

Drivers of macrophyte and diatom diversity in a shallow hypertrophic lake

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Table S4: List of vascular plant species and charophytes along with their frequencies, quantities and classification to species groups.

Frequencies were counted separately for each year as a proportion of segments, where the particular taxon was recorded. For the whole study period, a record from any year was counted as a presence in a particular segment. **Frequency colours:** $\geq 20\%$ bold, $\geq 50\%$ light green, $\geq 75\%$ dark green, $\geq 90\%$ brown.

Presence in 1, 2, 3 or 4 research years was calculated for each species. Colours: occurrence in 3 years – bold, in 4 years – red.

Quantities – the counts mean the sum of records of each species which refer to a species as to a dominant. The years were not counted separately. **Dominance colours:** ≥ 10 occurrences as a dominant – bold, ≥ 20 occurrences as a dominant – blue.

(a) ecological groups (ecol.) – according to the habitat ecology of the species. Categories: **aq** – all **aquatic** plant species, i.e. free-floating, floating-leaved and submerged; **saq** – **semiaquatic** or amphibious plant species, i.e. with optimal development in shallow water or on wet mud; **b** – annual or shortly perennial species of exposed pond **bottoms**; **r** – **reed** and tall sedge bed species (perennial); **w** – annual and perennial ruderal **weeds** and **weeds** of arable land (into the fishpond mainly introduced with manure, cereals for fish feeding, from surrounding pastures, arable fields and gardens); **g** – **grassland** species, mainly species of wet and mesophilous disturbed grasslands, meadows and pastures, rarely also species of dry grasslands; **f** – **forest** species, including herbs, creeping semi-woody plants such as *Rubus caesius* and forest trees and shrubs; **wet-s** – native **wetland** trees and **shrubs** (*Alnus glutinosa*, *Salix* spp.); **rc** – species of **rocks**, walls and screes; **c** – **cultural** plants, including fruit and ornamental trees, ornamental herbal species, field crops, vegetables, etc. escaped from cultivation; **e** – spring **ephemeral** terrestrial herbs growing particularly in gaps in dry grasslands but also along roads and in arable fields; **m** – herbs and shrubs of forest **margins**, also growing in abandoned meadows, clearings and in open-canopy forests; **tf** – herbs and lianas growing in **tall-forb** vegetation, usually following up the reed and tall sedge beds; **s** – **springs** and mires.

For the graph (Figure 5b) some groups with only a few species were merged: **Aquatic & subaquatic** = aquatic and subaquatic (amphibious) species; **Reed bed & spring** = species of reed and tall sedge beds and of springs and mires; **Grassland** = grassland, spring ephemeral and rock species; **Other** = species of forests, nitrophilous margins, tall forb vegetation and species escaped from cultivations.

(b) functional groups (funct.) – according to species' life history traits and relationship to water depth/water level fluctuation. Categories: **free** – free floating plants (only the species floating on the water surface were recorded); **flo-l** – rooted **floating leaved** species; **sub** – rooted **submerged** species; **amph** – **amphibious** (or subaquatic) species; **wet** – **wetland** annual (to shortly perennial) species; **hel** – **helophytes**, wetland perennials; **ter** – all **terrestrial** herbs, lianas and creeping semi-woody plants; **tree** – trees and shrubs, both wetland and non-wetland.

For the graph (Figure 5a) the following groups were merged due to a small amount of species: **Floating leaved & free floating** = floating leaved and free floating species; **wetland annual & amphibious** = amphibious species were included into the group of wetland annual and shortly perennial species.

(c) origin (orig.) – according to the classification of the species based on its origin in the Czech Republic (Pyšek et al. [87], Danihelka et al. [91]). Categories: **nat** – native species, **arch** – archaeophytes, **neo** – neophytes.

(d) threat – threat status according to recent Red Data Lists for the Czech Republic (Grulich [88], Grulich & Chobot [89]). C1 = CR, C2 = EN, C3 = VU, C4 = NT.

Taxa identified only to a genus or aggregate level are not classified into those groups, if their status cannot be unequivocally determined (e.g. the individual species of the same genus have a different origin).

Taxa printed in grey were included into overall species counts (whole period, individual years, species groups) only if none precisely determined species of the particular genus or aggregate was available for the given calculations.

