

**Table S1.** The coordinates of biota samples.

Sampling site	Coordinates	
	Longitude(E)	Latitude(N)
Y1	110°4'54"	20°14'4"
Y2	110°5'23"	20°8'46"
Y3	110°6'1"	20°3'48"
Y4	110°9'33"	20°13'37"
Y5	110°10'1"	20°9'31"
Y6	110°10'39"	20°4'37"
Y7	110°13'54"	20°15'5"
Y8	110°14'28"	20°10'16"
Y9	110°15'25"	20°4'22"
Y10	110°18'30"	20°15'13"
Y11	110°18'59"	20°10'52"
Y12	110°19'37"	20°5'27"

**Table S2.** Eigenvalues for RDA axes, results related to species-environment correlations, variation and cumulative % of species data and species-environment relation.

Axes	1	2	3	4	Total variance
Eigenvalues:	0.160	0.102	0.063	0.024	1
Species-environment correlations:	0.869	0.784	0.621	0.471	
Cumulative percentage variance					
Of species data:	16.0	26.2	32.5	34.9	
Of species-environment relation:	42.3	69.3	85.9	92.3	

**Table S3.** Coefficient of Spearman correlation between water quality and phytoplankton community.

Spearman correlation analysis														
	mean	std	1	2	3	4	5	6	7	8	9	10	11	12
Species numbers(1)	25.333	3.632	1											
Abundance (xl0 <sup>4</sup> cells/m <sup>3</sup> )(2)	124.233	49.853	0.855**	1										
Diversity(3)	3.389	0.232	0.631**	0.544**	1									
Evenness(4)	0.725	0.037	-0.071	-0.032	0.637**	1								
SS(5)	18.232	23.492	-0.467*	-0.664**	-0.342	0.102	1							
DO(6)	7.383	0.414	-0.580**	-0.820**	-0.524**	-0.13	0.757**	1						
COD(7)	0.473	0.149	-0.212	-0.482*	-0.234	-0.04	0.623**	0.585**	1					
pH(8)	8.166	0.081	0.674**	0.757**	0.436*	-0.105	-0.515*	-0.655**	-0.483*	1				
Salinity(9)	30.713	0.643	0.462*	0.686**	0.388	0.103	-0.643**	-0.688**	-0.797**	0.382	1			
Temperature(10)	24.5	1.331	-0.477*	-0.643**	-0.207	0.185	0.558**	0.650**	0.650**	-0.826**	-0.558**	1		
NH <sub>4</sub> -N(11)	2.622	2.212	0.611**	0.730**	0.441*	-0.022	-0.582**	-0.796**	-0.450*	0.783**	0.432*	-0.785**	1	
DIN(12)	4.062	2.348	0.595**	0.687**	0.284	-0.229	-0.554**	-0.710**	-0.477*	0.741**	0.485*	-0.803**	0.903**	1

\* p<0.05 \*\* p<0.01