

Mr James Harris  
Town Planner  
Allen Price & Scarratts Pty Ltd  
75 Plunkett Street, Nowra NSW 2541

Our ref: 20SUT-15247

13 October 2020

Dear Matt

**Updated Biodiversity Offset obligations and strategy for the West Culburra Concept Plan - State Significant Development Project.**

I refer to your request to provide an updated offset calculation and Biodiversity Offset Strategy (BOS) for the proposed West Culburra Concept Plan which was originally lodged under Part 3A and has transitioned to State Significant Development (SSD). The Concept Plan proposal is for residential/industrial/mixed use development on land owned by Sealark Pty Ltd on the NSW South Coast.

This updated follows an earlier update in February 2020. It is understood that the Concept Plan has been further reduced in sized as part of consultation with the Department of Planning, Industry and Environment (DPIE) and Shoalhaven Council as part of mediation in the NSW Land and Environment Court which commenced on 14 November 2019.

We have been provided with a revised Concept Plan, Version 8, dated 29 September 2020 on which to base this revised calculation (**Attachment 1**).

As you are aware, Ms Jennie Powell, formerly of Eco Logical Australia (ELA), and a NSW Office of Environment (OEH) accredited Biobanking/Biocertification and Framework for Biodiversity Assessment -Major Projects Offset policy (FBA) assessor, prepared FBA calculations and a BOS for the Concept Plan in May 2017, in close consultation with the then NSW OEH (**Attachment 2**). At that time, the clearing of 91.65 ha of native vegetation within the SSD boundary required a total of 5,472 ecosystem credits as outlined in **Table 1**.

Ms Powell also advised that in discussions with the then OEH, Department of Planning (DoP) and Shoalhaven Council, that the SSD development area was to be included in a broader Culburra Beach Biocertification application and that the number of biodiversity credits required to be retired could be re-calculated in accordance with the Biocertification Assessment Methodology (BCAM), post approval, which would likely reduce the number of credits required between 1,500 and 2,000 credits (i.e. some 3,500 to 4,000 credits would be required). At the time of the 2017 assessment, and on the basis of the existing flora and fauna assessment reports prepared by SLR (2013), the OEH was '*satisfied that the development was unlikely to have a significant impact on any threatened species*', and accordingly no threatened flora or fauna species requiring 'species credits' were included in the FBA calculations.

The BOS submitted in May 2017 stated that the credits would be sourced from one of four Biobank sites that were being assessed and submitted for registration on land owned by the Sealark Pty Ltd, with the majority of credits

coming from the Lake Wollumboola Biobank Site of 1,057 ha which is adjacent to the West Culburra SSD site. The Lake Wollumboola Biobank site was estimated to generate around 10,000 ecosystem credits with around 4,500 of these credits being a match for the credits required at the SSD impact site. The remaining credits were proposed to be provided by the Tullarwalla or One Tree Bay Biobank sites.

We advise that the four Biobank sites referred to in Ms Powell's 2017 report as 'currently being assessed' have now all been registered and credits issued by the Biodiversity Conservation Trust (BCT) as outlined below (A copy of the registered Agreement for the Lake Wollumboola Biobank Site (Jervis Bay): BB364 is provided as **Attachment 3**).

- Lake Wollumboola Biobank Site (Jervis Bay): BB364 1,076 ha registered on 22 February 2019, generating 13,286 ecosystem credits, and 5,735 Eastern Pygmy Possum and 5,735 White-footed Dunnart species credits (see **Figure 3**).
- Tullarwalla Biobank Site (Sussex Inlet): BA 359, 466 ha registered on 22 February 2019, generating 5,485 ecosystem credits
- One Tree Bay – East Biobank Site (Sussex Inlet): BA 360, 355 ha registered on 22 February 2019, generating 3,843 ecosystem credits
- One Tree Bay – West Biobank Site (Sussex Inlet): BA 361, 250 ha registered on 22 February 2019 , generating 2,732 ecosystem credits.

In accordance with your request, we have revised the FBA credit calculations for the revised footprint shown in **Figure 1**, with the impacted areas and vegetation types show in **Figure 2**. The revised footprint impacts 46.27 ha of native vegetation (and 1.69 ha of cleared pasture land) and requires 2,839 ecosystem credits under the FBA methodology (**Attachment 4** and **Table 1**). The assessment was undertaken by accredited assessor Michelle Frolich as Ms Powell left the employment of ELA in 2019. The same vegetation map and plot data was used as in the original calculations.

