

Table S1. Annual summary of variables collected across different sites in Lake Taihu. The mean and standard deviation (SD) are shown for all variables.

Variables	DPE		ZSB		MLB		LC		XKB	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
T (°C)	18.73	8.6	18.92	8.55	18.57	8.79	17.90	8.60	17.86	0.17
DOC (mg/L)	7.19	2.86	7.05	3.16	6.33	3.00	5.81	3.26	7.05	2.63
Chl <i>a</i> (µg/L)	170.99	267.39	97.33	139.02	157.21	271.12	31.54	26.97	16.48	7.89
TSS (mg/L)	72.93	52.23	39.82	21.71	53.91	61.41	57.11	22.48	45.02	26.88
TDN (mg/L)	2.64	1.45	3.51	1.77	1.27	0.80	1.62	0.92	1.19	0.68
TDP (µg/L)	68.97	19.30	104.84	47.47	35.01	34.11	25.81	6.45	11.82	3.25
NH ₄ ⁺ (mg/L)	0.70	0.63	1.03	0.79	0.17	0.05	0.15	0.08	0.13	0.07
PO ₄ ³⁻ (µg/L)	46.50	22.88	71.24	42.80	22.50	35.5	15.09	8.31	3.85	1.34
ρPOC (mg/L) ^a	10.52	11.98	7.15	8.86	8.49	7.05	3.99	1.53	2.42	1.40
ρPN (mg/L) ^a	1.73	2.20	0.97	1.19	1.34	1.25	0.61	0.24	0.36	0.20
ρPP (mg/L) ^a	0.22	0.21	0.15	0.13	0.10	0.06	0.08	0.03	0.04	0.02
POC (mg/g) ^b	144.47	83.76	158.01	114.85	179.99	59.95	81.51	42.94	59.91	29.71
PN (mg/g) ^b	23.04	15.80	21.37	15.62	28.18	8.06	12.44	6.49	9.14	4.94
PP (mg/g) ^b	3.2	1.47	3.58	1.40	2.45	0.79	1.41	0.51	0.99	0.36

^a: indicates the concentrations were shown as milligram per litre (mg/L)

^b: indicates the concentrations were shown as milligram per gram (mg/g)

