

Supplemental Information

Appendix A: Figures and Tables



Figure S.1 Location of the four fen sites

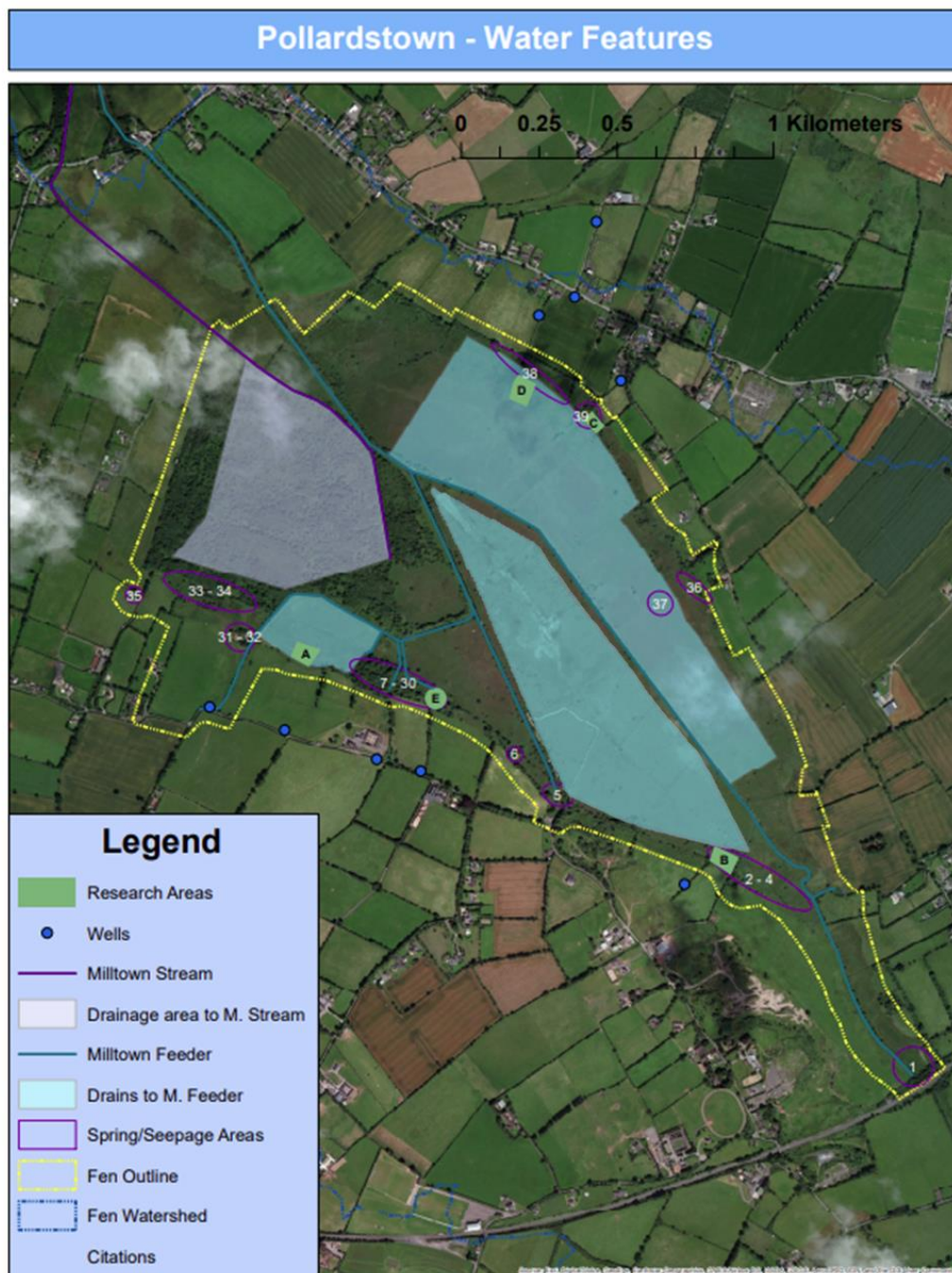
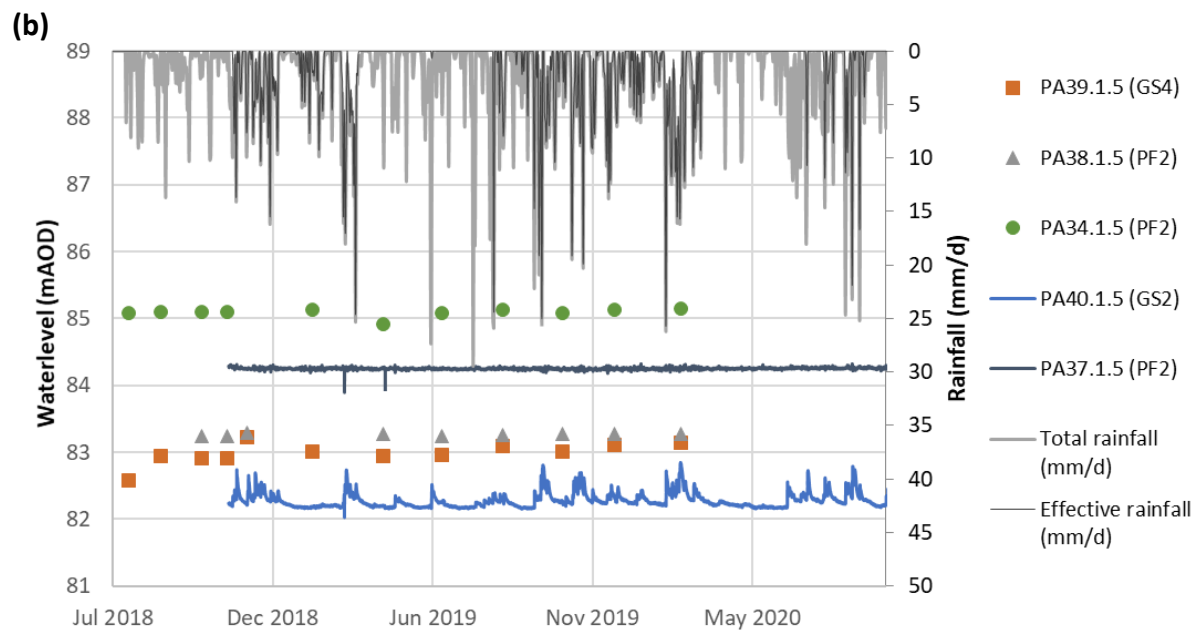
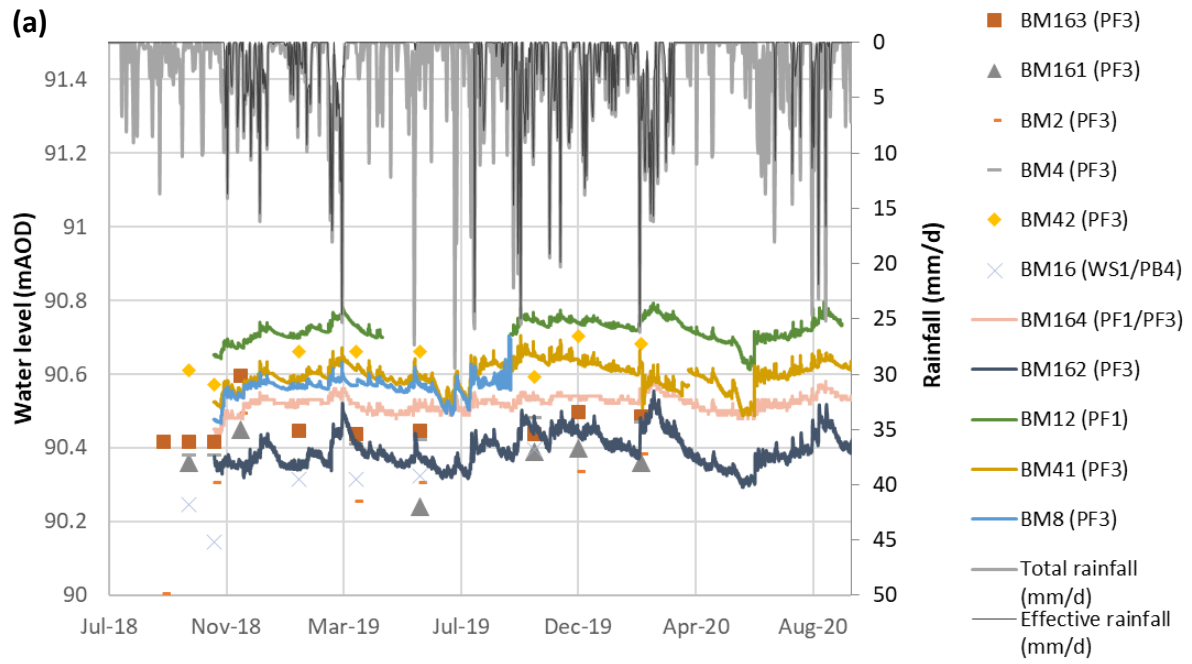
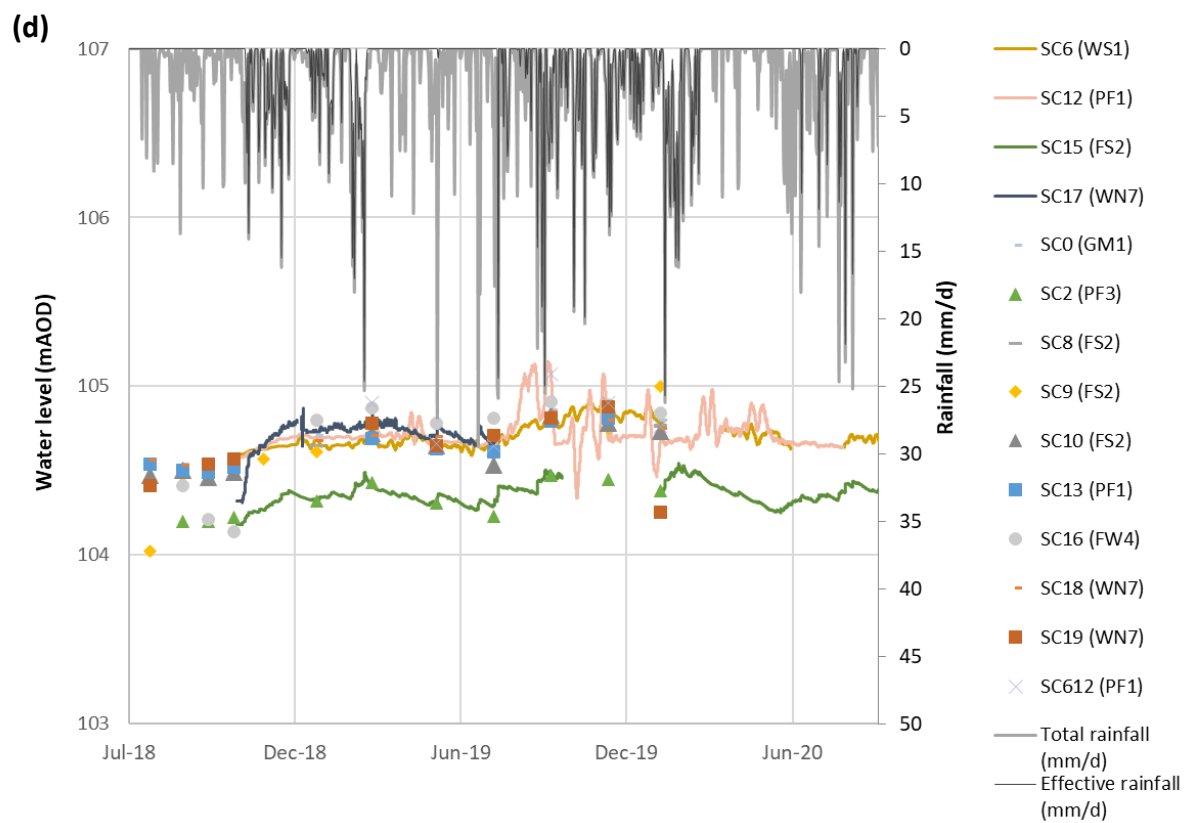
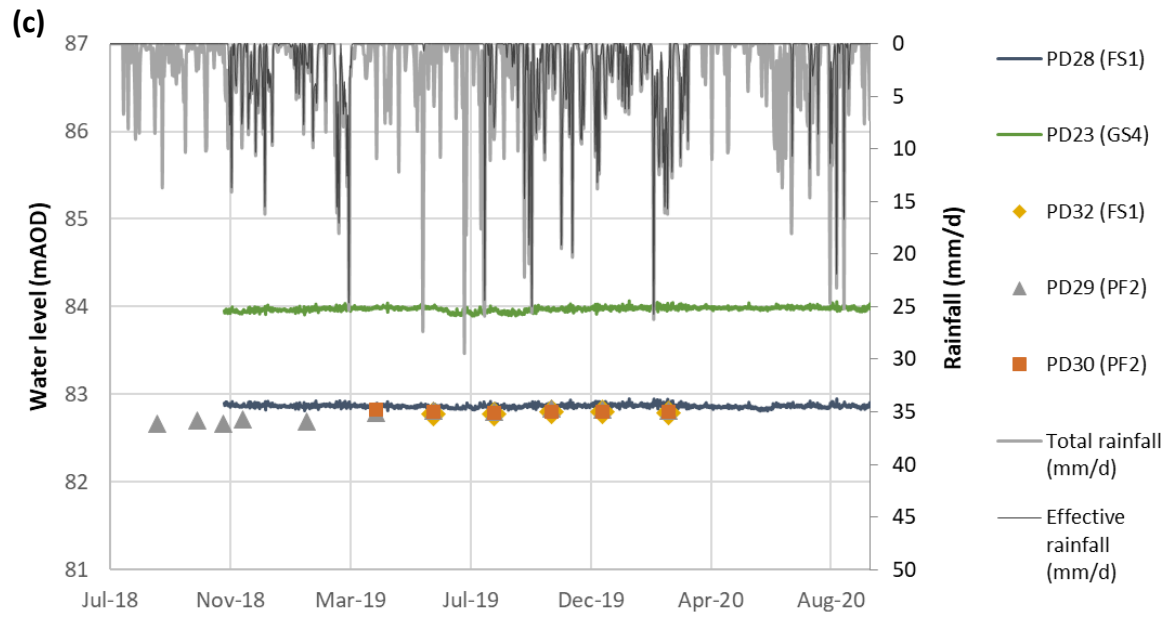


Figure S.2 General water features and research sites of Pollardstown Fen, showing location of sites A and D as monitored in this research (adapted from Kuczyńska (2008)).