As shown in **Table 1**, all of the ecosystem credits required by the revised West Culburra Concept Plan can be met by credits already registered and owned by the Sealark Pty Ltd and available at the Lake Wollumboola Biobank Site.

Further, the Biodiversity Certification Assessment for Culburra Beach referred to in Ms Powell's 2017 report, which includes the West Culburra SSD development, has also been completed and was submitted to the DPIE on 14 August 2019 (**Attachment 5**). The number of BCAM credits required for the SSD component of the biocertification area (originally 91.65 ha) has also been re-calculated and now requires 3,522 BCAM ecosystem credits (very close to Ms Powell's 2017 estimates) as shown in **Table 2**. The revised SSD footprint BCAM requirements have also been calculated, with the 46.27 ha of impacts requiring 1,822 BCAM ecosystem credits (see **Table 2**). Further the proposed on-site conservation areas, 14.21 ha of vegetation types SR592, SR648, SR649, SR650, SR512 and SR575 will generate around 150 of these credits as a 90% conservation measure in the biodiversity certification assessment.

It is noted, that during the preparation of the Culburra Beach Biocertification Assessment (ELA 2019), additional flora and fauna surveys were undertaken by ELA which recorded Eastern Pygmy Possum, White-footed Dunnart and Southern Myotis within the Biocertification Assessment Area (BCAA). The SSD area was mapped as 'suitable habitat' as the SSD site is contiguous with these records (refer to figures in ELA 2019). We have therefore calculated species credits for these species in these revised calculations, consistent with the FBA and BCAM methodologies (**Table 3**).

As for the ecosystem credits, it is noted that all of the species credits are also available at the Lake Wollumboola Biobank Site, subject to a variation to include Southern Myotis credits.



Robert Humphries

**Senior Principal Consultant, Eco Logical Australia**

**Accredited Assessor 20022**

**Attachments**

Attachment 1 – May 2017 FBA calculations and BOS prepared by Jennie Powell

Attachment 2 – Revised Concept Plan (Ver 8) for West Culburra SSD site dated 29 September 2020

Attachment 3 - Registered Biobank Agreement and credit report for Lake Wollumboola Biobank Site – BA 364

Attachment 4 – Revised FBA credit calculations undertaken by Michelle Frolich, Accredited Assessor, for the Revised SSD Concept Plan (Ver 8 – dated 6 October 2020

Attachment 5 - Biodiversity Certification Assessment Report for Culburra Beach, submitted to DPIE, August 2019

**References**

Eco Logical Australia 2019. *Culburra Beach Biodiversity Certification Assessment*. Report prepared for the Sealark Pty Ltd, August 2019.

SLR Consulting Australia 2013. *Culburra West Urban Development Project Ecological & Riparian Issues & Assessment Report*.

