Journal: Water

Supplementary information of the article:

Community Assembly Mechanisms Underlying the Core and Random Bacterioplankton and Microeukaryotes in a River-Reservoir System

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This supplementary information contains:

- 9 Pages
- 8 Figures

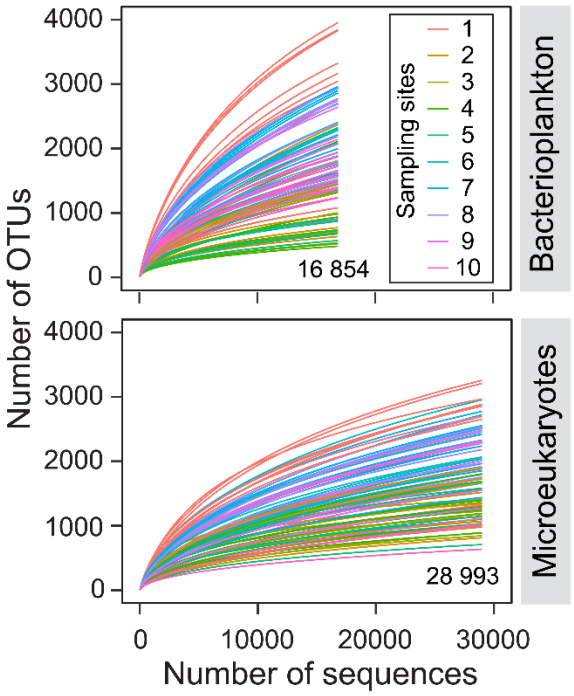

Figure S1 Rarefaction curves of the studied plankton communities in the Houxi River. Each curve represents a sample with corresponding number of OTUs recovered from the total number of sequences. Samples from the same site are shown in same color. Rarefaction thresholds were set based on the lowest number of sequences per sample providing curves that plateau as only the rarest species were remained to be sampled.

