

Table S1. Principal component analysis of indicators

Index	Principal component 1	Principal component 2	Principal component 3
Eigenvalue	14.25	1.95	1.23
Contributive ratio (%)	75.02	10.25	6.47
Cumulative contribution rate (%)	75.02	85.27	91.74
Eigenvector			
RIH	0.91	-0.32	0.05
Total biomass	0.96	-0.02	-0.03
RSR	0.93	0.24	0.11
Chl b	0.83	-0.53	0.12
Chl a	0.95	0.01	-0.19
Chl a/b	-0.16	0.86	-0.43
Chl T	0.96	-0.14	-0.12
MDA	-0.96	0.04	0.02
SOD	0.21	0.62	0.64
POD	0.71	0.18	-0.56
CAT	-0.89	0.06	0.28
P_n	0.99	0.12	-0.02
T_r	0.95	0.25	0.06
g_s	0.96	0.19	-0.01
C_i	-0.74	0.39	0.06
Fv/Fm	0.97	0.18	0.07
NPQ	-0.94	-0.13	-0.05
ETR	0.95	-0.01	0.12
qP	0.87	0.10	0.38