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
					n=30	n=30	n=30	n=30	n=19	n=4	n=109 (segment-year)
<i>Agrostis capillaris</i>	g	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Agrostis stolonifera</i>	g	ter	nat		0.73	0.40	0.70	0.17	0.00	3	8
<i>Achillea millefolium</i> agg.	g	ter	nat		0.13	0.00	0.13	0.03	0.00	2	0
<i>Alisma plantago-aquatica</i>	r	hel	nat		0.27	0.23	0.00	0.00	0.05	2	0
<i>Alliaria petiolata</i>	f	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Alnus glutinosa</i>	wet-s	tree	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Alopecurus aequalis</i>	b	wet	nat		1.00	0.80	1.00	0.47	0.89	4	15
<i>Alopecurus geniculatus</i>	b	wet	nat		0.77	0.63	0.57	0.37	0.21	4	17
<i>Alopecurus myosuroides</i>	w	ter	arch		0.07	0.03	0.07	0.03	0.05	4	0
<i>Alopecurus pratensis</i>	g	ter	nat		0.43	0.17	0.13	0.20	0.00	3	0
<i>Amaranthus blitum</i>	w	ter	arch	C3	0.50	0.03	0.47	0.03	0.00	3	0
<i>Anagallis arvensis</i>	w	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Anthoxanthum odoratum</i>	g	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Apera spica-venti</i>	w	ter	arch		0.37	0.03	0.37	0.03	0.00	3	0
<i>Aphanes arvensis</i>	w	ter	nat	C3	0.03	0.03	0.00	0.00	0.00	1	0
<i>Arabidopsis thaliana</i>	e	ter	nat		0.40	0.07	0.37	0.13	0.00	3	0
<i>Arctium lappa</i>	w	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Arctium</i> sp.	w	ter	–		0.17	0.00	0.03	0.13	0.00	2	0
<i>Arenaria serpyllifolia</i>	e	ter	nat		0.07	0.03	0.03	0.07	0.00	3	0
<i>Artemisia vulgaris</i>	w	ter	nat		0.33	0.20	0.20	0.07	0.00	3	0
<i>Asplenium ruta-muraria</i>	rc	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Atriplex patula</i>	w	ter	arch		0.20	0.10	0.17	0.00	0.00	2	0
<i>Atriplex prostrata</i> subsp. <i>latifolia</i>	b	wet	nat	C4	0.30	0.03	0.27	0.03	0.00	3	0
<i>Atriplex sagittata</i>	w	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Aurinaria saxatilis</i>	rc	ter	nat	C4	0.03	0.00	0.03	0.00	0.00	1	0
<i>Avena fatua</i>	w	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Avena sativa</i>	c	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Barbarea stricta</i>	tf	ter	nat	C3	0.27	0.07	0.23	0.03	0.00	3	0
<i>Barbarea vulgaris</i>	tf	ter	nat		0.10	0.00	0.00	0.10	0.00	1	0
<i>Batrachium peltatum</i>	aq	flo	nat		0.23	0.00	0.23	0.03	0.00	2	0
<i>Bellis perennis</i>	g	ter	nat		0.17	0.00	0.03	0.13	0.00	2	0
<i>Betula pendula</i>	f	tree	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Bidens cernuus</i>	b	wet	nat		0.87	0.53	0.70	0.07	0.21	4	1
<i>Bidens frondosus</i>	b	wet	neo		0.77	0.63	0.40	0.13	0.11	4	1
<i>Bidens radiatus</i>	b	wet	nat		0.97	0.77	0.93	0.23	0.79	4	17
<i>Bidens tripartitus</i>	b	wet	nat		0.17	0.07	0.10	0.00	0.00	2	0
<i>Bolboschoenus laticarpus</i>	r	hel	nat	C4	0.83	0.13	0.83	0.00	0.05	3	5
<i>Bolboschoenus maritimus</i> agg.	r	hel	nat		0.90	0.50	0.87	0.20	0.58	4	12
<i>Bolboschoenus yagara</i>	r	hel	nat	C3	0.13	0.00	0.13	0.00	0.00	1	0
<i>Brassica napus</i> Napus Group	c	ter	arch		0.20	0.00	0.20	0.00	0.00	1	0
<i>Bromus</i> cf. <i>japonicus</i>	w	ter	arch	C4	0.03	0.00	0.00	0.03	0.00	1	0
<i>Bromus hordeaceus</i> subsp. <i>hordeaceus</i>	w	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Buglossoides arvensis</i> agg.	w	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Calamagrostis epigejos</i>	w	ter	nat		0.13	0.07	0.07	0.10	0.00	3	0
<i>Callitriche palustris</i>	saq	flo	nat		0.33	0.23	0.13	0.00	0.30	3	1
<i>Callitriche</i> sp.	aq	flo	nat		0.07	0.00	0.07	0.00	0.00	1	0
<i>Calystegia sepium</i>	m	ter	nat		0.23	0.20	0.03	0.07	0.00	3	0
<i>Campanula patula</i>	g	ter	nat		0.20	0.07	0.10	0.03	0.00	3	0
<i>Capsella bursa-pastoris</i>	w	ter	arch		0.13	0.10	0.07	0.10	0.00	3	0