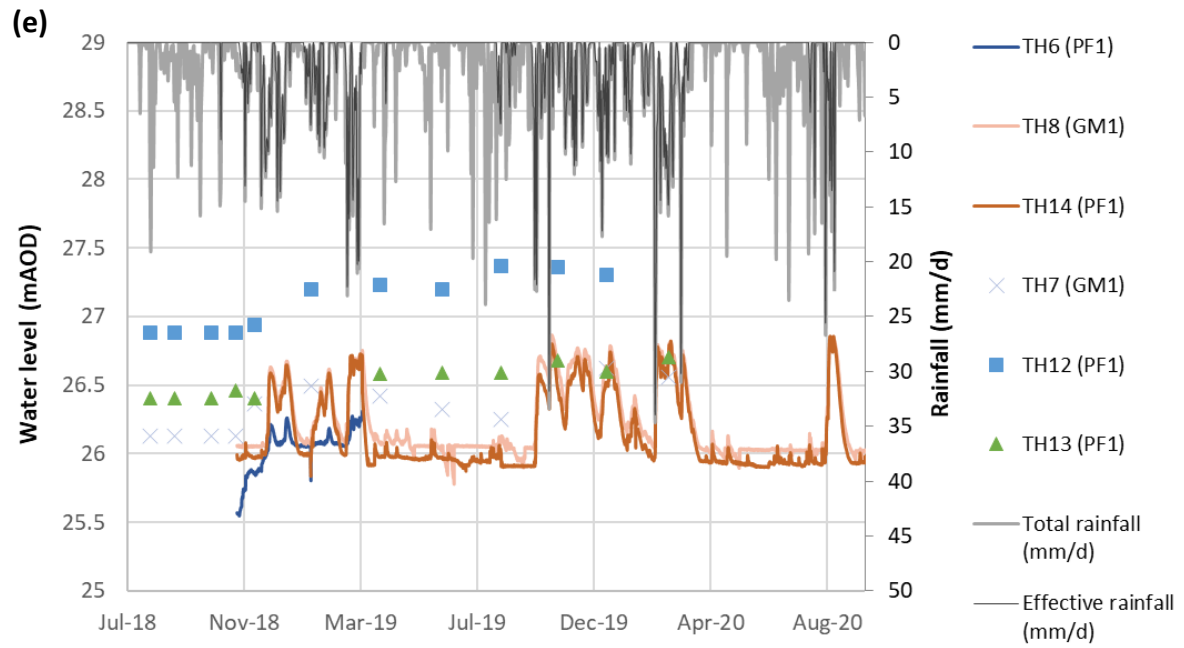
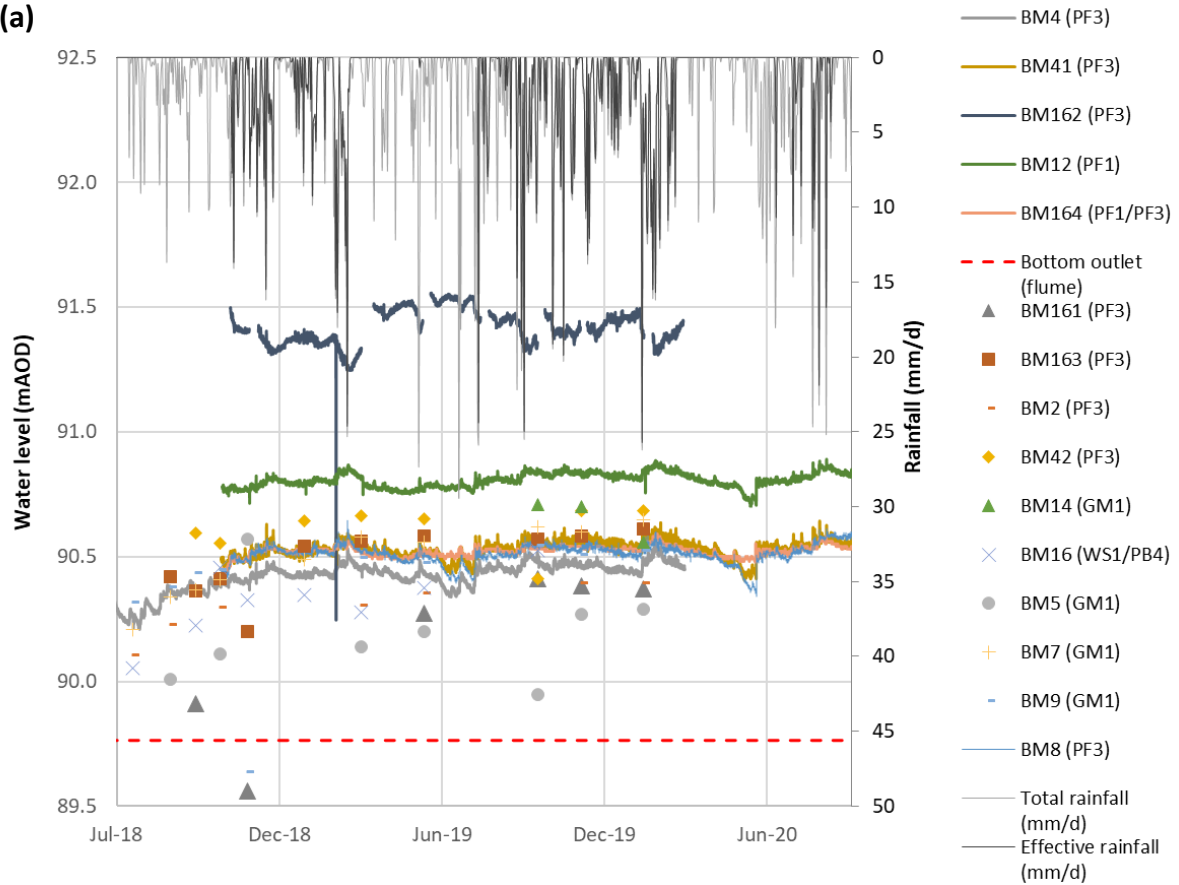
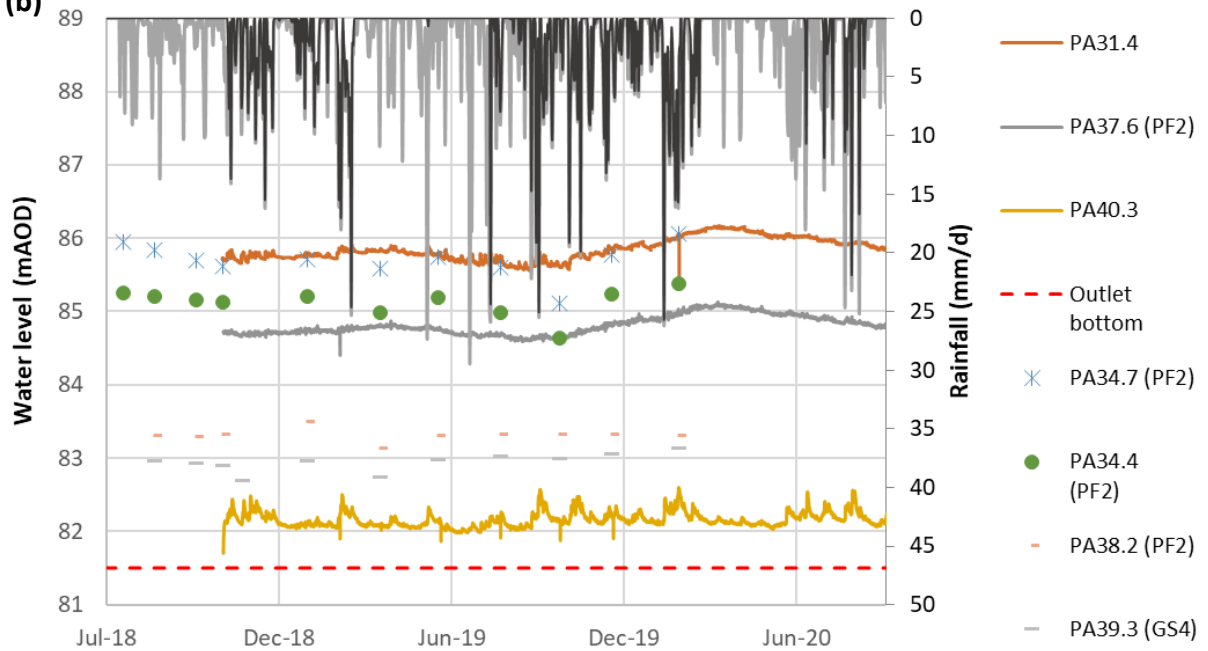


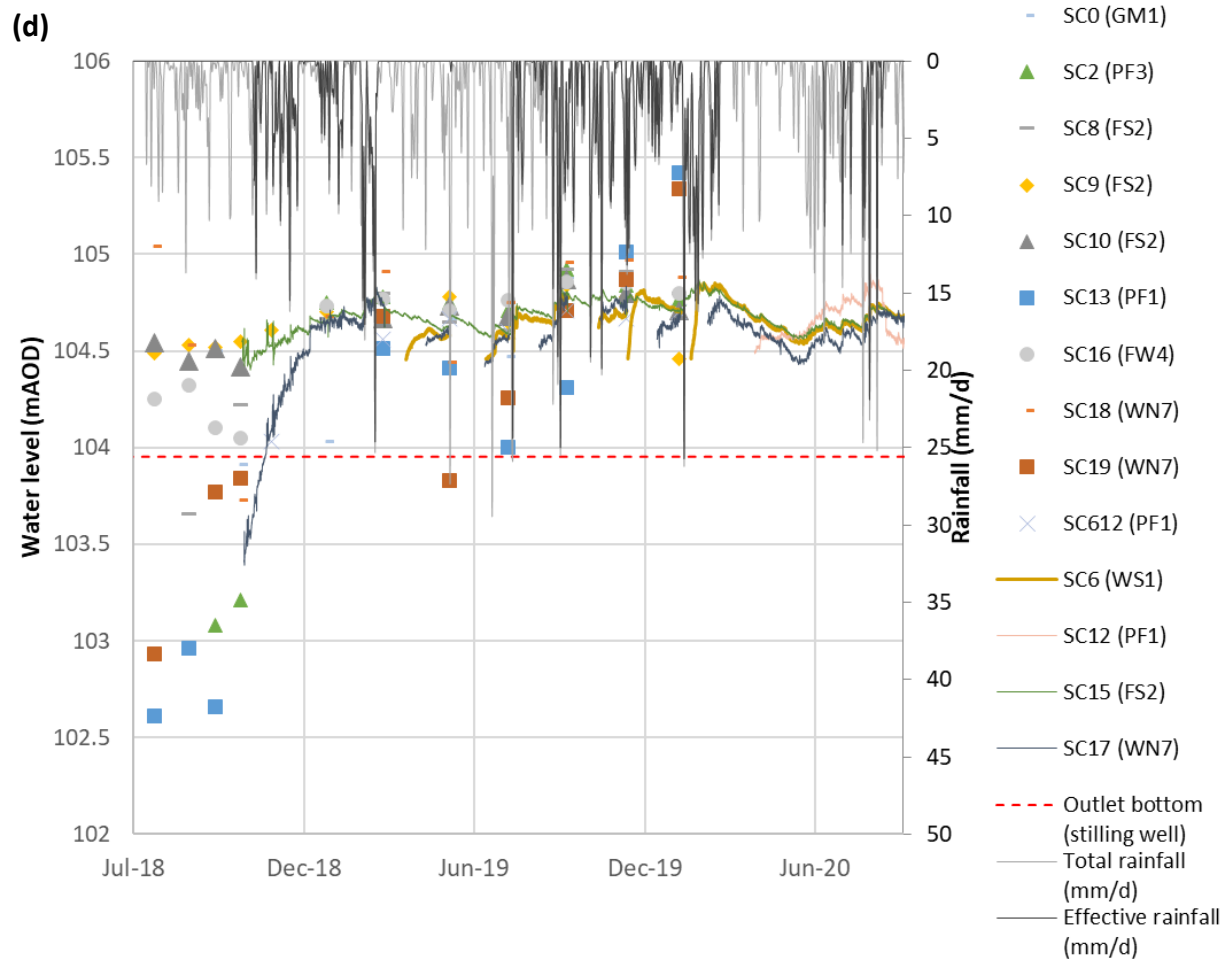
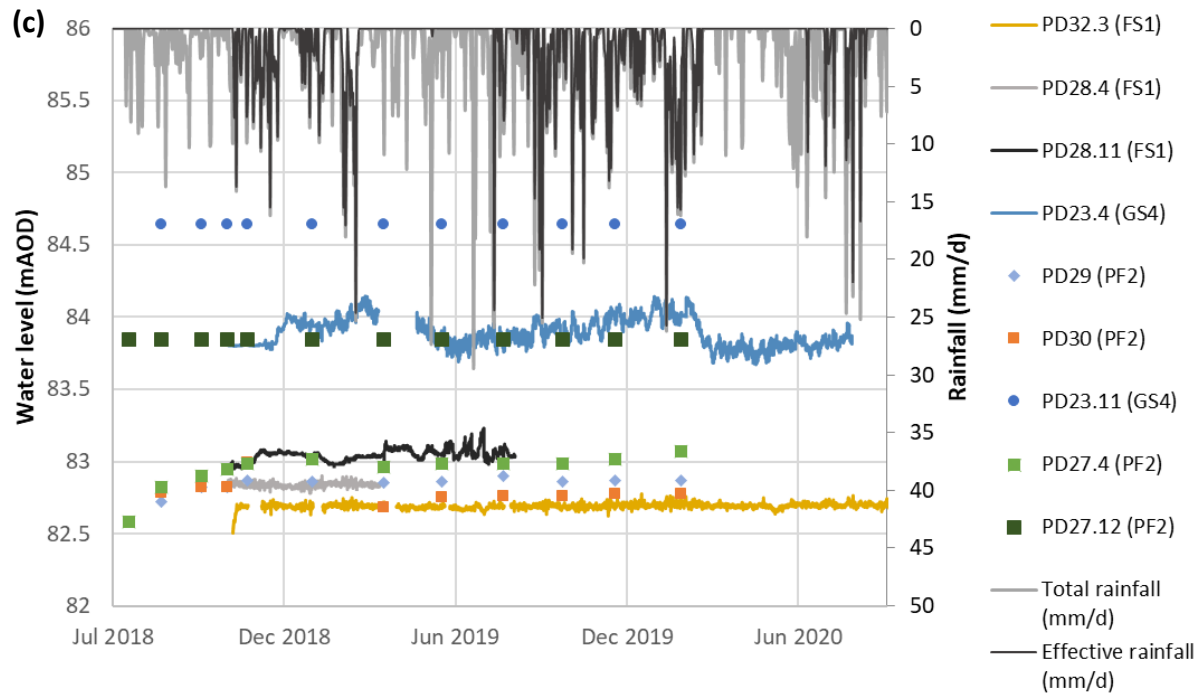
Figure S.3 Time series of continuous and spot measurement on phreatic water level monitoring points on (a) Ballymore, (b) Pollardstown A, (c) Pollardstown D, (d) Scragh Bog and (e) Tory Hill fens.