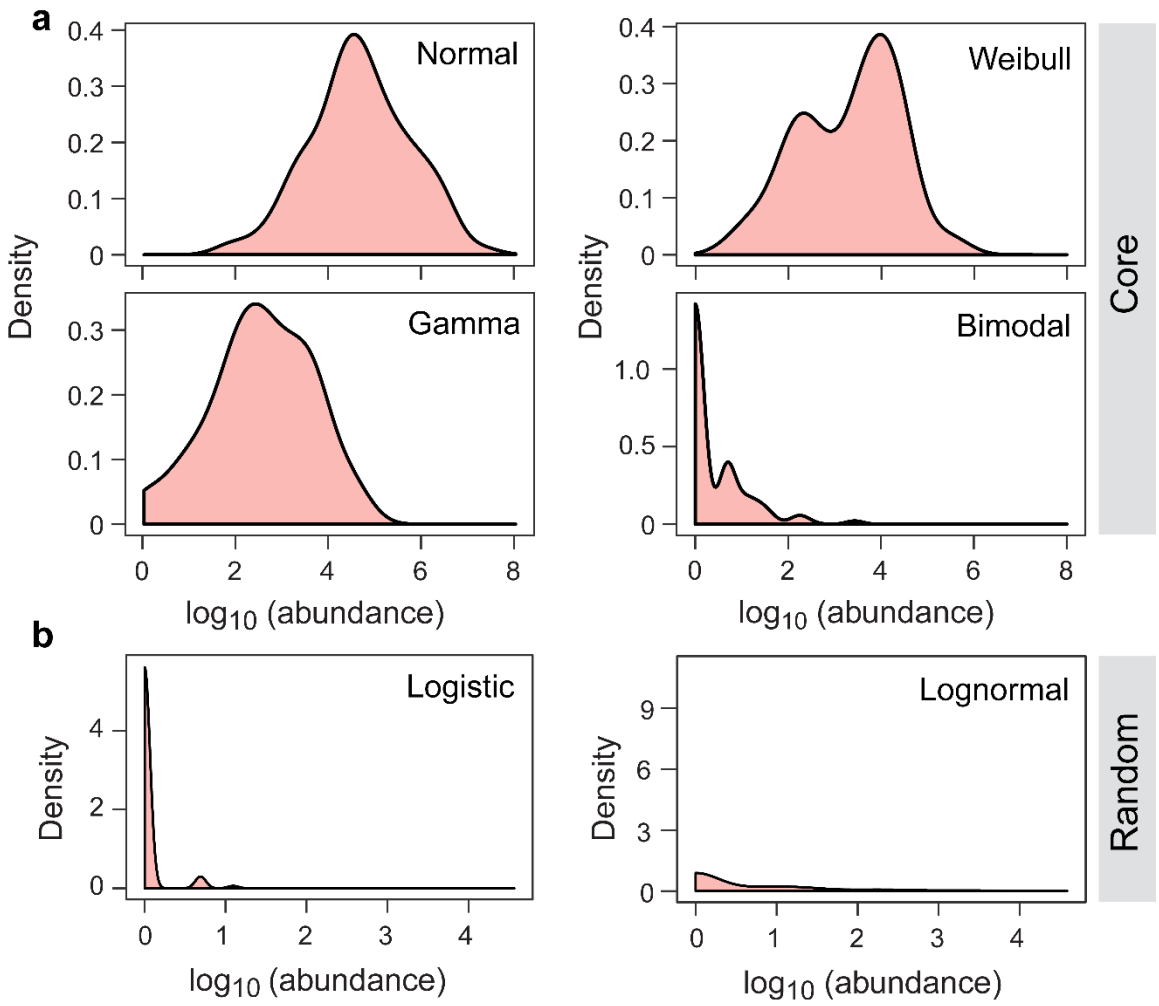

Figure S2 Density plots exemplifying the spatial abundance distributions (SpADs) of typical core and random OTUs.