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
<i>Cardamine amara</i>	s	hel	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Carex acuta</i>	r	hel	nat		0.90	0.90	0.43	0.50	0.42	4	25
<i>Carex bohémica</i>	b	wet	nat	C4	0.70	0.20	0.70	0.00	0.32	3	0
<i>Carex hirta</i>	g	ter	nat		0.67	0.60	0.20	0.20	0.11	4	1
<i>Carex nigra</i>	s	hel	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Carex vesicaria</i>	r	hel	nat		0.23	0.23	0.03	0.00	0.00	2	0
<i>Centaurea cyanus</i>	w	ter	arch		0.10	0.07	0.07	0.00	0.00	2	0
<i>Centaurea jacea</i>	g	ter	nat		0.23	0.00	0.23	0.00	0.00	1	0
<i>Cerastium dubium</i>	b	wet	nat	C2	0.57	0.23	0.50	0.43	0.58	4	8
<i>Cerastium glomeratum</i>	w	ter	nat		0.13	0.07	0.03	0.07	0.05	4	0
<i>Cerastium holosteoides</i>	g	ter	nat		0.33	0.17	0.17	0.17	0.00	3	0
<i>Cirsium arvense</i>	w	ter	arch		0.40	0.13	0.20	0.20	0.05	4	0
<i>Cirsium vulgare</i>	w	ter	nat		0.57	0.17	0.10	0.50	0.05	4	0
<i>Citrullus lanatus</i>	c	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Coleanthus subtilis</i>	b	wet	nat	C3	0.77	0.17	0.77	0.00	0.47	3	9
<i>Convolvulus arvensis</i>	w	ter	arch		0.03	0.03	0.00	0.00	0.00	1	0
<i>Conyza canadensis</i>	w	ter	neo		0.70	0.37	0.47	0.23	0.53	4	0
<i>Cuscuta campestris</i>	g	ter	neo		0.33	0.00	0.30	0.00	0.16	2	0
<i>Cyperus fuscus</i>	b	wet	nat	C3	0.20	0.00	0.03	0.00	0.26	2	0
<i>Cystopteris fragilis</i>	rc	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Dactylis glomerata</i>	g	ter	nat		0.23	0.07	0.03	0.17	0.00	3	0
<i>Descurainia sophia</i>	w	ter	arch		0.07	0.03	0.03	0.00	0.00	2	0
<i>Deschampsia cespitosa</i>	g	ter	nat		0.23	0.10	0.13	0.10	0.00	3	0
<i>Dianthus deltoides</i>	g	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Echinochloa crus-galli</i>	w	ter	arch		0.70	0.20	0.67	0.10	0.05	4	0
<i>Elatine hydropiper</i>	saq	amph	nat	C3	0.53	0.17	0.50	0.07	0.53	4	12
<i>Eleocharis acicularis</i>	saq	amph	nat		0.33	0.20	0.20	0.00	0.32	3	2
<i>Eleocharis ovata</i>	b	wet	nat	C4	0.47	0.20	0.47	0.00	0.16	3	0
<i>Eleocharis palustris</i>	r	hel	nat		0.23	0.20	0.03	0.00	0.00	2	0
<i>Elymus repens</i>	w	ter	nat		0.37	0.27	0.10	0.07	0.00	3	0
<i>Epilobium adenocaulon</i>	b	wet	neo		0.83	0.40	0.77	0.03	0.00	3	0
<i>Epilobium hirsutum</i>	r	hel	nat		0.37	0.00	0.37	0.03	0.00	2	0
<i>Epilobium parviflorum</i>	r	hel	nat	C3	0.20	0.00	0.20	0.00	0.00	1	0
