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Regional variation in habitat matrix determines movement metrics in Baudin's cockatoos in southwest Western Australia

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Table S1. Movement summaries for tagged Baudin's cockatoos (GPS and satellite PTT) released between 2012 and 2017 on the Swan Coastal Plain (Kelmscott and Kalamunda) and in the Stirling Range in south-west Western Australia. Distance moved is the sum of all distances in km between location fixes within the recorded transmission time (start to end date).

ID	Sat ID	GPS ID	Year	Release Site	Start date	End date	GPS fixes(n)	Satellite fixes(n)	Distance moved (km)	Days tracked (n)
BC55	119055	-	2012	Kelmscott	29/09/2012	29/01/2013	-	120	331	122
BC92	151392	-	2015	Kalamunda	8/08/2015	20/03/2016	-	138	377	225
BC93	151393		2015	Kalamunda	8/08/2015	20/01/2016			113	165
		2167			8/08/2015	19/11/2015	2628	105	343	103
BC94	151394		2015	Kalamunda	8/08/2015	4/10/2015			74	58
		2172			8/08/2015	22/09/2015	3356	75	231	45
BC61	166161		2017	Stirling Range	4/05/2017	17/06/2017			82	43
		2305			4/05/2017	21/05/2017	1085	81	142	16
BC62	166162	-	2017	Stirling Range	4/05/2017	16/09/2017	-	122	176	135
BC64	166164	-	2017	Stirling Range	4/05/2017	17/08/2017	-	122	141	105

Table S2. Movement metrics for Baudin’s cockatoos in Western Australia based on satellite data. Area was defined as either ‘Resident’ (R) or as a “Stopover” site (S) and were numbered in sequential order. Resident areas were defined by the occurrence of prolonged resident movement in the form of outwards foraging movements from and to roosts, not exceeding more than 15 km. Stopover were defined as places that birds stayed for a period of up to five days whilst on migration; ‘No. reloc’ presents the number of relocations collected for the dataset between the begin and end dates; Flock structure was defined as a flock consisting of Baudin’s cockatoos only or mixed (Baudin’s cockatoos and Carnaby’s cockatoos), and flock size was estimated during flock follows; ‘Min. dist. to loc.’ presents the distance in km between one area and the next one; ‘Av. Dist. between roosts’ was defined as the average distance between roosts for the satellite data in km and shows the range in brackets.

Satellite data											
Id	Area	No. reloc	Date. begin	Date. end	Region type	Flock Size	Flock structure	Min. dist. to loc. (km)	Days in area	Roost in area (N)	Av. Dist between roosts (range)
BC55	R1	21	29/09/2012	1/10/2012	Urban	<50	Baudin’s	16.47 to R2	3	1	0
	R2	71	2/10/2012	21/10/2012	Peri-urban	>50	Baudin’s	28.27 to S1	19	10	2.26 (0.3-6.4)
	S1	3	26/10/2012	26/10/2012	Peri-urban	>50	Baudin’s	40.13 to S2	1	1	0
	S2	4	31/10/2012	31/10/2012	Peri-urban	>50	Baudin’s	12.3 to S3	1	1	0
	S3	5	10/11/2012	10/11/2012	Peri-urban	>50	Baudin’s	34.9 to R3	1	1	0
	R3	25	20/12/2012	29/01/2012	Peri-urban	>100	Baudin’s		40	3	0.62 (0.3-0.9)
BC92	R1	41	20/09/2015	21/11/2015	Peri-urban	>50	Baudin’s	217.12 to R2	62	11	2.07 (0.2-3.6)
	R2	32	19/12/2015	20/03/2016	Peri-urban	100	Mixed		91	8	4.49 (0.4-13)
BC93	R1	10	6/09/2015	20/09/2015	Urban	<50	Baudin’s	31.34 to R2	15	4	0.99 (0.2-1.5)
	R2	48	1/10/2015	20/01/2016	Peri-urban	>50	Baudin’s		111	10	2.14 (0.3-4.6)
BC94	R	55	16/08/2015	3/10/2015	Urban	<50	Baudin’s		48	12	1.17 (0.3-2.6)
BC61	R	81	4/05/2017	17/06/2017	Forest	200	Mixed		44	6	6.88 (0.5-13.7)
BC62	R	122	4/05/2017	16/09/2017	Forest	200	Mixed		135	17	11.28 (0.5-33.9)
BC64	R	122	4/05/2017	17/08/2017	Forest	200	Mixed		105	10	6.39 (0.6-15.8)

Table S3. Daily movement and flock sizes for Baudin's cockatoos (GPS) across three different regional habitat types in Western Australia for birds tracked in 2015 and 2017. 'Area' presents the resident areas and are numbered chronologically (R); 'No. reloc' presents the number of relocations between beginning and end of the dataset for the area; Flock size was estimated by observation in the field; 'Distance travelled in area' (km) presents the distance travelled in the area during the time period of the dataset for the area; 'Av. Daily Dist. (km)' presents the average distance of flight on a daily basis for the time period of the dataset.

GPS data											
Id	Area	No. reloc	Date. begin	Date.end	Region	Flock Size	Distance travelled in area (km)	Days in area	Min. Daily Dist. (km)	Av. Daily Dist. (km)	Max. Daily Dist. (km)
BC93	R1	580	6/09/2015	20/09/2015	Urban	<50	81.74	15	2.19	3.42	5.31
BC93	R2	1593	23/09/2015	19/11/2015	Peri-urban	>50	187.48	39	3.04	6.89	21.82
BC94		3356	16/08/2015	22/09/2015	Urban	<50	186.53	37	0.87	5.35	13.76
BC61		1085	4/05/2017	21/05/2017	Forest	200	142.12	17	4.57	9.44	24.25

Table S4. Key habitat sites for Baudin’s cockatoos in Western Australia per region as determined using the number of revisitations. ‘Region’ is either a roost or foraging site in Urban, Peri-urban or Forest regions; ‘Radius’: presents the radius in meters used to calculate revisitation following the method of Bracis et al (2018); ‘Key habitat’: refers to the numbers shown in Figure 4 indicating the key habitat sites.

Region	Radius (m)	Key habitat	Revisitations (N)	Description of the site
Urban Roost	500	1	7	Private property
		2	6	Private property near reserve
		3	5	Private property
Urban Foraging	10	1	35	Private property near Norwood Reserve
		2	22	Remnant vegetation bordering watercourse
Peri-urban Roost	500	1	8	Private property near reserve
		2	7	Private property near reserve
		3	7	Roadside vegetation
		4	5	Roadside vegetation
Peri-urban Foraging	75	1	13	Native vegetation, Watkins Road Nature Reserve
		2	10	Private property /Agricultural
		3	7	Remnant vegetation bordering water way
Forest Roost	1000	1	8	Native vegetation
		2	6	Native vegetation
		3	5	Native vegetation
Forest Foraging	400	1	10	Native vegetation
		2	10	Native vegetation
		3	8	Native vegetation