Table S1. Comparison of models using standard or zero-inflated distributions. The three models used the same input data, covariates and model formulation, but specified either a standard Poisson distribution, a zero-inflated Poisson distribution, or a negative binomial distribution. Model performance was evaluated based on Akaike information criterion (AIC) values, the percentage of the observed deviance explained by the model, as well as the distribution of residuals and observed versus predicted values (Fig. S3).

Distribution family	**AIC**	**DeltaAIC**	**Deviance exp.**
Poisson	607.4775	0	95.4%
Zero Inf. Poisson	675.9799	22.05	91%
Negative binomial	709.0156	53.71	44%

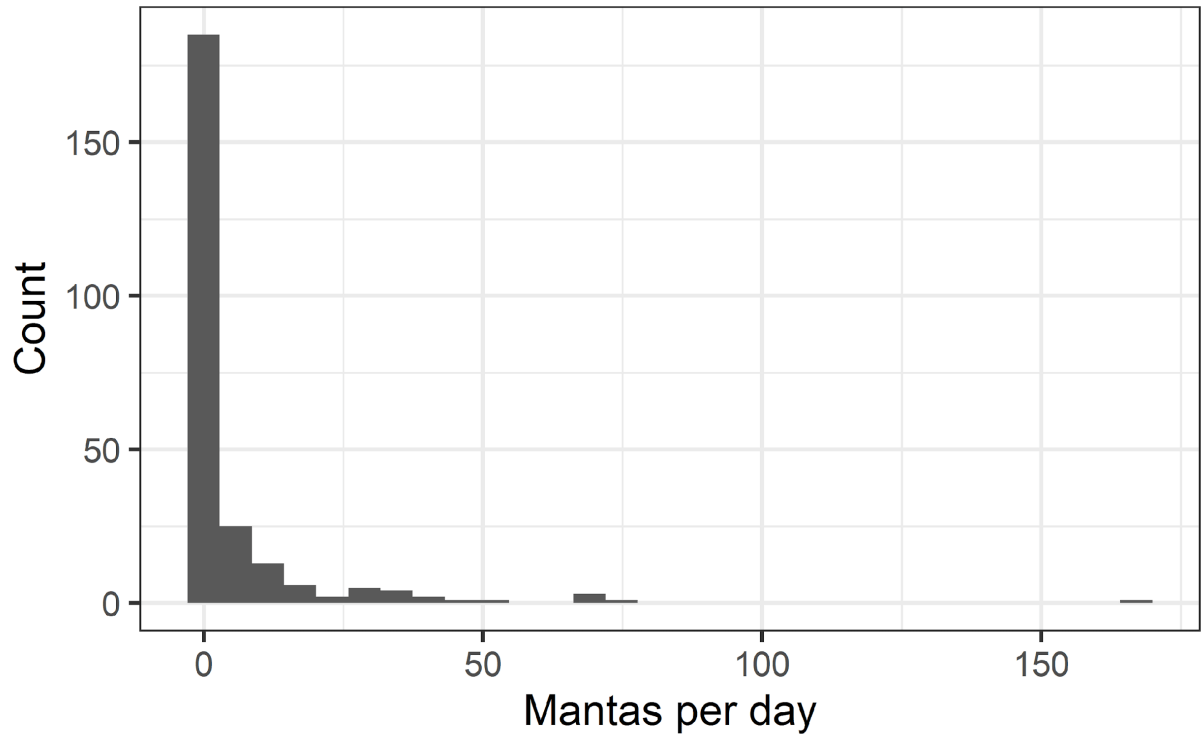

Fig. S1. Daily sighting rates of oceanic manta rays observed per hour during each survey day, from August 2014 - December 2018.