<i>Epilobium roseum</i>	r	hel	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Epilobium</i> sp.	–	–	–		0.83	0.27	0.17	0.73	0.05	3	0
<i>Epilobium tetragonum</i> agg.	w	ter	nat		0.57	0.07	0.53	0.00	0.00	2	0
<i>Equisetum arvense</i>	w	ter	nat		0.17	0.13	0.03	0.07	0.00	3	0
<i>Equisetum palustre</i>	g	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Erigeron annuus</i>	w	ter	neo		0.03	0.00	0.00	0.00	0.03	1	0
<i>Erodium cicutarium</i>	w	ter	arch		0.07	0.00	0.03	0.03	0.00	2	0
<i>Erophila verna</i>	e	ter	nat		0.17	0.07	0.13	0.03	0.00	3	0
<i>Erysimum cheiranthoides</i>	w	ter	arch		0.03	0.00	0.03	0.03	0.00	1	0
<i>Euphorbia peplus</i>	w	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Fallopia convolvulus</i>	w	ter	arch		0.10	0.07	0.10	0.00	0.00	2	0
<i>Fallopia dumetorum</i>	tf	ter	nat		0.07	0.03	0.07	0.00	0.00	2	0
<i>Fallopia</i> sp.	–	ter	–		0.10	0.10	0.00	0.00	0.00	1	0
<i>Ficaria verna</i>	f	ter	nat		0.23	0.00	0.10	0.03	0.00	2	0
<i>Filipendula ulmaria</i>	f	ter	nat		0.10	0.07	0.00	0.03	0.00	2	0
<i>Galeopsis bifida</i>	w	ter	nat		0.10	0.07	0.07	0.03	0.00	3	0
<i>Galeopsis</i> sp.	w	ter	nat		0.57	0.27	0.30	0.13	0.03	4	0
<i>Galeopsis tetrahit</i>	w	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
<i>Galinsoga quadriradiata</i>	w	ter	neo		0.03	0.00	0.03	0.00	0.00	1	0
<i>Galium aparine</i>	w	ter	nat		0.83	0.50	0.50	0.53	0.00	3	0
<i>Galium palustre</i> agg.	r	hel	nat		0.53	0.53	0.07	0.03	0.05	4	0
<i>Geranium dissectum</i>	w	ter	arch		0.10	0.07	0.03	0.00	0.00	2	0
<i>Geranium pusillum</i>	w	ter	arch		0.13	0.10	0.03	0.10	0.00	3	1
<i>Geranium robertianum</i>	f	ter	nat		0.27	0.23	0.07	0.10	0.00	3	0
<i>Geum urbanum</i>	f	ter	nat		0.17	0.07	0.03	0.10	0.00	3	0
<i>Glechoma hederacea</i>	g	ter	nat		0.20	0.13	0.00	0.07	0.00	2	0
<i>Glyceria declinata</i>	r	hel	nat		0.17	0.00	0.17	0.00	0.00	1	0
<i>Glyceria fluitans</i>	r	hel	nat		0.10	0.03	0.00	0.07	0.00	2	0
<i>Glyceria maxima</i>	r	hel	nat		0.47	0.47	0.10	0.40	0.21	4	3
<i>Glyceria notata</i>	r	hel	nat		0.17	0.00	0.13	0.03	0.00	2	0
<i>Gnaphalium uliginosum</i>	b	wet	nat		0.70	0.30	0.70	0.03	0.11	4	5
<i>Gypsophila muralis</i>	b	wet	nat		0.20	0.03	0.13	0.03	0.13	4	0
<i>Holcus lanatus</i>	g	ter	nat		0.10	0.00	0.00	0.10	0.00	1	0
<i>Hordeum vulgare</i>	c	ter	arch		0.10	0.00	0.10	0.00	0.00	1	0
