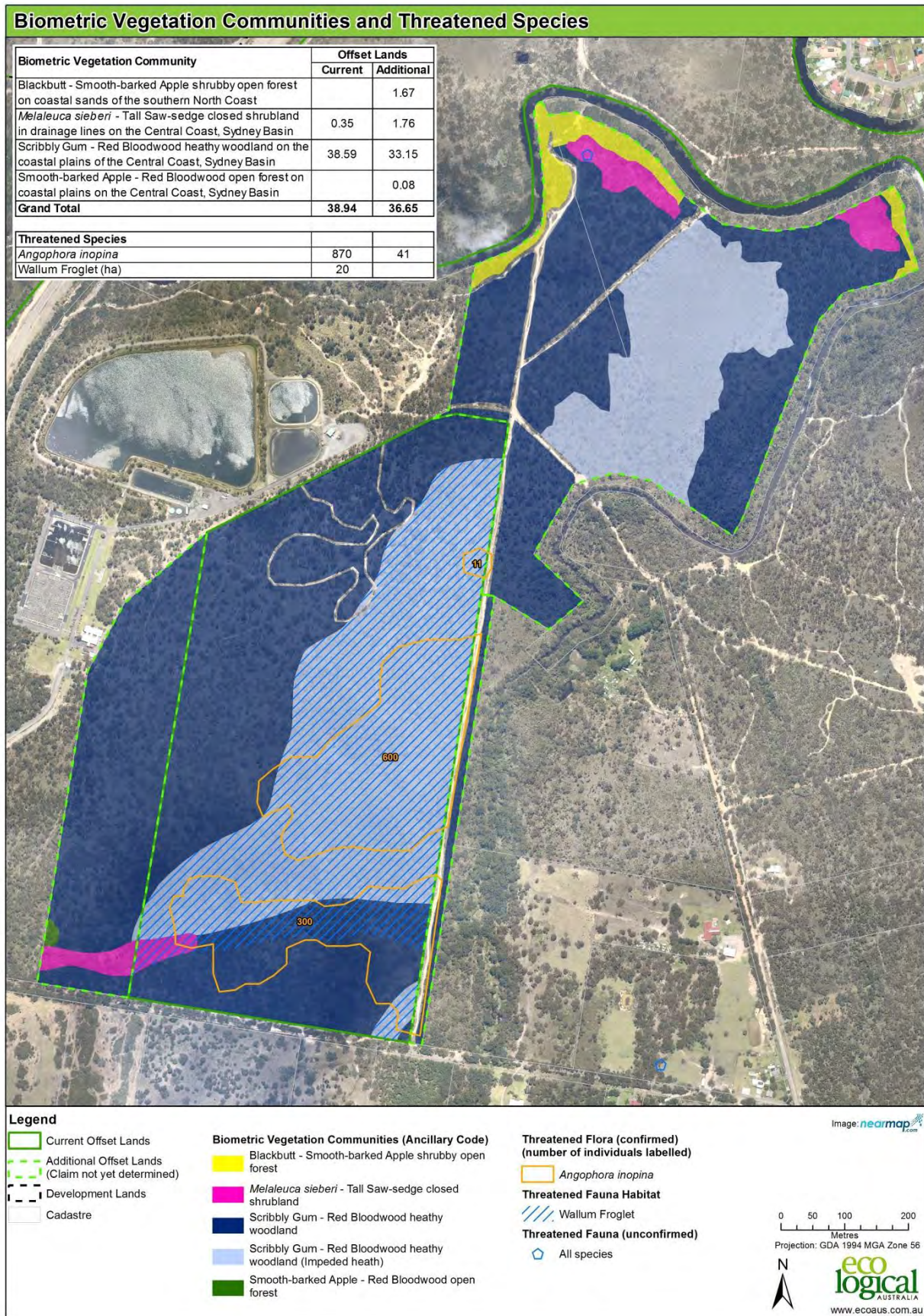


Figure 35: Validated Vegetation mapping and threatened species records – Offset lands 2