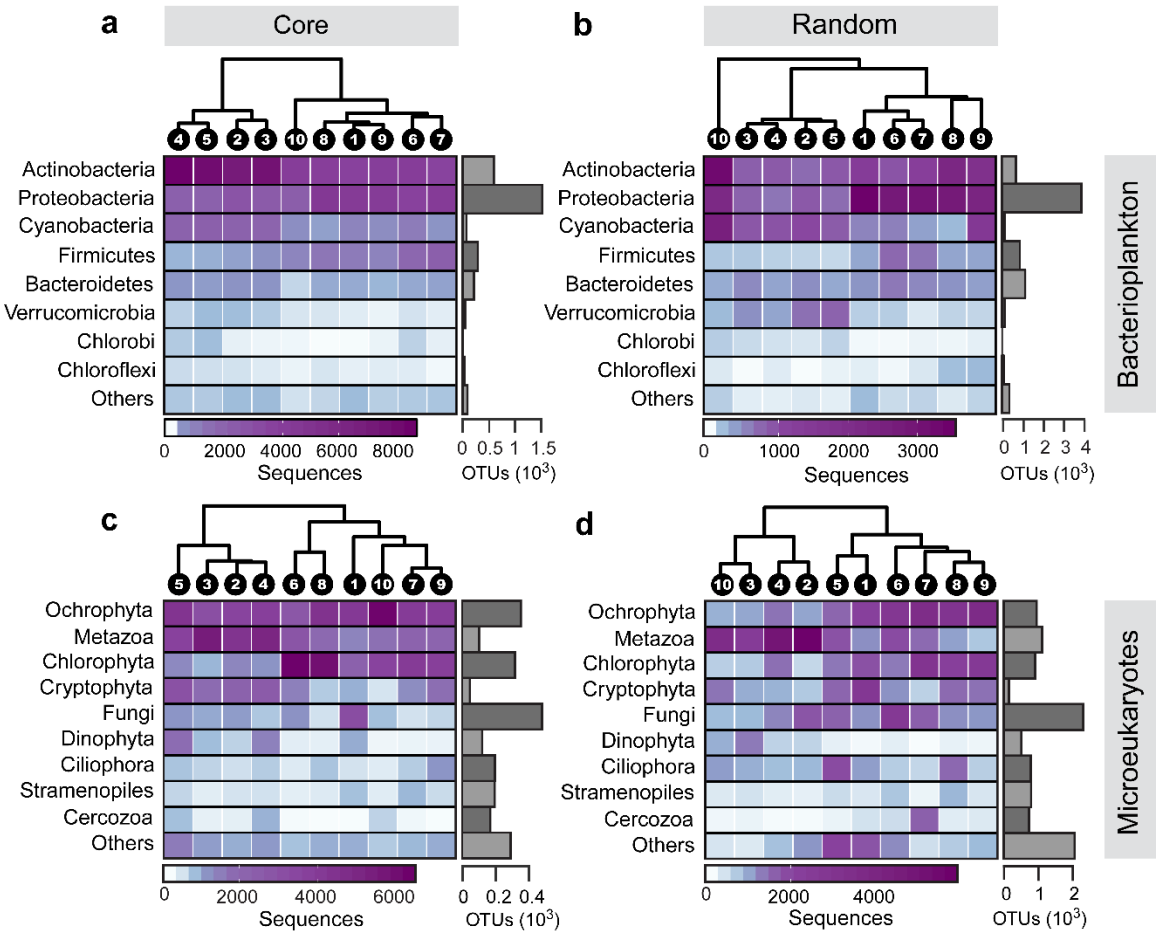

Figure S3 Heatmaps of taxonomic affiliation and site clustering of core and random bacterioplankton and microeukaryotes at phylum level. (**a**) Average of core bacterial sequences. (**b**) Random bacterial sequences. (**c**) Core microeukaryotic sequences. (**d**) Random microeukaryotic sequences. Horizontal bars represent total number of all OTUs assigned to a given taxon.

