

The following supplement accompanies the article

Movements, connectivity, and space use of immature green turtles within coastal habitats of the Culebra Archipelago, Puerto Rico: implications for conservation

Lucas P. Griffin*, John T. Finn, Carlos Diez, Andy J. Danylchuk

*Corresponding author: lucaspgriffin@gmail.com

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Table S1: Tagging, detection, and network analysis data for the 26 transmitters deployed on 21 green turtles in Culebra, Puerto Rico.

ID	Tag	Date	SCL (cm)	Capture Location	Detection Number	Days Detected	Days at Liberty	Residency Index	Station Number	Paths	Network Density	Average Path Length	Mean Betweenness
TC01	26018	2013-12	43	Tortuga	1174	91	93	0.98	1	1	NA	NA	NA
TC02	26017	2013-12	47	Tortuga	1222	79	80	0.99	1	1	NA	NA	NA
TC03	26016	2013-12	46	Tortuga	1386	97	135	0.72	1	1	NA	NA	NA
TC04	26015	2013-12	38	Tortuga	107351	568	600	0.95	1	1	NA	NA	NA
TC05	26014	2013-12	42	Tortuga	2662	70	71	0.99	1	1	NA	NA	NA
TC06	26013	2013-12	50	Tortuga	6179	147	147	1	1	1	NA	NA	NA
TC07	26011	2013-12	47	Tortuga	1826	76	84	0.9	1	1	NA	NA	NA
TC08	26010	2013-12	56	Tortuga	10247	237	443	0.53	1	1	NA	NA	NA
TC09	26012	2014-03	58	Tortuga	3740	138	139	0.99	3	6	1	1.5	1
TC10	26026	2014-03	58	Tortuga	1953	96	420	0.23	2	4	2	1	0
TM01	30394	2013-03	44	Manglar	599	53	89	0.6	4	10	0.83	1.58	2.25
TM02	30396	2013-03	58	Manglar	11013	162	163	0.99	8	28	0.5	2.07	10.75
TM02	26002	2013-12	62	Manglar	26710	77	528	0.15	16	76	0.32	2.34	30.93
TM03	30398	2013-03	42	Manglar	756	71	100	0.71	6	25	0.83	1.37	3.58
TM03	26022	2013-12	49	Manglar	10026	105	105	1	11	76	0.69	1.5	13.34
TM05	30401	2013-03	46	Manglar	1831	66	109	0.61	4	11	0.96	1.33	1.5
TM06	30402	2013-03	44	Manglar	404	39	90	0.43	6	17	0.57	1.83	4.17
TM06	26023	2014-03	52	Manglar	2473	48	48	1	9	34	0.47	1.79	14.67
TM07	30431	2013-03	54	Manglar	14147	102	106	0.96	9	26	0.36	2.35	12.44
TM08	28754	2013-03	67	Manglar	2621	51	61	0.84	8	22	0.39	2.48	11.88
TM09	28757	2013-03	70	Manglar	8693	96	114	0.84	7	34	0.81	1.36	6.86
TM10	26003	2013-12	41	Manglar	1146	25	25	1	7	28	0.67	1.6	8.14
TM11	26004	2013-12	48	Manglar	5126	80	81	0.99	7	32	0.76	1.43	6.29
TM12	26005	2013-12	56	Manglar	8258	81	81	1	8	34	0.61	1.71	9.38
TM12	26031	2014-03	57	Manglar	4883	55	55	1	9	36	0.5	1.76	13.11
TM13	26006	2013-12	40	Manglar	9788	64	362	0.18	12	54	0.41	2.15	19.17
TM13	26029	2014-03	46	Manglar	6697	86	94	0.91	9	40	0.56	1.79	9.94
TM14	26007	2013-12	45	Manglar	3599	68	74	0.92	10	49	0.54	1.68	14.33
TM15	26008	2013-12	56	Manglar	9116	57	57	1	7	37	0.88	1.29	5.86
TM16	26009	2013-12	53	Manglar	16001	96	108	0.89	9	50	0.69	1.53	8.61
TM17	26019	2013-12	54	Manglar	143492	290	291	1	13	73	0.47	1.88	18.69
TM18	26020	2013-12	53	Manglar	11706	74	135	0.55	6	28	0.93	1.27	5.5
TM19	26021	2013-12	50	Manglar	23309	212	441	0.48	9	52	0.72	1.43	9
TM20	26024	2013-12	63	Manglar	16694	132	276	0.48	12	66	0.5	1.64	13.29
TM21	26025	2013-12	45	Manglar	29936	79	78	1.01	13	88	0.56	1.57	15.55
TM22	26030	2014-03	42	Manglar	22087	129	132	0.98	8	32	0.57	1.66	10.5