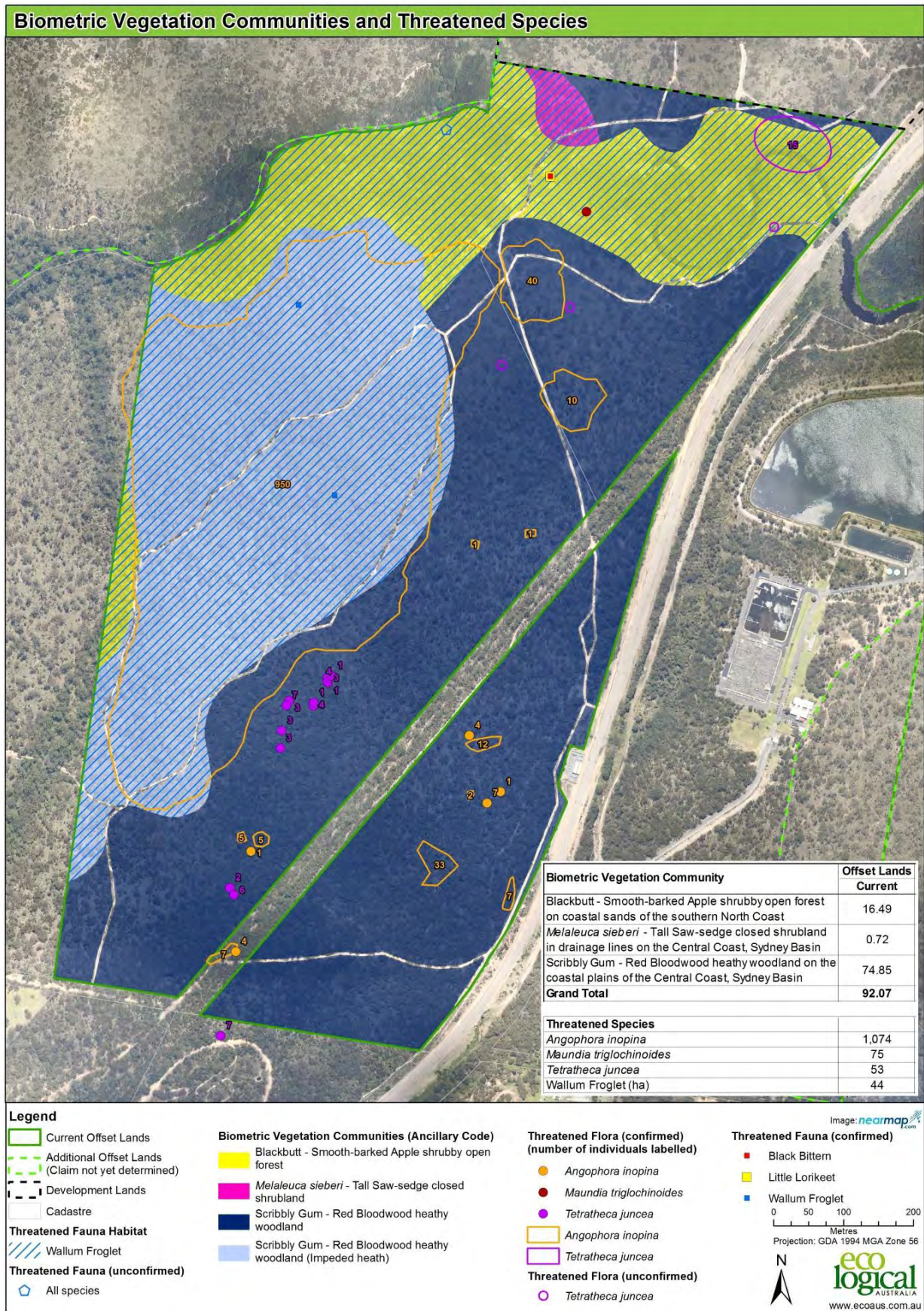


Figure 36: Validated Vegetation mapping and threatened species records – Offset lands 3