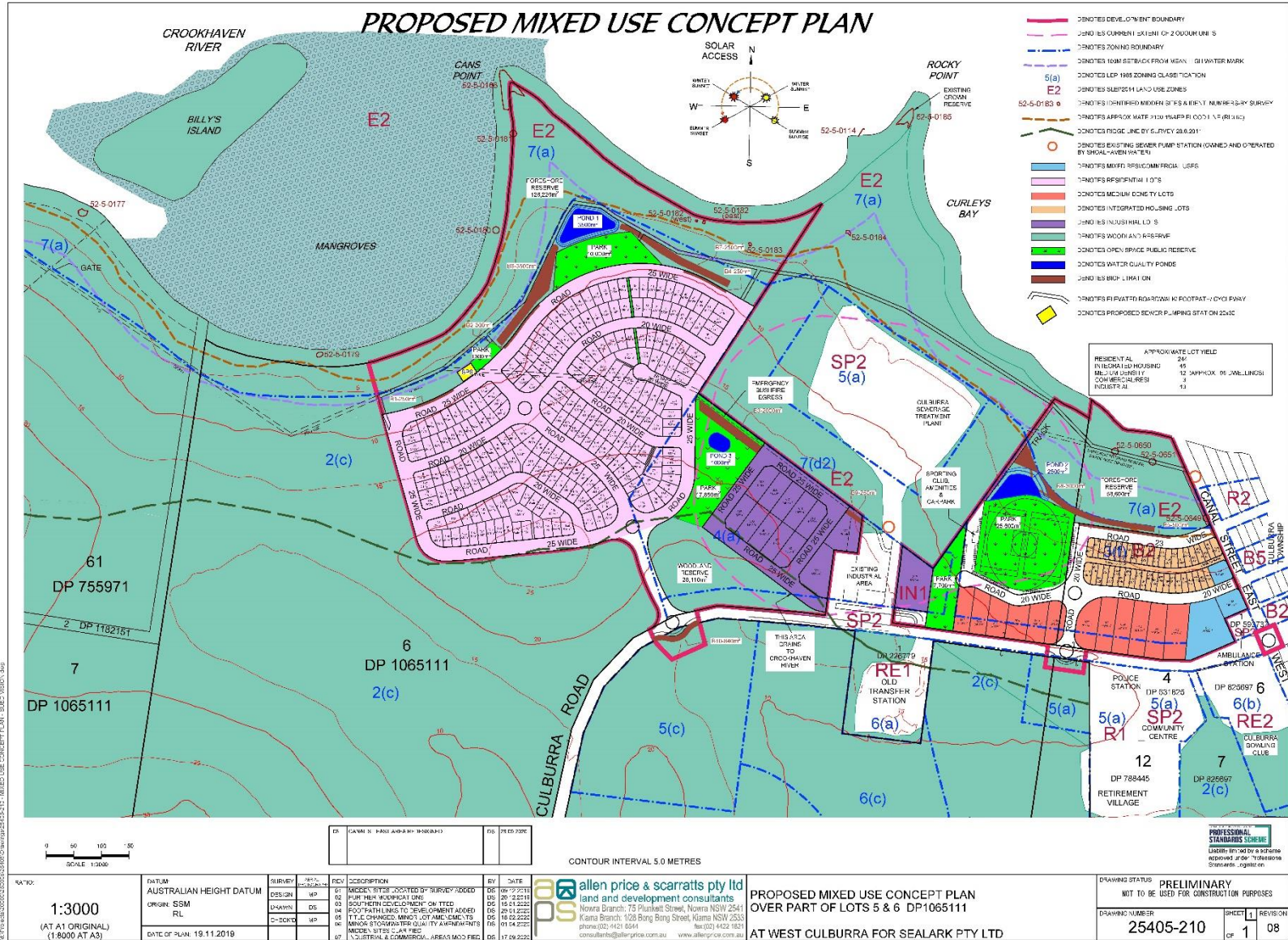


Figure 1: Revised West Culburra SSD Concept Plan, Version 8: dated 29 September 2020