<i>Hypericum perforatum</i>	m	ter	nat		0.07	0.03	0.03	0.00	0.00	2	0
<i>Hypochaeris radicata</i>	g	ter	nat		0.30	0.00	0.23	0.03	0.20	3	0
<i>Chara braunii</i>	aq	sub	nat	C3	0.20	0.03	0.17	0.00	0.00	2	0
<i>Chelidonium majus</i>	m	ter	arch		0.07	0.07	0.00	0.03	0.00	2	0
<i>Chenopodium album</i> s. l.	w	ter	nat		0.67	0.20	0.53	0.07	0.00	3	0
<i>Chenopodium ficifolium</i>	b	wet	nat		0.77	0.20	0.73	0.20	0.11	4	0
<i>Chenopodium glaucum</i>	b	wet	nat		0.63	0.17	0.57	0.00	0.16	3	0
<i>Chenopodium polyspermum</i>	w	ter	nat		0.43	0.07	0.37	0.03	0.05	4	0
<i>Chenopodium rubrum</i>	b	wet	nat		0.57	0.03	0.57	0.00	0.05	4	0
<i>Impatiens noli-tangere</i>	m	ter	nat		0.07	0.03	0.03	0.00	0.00	2	0
<i>Impatiens parviflora</i>	f	ter	neo		0.20	0.13	0.13	0.03	0.00	3	0
<i>Iris pseudacorus</i>	r	hel	nat		0.30	0.23	0.03	0.03	0.03	4	0
<i>Isolepis setacea</i>	b	wet	nat	C3	0.20	0.07	0.17	0.00	0.05	3	0
<i>Juncus articulatus</i>	b	wet	nat		0.73	0.47	0.53	0.30	0.37	4	0
<i>Juncus bufonius</i>	b	wet	nat		0.93	0.37	0.87	0.10	0.79	4	16
<i>Juncus compressus</i>	g	ter	nat		0.13	0.10	0.07	0.03	0.00	3	0
<i>Juncus effusus</i>	r	hel	nat		0.53	0.40	0.33	0.43	0.00	3	9
<i>Juncus tenuis</i>	w	ter	neo		0.17	0.10	0.07	0.03	0.00	3	0
<i>Lactuca serriola</i>	w	ter	arch		0.33	0.07	0.20	0.07	0.05	4	0
<i>Lamium album</i>	m	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Lamium purpureum</i>	w	ter	arch		0.20	0.03	0.10	0.20	0.00	3	1
<i>Lapsana communis</i>	m	ter	arch		0.27	0.13	0.10	0.10	0.00	3	0
<i>Lathyrus pratensis</i>	g	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Leersia oryzoides</i>	r	hel	nat	C3	0.43	0.20	0.37	0.00	0.11	3	0
<i>Lemna gibba</i>	aq	free	nat		0.73	0.37	0.27	0.50	0.16	4	0
<i>Lemna minor</i>	aq	free	nat		0.50	0.47	0.00	0.03	0.00	2	0
<i>Limosella aquatica</i>	b	wet	nat	C4	0.60	0.30	0.53	0.00	0.68	3	5
<i>Lindernia procumbens</i>	b	wet	nat	C1	0.03	0.00	0.03	0.00	0.00	1	0
<i>Lolium multiflorum</i>	g	ter	neo		0.13	0.07	0.07	0.03	0.00	1	0
<i>Lolium perenne</i>	g	ter	nat		0.30	0.00	0.27	0.10	0.00	2	0
<i>Lotus corniculatus</i>	g	ter	nat		0.47	0.10	0.33	0.17	0.00	3	0
<i>Lycopus europaeus</i>	r	hel	nat		0.80	0.77	0.30	0.07	0.00	3	0
<i>Lychnis flos-cuculi</i>	g	ter	nat		0.10	0.00	0.00	0.10	0.00	1	0
<i>Lysimachia nummularia</i>	g	ter	nat		0.53	0.47	0.03	0.20	0.00	3	0
<i>Lysimachia vulgaris</i>	r	hel	nat		0.73	0.70	0.03	0.17	0.00	3	0