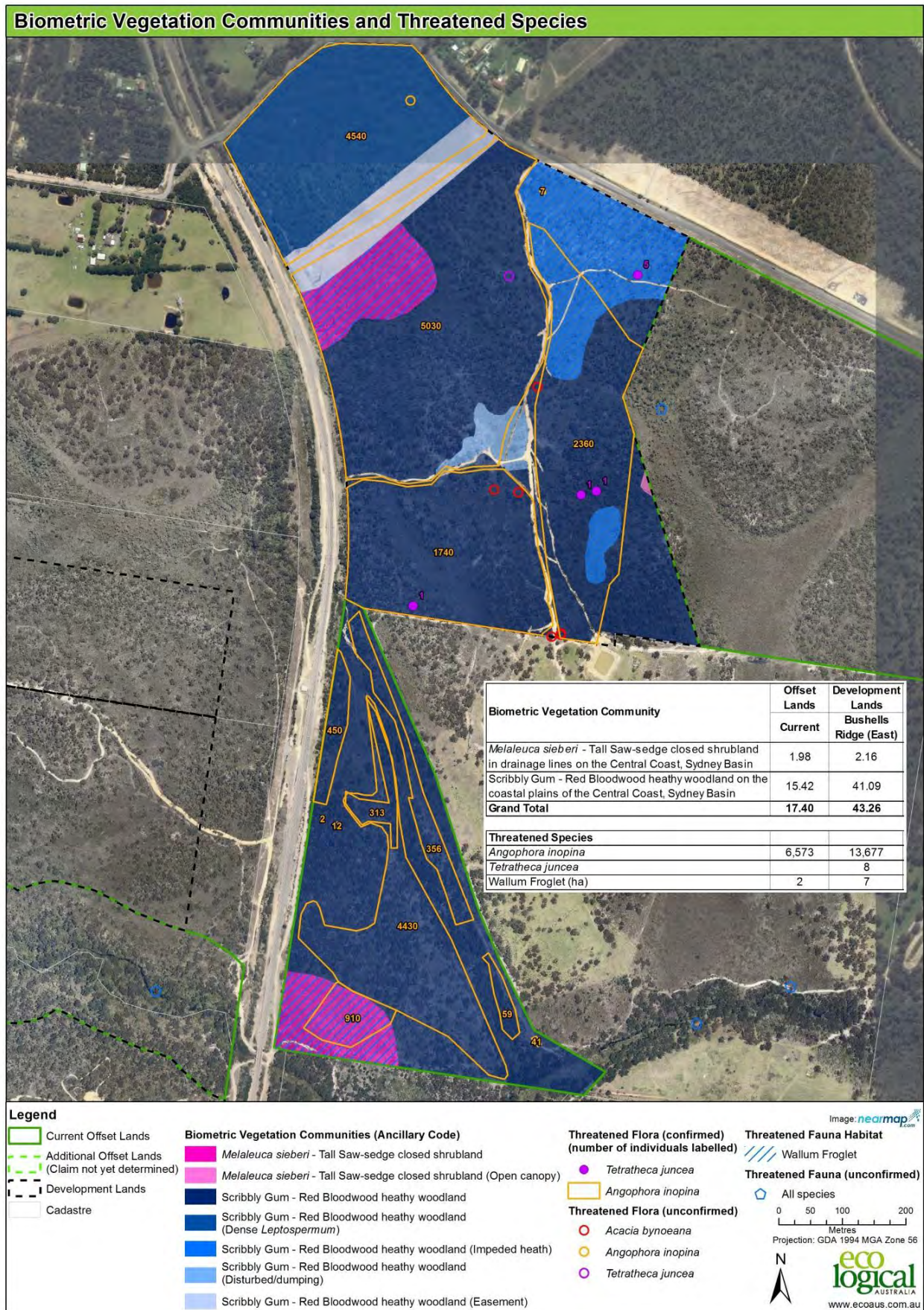


Figure 37: Validated Vegetation mapping and threatened species records – Offset lands 6