(a)



(b)





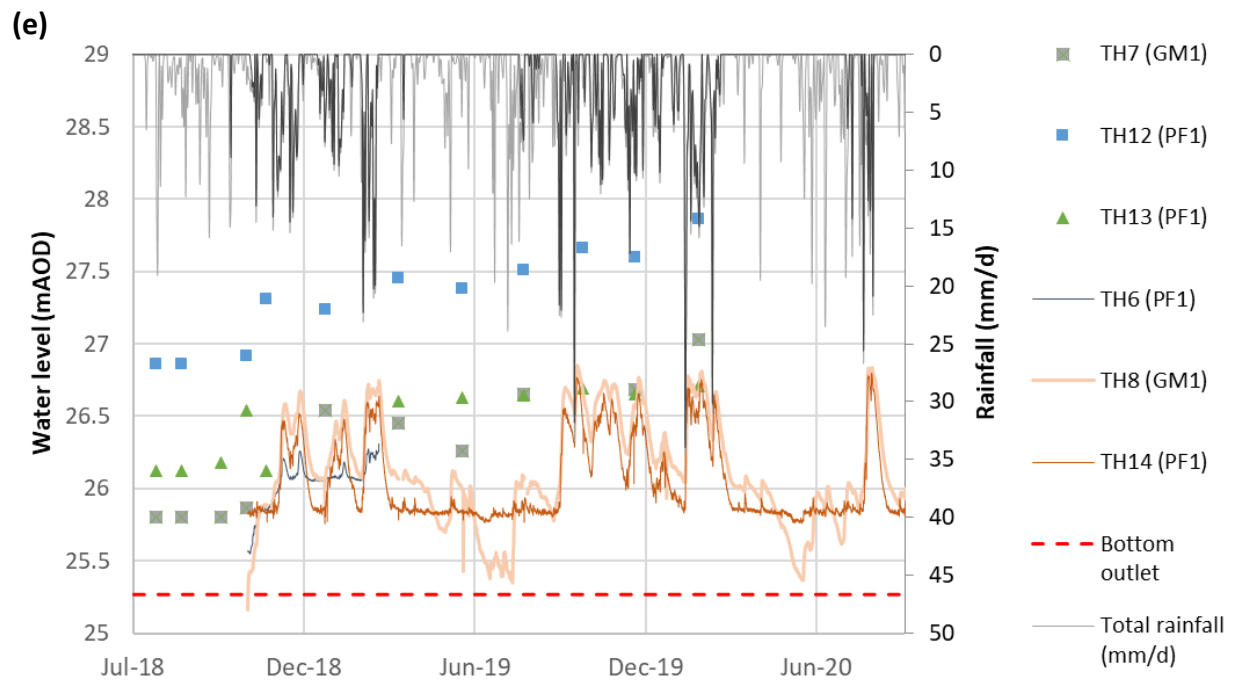


Figure S.4 Time series of continuous and spot measurement on piezometric water level monitoring points on (a) Ballymore, (b) Pollardstown A, (c) Pollardstown D, (d) Scragh Bog and (e) Tory Hill fens.

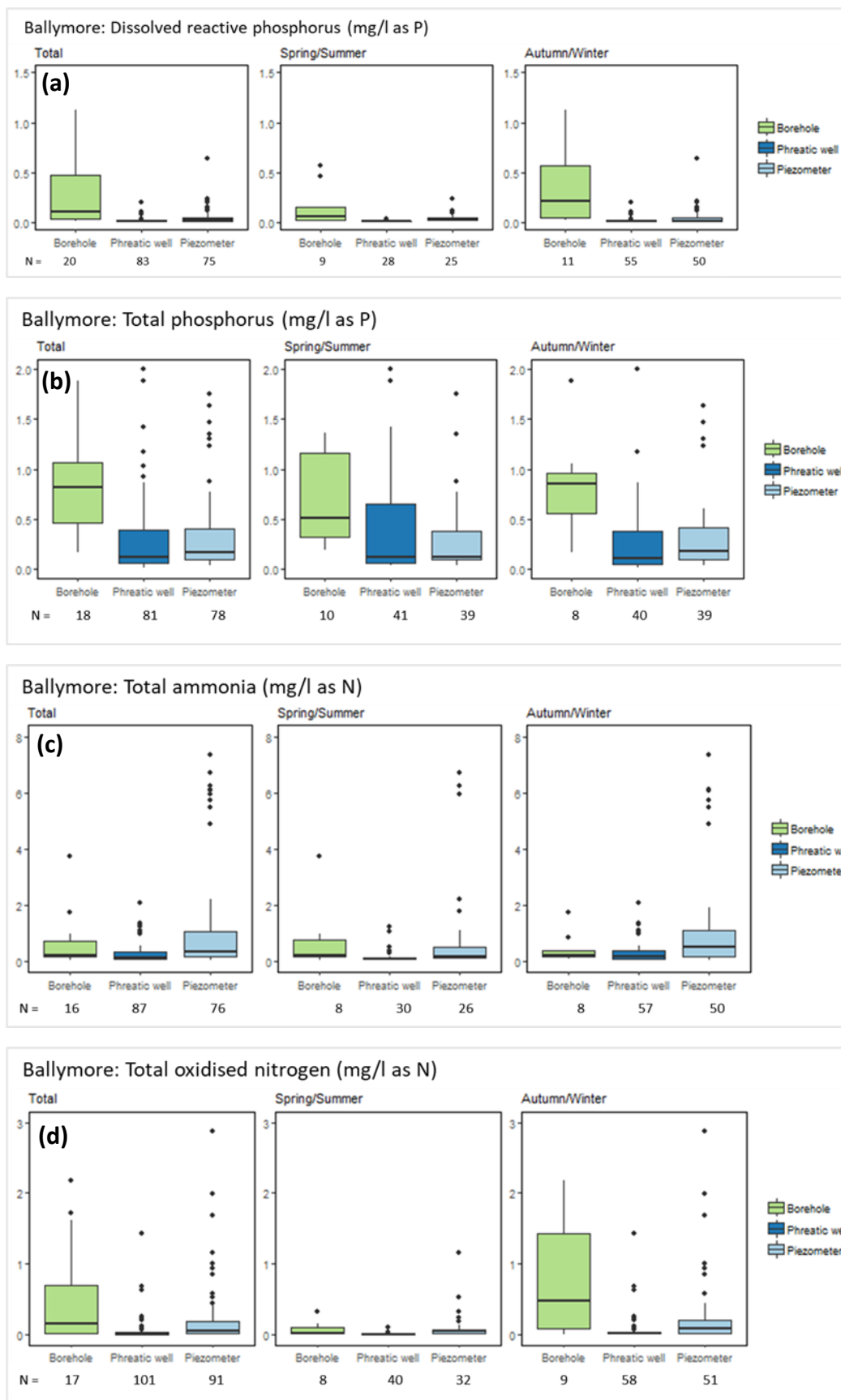


Figure S.5 Seasonal variations for nutrient concentration at Ballymore fen (a) DRP, (b) Total P, (c) Total ammonia, (d) Total oxidised nitrogen.

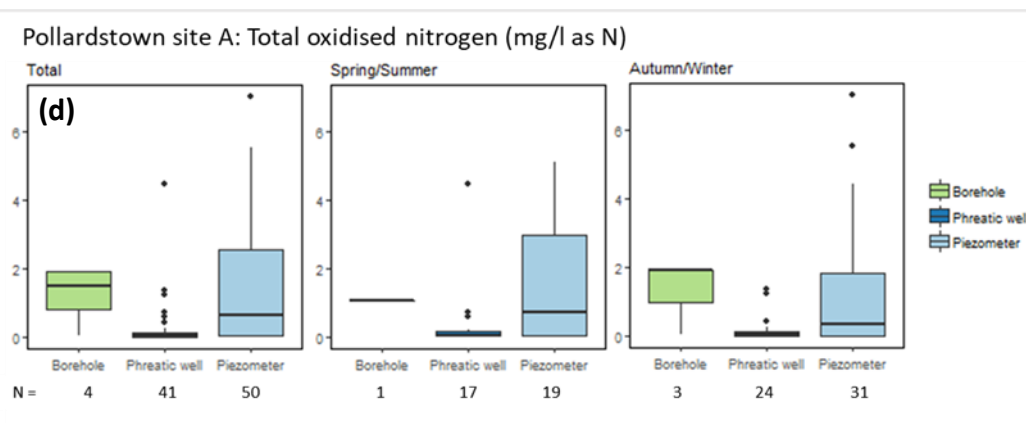
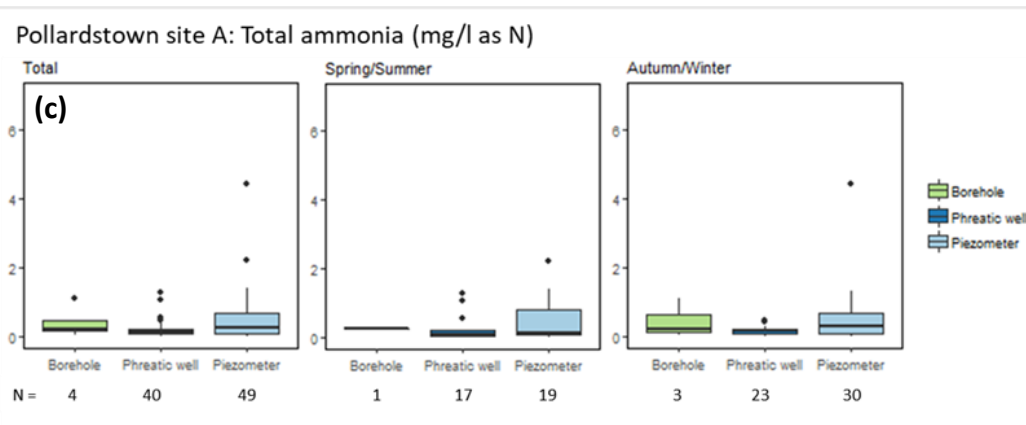
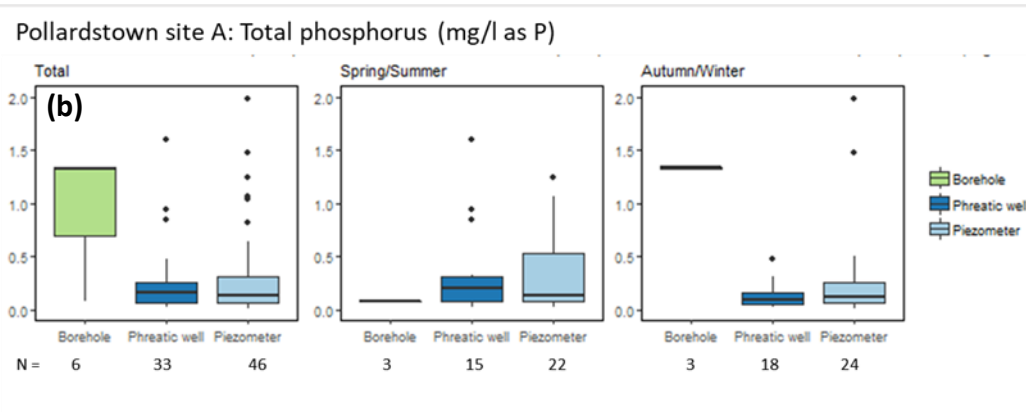
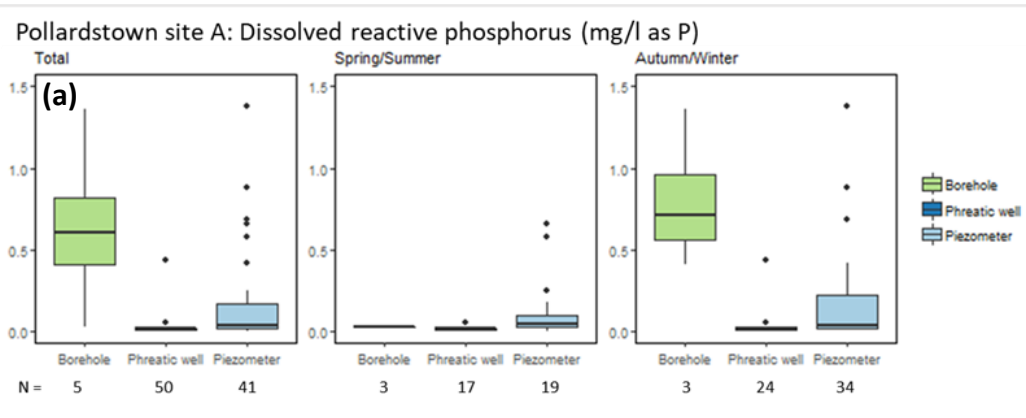


Figure S.6 Seasonal variations for nutrient concentration at Pollardstown A (a) DRP, (b) Total P, (c) Total ammonia, (d) Total oxidised nitrogen.

