The following supplement accompanies the article

Seasonality, abundance, and fifteen-year trend in green turtle nesting activity at Itsamia, Moheli, Comoros

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Supplement. Additional data analysis on nesting activity in Itsamia beaches, Moheli, Comoros Archipelago (1999–2007). Fig. S1 presents classical seasonal decomposition of time series by loess. Table S1 shows a summary of GAMM model fits.

Figure S1: Seven-year trend in nesting activity at five contiguous Itsamia beaches, Moheli, Comoro Archipelago, from January 1999 through December 2006, using the seasonal decomposition of time series by Loess (STL). (A) Cyclic component affecting the trend is set to 3 years; (B) cyclic component affecting the trend is set to 2 years. "data" (top panel): monthly number of tracks; "seasonal" (second panel from top): seasonal component in STL analysis; "trend" (second panel from bottom): fitted long-term trend line from STL analysis; "remainder" (bottom panel): residuals component remaining after seasonal and trend and cyclic components have been removed; grey bar at the right of each panel represents the relative magnitude of each component's (seasonal, trend or residual) variation to variation observed in the data. The smaller the bar is, the bigger the component's signal relative to the variation in the data.

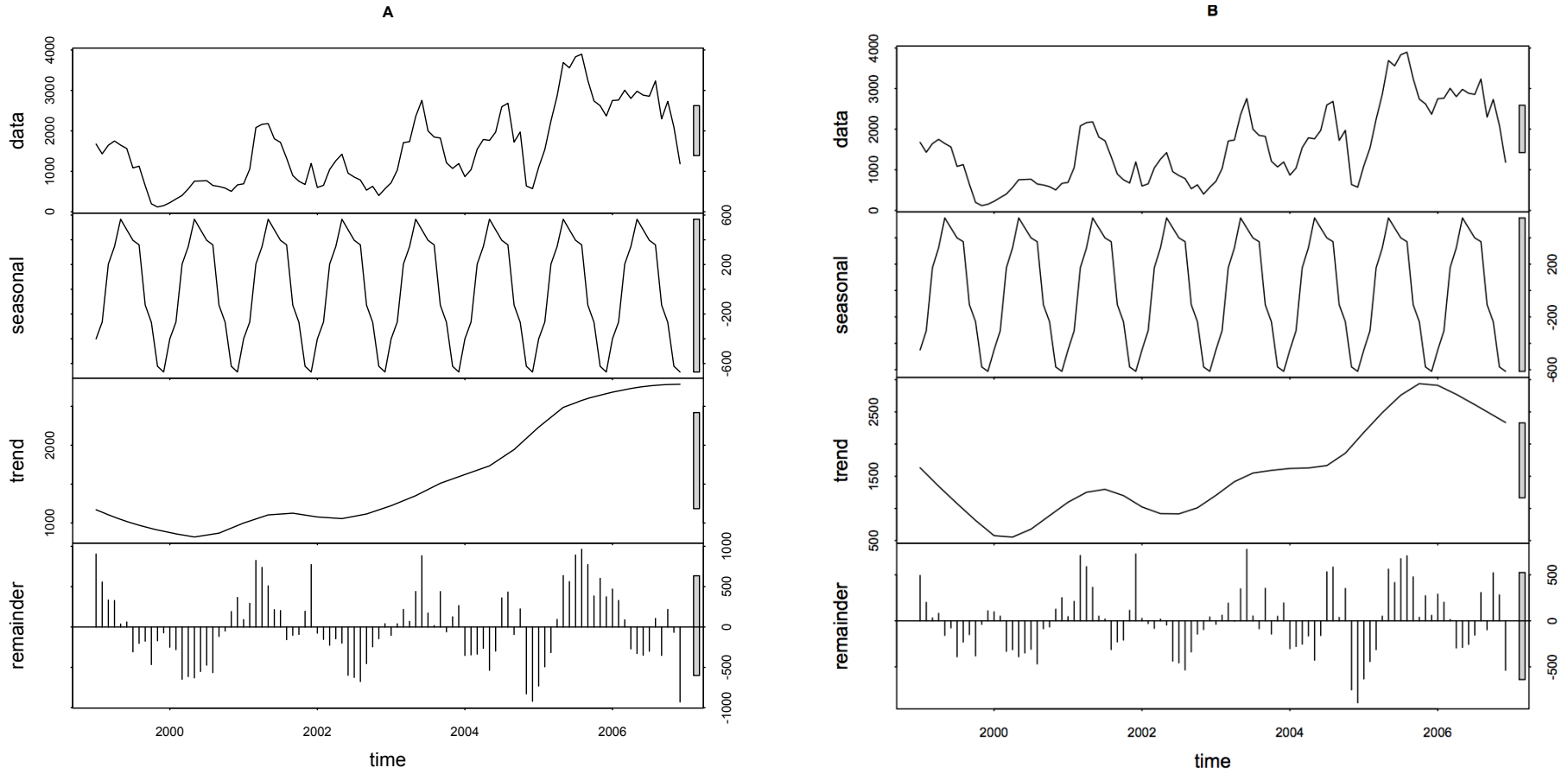

Table S1: Summary of GAMM model fits to the monthly track counts data, in Itsamia beaches, Moheli, Comoros Archipelago (1999-2007). Each of the listed models shows the two possible predictors in the time series (trend and seasonal components) that were included in the model. Comparative model fit was assessed using the Akaike's Information Criterion (AIC) based on the model's LogLikelihood (logLik). R^2 adj: Adjusted R-squared of the semi-parametric model, DF: degrees of freedom. Model 1 only takes into account the seasonal smoothed component and the autoregressive structure of the residuals (AR(1) within years). Model 2 fits the data to both trend and seasonal effects but does not account for autoregressive structure. Model 3 combines both trend and seasonal effects and autoregressive structure. Model fit is improved when adding a trend component (from model 1 to model 3). Model 2 doesn't account for the dependence in the data and is overfitting, which results in a relatively high adjusted R^2 since autocorrelation in the residuals participates in the overall trend. Model 3 (grey cells) was selected because of its lower AIC and higher LogLikelihood, thus allowing the best fitting of the smoothed trend term.

	Approximate significance of smooth terms				**R^2 adj**	**DF**	**AIC**	**logLik**
	Seasonal		**Trend**					
	F-stat	**p-value**	**F-stat**	**p-value**				
Model 1	3.865	1.51e-06 ***	-	-	0.14	4	1407.55	-699.77
Model 2	15.75	<2e-16***	58.66	<2e-16***	0.87	5	1424.73	-707.37
Model 3	4.29	3.7e-07***	6.07	0.003**	0.66	6	1391.09	-689.55