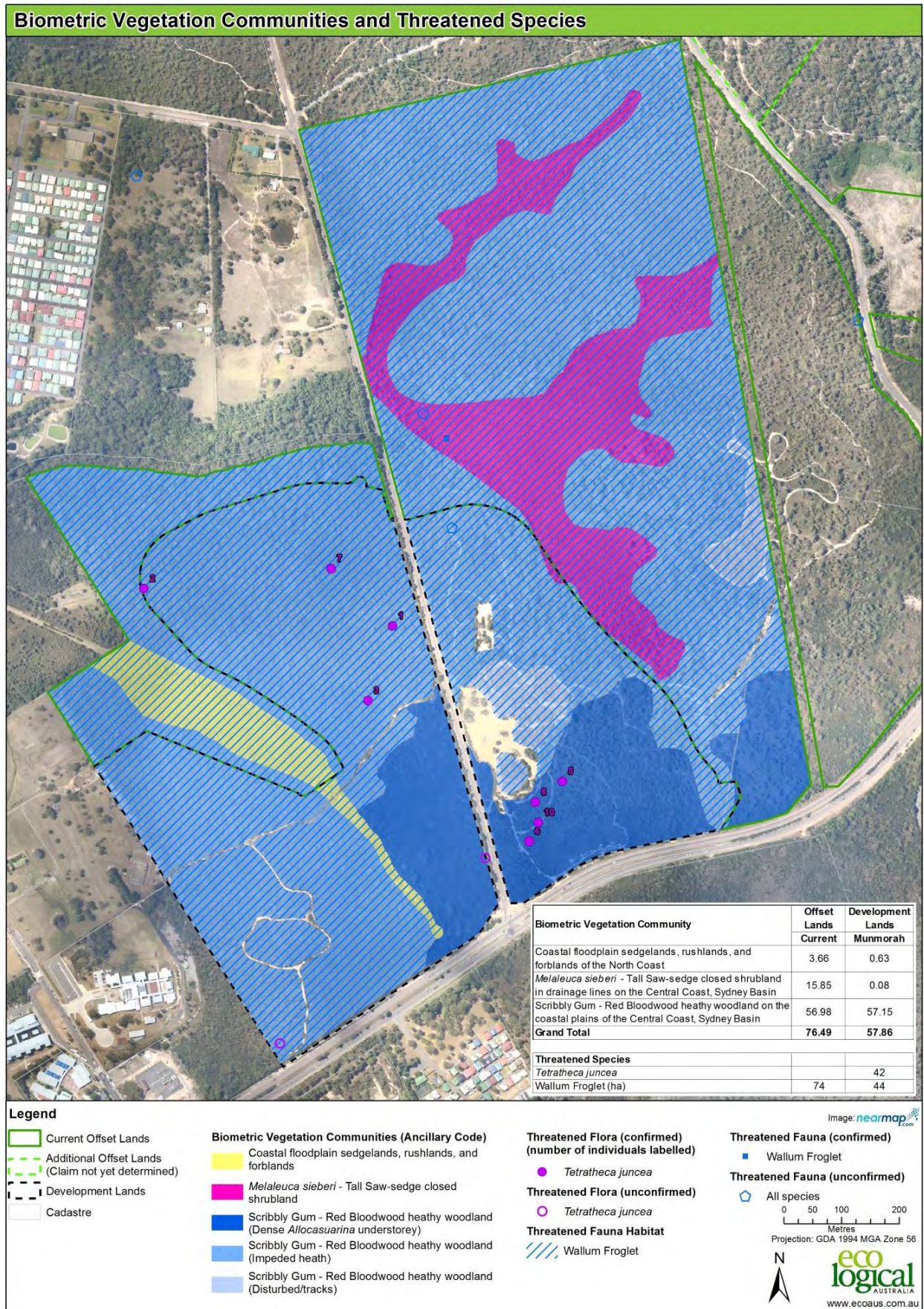


Figure 38: Validated Vegetation mapping and threatened species records – Offset lands 8 & 9