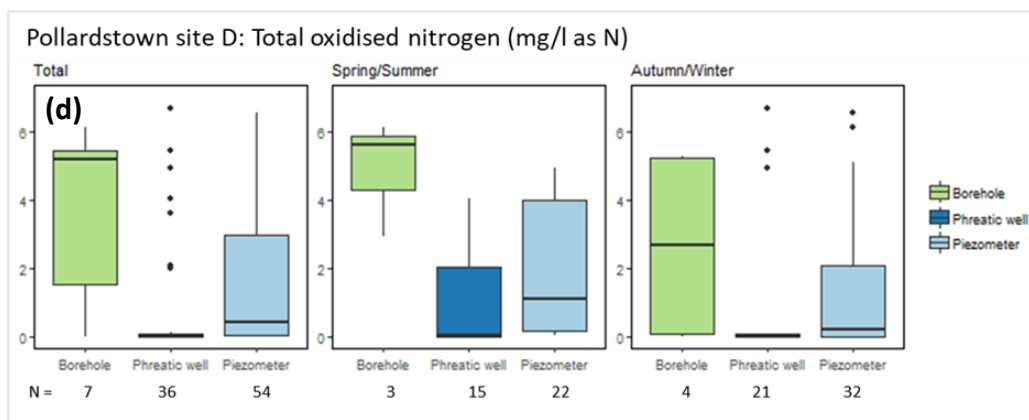
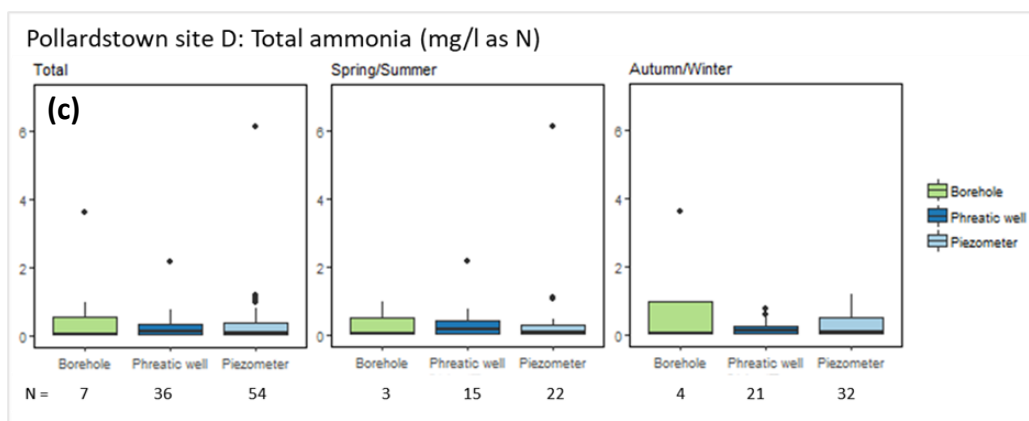
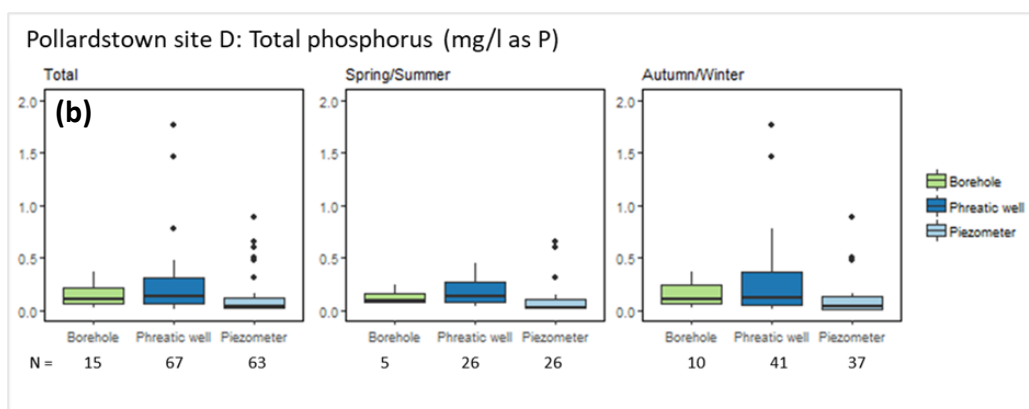
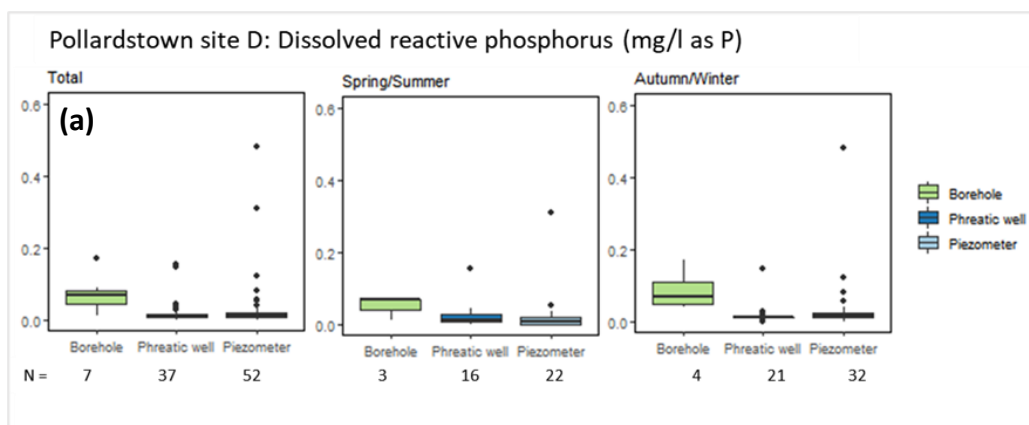


Figure S.7 Seasonal variations for nutrient concentration at Pollardstown D (a) DRP, (b) Total P, (c) Total ammonia, (d) Total oxidised nitrogen.

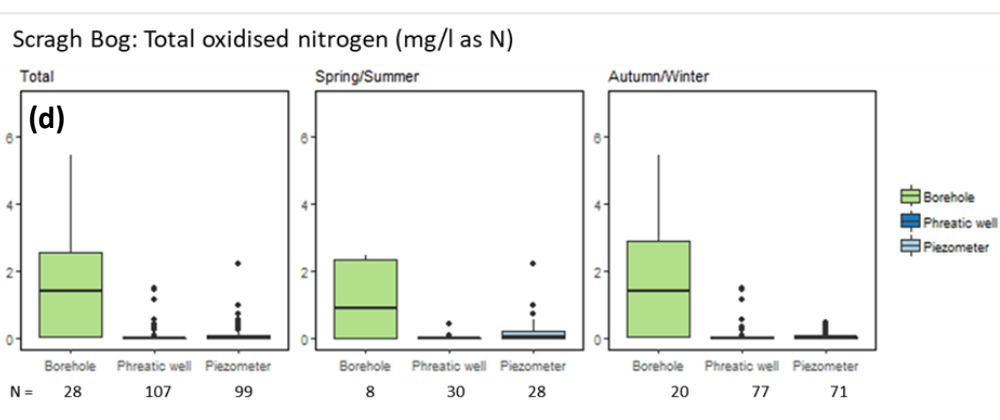
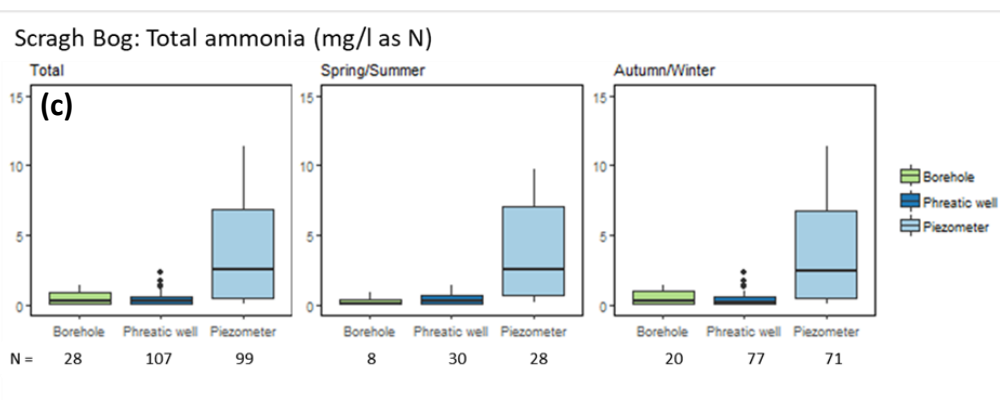
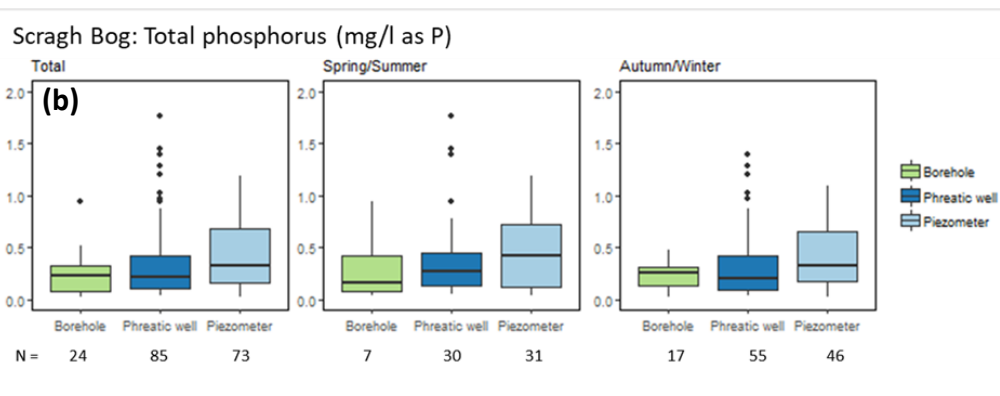
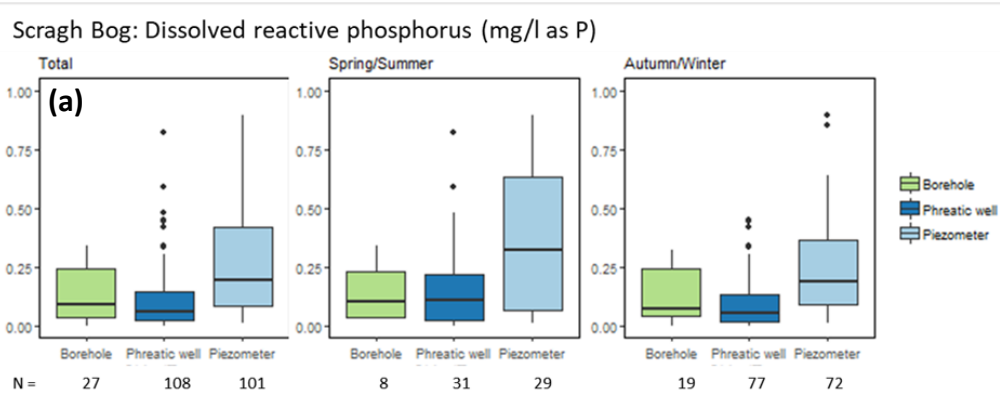


Figure S.8 Seasonal variations for nutrient concentration at Scragh Bog (a) DRP, (b) Total P, (c) Total ammonia, (d) Total oxidised nitrogen.

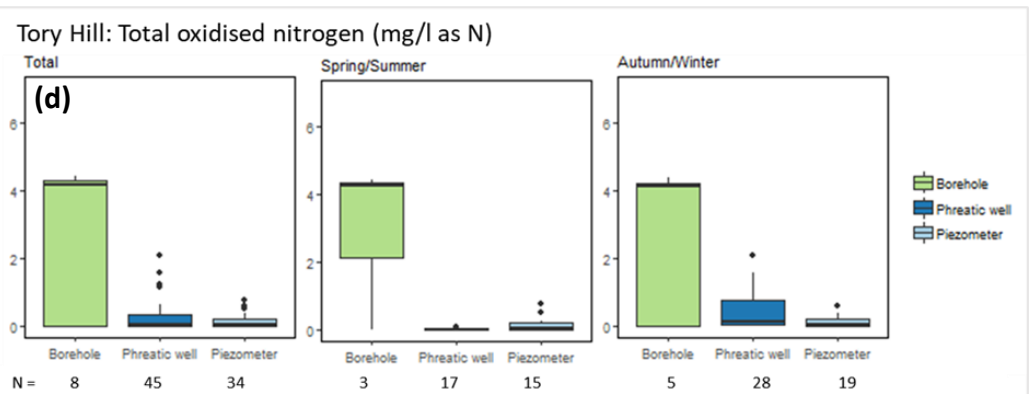
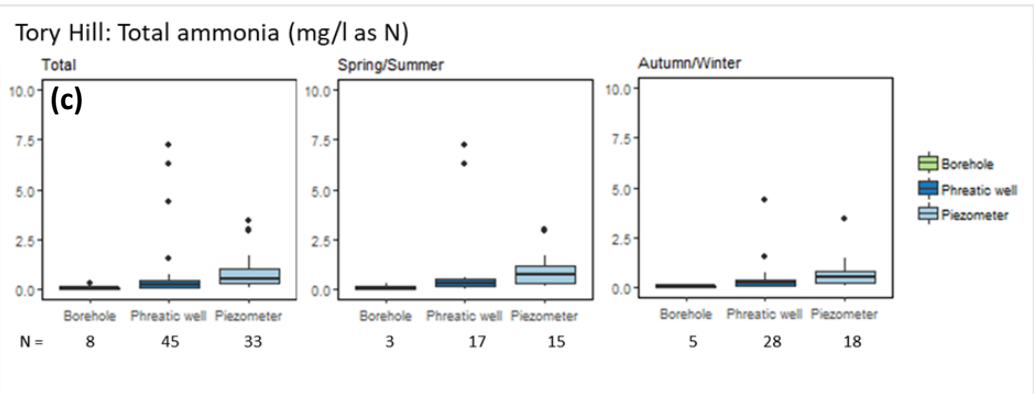
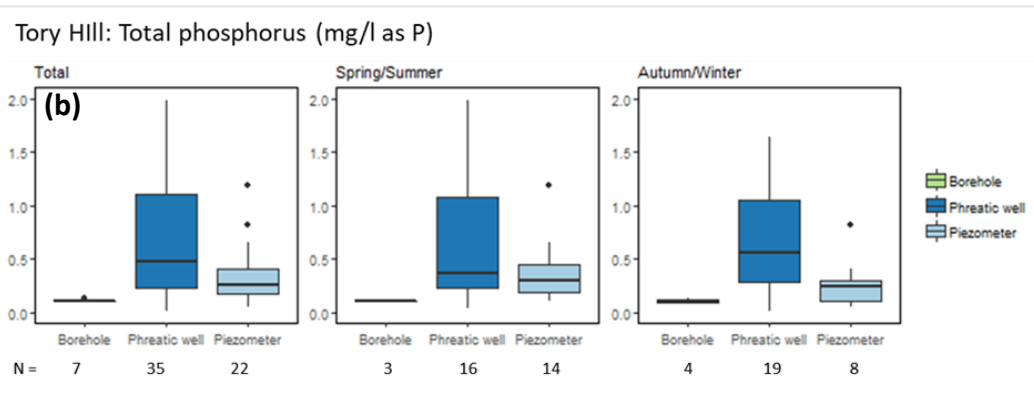
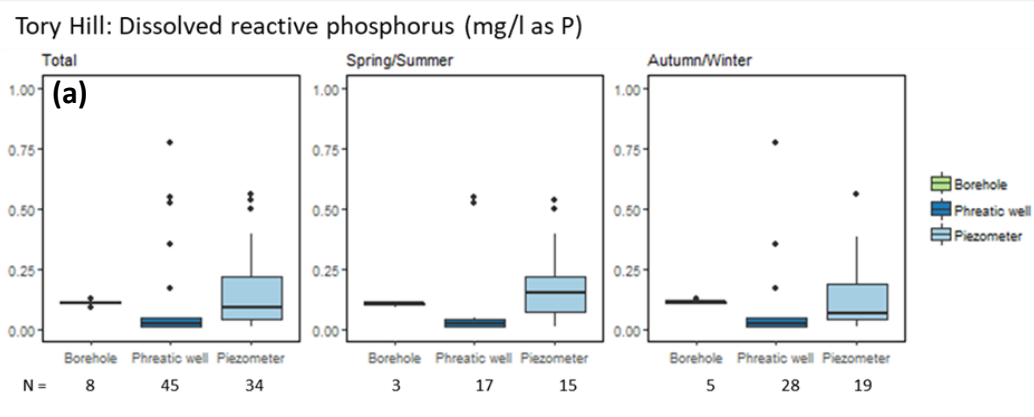


