

BBS bryophyte habitats survey

Environmental setting	Substratum class (inc. specific comments)	Soil texture analysis (if relevant)	Soil/bark pH
Locality and vice-county	Description of microhabitat (inc. NVC class if known and relevant)		
Grid reference (to 8 figs)			
Altitude (m)			
Day			
Month			
Year			
Recorder(s)			

Percentage cover: estimate to nearest 5%; but if cover <5%, estimate to nearest 1%; assign 0.1% if cover <1%

Reproductive biology: score for all species in all quadrats completed; use a gatemark tally for all except 'C'.

Species (in full or BRC code)	Replicate quadrat samples from microhabitat										Reproductive biology				
	1	2	3	4	5	6	7	8	9	10	♂	F	C	P	G
Total bryophyte cover															
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
% Litter											<u>Reproductive biology</u>				
% Cover of lichens											♂, male inflores. present*.				
% Cover of vascular plants											F, sporophytes or perianths present*.				
% Bare surface											C, enter codes for prevalent developmental stages of current season's sporophytes in all quadrats				
Shade index (1-7)											P, previous season's sporophytes present*				
Quadrat aspect (degrees)											G, gemmae, tubers, bulbils or deciduous leaves/shoots (lens) present*.				
Quadrat slope (degrees)															
Average sward height (mm)															
Average soil or water depth (mm)															
Or trunk or branch girth (cm)															
Water pH															
Water conductivity															
Soil or bark collected?											*, enter gatemark for each quadrat where applicable.				

BRECOG 1b

Additional species	Replicate quadrat samples from microhabitat										Reproductive biology				
	1	2	3	4	5	6	7	8	9	10	♂	F	C	P	G
18															
19															
20															
21															
22															
23															
24															
25															
26															
27															
28															
29															
30															

ENVIRONMENTAL SETTINGS

Marine

Saltmarsh (Ma1)

Coastal

Coastal dune (Co1)
Shingle beach (Co2)
Coastal cliffs and rocky shores (Co3)

Freshwater

Standing freshwater (Fr1)
Flowing freshwater (Fr2)
Littoral zone of lakes and rivers (Fr3)

Bogs, Fens & Flushes

Raised bogs and blanket bogs (BF1)
Valley bogs, poor fens and flushes (BF2)
Base-rich fens (BF3)
Sedge and reed beds without free-standing water (BF4)

Grasslands

Dry grasslands (Gr1)
Mesic grasslands (Gr2)
Wet and seasonally-wet grasslands (Gr3)
Alpine and subalpine grasslands (Gr4)
Tall-herb communities (Gr5)
Parkland (Gr6)

Heath, Scrub & Tundra

Montane scrub and tundra (HS1)
Temperate scrub (HS2)
Heathland (HS3)
Riverine and fen scrubs (HS4)
Hedgerows (HS5)

Woodland

Broadleaved deciduous woodland (Wo1)
Coniferous woodland (Wo2)
Mixed broadleaved and coniferous woodland (Wo3)
Young plantations, coppices and shelter-belts (Wo4)

Sparse vegetation

Screes (SV1)
Inland cliffs, rock pavements and outcrops (SV2)
Sparsely vegetated inland habitats (SV3)

Arable

Arable land (Ar1)

Built environment

Buildings in cities, towns and villages (BE1)
Low density buildings (BE2)
Extractive industry sites (BE3)
Roads and pavements (BE4)

SUBSTRATUM TYPES

Soil (A)
Natural rock (B)
Bark (C)*
Dead wood (D): (i) bark intact; (ii) decorticated but wood firm; (iii) wood soft and rough; (iv) humified.
Masonry (E)
Drystone (F)
Tarmac (G)
Thatch (H)
Wood (I)
Free-floating (J)

EPHYPHYTE TREES (not flood zone)

Fagus sylvatica (Beech) **or** *Betula* sp. (Birch)
Fraxinus excelsior (Ash) **or** *Acer pseudoplatanus* (Sycamore)
Quercus sp. (native Oak) **or** *Sorbus aucuparia* (Rowan)

TREES IN FLOOD ZONE

Alnus glutinosa (Alder), **or** *Fraxinus excelsior* (Ash), **or** a *Salix* sp. (tree Willows)

TRUNK ZONES

(Trunk girth must be >75 cm at 1.3 m)
Base, rest narrow edge (25 cm) of quadrat on ground
Mid, place lower edge of quadrat at 62.5 cm above ground
Upper, place lower edge of quadrat at 125 cm above ground

BRANCH EPHYPHYTES

Only sample these multi-stemmed shrubs, in a zone 1-2 m above ground, use half-quadrat (two per shrub on separate branches):
Sambucus nigra (Elder) **or** a *Salix* sp. (Willow, Sallow) **or** *Corylus avellana* (Hazel)

SHADE INDEX

- 1, Fully exposed to sunlight all day.
- 2, Sunlit for > half the day.
- 3, Significant sunlight, but for < half the day.
- 4, Moderate shade, e.g. light-medium deciduous canopy with sun flecks.
- 5, Permanently shaded from direct sunlight but otherwise open to sky.
- 6, Deep woodland (e.g. coniferous or in ravine) shade, no sun flecks.
- 7, perpetual deep shade, e.g. cave entrance.

Reproductive Biology Recording

Put a diagonal line through the repro. biol. columns if you deliberately did not score reproductive characters.

Male inflorescences are not easily observable in the field in many species.

Developmental stages: accumulate codes for the most abundant stage in each quadrat, e.g. if in 10 quadrats stage D was prevalent in 7 quadrats, stage B in one quadrat and stage E in 2 quadrats, you would simply write DBE.

MOSS SPOROPHYTE MATURITY

- (excluding embryo stages)
- C, calyptra partially exerted from perichaetial leaves.
 - S, seta elongating with calyptra on top.
 - W, distal end of seta expands in width.
 - G, green capsule widens fully, lid starting to brown.
 - B, capsule brown, lid still closed.
 - D, lid detaches, >½ spore mass remains.
 - E, empty, fewer than ½ spores remain.
 - A, abortive, seta apex browns or shrivels.

LIVERWORT SPOROPHYTE MATURITY

- V, no capsule visible in perianths (lens)
- P, capsule present but < half mature diam.
- M, capsule in perianth, >half mature diam.
- X, capsule exerted from perianth but undehisced.
- R, capsule dehisced but seta remains erect.
- F, capsule dehisced and seta shrivelled.