Table S1: Average values and variation of the assessed environmental parameters.

Figure S1: The number of RL species (N_rl) increases along the magnesium (Mg) gradient for sedimentary (a) and (b) littoral assemblages; no significant relationship was found for planktic assemblages (c). Model parameters are given for GAMs.

Figure S2: The number of diatom taxa according to their threat status within the German Red List (2018) is given for (a) the complete data set, (b) sedimentary assemblages, (c) littoral assemblages, (d) planktic assemblages and (e) true planktic assemblages.

Table S1: Average values and variation of the assessed environmental parameters.

Parameter	Abbre-viation	Minimum	Maximum	Mean	Median	Standard Deviation
Altitude (m a.s.l.)	Alt	760	2469	1598	1600	429
Lake area (ha)	Area	0.1	12	2.3	1.9	2.4
Maximum depth (m)	Depth	1.3	20.7	7.8	5.5	5.9
Secchi depth (m)	Sec	1.3	11.3	4.6	4.2	2.5
Nitrate-N (mg/l)	NO_3	0.03	2.86	0.44	0.33	0.5
Total phosphorous (µg/l)	TP	1	20.41	6.92	6.62	4.6
Silicate-Si (mg/l)	Si	0.12	0.77	0.22	0.18	0.15
Ammonia-N (µg/l)	NH_4	3.84	126.85	36.45	25.29	27.49
Sodium (mg/l)	Na	0.1	2.11	0.38	0.23	0.42
Calcium (mg/l)	Ca	12.44	49.24	28.87	27.06	9.94