Table S2: ANCOVA results presented, ANCOVA used to test the in difference in detection number, days at liberty, residency index, station count, number of paths between size (SCL) and capture location (Manglar Bay and Tortuga Bay). In addition, linear model results presented below, which were used to test for an effect between size and network density, APL, and Bi^{mean} for only Manglar Bay individuals, Tortuga Bay did not have extensive detection coverage to calculate meaningful values. Significant results ($p < 0.5$) are indicated with an asterisk.

Metric	Factor	<i>df</i>	<i>F</i>	<i>p</i>
Detection number	SCL	1,33	0.07	0.79
	Capture location	1,33	0.03	0.87
Days detected	SCL	1,33	0.34	0.56
	Capture location	1,33	3.52	0.07
Days at liberty	SCL	1,33	0.27	0.61
	Capture location	1,33	2.17	0.15
Residency index	SCL	1,33	0.46	0.50
	Capture location	1,33	0.08	0.78
Station count	SCL	1,33	7.53	0.01*
	Capture location	1,33	62.73	< 0.001 *
Paths	SCL	1,33	2.70	0.11
	Capture location	1,33	31.26	< 0.001 *
Network density	SCL	1,24	1.11	0.30
Average path length	SCL	1,24	1.72	0.20
Mean betweenness	SCL	1,24	1.56	0.22

Fig. S1: Individual turtle detections at the hour level across the Manglar Bay receiver aggregate regions. Only the regions at the hour level with the maximum observed detections are shown.