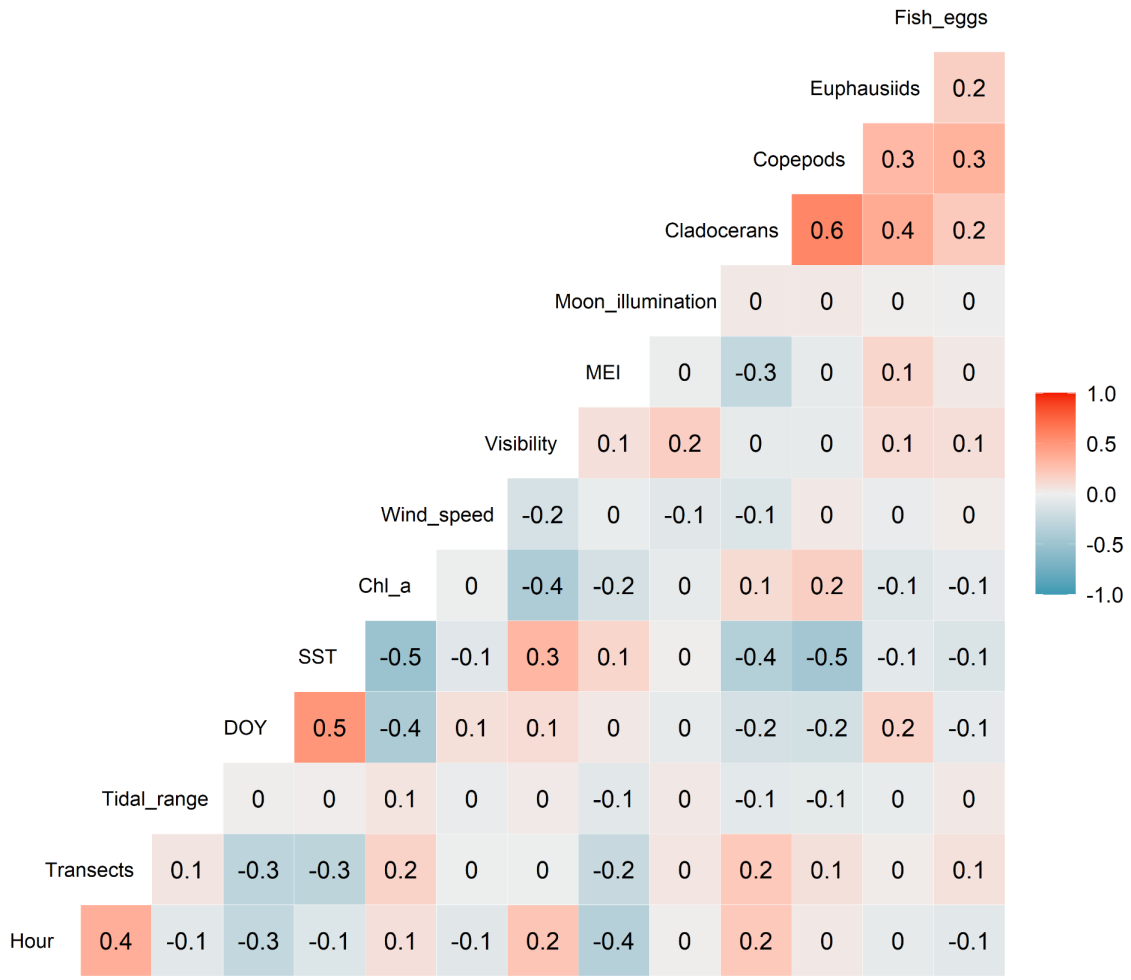

Fig. S2. Correlation matrix of the explanatory variables used in this study for GAM analyses. The labels refer to both columns and rows, and the correlation value between two variables is found at the intersection between the corresponding row and column name

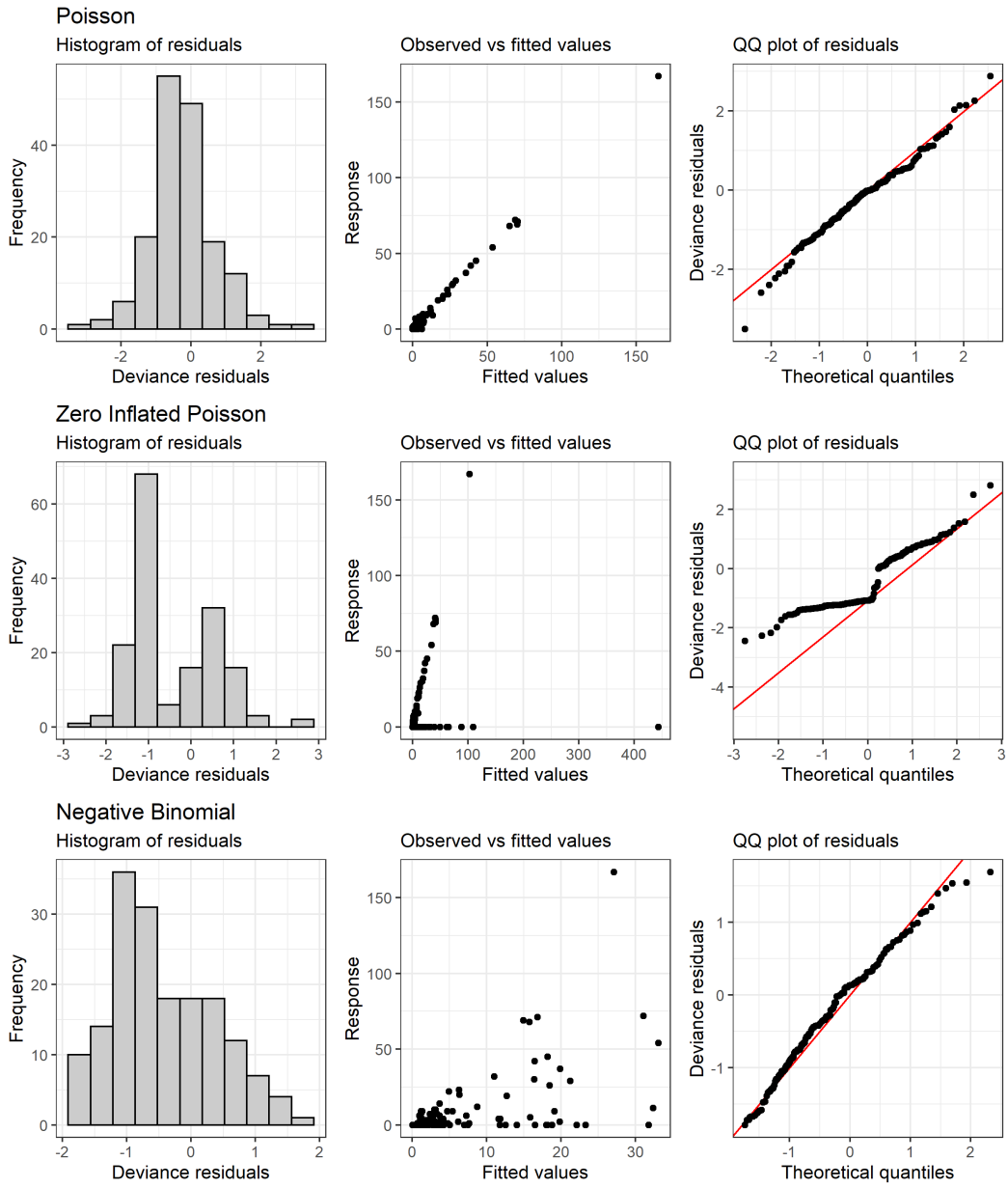

Fig. S3. Histograms of residuals, observed vs. fitted values and QQ plots of the three computed generalized additive models: Poisson, Zero Inflated Poisson and Negative Binomial.