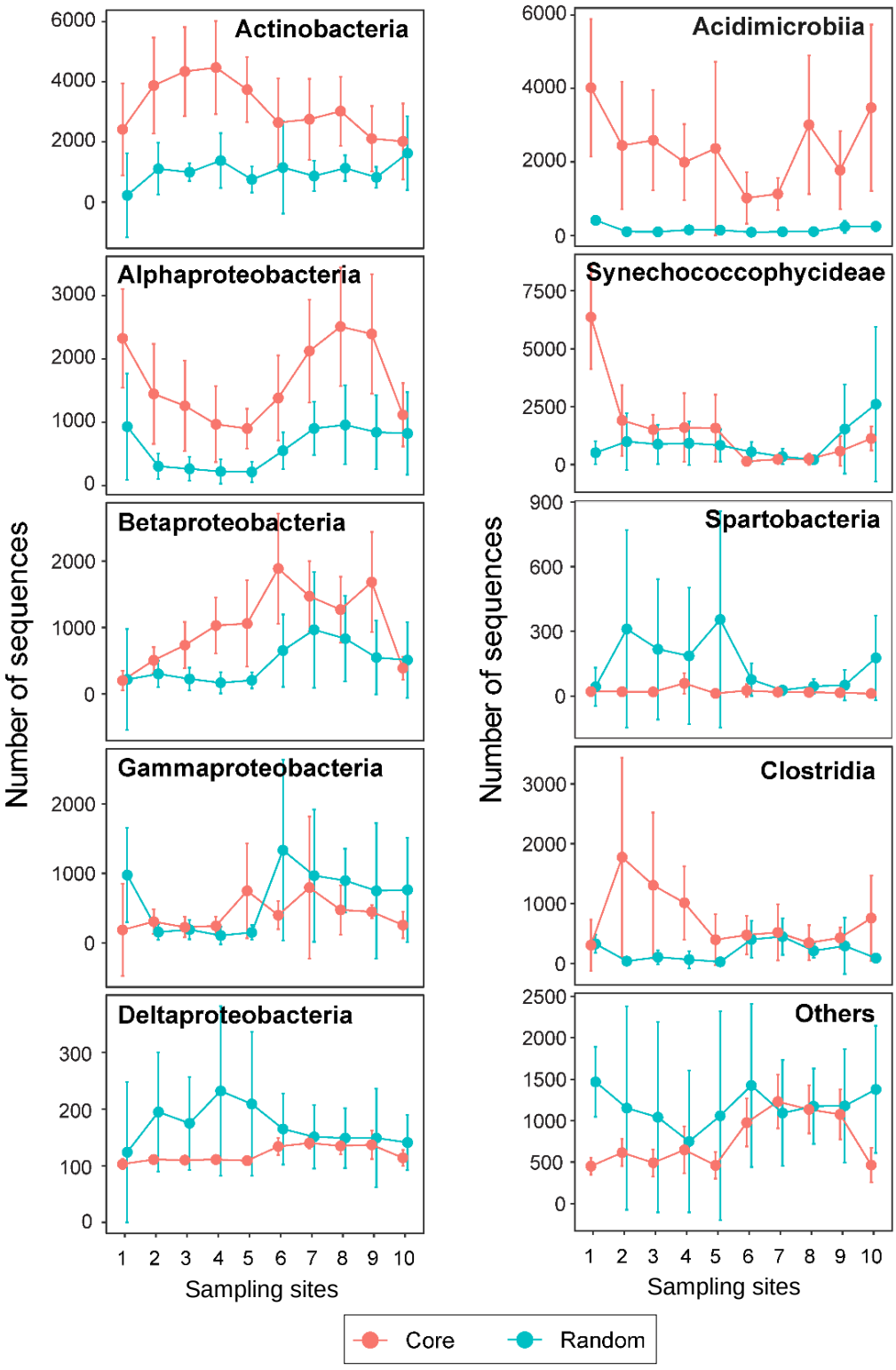

Figure S4 Spatial variation in the number of sequences assigned to different bacterial taxa along the Houxi River.