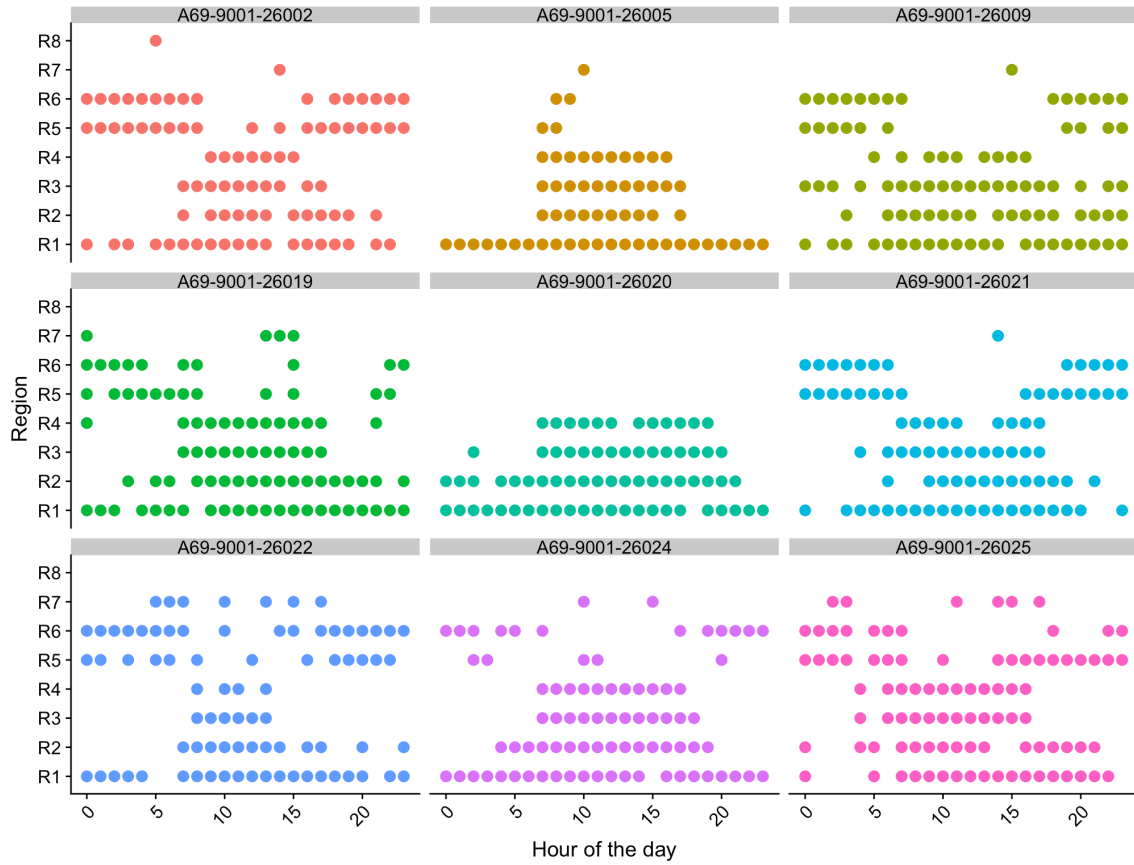


Fig. S2: Observed turtle counts (red) versus simulated turtle counts (black) via our final Bayesian presence and absence binomial model of nine turtles within Manglar Bay across 60 days. The generated simulated data was derived from 1,000 simulations of the posterior distributions of our model's regression parameters.

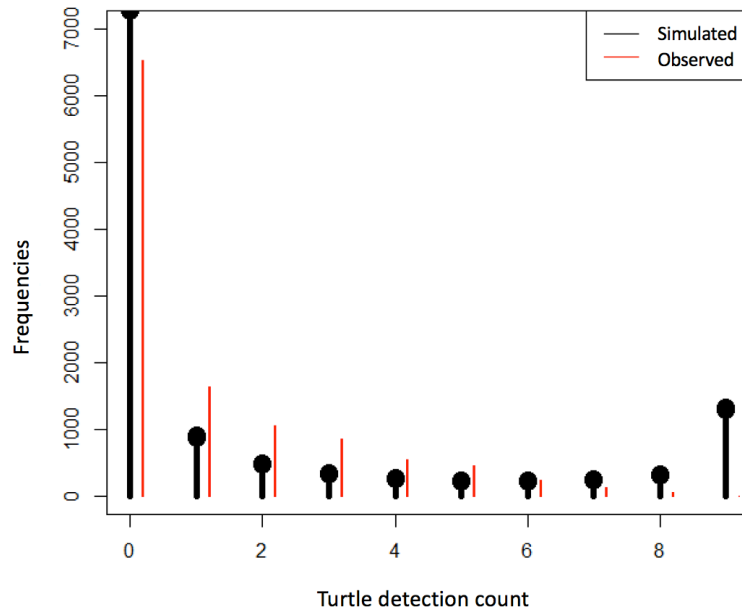


Fig. S3: Using the results from final Bayesian presence and absence binomial model of nine turtles within Manglar Bay across 60 days, both GLM and GLMM with and without the spatial correlation structure is plotted.