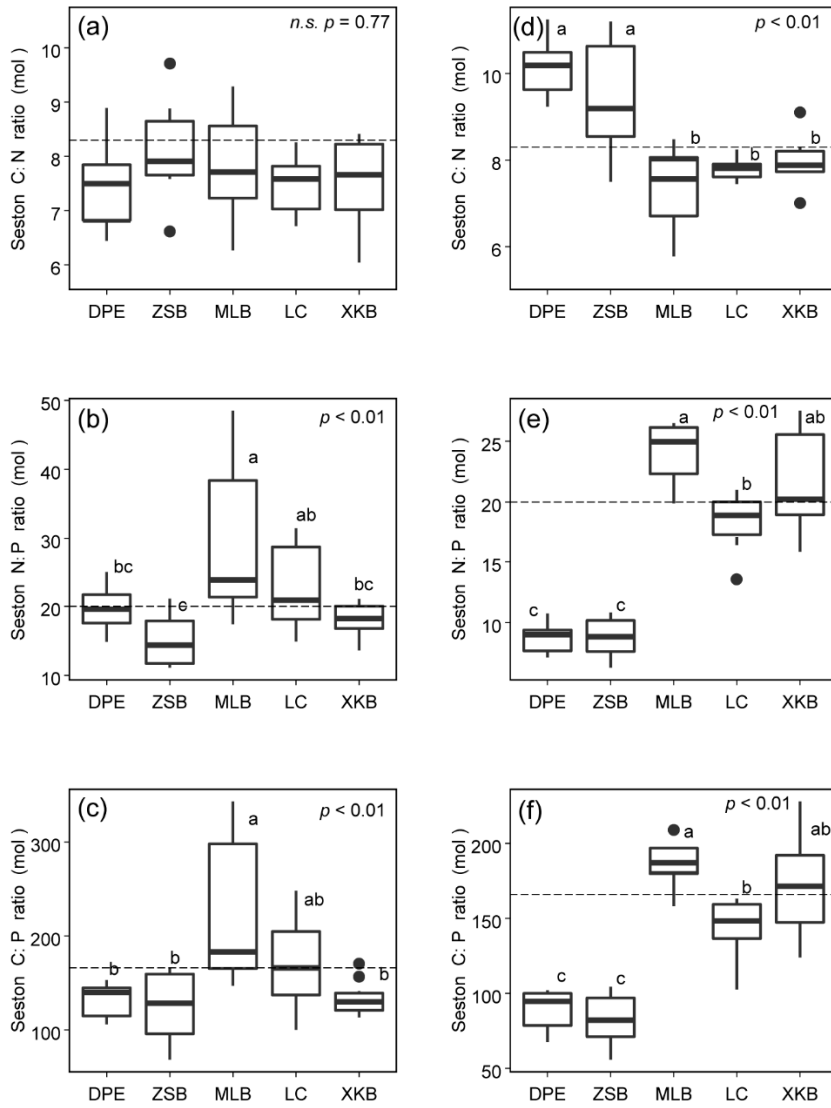


Fig. S1. Variations in seston stoichiometric ratio of C: N , N: P and C: P across different sites across Lake Taihu during the growing season (a-c) and senescence season (d-f). Dashed reference lines show the canonical lake C: N: P ratio. Letters denote significant differences between different locations and n.s. indicates no significant differences.

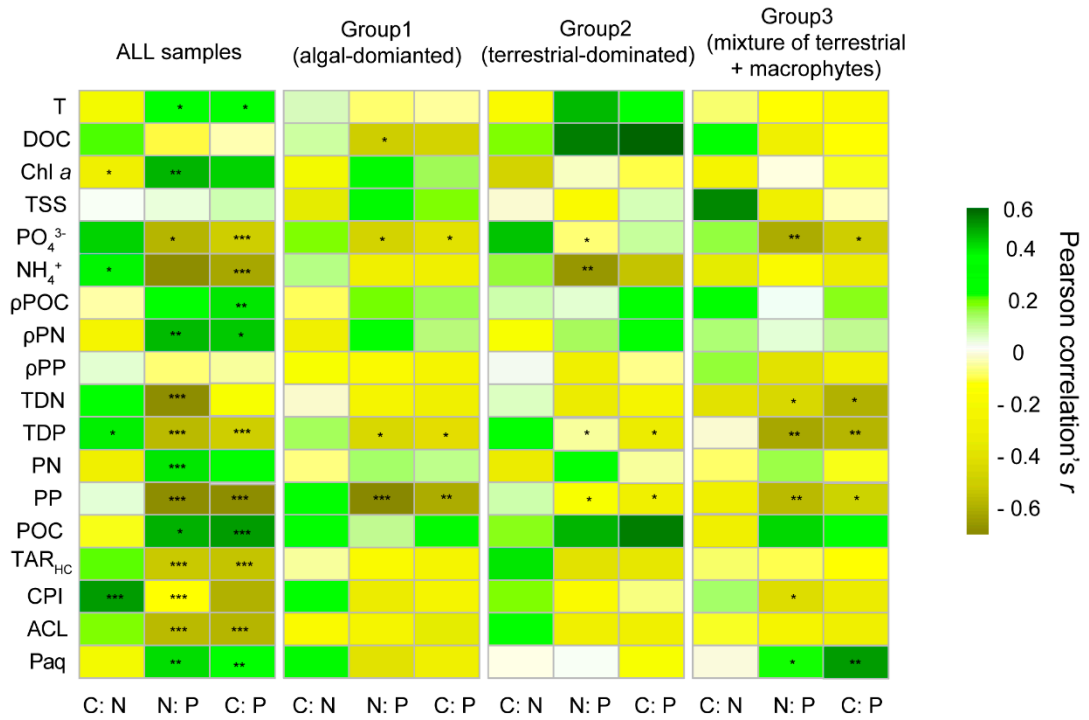


Fig. S2. Pearson correlation heatmap of variables and stoichiometric ratios in in different seston sources. * indicates the p values in the correlations are lower than 0.05. ** indicates the p values in the correlations are lower than 0.01. *** indicates the p values in the correlations are lower than 0.001

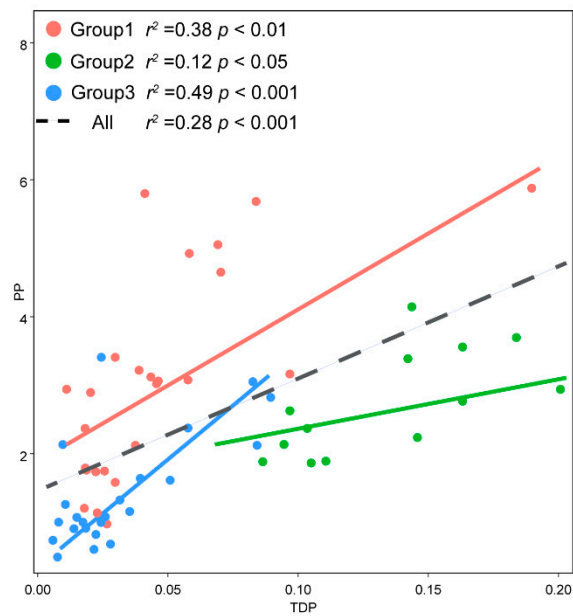


Fig. S3. Liner relationship between TDP and PP in different seston sources.