

The following supplement accompanies the article

Resident areas and migrations of female green turtles nesting at Buck Island Reef National Monument, St. Croix, US Virgin Islands

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Table S1. Encounter history of 10 female green sea turtles nesting on Buck Island; individuals have varied nesting history from 1995-2014. N = neophyte; R = remigrants.

Turtle ID	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	Status
1														X			X			X	3 yr R
2																X		X		X	2 yr R
3																X		X			2 yr R
4								X		X		X		X		X		X		X	2 yr R
5	X			X			X			X			X			X		X			2-3 yr R
6							X				X			X		X			X		2-4 yr R
7 ^a																			X		N
8																			X		N
9											X			X		X		X	X		1-3 yr R
10										X		X		X		X		X		X	2 yr R

^aobserved nesting on a St. Croix East End beach (at East End Marine Park) in 2013 (same as tagging year)

Table S2. Examples of posterior of switching state space model parameters for satellite-tracked green sea turtles.

Node	Mean	SD	2.5% CI	97.5% CI
Process uncertainty from mode 1 to 1 ($\sigma_{1,1}$)	0.002487	1.42E-04	0.002224	0.002773
Process uncertainty from mode 1 to 2 ($\sigma_{1,2}$)	-3.04E-05	8.88E-05	-2.16E-04	1.49E-04
Process uncertainty from mode 2 to 1 ($\sigma_{2,1}$)	-3.04E-05	8.88E-05	-2.16E-04	1.49E-04
Process uncertainty from model 2 to 2 ($\sigma_{2,2}$)	0.002162	1.17E-04	0.00195	0.002401
Probability of being mode 1 (α_1)	0.9974	0.001337	0.9943	0.9993
Probability of being mode 2 (α_2)	0.1512	0.06801	0.04475	0.2983
Moving speed persistence in mode 1 (γ_1)	0.6534	0.02772	0.5992	0.7099
Moving speed persistence in mode 2 (γ_2)	0.9669	0.02698	0.8966	0.9989

Table S3. Space-use sharing home range overlap, as represented by the utilization distribution overlap index (UDOI) for satellite-tracked female green sea turtles during inter-nesting and foraging. The UDOI statistic was calculated for core use areas (50% kernel density estimates [KDEs] for turtles with ≥ 20 mean daily locations). Inter-nesting: white cells in upper right section of table; $N = 10$ turtles, $N = 45$ turtle pairs. Foraging: grey cells in lower left section of table; $N = 3$ turtles, $N = 3$ turtle pairs. Foraging UDOI was calculated for turtle pairs that foraged in the same area around Buck Island (the other two turtles had foraging KDEs in other areas). Cells containing a period indicate that UDOI space-use sharing was not calculated, because these turtle pairs foraged in different regions, or did not have enough mean daily locations to conduct KDE analyses. Neophyte (N) vs. remigrant (R) status is also indicated.

N/R		R	R	R	R	R	R	N	N	R	R
	Turtle ID	1	2	3	4	5	6	7	8	9	10
R	1	.	0.007	0.000	0.008	0.000	0.005	0.026	0.032	0.000	0.000
R	2	.	.	0.003	0.125	0.001	0.104	0.056	0.086	0.013	0.000
R	3	.	.	.	0.036	0.112	0.043	0.006	0.019	0.181	0.032
R	4	.	0.127	.	.	0.011	0.182	0.085	0.098	0.059	0.007
R	5	.	.	.	.	.	0.015	0.001	0.011	0.083	0.011
R	6	.	0.093	.	0.137	.	.	0.087	0.067	0.075	0.031
N	7	.	.	.	.	.	.	.	0.049	0.014	0.003
N	8	.	.	.	.	.	.	.	.	0.023	0.000
R	9	.	.	.	.	.	.	.	.	.	0.036
R	10	.	.	.	.	.	.	.	.	.	.

