

Supplementary Material

Movement of Carnaby's Cockatoo (*Zanda latirostris*) across different agricultural regions in Western Australia

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SUPPORTING INFORMATION

Supplementary Material, Table SA1: Tracking data summaries of tagged Carnaby's cockatoos (CC), for birds released between 2016 and 2017 at the outer limits of their distribution (Gingin, Albany and Esperance) in Western Australia. Study birds were identified with an identifier (ID) using CC for Carnaby's cockatoo and the last two numbers of the satellite identification number (Sat ID). The GPS ID tag number is only listed for birds where GPS data was retrieved. Age: Sub-adult (2-4 years), Adult (≥ 4 years).

CC ID	Sat ID	GPS ID	Year	Release Site	Age, Sex	Start date	End date	GPS fixes (N)	Satellite fixes (N)	Track length (km)	Days tracked
CC46	159146		2016	Gingin	Sub-adult F	10/03/2016	22/05/2016		63	49	73
		2201				10/03/2016	19/03/2016	603		67	8
CC47	159147		2016	Gingin	Sub-adult M	10/03/2016	26/03/2016		24	30	15
		2203				10/03/2016	24/03/2016	840		286	14
CC48	159148	-	2016	Gingin	Sub-adult M	10/03/2016	23/09/2016	-	94	93	196
CC50	159150		2016	Esperance SHS	Sub-adult M	6/04/2016	17/02/2017		138	340	316
		2159				7/04/2016	2/06/2016	1419		494	55
CC51	159151		2016	Esperance SHS	Adult M	6/04/2016	16/01/2017		145	468	285
		2209				7/04/2016	8/05/206	355		139	31
CC52	159152	-	2016	Esperance SHS	Adult F	6/04/2016	19/08/2016	-	92	253	135
CC53	159153		2016	Esperance SHS	Adult F	6/04/2016	22/07/2016		87	191	106
		2211				7/04/2016	17/06/2016	3781		1,247	71
CC63	159163	-	2017	Albany	Adult F	8/03/2017	22/09/2017	-	88	570	198
CC70	166170	-	2017	Albany	Sub-adult M	8/03/2017	23/08/2017	-	143	509	168
CC71	166171	-	2017	Gingin	Sub-adult F	10/08/2017	23/08/2017	-	25	19	12
CC72	166172	-	2017	Gingin	Adult F	10/08/2017	24/01/2018	-	119	144	166

Supplementary Material, Table SA2: Key habitat sites for the Carnaby's cockatoos (CC) in Western Australia by region, and their associated flocks, as determined by revisitation analysis (Bracis et al. 2018). Radius: radius (m) used to calculate revisitation; Key habitat: referring to the numbers shown in figures 3 and 4.

Region	Radius (m)	Key habitat	Revisitations (N)	Description of the site
Gingin Roost	500	1	15	Gingin Brook riparian vegetation
		2	14	Private property, tree line parallel to roadway
		3	11	Private property across Bowling Club
		4	9	Gingin Brook riparian vegetation
Gingin Foraging	200	1	18	Private property (nut farm)
		2	10	Gingin Brook riparian vegetation
		3	8	Private property (pine trees)
		4	7	Private property (farm, throughs)
Esperance Roost	500	1	24	Private property (bush block)
		2	21	Esperance Senior High School
		3	6	Bush block alongside railway
Esperance Foraging	150	1	50	Private property
		2	32	Private property
		3	25	Esperance Senior High School
		4	14	Private property

Supplementary Material, Table SA3: Linear mixed models for the average distance (km) between roosts (Satellite PTT data) and the average daily distances travelled (GPS data) for Carnaby's cockatoos presenting the estimated marginal means for each region and their confidence limits.

Average distances (km) between roosts (Satellite PTT)

Region	emmeans	SE	df	Lower.CL	Upper. CL
Gingin	3.63	1.66	8	0.2	7.4
Albany	9.52	2.23	10	4.2	14.2
Esperance	12.51	1.57	8	8.9	16.1

Average daily distances (GPS)					
Region	emmeans	SE	df	Lower.CL	Upper. CL
Gingin	36.7	2.57	4	27.8	45.7
Esperance	32.0	3.39	3	17.9	46.1

Supplementary Material, Table SA4: Combined foraging and roosting data for the Gingin and Esperance regions within the combined home range size for the region using a Native vegetation shapefile from the Department of Primary Industries and Regional Development (2020). Percentages refer to quantity of foraging and roosting behaviour captured in

Cockatoo Movement Data occurring within recognized remnant native vegetation								
Esperance								
HR	NV in HR	%	Roost (n=97)	%	Forage (n=3101)	%	Total (n=3198)	%
364.52 km ²	212.06 km ²	58	27	27	643	20.7	670	20
Gingin								
HR	NV in HR	%	Roost (n=63)	%	Forage (n=904)	%	Total (n=967)	%
41.19 km ²	9.52 km ²	23	13	20	163	18	176	18

native vegetation within the residential home range.