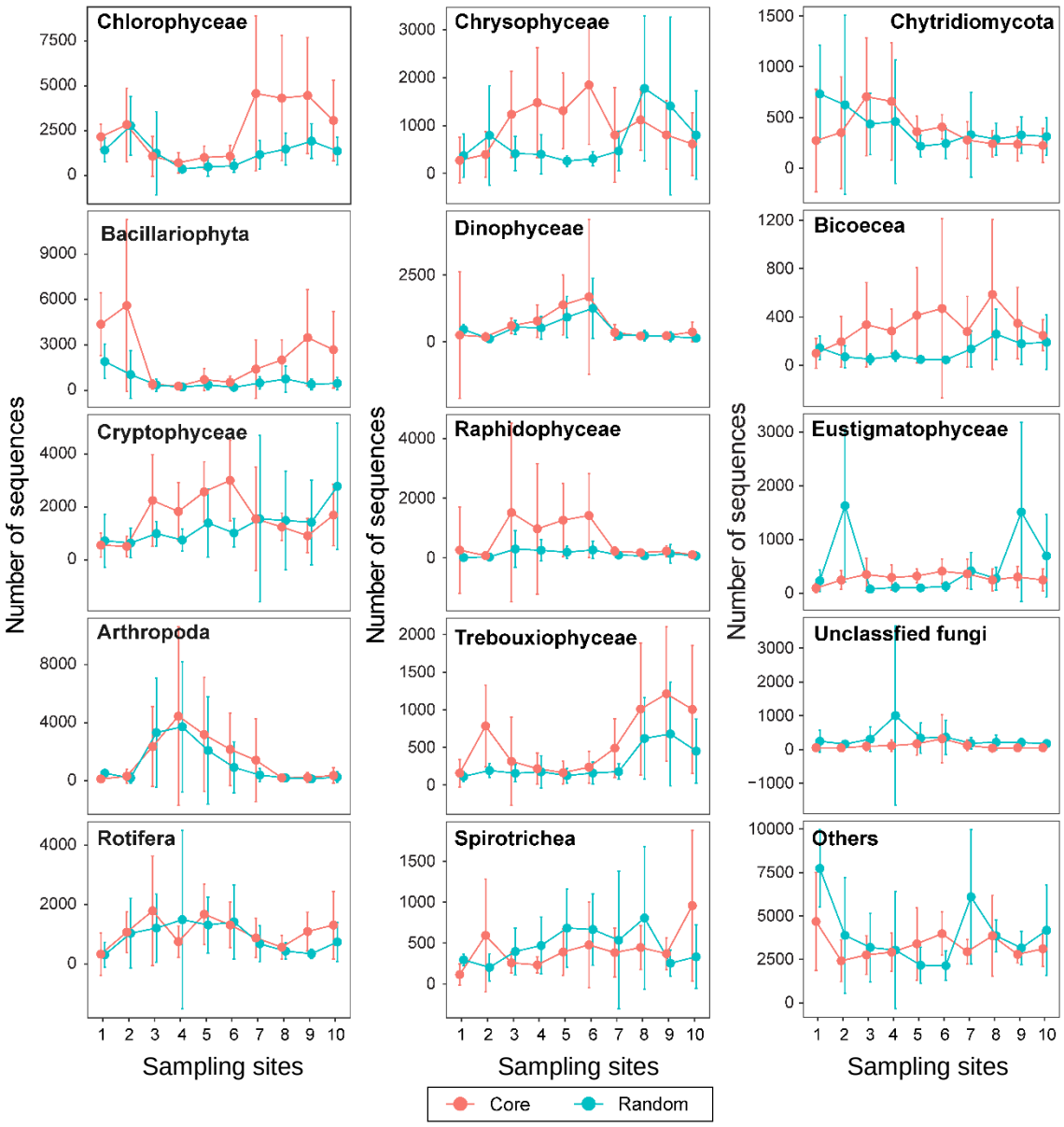

Figure S5 Spatial variation in the number of sequences assigned to different microeukaryotic taxa along the Houxi River.

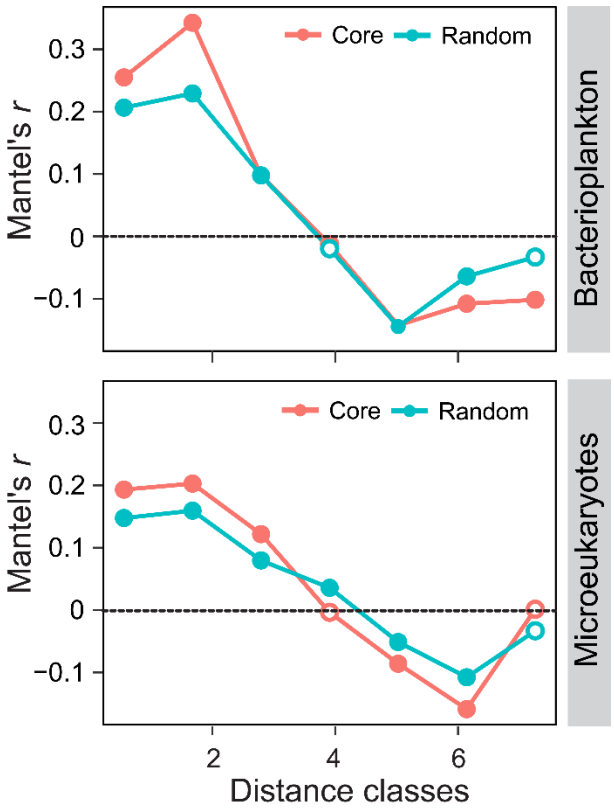

Figure S6 Correlations between spatial proximity and core (red) or random (blue) plankton community similarities within different distance classes. Correlation points are placed at the midpoint of each distance class. Filled and empty shapes indicate significant and non-significant correlations, respectively. Positive and significant Mantel's *r* indicates that samples within a given distance class share more taxa.