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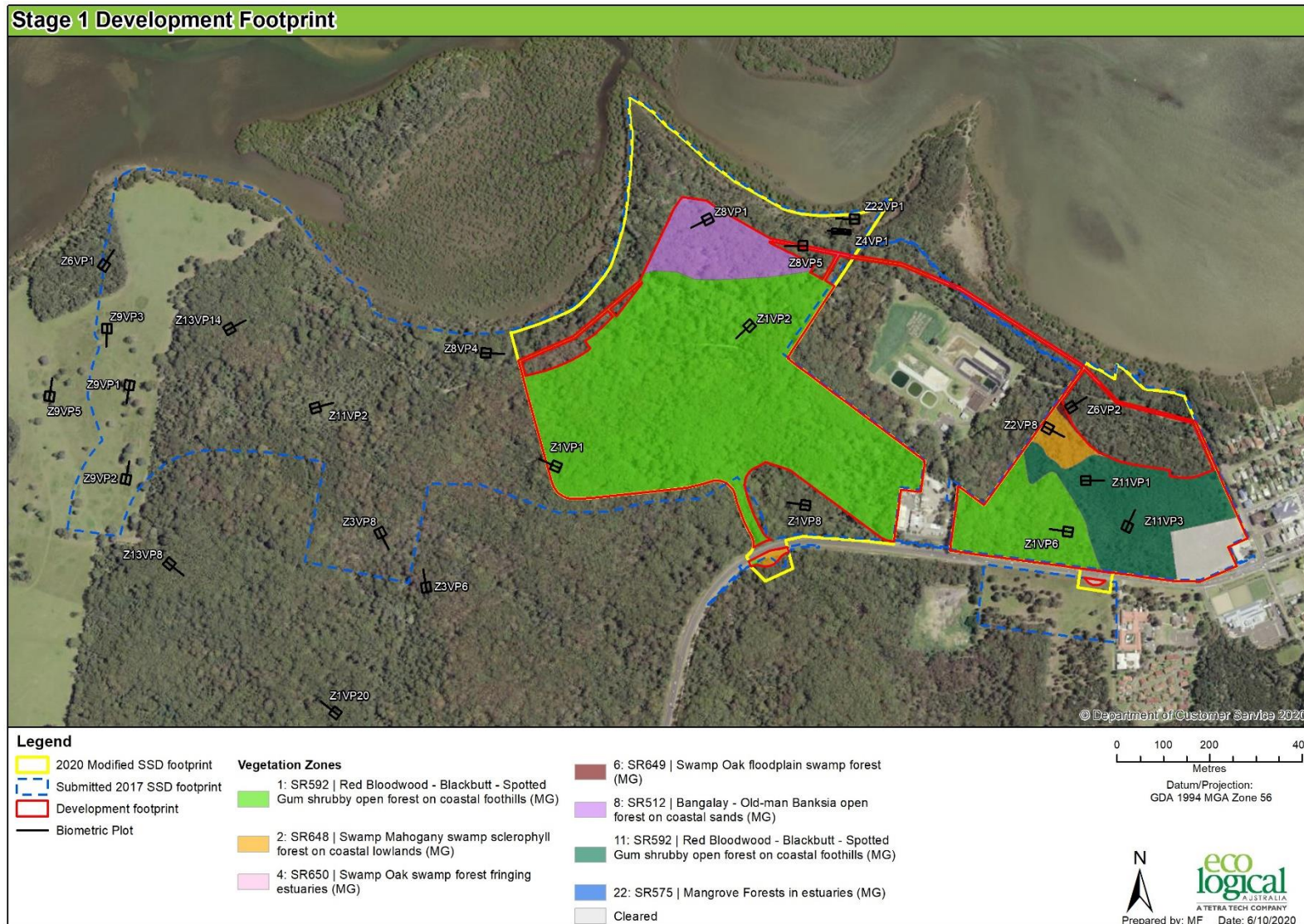


