

1 **Supplementary information**

2 Table S1 Overview of the statistical output from the analyses of the data presented in Figures 1, 2, 3, 4 and 5.

3 Surface water TP (Figure 1; ANOVA)

4

Targeted plants	Soil types	Time			Nutrient loading			Time*nutrient loading		
		df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>
	Clay	1	2.57	0.11	2	1.82	0.40	2	1.44	0.49
<i>A. filiculoides</i>	Peaty clay	1	8.38	<b>0.00</b>	2	110.10	<b>0.00</b>	2	80.57	<b>0.00</b>
	Peat	1	7.23	<b>0.01</b>	2	46.75	<b>0.00</b>	2	25.61	<b>0.00</b>
	Clay	1	12.47	<b>0.00</b>	2	12.03	<b>0.00</b>	2	9.32	<b>0.01</b>
<i>C. demersum</i>	Peaty clay	1	19.35	<b>0.00</b>	2	54.08	<b>0.00</b>	2	9.77	<b>0.01</b>
	Peat	1	86.75	<b>0.00</b>	2	31.01	<b>0.00</b>	2	76.92	<b>0.00</b>
	Clay	1	46.98	<b>0.00</b>	2	12.51	<b>0.00</b>	2	6.78	<b>0.03</b>
<i>M. spicatum</i>	Peaty clay	1	12.59	<b>0.00</b>	2	65.62	<b>0.00</b>	2	10.69	<b>0.00</b>
	Peat	1	156.93	<b>0.00</b>	2	97.83	<b>0.00</b>	2	85.62	<b>0.00</b>

5

6 Surface water N ( $\text{NH}_4^+$ + $\text{NO}_3^-$ ) (Figure 2; ANOVA)

7

Targeted plants	Soil types	Time			Nutrient loading			Time*nutrient loading		
		df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>
	Clay	1	35.44	<b>0.00</b>	2	0.22	0.90	2	17.97	<b>0.00</b>
<i>A. filiculoides</i>	Peaty clay	1	41.43	<b>0.00</b>	2	5.24	0.07	2	43.60	<b>0.00</b>
	Peat	1	34.19	<b>0.00</b>	2	2.58	0.28	2	21.31	<b>0.00</b>
	Clay	1	31.07	<b>0.00</b>	2	2.75	0.25	2	9.78	<b>0.01</b>
<i>C. demersum</i>	Peaty clay	1	47.02	<b>0.00</b>	2	2.11	0.35	2	33.65	<b>0.00</b>
	Peat	1	43.71	<b>0.00</b>	2	2.99	0.22	2	29.46	<b>0.00</b>
	Clay	1	7.88	<b>0.00</b>	2	1.43	0.49	2	1.81	0.40
<i>M. spicatum</i>	Peaty clay	1	29.16	<b>0.00</b>	2	0.16	0.92	2	16.11	<b>0.00</b>
	Peat	1	39.52	<b>0.00</b>	2	2.41	0.30	2	17.10	<b>0.00</b>

8

9 Biomass production rates (Figure 3; ANOVA)

10

Targeted plants	Position	Soil type			Nutrient loading			Soil type*nutrient loading		
		df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>
<i>A. filiculoides</i>	<i>A. filiculoides</i>	2	2.88	0.24	2	11.39	<b>0.00</b>	4	5.65	0.23
	Others	2	1.48	0.48	2	1.15	0.56	4	4.23	0.38
<i>C. demersum</i>	<i>C. demersum</i>	2	10.67	<b>0.00</b>	2	0.16	0.92	4	3.89	0.42
	Others	2	2.89	0.24	2	0.12	0.94	4	1.60	0.81
<i>M. spicatum</i>	<i>M. spicatum</i>	2	3.63	0.16	2	0.16	0.93	4	4.45	0.35
	Others	2	1.62	0.45	2	5.41	0.07	4	3.34	0.50

11

12 P budget (Figure 4; ANOVA)

13

Targeted plants	Position	Soil type			Nutrient loading			Soil type*nutrient loading		
		df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>
<i>A. filiculoides</i>	Surface water	2	2.26	0.32	2	0.35	0.84	4	4.00	0.41
	Other plants	2	0.53	0.77	2	1.38	0.50	4	2.78	0.60
	Targeted plants	2	0.25	0.88	2	13.84	<b>0.00</b>	4	0.20	1.00
	Pore water	2	1.07	0.58	2	0.14	0.93	4	0.20	1.00
	Soils	2	4.66	0.10	2	792.84	<b>0.00</b>	4	3.14	0.54
	Surface water	2	21.05	<b>0.00</b>	2	1.17	0.56	4	23.61	<b>0.00</b>
<i>C. demersum</i>	Other plants	2	6.92	<b>0.03</b>	2	1.28	0.53	4	3.77	0.44
	Targeted plants	2	10.50	<b>0.01</b>	2	0.13	0.94	4	4.04	0.40
	Pore water	2	0.88	0.64	2	0.04	0.98	4	1.58	0.81
	Soils	2	5.67	0.06	2	728.39	<b>0.00</b>	4	7.47	0.11
	Surface water	2	11.57	<b>0.00</b>	2	18.76	<b>0.00</b>	4	10.30	<b>0.04</b>
	Other plants	2	1.58	0.45	2	1.87	0.39	4	4.81	0.31
<i>M. spicatum</i>	Targeted plants	2	6.02	0.05	2	0.38	0.83	4	6.57	0.16
	Pore water	2	1.75	0.42	2	0.06	0.97	4	0.56	0.97
	Soils	2	21.52	<b>0.00</b>	2	1109.54	<b>0.00</b>	4	16.35	<b>0.00</b>

14

15 N budget (Figure 5; ANOVA)

16

Targeted plants	Position	Soil type			Nutrient loading			Soil type*nutrient loading		
		df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>	df	$\chi^2$	<i>P</i>
	Other plants	2	2.20	0.33	2	2.01	0.37	4	4.79	0.31
<i>A. filiculoides</i>	Targeted plants	2	0.49	0.78	2	7.77	<b>0.02</b>	4	2.95	0.57
	Pore water	2	10.17	<b>0.01</b>	2	1.03	0.60	4	1.24	0.87
	Surface water	2	2.91	0.23	2	3.90	0.14	4	2.97	0.56
	Other plants	2	5.38	0.07	2	0.66	0.72	4	1.28	0.86
<i>C. demersum</i>	Targeted plants	2	10.43	<b>0.01</b>	2	6.28	<b>0.04</b>	4	9.86	<b>0.04</b>
	Pore water	2	14.48	<b>0.00</b>	2	0.04	0.98	4	3.58	0.47
	Surface water	2	0.37	0.83	2	10.56	<b>0.01</b>	4	0.26	0.99
<i>M. spicatum</i>	Other plants	2	3.08	0.21	2	4.53	0.10	4	5.75	0.22
	Targeted plants	2	4.00	0.14	2	0.06	0.97	4	3.99	0.41
	Pore water	2	4.16	0.13	2	0.02	0.99	4	8.92	0.06
	Surface water	2	11.51	<b>0.00</b>	2	14.03	<b>0.00</b>	4	5.73	0.22

17

18