Figure S.9 Seasonal variations for nutrient concentration at Tory Hill (a) DRP, (b) Total P, (c) Total ammonia, (d) Total oxidised nitrogen.

Table S.1 Statistics for phreatic water levels in metres above ground level for Fossitt habitats and non-fen habitats defined to be in good (pass) or poor (fail) ecological conditions.

Habitat quality	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Non-fen habitats	-0.836	-0.133	0.01	0.133	0.513	241
PF1 good	-0.161	0.110	0.231	0.341	0.675	27
PF1 poor	-0.51	-0.331	-0.175	-0.0025	0.5	40
PF2 good	-0.047	0.001	0.016	0.027	0.047	15
PF2 poor	-0.581	-0.083	-0.051	0.0955	0.255	44
PF3 good	-0.161	0.11	0.231	0.341	0.675	27
PF3 poor	-0.51	-0.33	-0.175	-0.0025	0.5	40

Table S.2 Statistics for piezometric water levels in metres above ground level for Fossitt habitats and non-fen habitats defined to be in good (pass) or poor (fail) ecological conditions.

Habitat quality	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Non-fen habitats	-3.564	-0.24	-0.025	0.132	1.049	277
PF1 good	-2.849	-1.375	-0.345	0.16	0.941	29
PF1 poor	-0.64	-0.395	-0.195	0.1325	0.55	40
PF2 good	-0.953	-0.375	-0.013	0.463	0.763	31
PF2 poor	-0.549	-0.017	0.135	0.546	0.879	67
PF3 good	-5.952	-0.11	0.06	0.146	0.796	65
PF3 poor	-0.64	-0.395	-0.195	0.1325	0.55	40

Table S.3 Statistics for total dissolved reactive phosphorus (mg-P/l) for calcareous fen vegetation Fossitt habitat types PF1, PF2 and PF3 in the fen phreatic tubes and piezometers of good, poor or non-fen (other) habitats, and groundwater (Gw) feed from the wider catchment.

Habitat quality	Piezometer/Phreatic well	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Gw feed		0.007	0.0425	0.110	0.2405	1.363	67
Non-fen habitats	Phreatic well	0.007	0.011	0.031	0.110	1.142	157
Non-fen habitats	Piezometer	0.0007	0.014	0.049	0.181	2.36	171
PF1 good	Phreatic well	0.0007	0.006	0.009	0.037	0.176	18
PF1 good	Piezometer	0.103	0.21475	0.4825	0.61425	0.776	18
PF1 poor	Phreatic well	0.007	0.01	0.02	0.043	0.775	22
PF1 poor	Piezometer	0.015	0.047	0.115	0.152	0.535	18
PF2 good	Phreatic well	0.007	0.01	0.012	0.037	0.44	14
PF2 good	Piezometer	0.0007	0.01	0.017	0.031	2.53	21
PF2 poor	Phreatic well	0.0007	0.009	0.01	0.015	0.144	29
PF2 poor	Piezometer	0.0007	0.01075	0.335	0.2505	2.38	44
PF3 good	Phreatic well	0.0007	0.006	0.013	0.03675	0.176	18
PF3 good	Piezometer	0.005	0.02975	0.0985	0.27475	2.741	44
PF3 poor	Phreatic well	0.007	0.01	0.02	0.043	0.775	22
PF3 poor	Piezometer	0.015	0.047	0.083	0.15175	0.535	18

Table S.4 Statistics for total phosphorus (mg-P/l) for calcareous fen vegetation Fossitt habitat types PF1, PF2 and PF3 in the fen phreatic tubes and piezometers of good, poor or non-fen (other) habitats, and groundwater (Gw) feed from the wider catchment.

Habitat quality	Piezometer/Phreatic well	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Gw feed		0.02	0.10325	0.260	0.5165	1.88	58
Non-fen habitats	Phreatic well	0.1	0.129	0.29	0.7205	3.104	123
Non-fen habitats	Piezometer	0.01	0.07876	0.154	0.3895	1.75	136
PF1 good	Phreatic well	0.038	0.062	0.092	0.135	0.876	15
PF1 good	Piezometer	0.16	0.631	0.6695	0.75225	0.962	14
PF1 poor	Phreatic well	0.015	0.241	0.534	1.2115	1.984	19
PF1 poor	Piezometer	0.05	0.214	0.26	0.379	0.82	13
PF2 good	Phreatic well	0.04	0.1515	0.2305	0.3825	0.78	12
PF2 good	Piezometer	0.012	0.03	0.098	0.165	0.505	17
PF2 poor	Phreatic well	0.02	0.0445	0.0735	0.15025	0.384	26
PF2 poor	Piezometer	0.008	0.02	0.06	0.479	1.985	37
PF3 good	Phreatic well	0.038	0.0615	0.082	0.1345	0.876	15
PF3 good	Piezometer	0.04	0.11	0.163	0.459	2.121	35
PF3 poor	Phreatic well	0.015	0.241	0.534	1.2114	1.984	19
PF3 poor	Piezometer	0.05	0.214	0.26	0.379	0.82	13

Table S.5 Statistics for total dissolved nitrogen (mg-N/l) for calcareous fen vegetation Fossitt habitat types PF1, PF2 and PF3 in the fen phreatic tubes and piezometers of good, poor or non-fen (Other) habitats, and groundwater (Gw) feed from the wider catchment.

Habitat quality	Piezometer/Phreatic well	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Gw feed		0.31	1.76	2.591	4.798	13.14	69
Non-fen habitats	Phreatic well	0.1	0.7145	1.364	2.022	31.06	178
Non-fen habitats	Piezometer	0.235	1.156	2.11	4.057	29.561	197
PF1 good	Phreatic well	0.42	0.666	1.255	2.01725	2.423	22
PF1 good	Piezometer	12.02	13.1075	14.051	19.9833	22.617	19
PF1 poor	Phreatic well	0.852	1.2335	1.725	2.612	9.647	23
PF1 poor	Piezometer	0.789	1.259	1.94	3.09	5.43	21
PF2 good	Phreatic well	0.24	0.6945	0.802	1.5105	3.744	14
PF2 good	Piezometer	0.2	1.1585	1.8565	2.624	6.49	24
PF2 poor	Phreatic well	0.2	0.303	0.7035	0.99	2.16	32
PF2 poor	Piezometer	0.0629	1.055	2.825	5.6895	20.51	48
PF3 good	Phreatic well	0.42	0.666	1.255	2.01725	2.243	22
PF3 good	Piezometer	0.389	1.314	3.033	9.062	29.262	49
PF3 poor	Phreatic well	0.852	1.2335	1.725	2.612	9.647	23
PF3 poor	Piezometer	0.789	1.259	1.94	3.09	5.43	21

Table S.6 Statistics for total ammonia concentrations (mg-N/l) for calcareous fen vegetation Fossitt habitat types PF1, PF2 and PF3 in the fen phreatic tubes and piezometers of good, poor or non-fen (other) habitats, and groundwater (Gw) feed from the wider catchment.

Habitat quality	Piezometer/Phreatic well	Min	1st quartile	Median	3rd quartile	Max	Data points (n)
Gw feed		0.01	0.041	0.17	0.829	4.83	64
Non-fen habitats	Phreatic well	0.007	0.063	0.162	0.356	2.35	156
Non-fen habitats	Piezometer	0.01	0.16	0.441	1.13	7.95	173
PF1 good	Phreatic well	0.013	0.116	0.548	0.8365	1.41	19
PF1 good	Piezometer	6.72	7.37	7.78	7.91	11.4	17
PF1 poor	Phreatic well	0.005	0.092	0.16	0.449	7.24	23
PF1 poor	Piezometer	0.09	0.225	0.345	0.9282	3.02	20
PF2 good	Phreatic well	0.03	0.1	0.214	0.354	2.15	13
PF2 good	Piezometer	0.015	0.0535	0.1815	0.5925	1.17	20
PF2 poor	Phreatic well	0.01	0.0255	0.0905	0.1775	0.597	30
PF2 poor	Piezometer	0.009	0.034	0.0945	0.40025	7.52	44
PF3 good	Phreatic well	0.13	0.116	0.548	0.8365	1.41	19
PF3 good	Piezometer	0.06	0.3045	1.75	6.3	24.65	44
PF3 poor	Phreatic well	0.005	0.092	0.16	0.449	7.24	23
PF3 poor	Piezometer	0.09	0.225	0.345	0.92825	3.02	20

Table S.7 Statistical difference test (p-values) between nutrients in phreatic, piezometric and groundwater sampling points for PF1, PF2 and PF3 habitat types.

	Piezometric	Groundwater
PF1 phreatic DRP	0.002	0.034
PF2 phreatic DRP	0.684	0.029
PF3 phreatic DRP	0.030	0.015
PF1 phreatic Total-P	0.001	0.041
PF2 phreatic Total-P	0.121	0.366
PF3 phreatic Total-P	0.198	0.084
PF1 phreatic TDN	0.000	0.072
PF2 phreatic TDN	0.059	0.026
PF3 phreatic TDN	0.035	0.029
PF1 phreatic NH ₃	0.000	0.223
PF2 phreatic NH ₃	0.427	0.190
PF3 phreatic NH ₃	0.044	0.038

Table S.7 Statistical difference (p-values) between seasonal (spring/ summer vs autumn/winter) in phreatic monitoring points.

	DRP	Total P	TON	NH ₃
Ballymore	0.641	0.470	0.725	0.357
Scragh Bog	0.441	0.607	0.684	0.742
Pollardstown A	0.477	0.216	0.663	0.557
Pollardstown D	0.384	0.285	0.153	0.441
Tory Hill	0.533	0.634	0.097	0.389

Table S.8 Statistical difference (p-values) between seasonal (spring/ summer vs autumn/winter) in piezometric monitoring points.

	DRP	Total P	TON	NH ₃
Ballymore	0.585	0.667	0.364	0.284
Scragh Bog	0.174	0.398	0.622	0.757
Pollardstown A	0.195	0.403	0.217	0.523
Pollardstown D	0.377	0.534	0.158	0.409
Tory Hill	0.048	0.035	0.230	0.441

Appendix B: Draft Condition Assessment criteria for Annex I fen habitats surveyed during Pilot Fen Survey 2019-2020 (Perrin et al., 2021).

7140 Transition mires

Assessment criteria	Scale of assessment
Vegetation composition	
1a† FE2B: number of positive indicator species from Groups i or ii present ≥ 3	Relevé
1b† FE2E: number of positive indicator species from Groups i or ii present ≥ 3	
1c† FE2C/D: number of positive indicator species from Groups i or ii present ≥ 6 (see below)	
2 Number of species from Group i present** ≥ 1 (see below)	Relevé
3 Cover of the following species: small to medium sized <i>Carex</i> spp., <i>Equisetum fluviatile</i> , <i>Hydrocotyle vulgaris</i> , <i>Hypericum elodes</i> , <i>Mentha aquatica</i> , <i>Menyanthes trifoliata</i> , <i>Potentilla palustris</i> , <i>Sphagnum</i> spp. collectively $\geq 25\%$	Relevé
4 Cover of the following species: <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> collectively $< 1\%$	Relevé
5 Cover of non-native species $< 1\%$	Relevé
Vegetation structure	
6 †FE2C/D/E: $\geq 50\%$ of the tips of live leaves and/or flowering shoots of vascular plants should be more than 15 cm above the ground surface	Relevé
Physical structure	
7 Cover of disturbed bare ground $< 10\%$	Relevé
8 Cover of disturbed bare ground $< 10\%$	Local vicinity
9 Area showing signs of drainage resulting from heavy trampling or tracking or ditches $< 10\%$	Local vicinity

†Assess only the criteria relevant to the community being assessed.