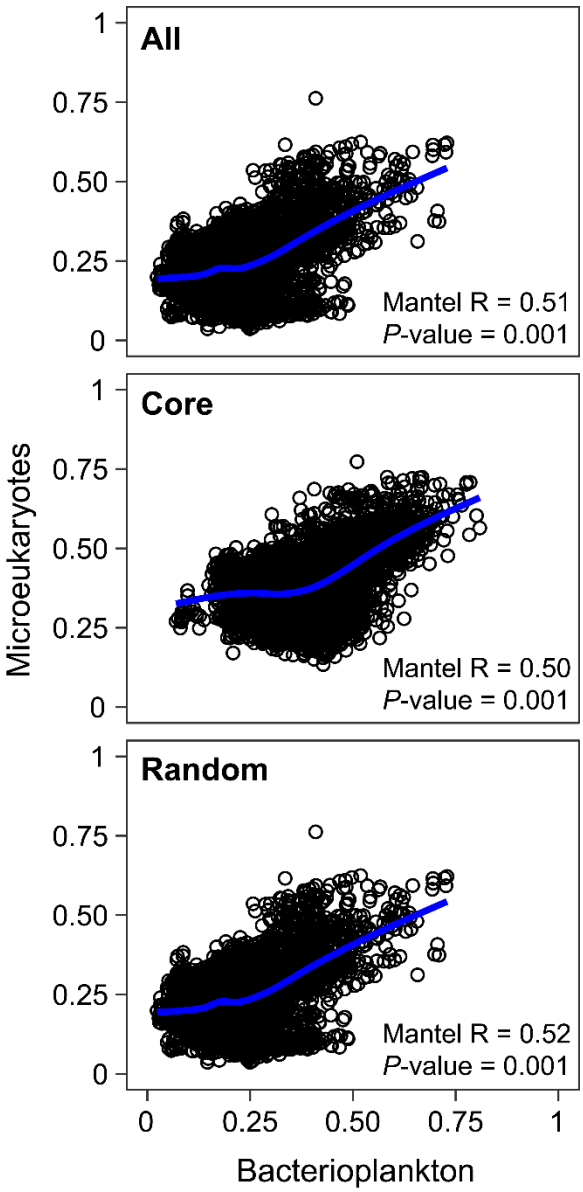

Figure S7 Relationships between Bray-Curtis dissimilarities of microeukaryotes and bacterioplankton in different taxa categories. Mantel coefficients and significance level are displayed.

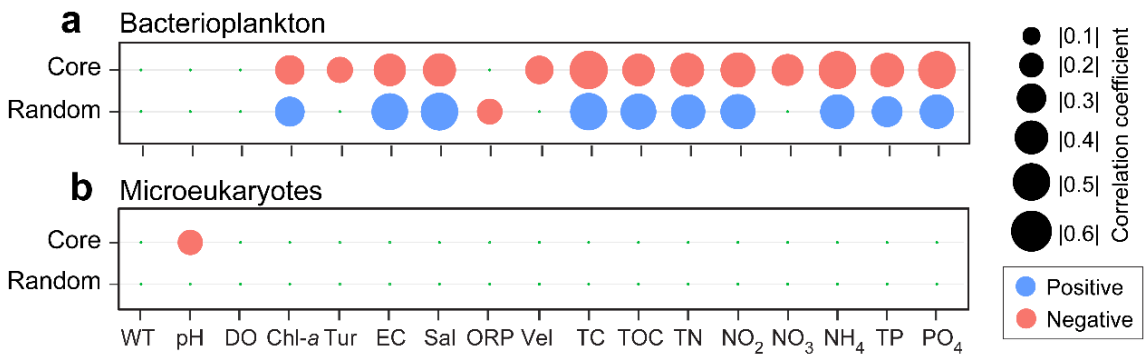

Figure S8 Spearman correlations between the environmental variables and the number of OTUs for each plankton community facet. (**a**) bacterioplankton; (**b**) microeukaryotes. WT: water temperature, DO: dissolved oxygen, Chl-*a*: chlorophyll-*a*, Tur: turbidity, EC: electrical conductivity, Sal: salinity, ORP: oxidation-reduction potential, TC: total carbon, TOC: total organic carbon, TN: total nitrogen, NO_3: nitrate nitrogen, NO_2: nitrite nitrogen, NH_4: ammonium nitrogen, TP: total phosphorus, PO_4: phosphate phosphorus.