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
<i>Lythrum hyssopifolia</i>	b	wet	nat	C2	0.30	0.20	0.20	0.00	0.37	3	0
<i>Lythrum salicaria</i>	r	hel	nat		0.90	0.90	0.47	0.40	0.05	4	0
<i>Matricaria discoidea</i>	w	ter	neo		0.10	0.03	0.10	0.00	0.00	2	0
<i>Matricaria chamomilla</i>	w	ter	arch		0.10	0.00	0.07	0.00	0.05	2	0
<i>Medicago lupulina</i>	w	ter	nat		0.10	0.03	0.10	0.03	0.00	3	0
<i>Melilotus albus</i>	w	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Melilotus</i> sp. juv.	w	ter	–		0.03	0.00	0.03	0.00	0.00	1	0
<i>Mentha arvensis</i>	g	ter	nat		0.07	0.03	0.00	0.00	0.00	1	0
<i>Mentha x verticillata</i>	r	hel	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Montia arvensis</i>	b	wet	nat	C1	0.47	0.27	0.43	0.33	0.53	4	6
<i>Myosotis arvensis</i>	w	ter	arch		0.20	0.13	0.13	0.03	0.00	3	0
<i>Myosotis caespitosa</i>	r	hel	nat	C4	0.73	0.67	0.57	0.20	0.47	4	0
<i>Myosotis ramosissima</i>	e	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Myosotis stricta</i>	e	ter	nat		0.07	0.07	0.03	0.03	0.00	3	0
<i>Myosoton aquaticum</i>	b	wet	nat		0.97	0.60	0.83	0.47	0.16	4	2
<i>Myosurus minimus</i>	b	wet	nat	C3	0.93	0.40	0.93	0.47	0.68	4	17
<i>Oenanthe aquatica</i>	r	hel	nat		0.90	0.57	0.90	0.13	0.26	4	1
<i>Oenothera</i> sp.	w	ter	neo		0.03	0.03	0.00	0.00	0.00	1	0
<i>Papaver rhoeas</i>	w	ter	arch		0.07	0.03	0.07	0.00	0.00	2	0
<i>Papaver somniferum</i>	c	ter	arch		0.03	0.00	0.03	0.00	0.00	1	0
<i>Parthenocissus</i> sp.	m	ter	neo		0.03	0.03	0.03	0.00	0.00	2	0
<i>Peplis portula</i>	b	wet	nat		0.53	0.33	0.40	0.00	0.58	3	1
<i>Persicaria amphibia</i>	saq	flo	nat		0.93	0.90	0.67	0.70	0.58	4	7
<i>Persicaria hydropiper</i>	b	wet	nat		1.00	0.87	1.00	0.33	0.42	4	1
<i>Persicaria lapathifolia</i>	b	wet	nat		0.97	0.43	0.97	0.17	0.26	4	2
<i>Persicaria lapathifolia</i> subsp. <i>brittingeri</i>	b	wet	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Persicaria maculosa</i>	w	ter	nat		0.10	0.03	0.00	0.07	0.03	3	0
<i>Persicaria minor</i>	b	wet	nat		0.47	0.07	0.43	0.03	0.00	3	0
<i>Phalaris arundinacea</i>	r	hel	nat		1.00	1.00	0.97	1.00	0.58	4	53
<i>Phleum pratense</i>	g	ter	nat		0.30	0.00	0.30	0.00	0.00	1	0
<i>Phragmites australis</i>	r	hel	nat		0.40	0.27	0.33	0.40	0.26	4	22
<i>Plantago lanceolata</i>	g	ter	nat		0.10	0.00	0.03	0.10	0.00	2	0
<i>Plantago major</i> s. l.	–	ter	nat		0.10	0.10	0.00	0.00	0.00	1	0
<i>Plantago major</i> s. str	w	ter	nat		0.07	0.03	0.03	0.00	0.00	2	0
<i>Plantago uliginosa</i>	b	wet	nat		0.67	0.27	0.53	0.33	0.13	4	1
<i>Poa annua</i>	w	ter	nat		0.80	0.37	0.53	0.50	0.37	4	0
<i>Poa humilis</i>	g	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Poa nemoralis</i>	f	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Poa palustris</i>	r	hel	nat		1.00	0.87	0.93	0.67	0.10	4	14
<i>Poa pratensis</i> agg.	g	ter	nat		0.07	0.03	0.00	0.03	0.00	2	0
<i>Poa trivialis</i>	g	ter	nat		0.93	0.57	0.87	0.57	0.53	4	1
<i>Polygonum aviculare</i> agg.	w	ter	nat		0.33	0.10	0.23	0.03	0.00	3	0
<i>Populus tremula</i>	f	tree	nat		0.17	0.03	0.13	0.00	0.00	2	0
<i>Populus x canadensis</i>	f	tree	neo		0.07	0.07	0.03	0.00	0.00	2	0
<i>Potamogeton crispus</i>	aq	sub	nat		0.10	0.00	0.03	0.07	0.00	2	0
<i>Potamogeton pusillus</i>	aq	sub	nat		0.07	0.03	0.03	0.00	0.00	2	0
<i>Potentilla anserina</i>	g	ter	nat		0.47	0.33	0.13	0.30	0.11	4	0
<i>Potentilla argentea</i>	g	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Potentilla norvegica</i>	b	wet	nat		0.27	0.07	0.07	0.20	0.00	3	0
<i>Potentilla reptans</i>	g	ter	nat		0.13	0.13	0.00	0.00	0.00	1	0
<i>Potentilla supina</i>	b	wet	nat		0.70	0.30	0.70	0.47	0.53	4	0