Typical species for 7140:

FE2B (infilling pool community)	FE2C/D/E (<i>Carex rostrata</i> fen and flush)	
Group i	Group i	
<i>Carex canescens</i>	<i>Caltha palustris</i>	<i>Equisetum fluviatile</i>
<i>Carex lasiocarpa</i>	<i>Carex diandra</i>	<i>Galium palustre</i>
<i>Carex limosa</i>	<i>Carex lasiocarpa</i>	<i>Mentha aquatica</i>
<i>Menyanthes trifoliata</i>	<i>Carex limosa</i>	<i>Menyanthes trifoliata</i>
<i>Sphagnum</i> spp. (count separately)	<i>Carex nigra</i>	<i>Phragmites australis</i>
	<i>Carex rostrata</i>	<i>Potentilla palustris</i>
Group ii	<i>Carex viridula</i>	<i>Sphagnum</i> spp. (count separately)
<i>Drosera</i> spp. (count separately)	<i>Epilobium palustre</i>	
<i>Eriophorum angustifolium</i>		Group ii
<i>Rhynchospora</i> spp. (count separately)	<i>Angelica sylvestris</i>	<i>Lythrum salicaria</i>
	<i>Cardamine pratensis</i>	<i>Selaginella selaginoides</i>
	<i>Eriophorum angustifolium</i>	<i>Succisa pratensis</i>
	<i>Lysimachia vulgaris</i>	<i>Viola palustris</i>

7210 *Cladium fens* and swamps

Assessment Criteria	7210 (fen variant)	7210 (swamp variant)	Scale of assessment
Vegetation composition			
	<i>Value required to pass</i>	<i>Value required to pass</i>	
1 <i>Cladium mariscus</i> present	Y	Y	Relevé
2 Number of brown mosses	≥ 1	Not assessed	Relevé
3 No. of positive vascular indicator species	≥ 3	≥ 2	Relevé
4 Cover of brown mosses and positive vascular indicator species	≥ 75%	≥ 75%	Relevé
5a Total cover of <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> , <i>Ranunculus repens</i>	<1%	Not assessed	Relevé
5b Total cover of <i>Epilobium hirsutum</i> and <i>Typha latifolia</i>	Not assessed	<5%	Relevé
6 Cover of non-native species	<1%	<1%	Relevé
7 Cover of scattered native trees / shrubs	<10%	<10%	Local vicinity
8 Total cover of <i>Juncus effusus</i> and <i>Phragmites australis</i> < 10%	< 10%	Not assessed	Local vicinity
Vegetation structure			
9a Live shoots > 5 cm high	≥50%	Not assessed	Relevé
9b Live shoots > 1 m high	Not assessed	≥50%	
Physical structure			
10 Cover of disturbed bare ground	< 10%	< 10%	Relevé
11 Cover of disturbed bare ground	< 10%	< 10%	Local vicinity
12 Area showing signs of drainage resulting from heavy trampling or ditches	< 10%	< 10%	Local vicinity
13 Disturbed vegetation (if tufa present)	< 1%	< 1%	Relevé

Typical species for 7210:

FW3H/FE1 (fen variant)		FW3H (swamp variant)
Brown mosses	Vascular plants	<i>Carex lasiocarpa</i>
<i>Bryum pseudotriquetrum</i>	<i>Anagallis tenella</i>	<i>Phragmites australis</i>
<i>Calliergon sarmentosum</i>	<i>Carex dioica</i>	<i>Equisetum fluviatile</i>
<i>Campylium stellatum</i>	<i>Carex lasiocarpa</i>	<i>Lemna trisulca</i>
<i>Ctenidium molluscum</i>	<i>Carex panicea</i>	<i>Potentilla palustris</i>
<i>Drepanocladus revolvens</i>	<i>Carex viridula</i>	<i>Menyanthes trifoliata</i>
<i>Drepanocladus cossonii</i>	<i>Carex rostrata</i>	
<i>Fissidens adianthoides</i>	<i>Cirsium dissectum</i>	
<i>Palustriella commutata</i>	<i>Eleocharis quinqueflora</i>	
<i>Palustriella falcata</i>	<i>Juncus bulbosus</i>	
<i>Scorpidium scorpioides</i>	<i>Molinia caerulea</i>	
	<i>Pinguicula vulgaris</i>	
	<i>Schoenus nigricans</i>	
	<i>Selaginella selaginoides</i>	

7230 Alkaline fens

Assessment Criteria	Scale of assessment
Vegetation composition	
1 At least one brown moss species present	Relevé
2a† FE1C number of positive vascular indicator species present ≥ 2	Relevé
2b† FE1A/B : number of positive vascular indicator species present ≥ 3	Relevé
3a† FE1C : vegetation cover of brown mosses and vascular indicator species $\geq 20\%$	Relevé
3b† FE1A/B: vegetation cover of brown mosses and vascular indicator species $\geq 75\%$	Relevé
4 Total cover of the following species: <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> , <i>Ranunculus repens</i> $< 1\%$	Relevé
5 Cover of non-native species $< 1\%$	Relevé
6 Cover of scattered native trees and scrub $< 10\%$	Local vicinity
7 Total cover of <i>Juncus effusus</i> and <i>Phragmites australis</i> $< 10\%$	Local vicinity
Vegetation structure	
8 At least 50% of the live leaves/flowering shoots are more than 5 cm above ground surface	Relevé
Physical structure	
9 Cover of <u>disturbed</u> , bare ground $< 10\%$	Relevé
10 Cover of <u>disturbed</u> , bare ground $< 10\%$	Local vicinity
11 Area showing signs of <u>drainage</u> resulting from ditches or tracking $< 10\%$	Local vicinity
12 Where tufa is present, <u>disturbed</u> proportion of vegetation cover $< 1\%$	Local vicinity

†Assess only the criteria relevant to the provisional community (see below) being assessed.

Typical species:

Brown mosses

Bryum pseudotriquetrum
Calliergon sarmetosum
Campylium stellatum
Ctenidium molluscum
Drepanocladus revolvens
Fissidens adianthoides
Palustriella commutata
Palustriella falcata
Scorpidium cossonii
Scorpidium scorpioides

FE1A/B (*Schoenus flushes and fens*)

Anagallis tenella
Carex dioica
Carex lasiocarpa
Carex panicea
Carex viridula
Carex rostrata
Cirsium dissectum
Molinia caerulea
Pinguicula vulgaris
Schoenus nigricans
Selaginella selaginoides

FE1C (small-sedge flushes and fens)

Carex panicea
Carex viridula
Eleocharis quinqueflora
Juncus bulbosus
Pinguicula vulgaris

(2) Quality assessment: 7230 Alkaline Fen – PF1 Rich fen and flush/PF2 Poor fen and flush

Site Name Relevé Number Sample site Fossitt community Date Surveyor			Scragh Bog SB_09 SC12 PF1 03/09/19 KMN/GS		Scragh Bog SB_10 SC13 PF1 03/09/19 KMN/GS		Scragh Bog SB_12 SC612 PF1 03/09/19 KMN/GS		Tory Hill T1 TH6 PF1 2015 JC		Tory Hill T35 TH12, TH13, TH14 PF1 2015 JC		Pollardslow PF_01 PA31 PF2 20/08/19 RH/KMN		
Assessment Criteria			Scale	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail
Vegetation composition															
1	At least one brown moss species present	R	3	P	3	P	3	P	0	F	0	F	3	P	
2a*	FE1C number of positive vascular indicator species present ≥ 2	R													
2b*	FE1A/B : number of positive vascular indicator species present ≥ 3	R	3	P	3	P	3	P	0	F	2	F	3	P	
3a*	FE1C : vegetation cover of brown mosses and vascular indicator species ≥ 20%	R													
3b*	FE1A/B: vegetation cover of brown mosses and vascular indicator species ≥ 75%	R	83	P	90	P	88	P	0	F	4.5	F	70	F	
4	Total cover of the following species: Anthoxanthum odoratum, Epilobium hirsutum, Holcus lanatus, Ranunculus repens < 1%	R	0	P	0	P	0	P	3	F	0	P	1	P	
5	Cover of non-native species < 1%	R	0	P	0	P	0	P	0	P	0	P	0	P	
6	Cover of scattered native trees and scrub < 10%	LV	2	P	5	P	0.5	P	20	F	5	P	0	P	
7	Total cover of Juncus effusus and Phragmites australis < 10%	LV	0	P	0	P	0	P	7	P	3	P	1	P	
Vegetation structure															
8	At least 50% of the live leaves/flowering shoots are more than 5 cm above ground surface	R	82	P	75	P	70	P	70	P	70	P	112	P	
Physical structure															
9	Cover of disturbed, bare ground < 10%	R	0	P	0	P	0	P	0	P	0	P	0	P	
10	Cover of disturbed, bare ground < 10%	LV	0	P	0	P	0	P	0	P	0	P	0	P	
11	Area showing signs of drainage resulting from ditches or heavy trampling or tracking < 10%	LV	0	P	0	P	0	P	0	P	0	P	0	P	
12*	Where tufa is present, disturbed proportion of vegetation cover < 1%	LV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
Notes															
* R = Relevé; LV = Local vicinity After expert judgement				Pass		Pass		Pass		Fail		Fail		Fail Marginal pass	

(2) Quality assessment: 7230 Alkaline Fen – PF1 Rich fen and flush/PF2 Poor fen and flush

Site Name	Relevé Number	Sample site	Fossitt community	Date	Surveyor	Pollardstown	Pollardstown	Pollardstown	Pollardstown	Pollardstown	Pollardstown	Pollardstown		
						PF_02 PA34 PF2 20/08/19 RH/KMN	PF_03 PA37 PF2 20/08/19 RH/KMN	PF_04 PA38 PF2 20/08/19 RH/KMN	PF_08 PD27 PF2 20/08/19 RH/KMN	PF_11 PD30 PF2 20/08/19 RH/KMN	PF_10 PA29 PF2 20/08/19 RH/KMN			
Assessment Criteria		Scale	Result	Pass/ Fail	Result	Pass/ Fail	Result	Pass/ Fail	Result	Pass/ Fail	Result	Pass/ Fail		
Vegetation composition														
1	At least one brown moss species present	R	0	F	3	P	1	P	2	P	1	P	0	F
2a*	FE1C number of positive vascular indicator species present ≥ 2	R												
2b*	FE1A/B : number of positive vascular indicator species present ≥ 3	R	3	P	3	P	4	P	3	P	3	P	3	P
3a*	FE1C : vegetation cover of brown mosses and vascular indicator species ≥ 20%	R												
3b*	FE1A/B: vegetation cover of brown mosses and vascular indicator species ≥ 75%	R	34	F	65	F	28	F	48	F	71	F	43	F
4	Total cover of the following species: Anthoxanthum odoratum, Epilobium hirsutum, Holcus lanatus, Ranunculus repens < 1%	R	0.5	P	0.3	P	0	P	10	F	0	P	0.5	P
5	Cover of non-native species < 1%	R	0	P	0	P	0	P	0	P	0	P	0	P
6	Cover of scattered native trees and scrub < 10%	LV	0	P	0	P	0	P	0	P	0	P	0	P
7	Total cover of Juncus effusus and Phragmites australis < 10%	LV	0.5	P	1	P	3	P	1	P	0.5	P	30	F
Vegetation structure														
8	At least 50% of the live leaves/flowering shoots are more than 5 cm above ground surface	R	85	P	103	P	120	P	110	P	128	P	150	P
Physical structure														
9	Cover of disturbed, bare ground < 10%	R	0	P	0	P	0	P	0	P	0	P	0	P
10	Cover of disturbed, bare ground < 10%	LV	0	P	0	P	0	P	0	P	0	P	0	P
11	Area showing signs of drainage resulting from ditches or heavy trampling or tracking < 10%	LV	0	P	0	P	0	P	0	P	0	P	0	P
12*	Where tufa is present, disturbed proportion of vegetation cover < 1%	LV	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Notes														
* R = Relevé; LV = Local vicinity After expert judgement				Fail		Fail		Fail		Fail		Fail		Fail
						Margi nal pass						Margin al pass		

(2) Quality assessment: 7140 Transition mires – PF3 Transitions mires and quaking bogs

Site	Ballymore	Ballymore	Ballymore	Ballymore	Ballymore							
Relevé Number (BEC)	B10	B15	B17	B19	B23							
Sample site	BM162	BM41	BM4	BM2	BM8							
Fossitt community	PF3	PF3	PF3	PF3	PF3							
Date	Jul-Sep 2017	Jul-Sep 2017	Jul-Sep 2017	Jul-Sep 2017	Jul-Sep 2017							
Surveyor	JC	JC	JC	JC	JC							
Assessment Criteria	Scale	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	
Vegetation composition												
1a*	FE2B: number of positive indicator species from Groups i or ii present ≥ 3	R	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
1b*	FE2E: number of positive indicator species from Groups i or ii present ≥ 3	R	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
1c*	FE2C/D: number of positive indicator species from Groups i or ii present ≥ 6	R	7	P	6	P	7	P	8	P	7	P
2	Number of species from Group i present ≥ 1	R	5	P	4	P	4	P	5	P	5	P
3	Cover of the following species: small to medium sized <i>Carex</i> spp., <i>Equisetum fluviatile</i> , <i>Hydrocotyle vulgaris</i> , <i>Hypericum elodes</i> , <i>Mentha aquatica</i> , <i>Menyanthes trifoliata</i> , <i>Potentilla palustris</i> , <i>Sphagnum</i> spp. collectively $\geq 25\%$	R	42	P	42	P	30	P	33	P	28	P
4	Cover of the following species: <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> collectively $<1\%$	R	1	P	0	P	3	F	0	P	0	P
5	Cover of non-native species $<1\%$	R	0	P	0	P	0	P	0	P	0	P
Vegetation structure												
6	†FE2C/D/E: $\geq 50\%$ of the tips of live leaves and/or flowering shoots of vascular plants should be more than 15 cm above the ground surface	R	40	P	20	P	25	P	20	P	25	P
Physical structure												
7	Cover of disturbed bare ground $<10\%$	R	0	P	0	P	0	P	0	P	0	P
8	Cover of disturbed bare ground $<10\%$	LV	0	P	0	P	0	P	0	P	0	P
9	Area showing signs of drainage resulting from heavy trampling or tracking or ditches $<10\%$	LV	0	P	0	P	0	P	0	P	0	P
Notes												
* R = Relevé; LV = Local vicinity After expert judgement			Pass		Pass		Fail		Pass		Pass	

(2) Quality assessment: 7140 Transition mires – PF3 Transitions mires and quaking bogs