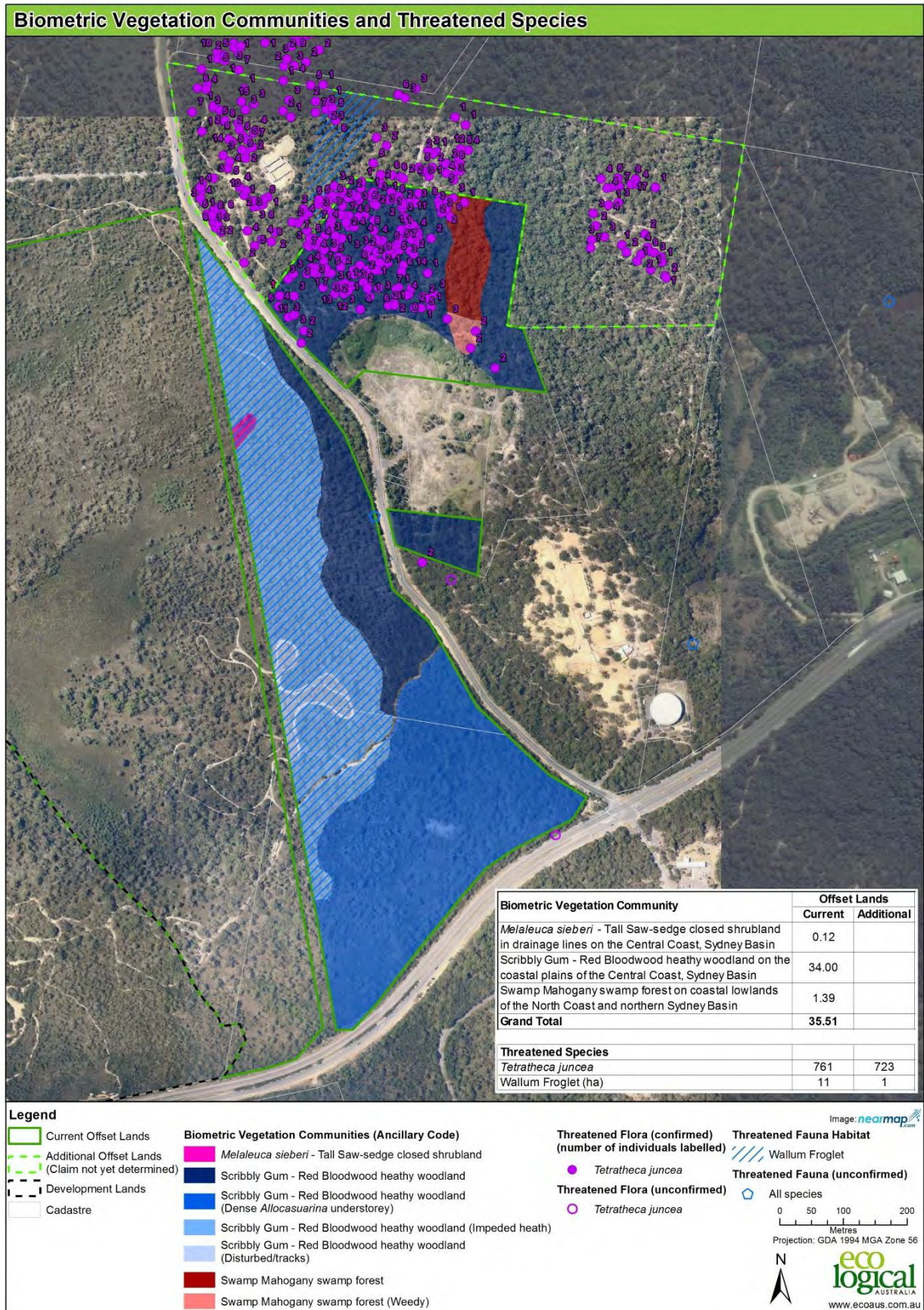


Figure 39: Validated Vegetation mapping and threatened species records – Offset lands 10



Figure 40: Validated Vegetation mapping and threatened species records – Offset lands 11 & 12