Figure 2: Impacted vegetation types in revised West Culburra SSD Site

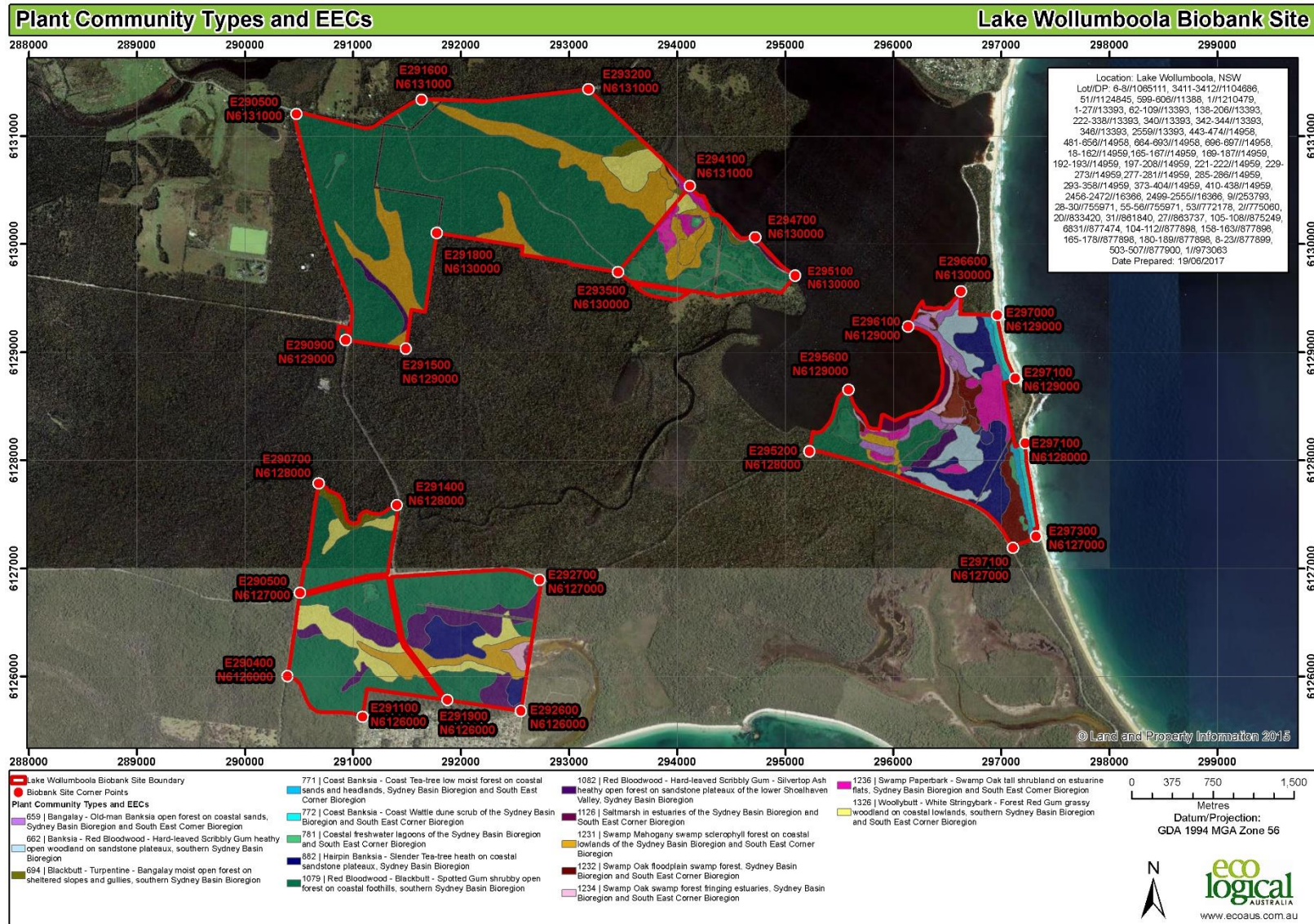


Figure 3: Vegetation types at Lake Wollumboola Biobank Site

**Table 1: FBA credit calculations showing number of ecosystem credits required to offset the 2017 and 2020 West Culburra SSD application**

BVT	Formation	Sub - formation	Class	Status (TSC / EPBC Acts)	% cleared in SRCMA	2017 SSD Impact Area		Feb 2020 Revised SSD Impact Area (Ver 5)		Oct 2020 Revised SSD Impact Area (Ver 8)		Source of Credits for offset
						Ha impacted	Credits Required	Ha impacted	Credits Required	Ha impacted	Credits Required	
SR592 Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest	Wet Sclerophyll Forests	Grassy	Southern Lowland Wet Sclerophyll forests	N/A	45	76.66	4,542	40.2	2,452	40.73	2,484	8,542 credits available at Lake Wollumboola Biobank Site
SR516 Blackbutt - Turpentine - Bangalay moist open forest		Shrubby	North Coast Wet Sclerophyll Forests	N/A	50	5.28	340	0	0	0	0	N/A
SR650 Swamp Oak swamp forest fringing estuaries	Forested Wetlands		Coastal Floodplain Wetlands	EEC N/A	95	0.35	18	0.28	14	0.28	15	96 credits available at Lake Wollumboola Biobank Site
SR648 Swamp Mahogany swamp sclerophyll forest			Coastal Swamp Forests	EEC N/A	50	1.25	93	0.98	73	1.09	81	1,282 credits available at Lake Wollumboola Biobank Site
SR649 Swamp Oak Floodplain swamp forest			Coastal Swamp Forests	EEC N/A	95	1.66	88	0.21	11	0.28	15	313 credits available at Lake Wollumboola Biobank Site
SR512 Bangalay - Old-man Banksia open forest on coastal sands	Dry Sclerophyll Forests	Shrubby	South Coast Sands Dry Sclerophyll Forests	EEC N/A	50	5.2	327	3.03	191	3.88	244	176 credits available at Lake Wollumboola Biobank Site & 33 within Culburra Beach BCCAA site
SR669 Woollybutt - White Stringybark - Forest Red Gum grassy woodland	Grassy Woodlands		Coastal Valley Grassy Woodlands	EEC CEEC	95	1.11	53	0	0	0	0	N/A
SR575 Mangrove Forests in estuaries	Saline Wetlands		Mangrove Swamps		50	0.14	11	0.01	1	0.01	1	11 credits available at Culburra Beach BCAA site
<b>Total</b>						<b>91.65</b>	<b>5,472</b>	<b>44.71</b>	<b>2,742</b>	<b>46.27</b>	<b>2,839</b>	



Table 2: BCAM credit calculations for Culburra Beach Biocertification Assessment Area (ELA 2019) showing number of BCAM ecosystem credits required to offset the 2017 and 2020 West Culburra SSD application