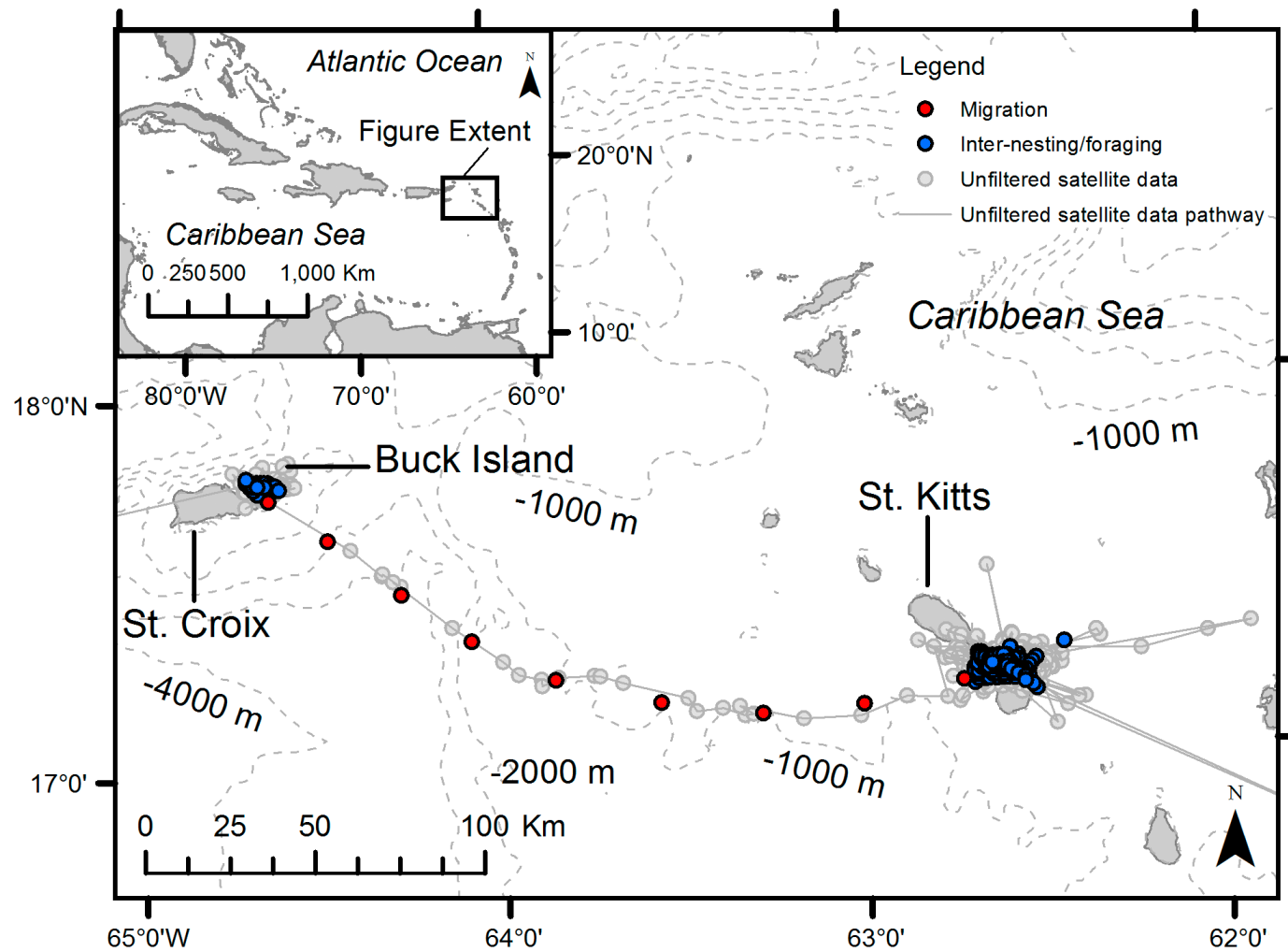


Fig. S1. Examples of the switching state-space model (SSM) prediction points (red = migration; blue = inter-nesting or foraging) over unfiltered satellite locations (grey circles) for one green sea turtle (Turtle ID 1). The grey line represents the movement trajectory (pathway) of the unfiltered satellite locations