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
<i>Prunus avium</i>	c	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Prunus</i> sp. juv.	m	tree	–		0.07	0.03	0.03	0.00	0.00	2	0
<i>Prunus spinosa</i>	m	tree	nat		0.07	0.07	0.00	0.00	0.00	1	0
<i>Puccinellia distans</i>	b	wet	nat	(C1)	0.03	0.03	0.00	0.00	0.00	1	0
<i>Pyrus pyraeaster</i>	f	tree	nat	C4	0.03	0.03	0.00	0.00	0.00	1	0
<i>Quercus petraea</i>	f	tree	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Quercus robur</i>	f	tree	nat		0.17	0.13	0.07	0.00	0.00	2	0
<i>Ranunculus acris</i>	g	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Ranunculus flammula</i>	b	wet	nat		0.67	0.43	0.60	0.33	0.26	4	0
<i>Ranunculus repens</i>	g	ter	nat		0.63	0.40	0.20	0.33	0.00	3	0
<i>Ranunculus sceleratus</i>	b	wet	nat		1.00	0.80	1.00	0.47	0.79	4	14
<i>Rorippa palustris</i>	b	wet	nat		1.00	0.70	0.80	0.30	0.68	4	4
<i>Rorippa sylvestris</i>	b	wet	nat		0.07	0.07	0.00	0.00	0.00	1	0
<i>Rosa canina</i> agg.	m	tree	nat		0.07	0.07	0.00	0.00	0.00	1	0
<i>Rubus caesius</i>	f	ter	nat		0.27	0.27	0.00	0.03	0.00	2	0
<i>Rubus fruticosus</i> agg.	m	tree	nat		0.10	0.10	0.03	0.00	0.00	2	0
<i>Rumex acetosa</i>	g	ter	nat		0.07	0.00	0.00	0.07	0.00	1	0
<i>Rumex acetosella</i>	g	ter	nat		0.07	0.00	0.00	0.07	0.00	1	0
<i>Rumex crispus</i>	g	ter	nat		0.47	0.23	0.13	0.27	0.00	3	0
<i>Rumex maritimus</i>	b	wet	nat		0.97	0.70	0.87	0.23	0.68	4	11
<i>Rumex obtusifolius</i>	w	ter	nat		0.60	0.23	0.30	0.43	0.00	3	0
<i>Rumex sanguineus</i>	f	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Sagina procumbens</i>	w	ter	nat		0.47	0.40	0.17	0.27	0.32	4	0
<i>Salix alba</i>	wet-s	tree	nat		0.10	0.07	0.03	0.00	0.00	2	0
<i>Salix cinerea</i>	wet-s	tree	nat		0.77	0.70	0.50	0.63	0.37	4	43
<i>Salix fragilis</i>	wet-s	tree	nat		0.33	0.27	0.07	0.17	0.00	3	0
<i>Salix matsudana</i> 'Tortuosa'	c	tree	neo		0.10	0.07	0.03	0.00	0.00	2	0
<i>Salix purpurea</i>	wet-s	tree	nat		0.07	0.07	0.03	0.00	0.00	2	0
<i>Salix</i> sp. juv.	wet-s	tree	–		0.20	0.03	0.20	0.00	0.03	3	0
<i>Salix triandra</i>	wet-s	tree	nat		0.30	0.27	0.13	0.10	0.16	4	8
<i>Salix x rubens</i>	wet-s	tree	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Scirpus radicans</i>	r	hel	nat	C3	0.03	0.03	0.00	0.00	0.00	1	0
<i>Scirpus sylvaticus</i>	g	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Scorzonoides autumnalis</i>	g	ter	nat		0.10	0.07	0.00	0.03	0.00	2	0
<i>Scrophularia nodosa</i>	m	ter	nat		0.07	0.03	0.03	0.03	0.00	3	0
<i>Scutellaria galericulata</i>	r	hel	nat		0.30	0.20	0.10	0.00	0.00	2	0
<i>Secale cereale</i>	c	ter	arch		0.10	0.00	0.10	0.00	0.00	1	0
<i>Sedum spurium</i> /hybridum	rc	ter	neo		0.03	0.03	0.00	0.00	0.00	1	0
<i>Senecio sylvaticus</i>	m	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Senecio viscosus</i>	w	ter	nat		0.13	0.03	0.07	0.07	0.00	3	0
<i>Setaria pumila</i>	w	ter	arch		0.10	0.03	0.10	0.00	0.00	2	0
<i>Silene latifolia</i> subsp. <i>alba</i>	g	ter	arch		0.10	0.03	0.03	0.03	0.00	3	0
<i>Solanum dulcamara</i>	r	hel	nat		0.57	0.50	0.07	0.13	0.00	3	0
<i>Sonchus arvensis</i>	w	ter	arch		0.10	0.03	0.07	0.00	0.00	2	0
<i>Sonchus asper</i>	w	ter	arch		0.10	0.00	0.07	0.00	0.05	2	0
<i>Sonchus oleraceus</i>	w	ter	arch		0.10	0.03	0.07	0.03	0.00	3	0
<i>Spergularia kurkae</i>	b	wet	nat	C2	0.77	0.20	0.77	0.17	0.68	4	11
<i>Spirodela polyrhiza</i>	aq	free	nat		0.67	0.57	0.17	0.37	0.21	4	0
<i>Stellaria alsine</i>	b	wet	nat		0.97	0.67	0.93	0.57	0.74	4	14
<i>Stellaria graminea</i>	g	ter	nat		0.07	0.03	0.00	0.03	0.00	2	0
<i>Stellaria media</i>	w	ter	nat		0.30	0.17	0.13	0.17	0.00	3	1