Site Relevé Number (BEC) Sample site Fossitt community Date Surveyor			Ballymore		Ballymore		Scragh Bog		Scragh Bog	
			B9		B12		SB 04		SB 02	
			BM163		BM161		SC2		SC7	
			PF3		PF3		PF3		PF3	
			Jul-Sep 2017		Jul-Sep 2017		02/09/19		02/09/19	
			JC		JC		RH/GS		RH/GS	
Assessment Criteria			Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail	Result	Pass/Fail
Vegetation composition										
1a*	FE2B: number of positive indicator species from Groups i or ii present ≥ 3	R	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
1b*	FE2E: number of positive indicator species from Groups i or ii present ≥ 3	R	3	P	4	P	n/a	n/a	n/a	n/a
1c*	FE2C/D: number of positive indicator species from Groups i or ii present ≥ 6	R	n/a	n/a	n/a	n/a	10	P	8	P
2	Number of species from Group i present ≥ 1	R	3	P	4	P	10	P	7	P
3	Cover of the following species: small to medium sized <i>Carex</i> spp., <i>Equisetum fluviatile</i> , <i>Hydrocotyle vulgaris</i> , <i>Hypericum elodes</i> , <i>Mentha aquatica</i> , <i>Menyanthes trifoliata</i> , <i>Potentilla palustris</i> , <i>Sphagnum</i> spp. collectively $\geq 25\%$	R	54	P	57	P	48	P	22	F
4	Cover of the following species: <i>Anthoxanthum odoratum</i> , <i>Epilobium hirsutum</i> , <i>Holcus lanatus</i> collectively $<1\%$	R	0	P	0	P	5	F	0.3	P
5	Cover of non-native species $<1\%$	R	0	P	0	P	0	P	0	P
Vegetation structure										
6	†FE2C/D/E: $\geq 50\%$ of the tips of live leaves and/or flowering shoots of vascular plants should be more than 15 cm above the ground surface	R	35	P	40	P	75	P	105	P
Physical structure										
7	Cover of disturbed bare ground $<10\%$	R	0	P	0	P	0	P	0	P
8	Cover of disturbed bare ground $<10\%$	LV	0	P	0	P	0	P	0	P
9	Area showing signs of drainage resulting from heavy trampling or tracking or ditches $<10\%$	LV	0	P	0	P	0	P	0	P
Notes										
* R = Relevé; LV = Local vicinity			Pass		Pass		Fail		Fail	
After expert judgement									Marginal pass	

Vegetation surveys relevé data

Site	Ballymore (1)				
Relevé code	B10	B15	B17	B19	B23
Sample site code	BM162	BM41	BM4	BM2	BM8
Easting ITM	623992.0	623870.3	623876.6	623941.5	624039.8
Northing ITM	749490.0	749444.5	749400.5	749358.7	749210.7
Distance from sample point	16	46	4	5	0.5
Quadrat size (m2)	4	4	4	4	4
Annex	7140	7140	7140	7140	7140
Fossitt	PF3	PF3	PF3	PF3	PF3
Fen quality	Good	Good	Good	Good	Good
% surface water	0	10	1	0	3
% bare ground	0	0	0	0	0
% total vegetation	100	90	99	100	98
% grass	0	0	0	0	0
% sedge	0	0	0	0	0
% herb	80	60	50	70	55
% bryophyte	60	80	80	75	90
% shrub	0	1	15	5	2
% canopy	0	0	0	0	0
% rush	0	0	0	0	0
% litter					
Veg max ht Q1					
Veg max ht Q2					
Veg max ht Q3					
Veg max ht Q4					
Height (cm)	30 to 50	10 to 30	20 to 30	20 to 40	20 to 30
NOTES					
Species No.	17	16	22	24	23
<i>Agrostis stolonifera</i>	3	3	7		1.5
<i>Angelica sylvestris</i>		1.5	1.5	0.5	
<i>Betula pubescens</i>				1.5	
<i>Bryum pseudotriquetrum</i>				20	
<i>Calliergonella cuspidata</i>	30	20	30	42	7
<i>Caltha palustris</i>	1.5	1.5	3	3	
<i>Campylium stellatum</i>	20	0.5		30	85
<i>Cardamine pratensis</i>	0.5	3	1.5	1.5	0.5
<i>Carex diandra</i>		20	20	30	20
<i>Carex disticha</i>	3				
<i>Carex rostrata</i>				7	1.5
<i>Carex viridula</i>					
<i>brachyrrhyncha</i>	20	3			3
<i>Cirsium palustre</i>			0.5		
<i>Comarum palustre</i>					
	0.5			3	
<i>Ctenidium molluscum</i>					3

Epilobium palustre		3	1.5	0.5
Epilobium parviflorum				
Epipactis palustris		3	7	3
Equisetum fluviatile	7	0.5		3
Equisetum palustre		1.5	20	1.5
Eriophorum angustifolium			1.5	1.5
Filipendula ulmaria	7		0.5	0.5
Galium palustre	1.5			0.5
Holcus lanatus	1.5		3	
Juncus articulatus				3
Mentha aquatica	3			0.5
Menyanthes trifoliata	30	30	20	20
Parnassia palustris	0.5		20	7
Pyrola rotundifolia			7	0.5
Ranunculus flammula				3
Sagina nodosa				1.5
Salix cinerea		0.5	0.5	0.5
Scorpidium scorpioides		42		
Silene flos-cuculi			3	7
Succisa pratensis	20		3	3
Triglochin palustre				0.5

Site	Ballymore (1)				
Relevé code	B9	B12	B21	B22	B24
Sample site code	BM163	BM161	BM7	BM5	BM9
Easting ITM	623969.1	624089.4	623992.2	624011.6	624123.9
Northing ITM	749527.4	749431.0	749256.0	749288.9	749201.6
Distance from sample point	42	22	18	29	16
Quadrat size (m2)	4	4	4	4	4
Annex	7140	7140	none	none	none
Fossitt	PF3	PF3	GM1	GM1	GM1
Fen quality	Good	Good	Not fen	Not fen	Not fen
% surface water	10	75	0	0	0
% bare ground	0	0	0	0	0
% total vegetation	95	80	100	100	100
% grass	0	0	0	0	0
% sedge	0	0	0	0	0
% herb	90	80	95	95	80
% bryophyte	60	0	10	50	70
% shrub	0	0	0	0	0
% canopy	0	0	0	0	0
% rush	0	0	0	0	0
% litter					
Veg max ht Q1					
Veg max ht Q2					
Veg max ht Q3					
Veg max ht Q4					
Height (cm)	30 to 40	30 to 50	60 to 90	50 to 70	50 to 80
NOTES					
Species No.	9	8	16	14	19
Angelica sylvestris			3		
Anthoxanthum odoratum			20	7	7
Arrhenatherum elatius			30		20
Berula erecta		20			
Calliergonella cuspidata			7		
Calluna vulgaris					7
Caltha palustris		3			0.5
Campylium stellatum					7
Carex diandra	7		1.5	7	0.5
Carex flacca				0.5	1.5
Carex nigra					3
Carex panicea	7				3
Carex rostrata					20
Carex viridula brachyrrhyncha	3	7			
Centaurea nigra				0.5	85
Chara sp.					20
Cirsium palustre					3

Comarum palustre			0.5
Dactylorhiza fuchsii			3
Dactylorhiza sp.			0.5
Drosera rotundifolia			0.5
Epilobium palustre	0.5		
Epipactis palustris	0.5		3
Equisetum fluviatile	1.5	20	7
Equisetum palustre		3	
Eriophorum angustifolium	1.5		
Filipendula ulmaria		42	30
Holcus lanatus		3	3
Hydrocotyle vulgaris		20	
Hylocomium splendens			30
Juncus inflexus			42
Lathyrus pratensis		7	
Luzula campestris			0.5
Lythrum salicaria		20	
Mentha aquatica		7	
Menyanthes trifoliata	85	42	
Plagiomnium undulatum		3	
Potamogeton coloratus		7	
Potentilla erecta		7	7
Ranunculus acris			0.5
Scleropodium purum		7	20
Scorpidium scorpioides	85		
Stellaria gamineae		1.5	
Succisa pratensis			3
Valeriana officinalis		0.5	

Site	Pollardstown site A					
Relevé code	PF_01	PF_02	PF_03	PF_04	PF_05	PF_06
Sample site code	PA31	PA34	PA37	PA38	PA39	PA40
Easting ITM	676367.0	676379.0	676385.0	676396.0	676410.0	676422.0
Northing ITM	715933.0	715955.0	715975.0	716031.0	716079.0	716123.0
Distance from sample point	2	2	2	2	2	2
Quadrat size (m2)	4	4	4	4	4	4
Annex	7230	7230	7230	7230	None	None
Fossitt	PF2	PF2	PF2	PF2	GS4	GS2
Fen quality	Good	Good	Good	Good	Not fen	Not fen
% surface water	0	0	5	70	0	0
% bare ground	0	0	0	0	0	0
% total vegetation	95	95	95	75	100	100
% grass	33	43	11	9.5	97	87.5
% sedge	62.5	37	72	28	2	11
% herb	10	14.5	13	32	43	18.8
% bryophyte	40	18.6	47	22.6	0.9	0.8
% shrub	0.5	0.1	0.1	0	0	0
% canopy	0	0	0	0	0	0
% rush	3	30	21	40	0	1
% litter	20	30	0	7	60	30
Veg max ht Q1	110	75	95	145	105	70
Veg max ht Q2	150	80	120	110	110	100
Veg max ht Q3	85	105	100	140	75	110
Veg max ht Q4	105	85	100	135	90	90
Height (cm)	85 to 150	75 to 105	95 to 120	110 to 145	75 to 110	70 to 110
NOTES						
Species No.	29	25	29	29	20	21
<i>Agrostis stolonifera</i>	7	1	1	0.5		
<i>Anagallis tenella</i>			0.1			
<i>Angelica sylvestris</i>				1	3	
<i>Anthoxanthum odoratum</i>	0.3	0.3			10	1
<i>Apium nodiflorum</i>				1		
<i>Arrhenatherum elatius</i>					0.3	5
<i>Brachythecium rutabulum</i>					0.3	0.5
<i>Briza media</i>		0.3				
<i>Bryum pseudotriquetrum</i>	0.3					
<i>Calliergon cordifolium</i>				0.3		
<i>Calliergon giganteum</i>				3		
<i>Calliergonella cuspidata</i>	15	3	15	15		0.3
<i>Caltha palustris</i>				3		
<i>Calypogeia fissa</i>	0.5					
<i>Calystegia sepium</i>						7
<i>Campyliadelphus elodes</i>				3		
<i>Campylium stellatum</i>	10		25			
<i>Cardamine pratensis</i>	0.1			0.3		

Carex diandra				1		
Carex echinata	0.3					
Carex flacca	1	30	15	7	1	1
Carex hirta						10
Carex lasiocarpa				7		
Carex lepidocarpa	0.5		10	7		
Carex nigra					1	
Carex panicea	0.7	7	7	5		
Carex pulicaris		0.3				
Carex rostrata				1		
Centaurea nigra					3	3
Charophyte sp.			0.3			
Chrysosplenium oppositifolium						
Cirsium palustre	0.3		0.3			
Climacium dendroides		0.3				
Ctenidium molluscum	10		3			
Dactylorhiza sp.			0.1			
Dactylus glomerata					1	20
Deschampsia cespitosa			0.3			7
Epilobium palustre			0.1	0.5	0.1	
Equisetum palustre			0.1			0.3
Eriophorum angustifolium				0.3		
Festuca rubra		0.5	0.3	1	0.5	15
Filipendula ulmaria		2			25	
Fissidens adianthoides	1		0.5			
Fraxinus excelsior	0.5	0.1	0.1			
Galium palustre						
Galium uliginosum	0.3	0.5	0.7		0.3	
Holcus lanatus	1	0.5	0.3		0.3	1
Hylocomium splendens		5				
Hypericum pulchrum	0.1					
Juncus acutiflorus			1			
Juncus inflexus						1
Juncus subnodulosus	3	30	20	40		
Kindbergia praelonga						
Lathyrus pratensis	0.7	1			1	7
Lotus corniculatus						0.3
Mentha aquatica				3		
Molinia caerulea	25	40	10	3	85	3
Palustriella commutata				1		
Pedicularis palustris			7	3		
Pellia sp.	0.3					
Phleum pratense						35
Phragmites australis	1	0.5	3	5		
Picea sitchensis						
Pinguicula vulgaris			0.1			
Plagiomnium elatum				0.3		

Plagiomnium undulatum	0.1			0.3		
Poa trivialis					0.5	
Potamogeton coloratus			5			
Potentilla anserina					0.5	
Potentilla erecta	7	5	5	0.3	10	1
Pseudoscleropodium purum	5	10	1			
Ranunculus acris					0.3	
Ranunculus flammula				0.3		
Rhizomnium punctatum						
Rhytidiadelphus squarrosus		0.3			0.3	
Riccardia multifida	0.1					
Schoenus nigricans	60	0.3	40			
Scorpidium cossonii			3			
Stellaria graminea					0.5	
Succisa pratensis	0.3	5				
Utricularia minor				15		

Site	Pollardstown site D					
Relevé code	PF_07	PF_08	PF_09	PF_10	PF_11	PF_12
Sample site code	PD23	PD27	PD28	PD29	PD30	PD32
Easting ITM	677096.0	677094.0	677076.0	677085.0	677052.0	677035.0
Northing ITM	716837.0	716803.0	716796.0	716770.0	716750.0	716733.0
Distance from sample point	2	2	2	2	2	2
Quadrat size (m2)	4	4	4	4	4	4
Annex	6410	7230	7210	None	7230	7210
Fossitt	GS4	PF2	FS1	PF2	PF2	FS1
Habitat name						
Fen quality	Not fen	Good	Poor	Poor	Good	Poor
% surface water	3	5	0	10	0	0
% bare ground	0	0	0	0	0	0
% total vegetation	100	95	90	90	95	100
% grass	87	15	1	40	46.3	1
% sedge	7	20	90	40	43	95
% herb	18	25	1	15	8.3	7
% bryophyte	0.3	40	0	80	3	0
% shrub	0	0	0	1	0	0.5
% canopy	0	0	0	0	0	0
% rush	3.5	60	0	0.3	10	0
% litter	80	3	80	1	80	80
Veg max ht Q1	105	100	148	130	130	140
Veg max ht Q2	110	105	148	130	120	135
Veg max ht Q3	90	110	150	135	135	145
Veg max ht Q4	77	150	150	170	130	140
Height (cm)	77 to 110	100 to 150	148 to 148	130 to 170	120 to 135	135 to 145
NOTES	Cirsium dissectum occurs nearby					
Species No.	16	27	6	22	22	11
Agrostis stolonifera				0.3	5	
Angelica sylvestris		7		3		1
Anthoxanthum odoratum	0.5	0.5			1	
Calliergonella cuspidata		25		70		
Calluna vulgaris				0.3	5	
Caltha palustris					1	
Calypogeia fissa					0.3	
Campylium stellatum		3				
Cardamine pratensis		0.1		0.3		
Carex diandra		1				
Carex echinata		1	0.3			
Carex flacca	7	0.5			5	
Carex lasiocarpa		15		40		
Carex lepidocarpa		1				
Carex panicea		3		1	3	0.5
Centaurea nigra	3					
Cirsium dissectum					3	3