Veg Zone	Vegetation zone details	BCAM Condition	EEC	Area of veg zone certified	Number of credits required	Credits Required per ha impact	West Culburra SSD site				Ver 8 Masterplan	
							2017 Impact	2017 Credits	Feb 2020 Impacts	Feb 2020 Credits	Oct 2020 Impacts	Oct 2020 Credits
1	SR592_Moderate/Good_Zone 1 Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin Bioregion	M/G	Not an EEC	139.1	5548	39.88	61.37	2,448	33.9	1,352	34.19	1,364
2	SR648_Moderate/Good_Zone 2 Swamp Mahogany swamp sclerophyll forest on coastal lowlands of the Sydney Basin Bioregion and South East Corner Bioregion	M/G	Swamp Sclerophyll Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	3.25	158	48.62	1.25	61	0.98	48	1.09	53
3	SR669_Moderate/Good_Zone 3 Woollybutt - White Stringybark - Forest Red Gum grassy woodland on coastal lowlands, southern Sydney Basin Bioregion and South East Corner Bioregion	M/G	Swamp Sclerophyll Forest	2.98	122	40.94	1.11	45		0	0	0
4	SR650_Moderate/Good_Zone 4 Swamp Oak swamp forest fringing estuaries, Sydney Basin Bioregion and South East Corner Bioregion	M/G	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	0.01	0	0.00	0.35	0	0.28	0	0.28	9
6	SR649_Moderate/Good_Zone 6 Swamp Oak floodplain swamp forest, Sydney Basin Bioregion and South East Corner Bioregion	M/G	Swamp Oak Floodplain Forest of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	6.99	218	31.19	1.66	52	0.21	7	0.28	9
8	SR512_Moderate/Good_Zone 8 Bangalay - Old-man Banksia open forest on coastal sands, Sydney Basin Bioregion and South East Corner Bioregion	M/G	Bangalay Sand Forest of the Sydney Basin and South	5.13	204	39.77	5.2	207	3.03	120	3.88	154
9	SR592_Moderate/Good_Zone 9 Red Bloodwood - Blackbutt - Spotted Gum shrubby open forest on coastal foothills, southern Sydney Basin Bioregion	M/G	Not an EEC	15.22	382	25.10	6.41	161		0	0	0
11	SR592_Moderate/Good_Zone 11 Red Bloodwood - Blackbutt - Spotted Gum shrubby	M/G	Not an EEC	8.88	317	35.70	8.88	317	6.3	225	6.54	233

Veg Zone	Vegetation zone details	BCAM Condition	EEC	Area of veg zone certified	Number of credits required	Credits Required per ha impact	West Culburra SSD site				Ver 8 Masterplan	
							2017 Impact	2017 Credits	Feb 2020 Impacts	Feb 2020 Credits	Oct 2020 Impacts	Oct 2020 Credits
	open forest on coastal foothills, southern Sydney Basin Bioregion											
13	SR516_Moderate/Good_Zone 13 Blackbutt - Turpentine - Bangalay moist open forest on sheltered slopes and gullies, southern Sydney Basin Bioregion	M/G	Not an EEC	39.21	1722	43.92	5.28	232		0	0	0
21	SR614_Moderate/Good_Zone 21 Saltmarsh in estuaries of the Sydney Basin Bioregion and South East Corner Bioregion	M/G	Coastal Saltmarsh in the New South Wales North Coast, Sydney Basin and South East Corner Bioregions	0	0	0.00		0		0	0	0
22	SR575_Moderate/Good_Zone 22 Mangrove forest in estuaries of the Sydney Basin Bioregion and South East Corner Bioregion	M/G	Not an EEC	0	0	0.00	0.14	0	0.01	0	0	0
				<b>220.77</b>	<b>8671</b>		<b>91.65</b>	<b>3,522</b>	<b>44.71</b>	<b>1,752</b>	<b>46.27</b>	<b>1,822</b>

**Table 3: FBA and BCAM credit calculations showing number of species credits required to offset the 2017 and February and October 2020 West Culburra SSD application**

Species	FBA Calculations (Feb 2020)			BCAM Credit Calculations (Feb 2020)			FBA Calculations (Feb 2020)			BCAM Credit Calculations (Feb 2020)			Credits Available
	Area	Credits	Credits/ha	Area	Credits/ha	Credits	Area	Credits	Credits/ha	Area	Credits/ha	Credits	
Eastern Pygmy Possum	43.23	865	20.01	43.23	20.01	865	44.61	892	20.01	44.61	20.01	893	5,735 credits available at Lake Wollumboola Biobank Site
White-footed Dunnart	43.23	1,124	26.00	43.23	26.03	1,125	44.61	1,160	26.00	44.61	26.03	1,161	5,735 credits available at Lake Wollumboola Biobank Site
Southern Myotis (Breeding)	8.94	197	22.04	8.94	76.92	688	9.89	218	22.04	9.89	76.92	761	Modification required to Lake Wollumboola Agreement to register Myotis credits

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