

**Table S1.** Trend and seasonality estimates detected by Model 3 and Model 4 for *V. parahaemolyticus* concentrations and environmental variables (Model 3, top and Model 4, bottom).

Variable <sup>a</sup>	p-value	r <sup>2</sup>	Deviance	AIC
<i>Vp</i> (MPN/g)	<0.001	0.24	0.27	673.4
	0.002			
	<0.001	0.48	0.49	582.65
	<0.001			
Water Temperature (°C)	0.11	0.56	0.59	772.1
	<0.001			
	0.11	0.93	0.93	496.1
	<0.001			
Dissolved Oxygen (mg/L)	0.82	0.21	0.23	441.5
	<0.001			
	0.87	0.58	0.59	352.0
	<0.001			
Salinity (ppt)	<0.001	0.38	0.42	805.6
	0.45			
	<0.001	0.48	0.51	781.2
	<0.001			
pH	0.01	0.18	0.23	10.1
	<0.001			
	0.16	0.18	0.24	12.9
	<0.001			
Turbidity (NTU)	0.54	0.03	0.50	1713.6
	0.41			
	0.04	0.03	0.05	1715.9
	0.11			
Chlorophyll- <i>a</i> (µg/L)	0.03	0.24	0.30	758.3
	0.37			
	0.37	0.24	0.30	759.0
	0.03			
Total Dissolved Nitrogen (mg/L)	0.37	0.46	0.49	-289.3
	0.07			
	0.29	0.47	0.50	-289.9
	0.24			
Rainfall (mm)	0.002	0.03	0.06	-76.4
	<0.001			
	0.14	0.04	0.08	-76.9
	0.002			

**Table S2.** Model variables, their significance and model fit evaluation for models based on combinations of photoperiod, day of study, harmonic regression and environmental variables. A. Gaussian. B. Negative binomial regression.

A. Model-Gaussian	Coefficient	r <sup>2</sup>	Deviance	AIC
Model 1	0.57*** 0.0002***	0.19	0.20	666.4
Model 1 + sine + cosine	-4.1 0.0006*** -0.53 -1.6	0.51	0.52	596.9
Model 1 + Temp	-0.37** 0.0004*** 0.47***	0.57	0.57	577.6
Model 1 + Temp + Sal	-0.30** 0.0004** 0.44*** 0.06	0.57	0.58	577.0
Model 1 + Temp + C-pH	-0.3** 0.0003** 0.46*** -3.8***	0.61	0.61	564.4
Model 1 + Temp + C-pH + Sal	-0.3** 0.0002** 0.44*** -3.6** 0.02	0.61	0.62	565.9
Model 2+ Temp	0.0004*** 0.06 1.51 0.51***	0.56	0.57	579.7
Model 2 + Temp + Sal	0.0003** 0.23 1.5 0.5*** 0.06	0.57	0.58	578.9
Model 2 +Temp + C-pH	0.0003** 0.07 1.4 0.50*** -3.8***	0.61	0.61	566.3
Model 2+ Temp + C-pH + Sal	0.0003** 0.15 1.5 0.49*** -3.6** 0.03	0.60	0.62	567.7
<b>B. Model-Negative binomial</b>				
Model 1	0.6*** 0.0006***	0.19	0.17	1619.5
Model 1 + sine + cosine	-6.2** 0.0005*** 0.6 -0.3***	0.49	0.52	1532.8
Model 1 + Temp	-0.32** 0.0004*** 0.4***	0.56	0.53	1521.3
Model 1 + Temp + Sal	-0.27** 0.0004** 0.4*** 0.05*	0.56	0.53	1521.1
Model 1 + Temp + C-pH	-0.32*** 0.0003***; 0.4 -4.5	0.61	0.58	1501.9
Model 1 +Temp + C-pH + Sal	-0.32*** 0.0003*** 0.4*** -4.5*** -0.004	0.61	0.58	1503.9
Model 2 + Temp	0.0003*** -0.3 0.8 0.4***	0.55	0.52	1523.8
Model 2 + Temp + Sal	0.0003*** 0.03 1.1 0.4*** 0.05*	0.56	0.53	1523.5
Model 2 +Temp + C-pH	0.0003*** -0.3 0.8 0.4*** -4.5***	0.61	0.58	1504.2
Model 2 + Temp + C-pH + Sal	0.0003*** -0.3 0.8 0.4*** -4.6*** -0.006	0.61	0.58	1506.2

significance of coefficients indicated as \*\*\* 0.001, \*\* 0.01, \* 0.1.