species	ecol.	funct.	orig.	threat	freq. all years	freq. 2014	freq. 2015	freq. 2016	freq. 2019	years of occurrence	dominants
<i>Symphytum officinale</i>	g	ter	nat		0.07	0.07	0.00	0.00	0.00	1	0
<i>Tagetes</i> sp.	c	ter	neo		0.03	0.00	0.03	0.00	0.00	1	0
<i>Taraxacum</i> sect. <i>Taraxacum</i>	g	ter	nat		0.80	0.40	0.33	0.53	0.00	3	0
<i>Thlaspi arvense</i>	w	ter	arch		0.20	0.07	0.10	0.10	0.00	3	0
<i>Trifolium arvense</i>	g	ter	nat		0.87	0.33	0.80	0.20	0.42	4	12
<i>Trifolium campestre</i>	g	ter	nat		0.97	0.40	0.97	0.03	0.47	4	4
<i>Trifolium dubium</i>	g	ter	nat		0.17	0.10	0.03	0.03	0.05	4	0
<i>Trifolium hybridum</i>	g	ter	neo		0.93	0.47	0.90	0.43	0.47	4	15
<i>Trifolium pratense</i>	g	ter	nat		0.47	0.03	0.47	0.03	0.05	4	0
<i>Trifolium repens</i>	g	ter	nat		0.40	0.07	0.40	0.03	0.11	4	0
<i>Tripleurospermum inodorum</i>	w	ter	arch		0.97	0.70	0.97	0.73	0.68	4	0
<i>Triticosecale rimpaui</i>	c	ter	neo		0.17	0.00	0.17	0.00	0.00	1	0
<i>Triticum aestivum</i>	c	ter	arch		0.37	0.03	0.37	0.00	0.00	2	0
<i>Tussilago farfara</i>	w	ter	nat		0.13	0.00	0.07	0.00	0.11	2	0
<i>Typha angustifolia</i>	r	hel	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Typha latifolia</i>	r	hel	nat		0.10	0.00	0.07	0.00	0.05	2	0
<i>Typha</i> sp.	r	hel	nat		0.17	0.00	0.10	0.00	0.11	2	0
<i>Ulmus</i> sp. juv.	f	tree	nat		0.07	0.07	0.00	0.00	0.00	1	0
<i>Urtica dioica</i>	tf	ter	nat		0.87	0.60	0.50	0.53	0.05	4	1
<i>Valeriana officinalis</i>	m	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Valerianella locusta</i>	e	ter	nat		0.10	0.07	0.03	0.07	0.00	3	1
<i>Verbascum</i> sp.	w	ter	nat		0.03	0.03	0.03	0.00	0.00	2	0
<i>Veronica anagallis-aquatica</i>	b	wet	nat		1.00	0.87	1.00	0.43	0.95	4	17
<i>Veronica arvensis</i>	g	ter	arch		0.10	0.07	0.07	0.10	0.00	2	0
<i>Veronica beccabunga</i>	r	wet	nat		0.33	0.00	0.33	0.03	0.05	3	0
<i>Veronica hederifolia</i>	w	ter	arch		0.03	0.03	0.03	0.03	0.00	3	0
<i>Veronica chamaedrys</i>	g	ter	nat		0.03	0.03	0.00	0.00	0.00	1	0
<i>Veronica peregrina</i>	b	wet	neo		0.53	0.07	0.40	0.03	0.32	4	2
<i>Veronica persica</i>	w	ter	neo		0.07	0.03	0.03	0.00	0.00	2	0
<i>Veronica scutellata</i>	b	wet	nat	C4	0.17	0.13	0.07	0.03	0.05	4	0
<i>Veronica serpyllifolia</i>	g	ter	nat		0.13	0.13	0.00	0.03	0.00	2	0
<i>Veronica sublobata</i>	w	ter	nat		0.03	0.00	0.00	0.03	0.00	1	0
<i>Vicia angustifolia</i>	g	ter	arch		0.17	0.07	0.10	0.00	0.05	3	0
<i>Vicia cracca</i>	g	ter	nat		0.03	0.00	0.03	0.00	0.00	1	0
<i>Vicia hirsuta</i>	g	ter	nat		0.43	0.27	0.27	0.00	0.00	2	0
<i>Vicia</i> sp.	—	ter	—		0.17	0.00	0.07	0.13	0.00	2	0
<i>Vicia tetrasperma</i>	g	ter	nat		0.43	0.23	0.23	0.00	0.00	2	0
<i>Viola arvensis</i>	w	ter	nat		0.07	0.07	0.03	0.03	0.00	3	0
<i>Zannichellia palustris</i>	aq	sub	nat		0.43	0.17	0.33	0.00	0.58	3	7
<i>Zea mays</i>	c	ter	neo		0.07	0.00	0.03	0.03	0.00	2	0