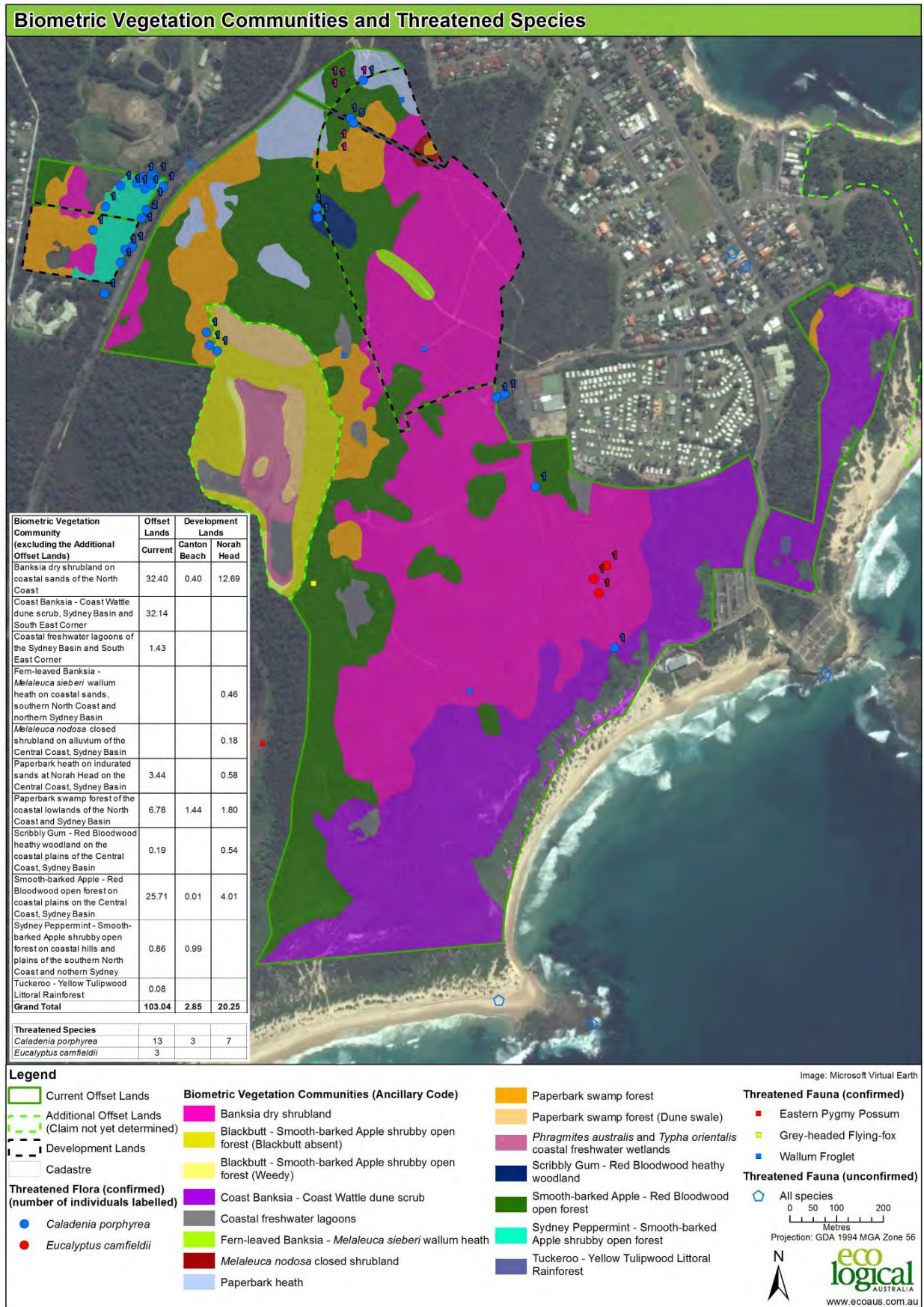


Figure 41: Validated Vegetation mapping and threatened species records – Norah Head and offset lands

4 References

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