Magnesium (mg/l)	Mg	0.98	19.47	7.12	6.34	4.8
pH	pH	7.9	9	8.4	8.5	0.3
Oxygen saturation (%)	O_2	5.1	129.8	93.4	96.9	23.8
Conductivity (µS/cm)	cond	121.4	536.7	226	208.6	78.2
Ø August bottom temperature (°C)	ABT	4.6	20.9	10	9.4	4
Ø August surface temperature (°C)	AST	8.8	22.6	15.1	14.9	3.1
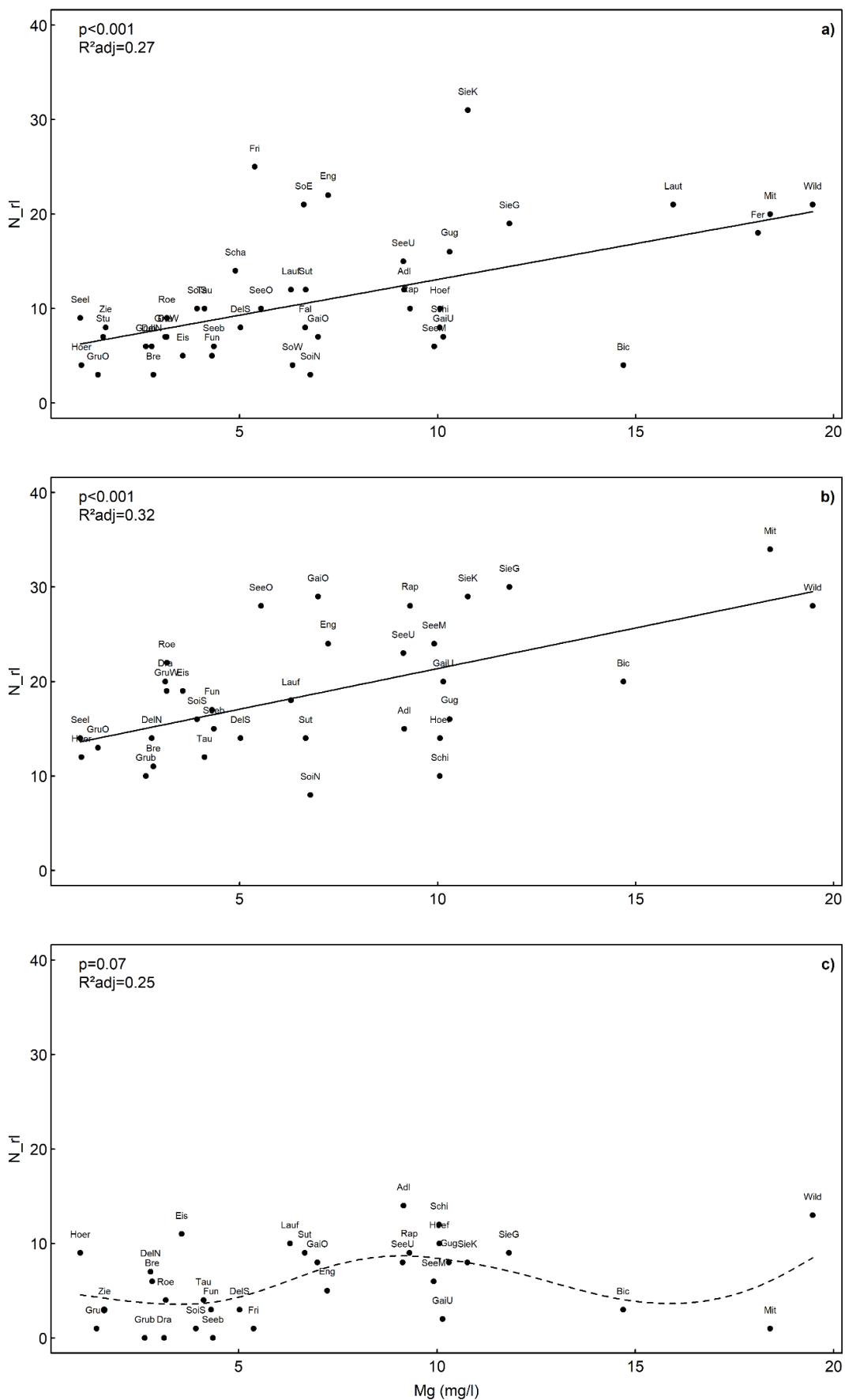
Figure S1: The number of RL species (N_rl) increases along the magnesium (Mg) gradient for sedimentary (a) and (b) littoral assemblages; no significant relationship was found for planktic assemblages (c). Model parameters are given for GAMs.
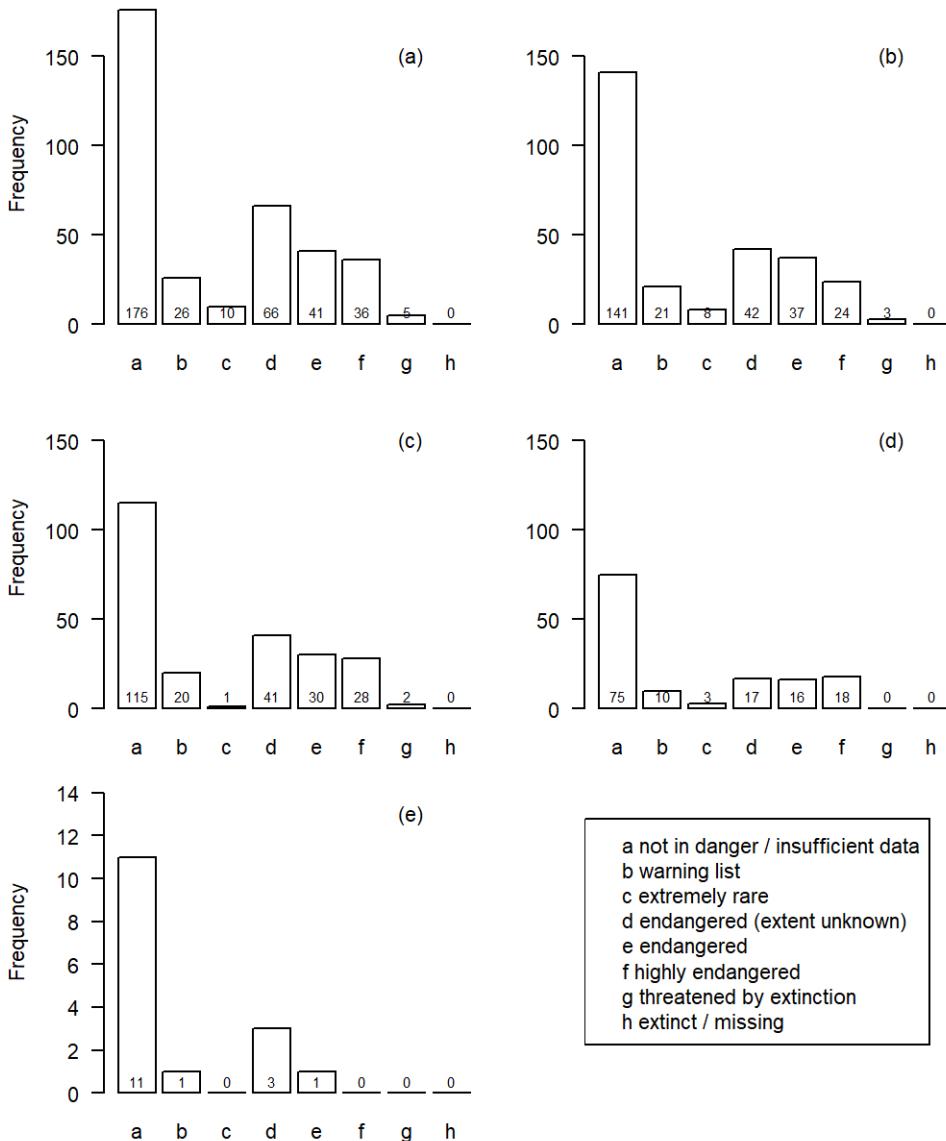
Figure S2: The number of diatom taxa according to their threat status within the German Red List (2018) is given for (a) the complete data set, (b) sedimentary assemblages, (c) littoral assemblages, (d) planktic assemblages and (e) true planktic assemblages.

Information on fish stocking of lakes:

Soinsee Süd: https://bfv-mbteg.de/gewasser/soinsee/

Taubensee: https://www.fvu-chiemsee.de/gewaesser/taubensee/

Soiernsee West: https://www.sektion-hochland.de/fileadmin/user_upload/Dokumente/Archiv/Saiblinge.pdf

Lautersee: http://www.fischereiverein-mittenwald.de/lautersee.html

Other lakes: personal communication