Cladium mariscus			90			95
Cratoneuron filicinum		3				
Deschampsia cespitosa	5					
Epilobium palustre		0.5		0.5		
Equisetum fluviatile				0.3	0.3	
Equisetum palustre	0.3	1				
Erica tetralix				0.1	3	0.5
Eriophorum angustifolium				0.3		
Eupatorium cannabinum	3	7	0.5	0.5		1
Festuca rubra	7			3		
Filipendula ulmaria		1	0.1			0.5
Fissidens adianthoides					0.3	
Holcus lanatus	5	10		1		
Hookeria lucens					0.1	
Hydrocotyle vulgaris				7		
Hylocomium splendens				0.1		
Hypericum pulchrum					0.3	
Juncus acutiflorus	0.5			0.3		
Juncus subnodulosus	3	60			10	
Lathyrus pratensis	0.3					
Lophocolea bidentata		0.1				
Mentha aquatica	1					
Menyanthes trifoliata				3		
Molinia caerulea	70	5			40	1
Myosotis scorpioides						
Oxyrrhynchium speciosum	0.3				0.3	
Phragmites australis		3	1	40	0.3	0.5
Plagiomnium elatum		0.3				
Potentilla erecta	10	10	0.5		3	3
Pseudoscleropodium purum		10		10	1	
Salix x multinervis				1		
Schoenus nigricans					35	1
Succisa pratensis	1	1			1	
Thuidium tamariscinum					0.5	
Trifolium repens		1				
Utricularia minor				0.5		
Valeriana officinalis		0.7				

Site Scragh Bog (1)								
Relevé code	SB_01	SB_02	SB_03	SB_04	SB_05	SB_06	SB_07	SB_08
Sample site code	8	7	6	2	0	19	9	10
Easting ITM	642505.0	642470.0	642420.0	642346.0	642318.0	642459.0	642087.0	642103.0
Northing ITM	758992.0	758971.0	758944.0	758893.0	758875.0	758847.0	759312.0	759326.0
Distance from sample point	2	2	2	2	2	2	2	2
Quadrat size (m2)	4	4	4	4	4	4	4	4
Annex	None	7140	None	7140	None	91D0	None	None
Fossitt	FS2	PF3	WS1	PF3	GM1	WN7	FS2	FS2
Fen quality	Not fen	Good	Not fen	Good	Not fen	Not fen	Not fen	Not fen
% surface water	80	2	70	20	5	0	10	100
% bare ground	0	0	0	0	0	0	0	0
% total vegetation	95	100	100	95	100	100	100	90
% grass	2	0.5	10	10	40	5	15	0
% sedge	0.5	20	20	70	0	0.5	15	2
% herb	90	60	45	20	40	1	65	85
% bryophyte	3	55	5	60	15	100	90	10
% shrub	5	15	50	0	0	1	0	0
% canopy	0	0	0	0	0	75	0	0
% rush	0	7	0	5	0	0	0.7	10
% litter	1	1	3	0.5	3	5	0.5	0.3
Veg max ht Q1	100	120	190	60	60	65	65	131
Veg max ht Q2	50	90	75	70	60	300	64	127
Veg max ht Q3	90	110	70	85	65	55	76	116
Veg max ht Q4	120	95	170	65	70	70	56	127
Height (cm)	50 to 120	90 to 120	70 to 190	60 to 85	60 to 70	55 to 300	56 to 76	116 to 131
Species No.	16	31	22	25	17	12	23	16
Agrostis stolonifera	1	0.3	10	0.5	5		3	
Angelica sylvestris		0.3	0.5	3			0.7	
Apium nodiflorum								3
Arrhenatherum elatius					0.5			
Aulacomnium palustre						0.1		
Berula erecta								
Betula pubescens	0.3	0.7				45		
Brachythecium rivulare	0.5	35	5	3	0.3	0.1	0.3	
Bryum pseudotriquetrum		0.1						
Calliergon cordifolium			0.5	0.3				
Calliergon giganteum		1		3	1		1	10
Calliergonella cuspidata	2	5	0.3	40	15		50	
Calluna vulgaris								
Caltha palustris		0.1	0.1	0.3			0.5	
Cardamine pratensis				0.1			0.3	0.3
Carex appropinquata			20					
Carex diandra		3		15			5	
Carex lasiocarpa		15		50			10	1

Carex nigra	0.5			1		0.5	0.5	
Carex panicea		0.5	0.3					
Carex rostrata			0.3	3				1
Comarum palustre		0.7	0.3	3	5	1	5	0.7
Drepanocladus aduncus				15				
Epilobium palustre	0.3	0.1	2	0.3				
Epilobium parviflorum				3	5		3	0.7
Equisetum fluviatile	35	0.7	10	0.5	1	0.3	1	35
Festuca rubra				7	35		1	
Filipendula ulmaria	35	1	25	15	15		20	
Galium palustre	0.3		0.3	0.1	3		0.3	
Galium uliginosum		0.3	0.3					
Hamatocaulis vernicosus		3						
Hedera hibernica								
Holcus lanatus	0.3	0.3		5	1	0.1	15	
Hydrocharis morsus-ranae								55
Hydrocotyle vulgaris								7
Juncus acutiflorus		7		5				10
Juncus articulatus							0.7	
Kindbergia praelonga		15				0.3		
Lemna minor	65		10					1
Mentha aquatica		0.3	0.7	0.3			0.1	0.3
Menyanthes trifoliata		15	1	3	7		30	3
Molinia caerulea						5		
Oxyrrhynchium speciosum	0.5							
Plagiomnium elatium			0.1					
Potamogeton coloratus								3
Pseudoscleropodium purum	0.3							
Pyrola rotundifolia		2						
Ranunculus flammula		0.1			0.3			
Rhytidadelphus squarrosus	0.5	1			0.3		40	
Salix aurita			50					
Salix cinerea	5	10				30		
Salix repens		3						
Silene flos-cuculi		0.7						
Sphagnum flexuosum						25		
Sphagnum palustre						75		
Succisa pratensis		0.7	0.3		0.5		1	
Typha latifolia								1
Vaccinium oxycoccos		40						
Valeriana officinalis		0.3	0.5	1	2		3	
Vicia cracca	1							

Site	Scragh Bog (2)						
Releve code	SB_09	SB_10	SB_11	SB_12	SB_13	SB_14b	SB_15
Sample site code	12	13	15	612	16	17	18
Easting ITM	642148.0	642188.0	642216.0	642315.0	642682.0	642611.0	642534.0
Northing ITM	759355.0	759368.0	759396.0	759105.0	758512.0	758710.0	758798.0
Distance from sample point	2	2	2	2	2	2	2
Quadrat size (m2)	4	4	4	4	4	4	4
Annex	7230	7230	None	7230	None	None	91D0
Fossitt	PF1	PF1	FS2	PF1	FW4	WN7	WN7
Fen quality	Good	Good	Not fen	Good	Not fen	Not fen	Not fen
% surface water	15	30	35	20	5	0	0
% bare ground	0	0	0	0	0	0	0
% total vegetation	90	100	100	100	100	85	97
% grass	0.3	0	0.7	0.3	80	0.1	0.5
% sedge	60	35	5	50	0	0	45
% herb	20	5	30	10	30	1	10
% bryophyte	70	90	95	95	0	85	85
% shrub	1	0	0	0	5	5	12
% canopy	0	0	0	0	70	90	40
% rush	7	3	0.5	0	0	0	0
% litter	3	3	0.1	3	30	15	7
Veg max ht Q1	78	81	40	75	40	20	210
Veg max ht Q2	87	66	57	60	35	99	220
Veg max ht Q3	80	72	49	71	35	130	85
Veg max ht Q4	83	81	51	77	40	10	77
Height (cm)	78 to 87	66 to 81	40 to 57	60 to 77	35 to 40	10 to 130	77 to 220
Species No.	25	18	19	22	12	17	18
<i>Agrostis stolonifera</i>			0.5			0.1	
<i>Angelica sylvestris</i>	0.5	0.5		1			
<i>Aulacomnium palustre</i>							1
<i>Betula pubescens</i>					5	10	45
<i>Brachythecium rutabulum</i>						0.1	
<i>Calliergon cordifolium</i>			0.5				
<i>Calliergon giganteum</i>	0.1	0.1		5			
<i>Calliergonella cuspidata</i>		0.3	95	3			
<i>Caltha palustris</i>	0.1		0.1	0.5			
<i>Campylium stellatum</i>	30	3		10			
<i>Cardamine pratensis</i>	0.3	0.3	0.3	0.1			
<i>Carex diandra</i>			5				
<i>Carex lasiocarpa</i>				15			
<i>Carex limosa</i>	0.7						
<i>Carex nigra</i>			0.3				
<i>Carex panicea</i>							0.1
<i>Carex rostrata</i>							7
<i>Carex viridula</i> ssp. <i>brachyrrhyncha</i>	0.3	0.3		0.1			

Chrysosplenium oppositifolium				30	
Cirriphyllum piliferum					0.1
Comarum palustre			15		
Ctenidium molluscum		1			
Dactylorhiza sp.	0.3	0.5		0.3	
Dicranum scoparium					0.1
Dryopteris dilatata					0.1
Epilobium palustre			1	0.1	
Equisetum fluviatile	0.3	0.1	0.3	0.3	0.3
Eriophorum vaginatum					40
Fagus sylvatica				3	
Filipendula ulmaria	0.1		10	0.1	
Fraxinus excelsior				20	
Galium palustre		0.1	1		
Galium uliginosum	0.5	0.1			
Geranium robertianum				1	
Hedera hibernica				1	1
Holcus lanatus			0.3	80	
Hydrocotyle vulgaris	0.3				
Hylocomium splendens					5
Hypnum cupressiforme					0.3 0.5
Hypnum resupinatum					0.1
Ilex aquifolium					3
Juncus acutiflorus	7	3	0.5		
Kindbergia praelonga					0.1
Lepidozia reptans					0.1
Lonicera periclymenum				0.3	
Mentha aquatica	0.3		0.3	0.1	0.1
Menyanthes trifoliata	0.5	3	1	7	
Microlejeunea ulicina					0.1
Mnium hornum					0.1
Molinia caerulea	0.3			0.3	0.5
Picea sitchensis				40	
Potamogeton coloratus				0.5	
Pyrola rotundifolia	0.3				
Quercus robur					0.3
Rubus fruticosus				5	
Salix repens	0.5				
Salix x multinervis	0.7				
Schoenus nigricans	60	35		35	
Scleropodium purum					
Scorpidium cossonii	0.3	65		75	
Scorpidium scorpioides	40	20		1	
Silene flos-cuculi			0.3		

Sorbus aucuparia				1	3	
Sphagnum angustifolium						1
Sphagnum contortum	0.3					
Sphagnum fallax						80
Sphagnum palustre						1
Sphagnum squarrosum					15	
Salix cinerea				80	5	
Succisa pratensis	0.3	1	0.3	0.5		
Taraxacum agg.				0.1		
Thuidium tamariscinum					70	0.1
Vaccinium myrtillus						5
Vaccinium oxycoccos	15	1		0.7		10
Valeriana officinalis			0.1			

Site	Tory Hill			
Relevé code	T1	T35	T13	T14
Sample site code	TH6	TH12, TH13, TH 14	TH8	TH7
Easting ITM	553491.6	553411.2	553589.2	553533.0
Northing ITM	643324.9	642965.1	643271.7	643269.7
Distance from sample point	2	64	59	13
Quadrat size (m2)	4	4	4	4
Annex	7230	7230	none	none
Fossitt	PF1	PF1	GM1	GM1
Fen quality	Poor	Poor	Not fen	Not fen
% surface water	0	0	0	0
% bare ground	1	1	0	0
% total vegetation	99	99	100	100
% grass	0	0	0	0
% sedge	0	0	0	0
% herb	95	95	100	100
% bryophyte	30	20	0	0
% shrub	8	0	0	0
% canopy	0	0	0	0
% rush	0	0	0	0
% litter	0	0	0	0
Veg max ht Q1				
Veg max ht Q2				
Veg max ht Q3				
Veg max ht Q4				
Height (cm)	30 to 80	50 to 70	60 to 90	40 to 60
NOTES				
Species No.	16	18	13	14
<i>Agrostis stolonifera</i>	20	20	7	7
<i>Arrhenatherum elatius</i>			30	
<i>Calliergonella cuspidata</i>	30			
<i>Carex diandra</i>	7			
<i>Carex flacca</i>				3
<i>Carex nigra</i>	3			
<i>Carex panicea</i>		3		0.5
<i>Carex viridula</i>				
<i>brachyrrhyncha</i>		1.5		
<i>Dactylis glomerata</i>			7	
<i>Epilobium palustre</i>	0.5	0.5		
<i>Equisetum fluviatile</i>	3			3
<i>Equisetum palustre</i>	1.5	3		7
<i>Eupatorium cannabinum</i>		1.5		
<i>Festuca pratensis</i>			7	3
<i>Festuca rubra</i>		3	7	
<i>Filipendula ulmaria</i>	0.5	20	30	20
<i>Galium palustre</i>	3	1.5		
<i>Holcus lanatus</i>	3		3	
<i>Juncus subnodulosus</i>	42	42		7

Lathyrus pratensis			20	3
Lythrum salicaria	3	3	7	7
Mentha aquatica	20	20		
Menyanthes trifoliata	30			
Molinia caerulea				42
Persicaria amphibium	7			
Phragmites australis	7	3	3	
Plagiomnium undulatum		7	0.5	
Scutellaria galericulata		3		
Stachys palustris			3	
Succisa pratensis	7	7		7
Valeriana officinalis	0.5	0.5		0.5
Vicia cracca			3	3