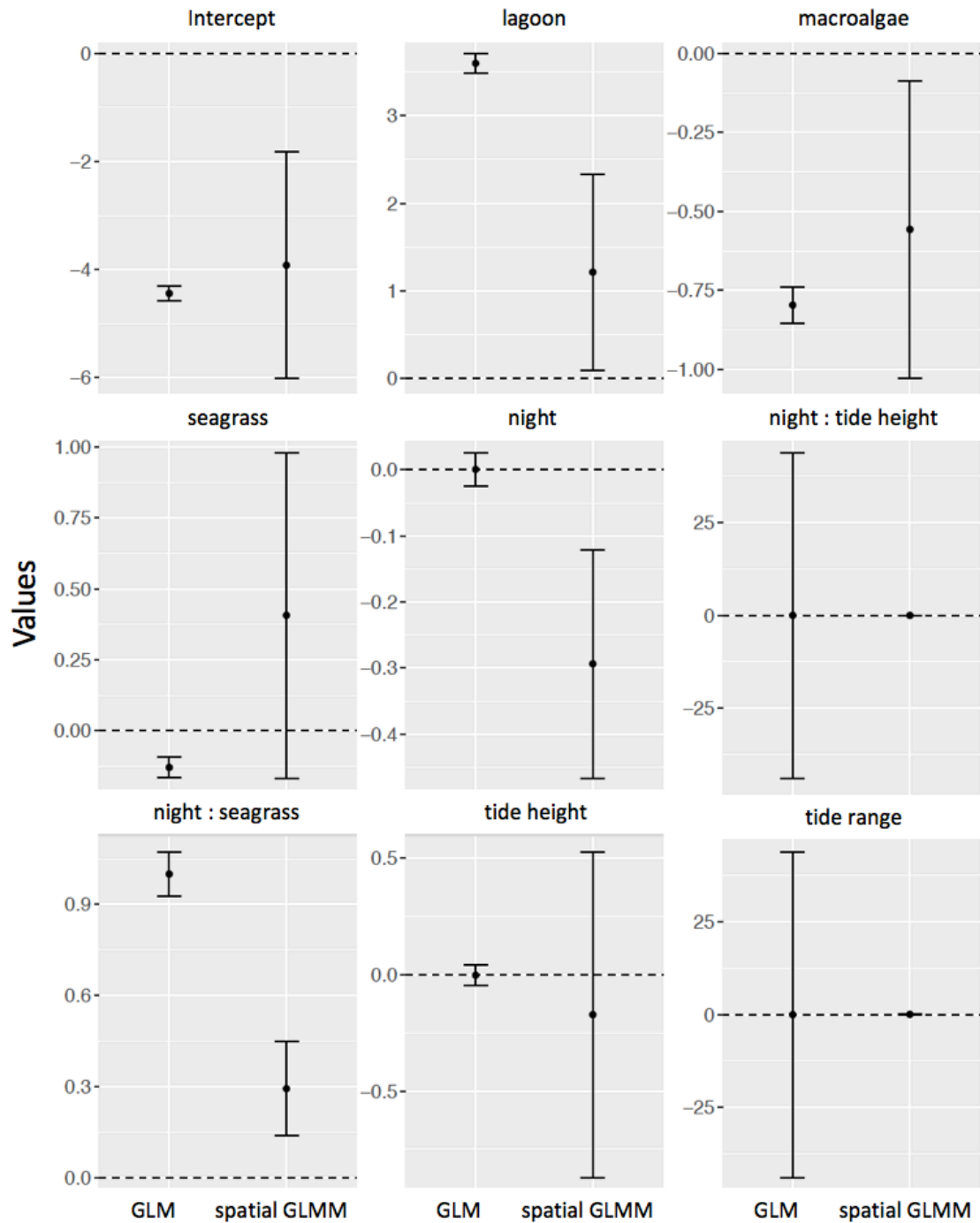
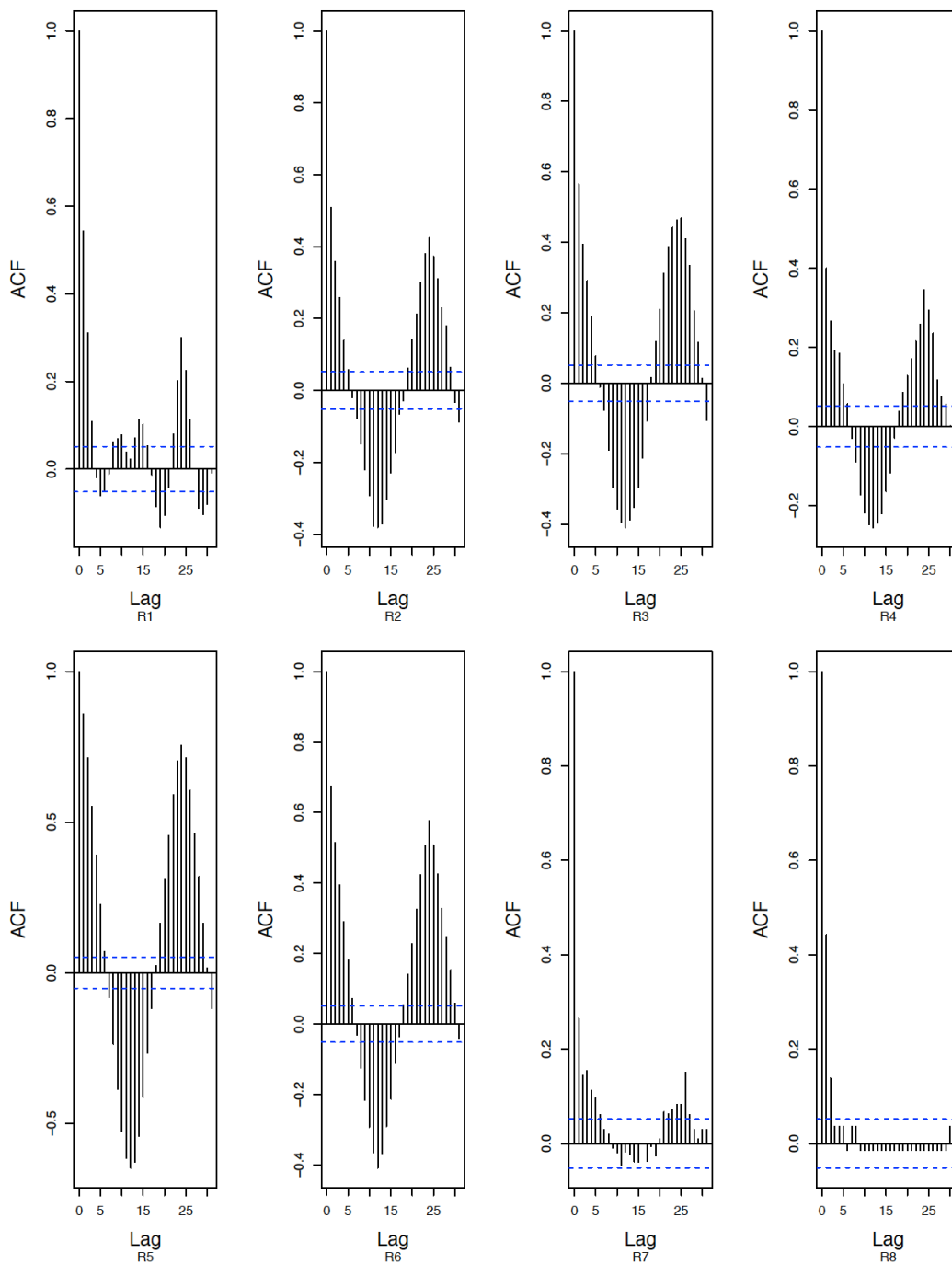


Fig. S4: Autocorrelation function plots: a) derived from the raw data at each region (as indicated by R#) and b) from the final Bayesian presence and absence binomial model of nine turtles within Manglar Bay across 60 days (bottom) at each region (as indicated by R#) using three dependency structures as random walk smoothers, including: tide height, hour of the day, and study day.

a)



b)

